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PERSONAL.

Mr Ahram Wing, Superintendent of the Iowa Water Co., Ottumwa, Ia., has resigned.

Mr. H. Nelson Hyde, for 20 years Superintendent of the water-works at Newton, Mass., has resigned.

Mr. Samuel Sloan, President of the Delaware, Lackawanna & Western R. R., will, it is reported, resign that mee in February at the annual meeting of the company. He has held the office for 32 consecutive years.

Mr. Henry B. Seaman, M. Am. Soc. C. E., and M. Am. Soc. M. E., with offices at 40 Wall St., New York city, has resigned as Chief Engineer of the Audit Co., of New York, d will devote his entire time to private practice.

Prof. W. H. Dean, for several years past Water Inspector under the direction of the city council of Wilkes-Barre, Pa., has resigned to accept the position of Expert on Chemical Analysis for the Spring Brook Water Supply of that city.

Mr. Rudolph Hering, M. Am. Soc. C. E., hydraulic and sanitary engineer, of New York city, has been appointed Expert Mechanical and Sanitary Engineer to review the plans of the City Engineer of Buffalo, N. Y., to abate the liamhurg Canal nuisance.

bridge over the Magdalena River in the United States of Colombia, arrived in New York, Dec. 19, on the steam-er "Altai." The bridge has taken seven years to account of the swiftness of the river.

Mr. Clemens Herschel, M. Am. Soc. C. E. and M. Inst. C. E., has been awarded the Elliott Cresson gold medal by the Franklin Institute, of Philadelphia, for his invention of the Venturi water-meter. This is a well-deserved recognition of the value of a most useful discovery in hydraulic engineering.

Mr. Frederick H. Mason has opened an office as a con-sulting mechanical engineer, at 1020 Monadnock Block, Chicago, and will also act as the Western representative of the Frankford Steel & Forging Co., Philadelphia, Pa. He has been associated with a number of engineering firms in the West, until recently having been with the Ranroad Supply Co., Chicago.

Mr. George Lewis Bradbury, Vice-President and General Manager of the Lake Erie & Western R. R., with headquarters in Chicago, has been elected President of that railway, to succeed the late Senator Calvin S. Brice, whose death was noted in our last issue. Mr. Bradhury is also Vice-President of the Cleveland, Akron & Columbus Ry., General Manager of the Northern Ohio Ry., and President of the Peoria & Pekin Union Ry.

OBITUARY.
Mr. Charles Hessean, architect, of Danville, Ill., died

Capt. John Adams, of the Adams Bros. Co., bridge contractors, of Findiay, O., died Dec. 18, aged 58.

Mr. Charles Hillman, President of the Chas. Hillman hip & Engine Building Co., Philadelphia, Pa., died Dec. 22, aged 75.

Mr. Walter Rosser, Sr., Division Superintendent of the Nashville, Chattanooga & St. Louis Ry., died at his home in Stevenson, Ala., Dec. 26.

Mr. Charles Hughes, senior partner of the firm of Hughes Bros. & Bangs, government contractors, of Syracuse, N. Y., died Dec. 18.

Mr. Charles G. Martin, brass manufacturer, of Mount Vernon, N. Y., died Dec. 21, aged 84. He was a hrother of the late Daniel B. Martin, who was an engineer in the navy.

Col. Daniel Morris, civil engineer, of Atlantic City, N. J., died Dec. 21, aged 79. He laid out the city, and was the constructing engineer of the first railway from Camden to Atlantic City.

Mr. Albert C. Robinson, architect, of East Kingston, N. H., died Dec. 18, aged 52. He was for several years Superintendent of water-works at Knoxville, Tenn.; Fort Paine, Ala., and other places in the South.

Mr. Edward F. Randolph, of the firm of Randolph & Clowes, manufacturers of brass and copper tubing, etc., of Waterbury, Conn., died Dec. 18, of pneumonia, at his residence in New York city, aged 68. The business, we are informed, will continue under the same management as heretofore.

Dr. Wellington Adams, an electrical engineer and inventor, of St. Louis, Mo., died Dec. 20, aged 42. He came into prominence some years ago as the promoter of an electric railway from St. Louis to Chicago.

Major Frederick Henry Smith. M. Am. Soc. C. E., civil Major Frederick Henry Smith, M. Am. Soc. C. E., civil engineer and hridge huilder, died at Baltimore, Md., on Dec. 24, aged 59 years. He was a hrother of the late C. Shaler Smith, M. Am. Soc. C. E., and was associated with the latter In many of his hridge enterprises.

Col. Philip Henry Moore, Editor and owner of "The Ohio Valley Manufacturer," died at Wheeling, W. Va., Dec. 26, of paralysis. He served in the Engineer Corps of the

20, or paralysis. He served in the Engineer Corps of the Confederate Army during the Civil War. In 1859 he established the "Daily Union" of Wheeling, W.-Va. Mr. Stephen A. Morse, inventor and founder of the firm of Morse, Williams & Co., Philadelphia, Pa., elevator manufacturers, died in that city Dec. 22. He was horn in Holderness, N. H., May 28, 1828, and learned the trade of a machinist. He went to Philadelphia ahout 25 years ago and soon after hegan the manufacture of elevators. He was the inventor of the well-known Morse twist drill.

Mr. R. T. McDouald, President of the Fort Wayne Electric Corporatiou, Fort Wayne, Ind., died in Dallas, Tex., Dec. 24, of pneumonia, aged 49. He was born in Pennsylvania, and removed to Fort Wayne in 1859, where he identified himself with various husiness enterprises and was instrumental in introducing electric lighting into that city. Later he gave his attention to electric railways and assisted in the formation of the company of which he was the head at the time of his death. He was also interested in a large ice-making plant in New Orleans, La., and ha lately obtained the contract to build sewers in that city.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

ENGINEERING SOCIETY OF WESTERN NEW YORK.
Jan. 2. Secy., H. J. March, Library Bidg., Buffalo, N. Y.
CIVIL ENGINEERS' SOCIETY OF ST. PAUL.
Jan. 2. Secy., C. L. Annan, City Engineer's Office, St.
Paul, Miun.

FRANKLIN INSTITUTE.
Jan. 3. "Methods for the Examination of Explosives,"
Dr. W. J. Williams. Jan. 11. "Segregation Tests on
Steel lugots," A. W. Allen. Jan. 17. "The Clarification and Purification of Municipal Water Supplies,"
Mr. Allen Hazen. Jan. 20. "This Country of Ours,"
John Birkinhine. Secy., Wm. H. Wahl, 15 South 7th
St., Philadelphia, Pa.

John Birkinhine. Secv., Wm. H. Wahl, 15 South 7th St., Philadelphia, Pa.
WESTERN SOCIETY OF ENGINEERS.
Jan. 3. Annual meeting. Secv., N. L. Litten, Monadnock Block, Chicago, Ill.
FOUNDRYMEN'S ASSOCIATION, PHILADELPHIA.
Jau. 4. Secv., Howard Evans, Pier 45, Delaware Ave., Philadelphia, Pa.
ENGINEERS' CLUB OF ST. LOUIS.
Jan. 4. Secv., Richard McCulloch, 2401 N. Spring Ave., St. Louis, Mo.
AMERICAN SOCIETY OF CIVIL ENGINEERS.
Jan. 4. Secy., C. W. Hunt, 220 West 57th St., New York city.

AMERICAN SOCIETY OF CIVIL ENGINEERS.

Jan. 4. Secy., C. W. Hunt, 220 West 57th St., New York city.

AMERICAN INSTITUTE, AND THE HENRY ELECTRICAL SOCIETY.

Jan. 6. "Polarized Light," Louis H. Laudy. Jan. 20. "Alternating Currents," Wm. H. Freedman. Secy., D. R. Lovejoy, 111 W. 38th St., New York city.

TECHNICAL SOCIETY OF THE PACIFIC COAST.

Jan. 6. Secy., O. Von Geldern, 19 Market St., San Francisco, Cal.

BROOKLYN INSTITUTE OF ARTS AND SCIENCES.

Jan. 6. "The Electro-Metallurgy of Copper," John B.F. Hereschoff. Secy., Henry I. Weed, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.

CHICAGO ELECTRICAL ASSOCIATION.

Jan. 6. "Telephone Engineering: Some Problems, Solved and Unsolved," S. G. McMeen. Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.

THE ENGINEERS' CLUB OF PHILADELPHIA.

Jan. 7. Secy., L. F. Rondinelia, 1122 Girard St., Philadelphia, Pa.

ENGINEERS' CLUB OF COLUMBUS.

Jan. 7. Secy., H. M. Gates, 12½ North High St., Columbus, O.

Jan. 7. Secy., H. M. Gates, 12½ North High St., Columbus, O.
THE LOUISIANA ENGINEERING SOCIETY.
Jan. 9. Secy., J. F. Coleman, 712 Union St., New Or-

Jan. 9. Secy., La. leans, La. ENGINEERS' CLUB OF KANSAS CITY. Jan. 9. Secy., F. W. Tuttle, Baird Bidg., Kansas City, Jan. 9. Secy., S. OF CIVIL ENGINEERS.
DENVER SOCIETY OF CIVIL ENGINEERS.
Jan. 10. Secy., W. B. Lawson, 36 Jacobson Bldg., Den-

ver, Col. NORTHWEST RAILWAY CLUB. Jan. 10. Secy., T. A. Foque, Soo Line, Minneapolis,

NEW ENGLAND RAILWAY CLUB. Jan. 10. Secy., Edw. L. Janes, P. O. Box 1158, Boston,

Jan. 10. Secy., Edw. L. Janes,
Mass.
CIVIL ENGINEERS' CLUB OF CLEVELAND.
Jan. 10. Secy., Wm. H. Searles, Case Library Bldg.,
Jan. 10. Secy., Wm. H. Searles, Case Library Bldg.,

CIVIL ENGINEERS' CLUB OF CLEVELAND.
Jan. 10. Secy., Wm. H. Searles, Case Lihrary Bldg.,
Cleveland.
CANADIAN SOCIETY OF CIVIL ENGINEERS.
Jan. 12. Annual meeting. Secy., C. A. McNab, 112
Mansfield St., Monreal, Can.
ENGINEERING ASSOCIATION OF THE SOUTH.
Jan. 12. Secy., C. B. Wilson, 1000 Broad St., Nashville,
Tenn.

Tenn. CENTRAL RAILWAY CLUB.

Jan. 13. Secy., H. D. Vought, 114 Fifth Ave., New

CENTRAL RAILWAY CLUB.

Jan. 13. Secy., H. D. Vought, 114 Fifth Ave., New York city.

T. LOUIS RAILWAY CLUB.

Jan. 13. Secy., H. H. Roherts, 511 Commercial Bidg., St. Louis, Mo.

SCRANTON ENGINEERS' CLUB.

Jan. 14. Annual meeting. Secy., F. E. Pratt, 730 Madison Ave., Scranton, Pa.

MONTANA SOCIETY OF ENGINEERS.

Jan. 14. Annual meeting, Helena, Mont. Secy., A. S. Hovey, National Bank Bidg., Helena, Mont.

AMERICAN INVENTORS' AND MANUFACTURERS' ASSOCIATION.

Jan. 15. Annual meeting, Washington, D. C. Secy., Arthur Steuart, Washington Loan and Trust Bidg., Washington, D. C.

ENGINEERS' AND ARCHITECTS' CLUB OF LOUIS-VELLE.

Jan. 16. Secy., Marshall Morris, 16 Norton Bidg., Louis-ville Key.

VII.LE. Jan. 16. Secy., Marshall Morris, 16 Norton Bldg., Louis-ville, Ky.

TECHNICAL CLUB OF OMAHA.
Jan. 16. Secy., J. Harry Lawrie, Omaha, Neb.
ENGINEERS' CLUB OF MINNEAPOLIS.
Jan. 16. Secy., H. E. Smith, 1020 S. E. 14th St., Minneapolis, Minn.

apolis, Minn.
ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA
Jan. 17. Secy., R. A. Fessenden, 410 Penn Ave., Pittshurg, Pa.
WESTERN RAILWAY CLUB.
Jan. 17. Secy., F. M. Whyte, 225 Dearhorn St., Chicago,

RAILWAY CLUB. Secy., F. M. Whyte, 225 Dearhorn St., Chicago,

Jan. 17. Secy., F. M. Whyte, 225 Dearhorn St., Chicago, Ill.

BOSTON SOCIETY OF CIVIL ENGINDERS.
Jan. 18. Annual meeting. Secy., S. E. Tinkham, City Hail, Boston, Mass.

WESTERN FOUNDRYMEN'S ASSOCIATION.
Jan. 18. Secy., B. M. Gardner, 1522 Monadnock Block, Chicago, Ill.

THE IOWA ENGINZERING SOCIETY.
Jan. 18-19. Annual meeting, lowa City, lowa. Secy., E. P. Boynton, Cedar Rapids, Ia.

NEW YORK RAILROAD CLUB.
Jan. 19. Secy., W. W. Wheatiey, 168 Montague St., Brockin, N. Y.

ENGINEERS CLUB OF CINCINNATI.
Jan. 19. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O. Jan. 19. Secy., S. L. Dattier, S. C. Dattier, Southwestern Railway Club. Southbern And Southwestern Railway Club. Jan. 19. Secy., F. A. Charplot, P. O. Box 13, Savannah,

Jan. 19. Secy., F. A. Charplot, P. O. Box 13, Savannah, Ga.
THE WEST VIRGINIA SOCIETY OF CIVIL ENGINEERS AND ARCHITECTS.
Jan. 19-20. Annual meeting, Charleston, W. Va. Secy., W. Steenbergen, Point Pleasant, W. Va. NORTHWESTERN ELECTRICAL ASSOCIATION.
Jan. 19-21. Semi-annual meeting, Milwaukee, Wis.
Secy., Thos. R. Mercein, 511 Montgomery Bidg., Milwaukee, Wis.
TECHNICAL SOCIETY OF THE PACIFIC COAST.
Jan. 20. Annual meeting. Secy., O. Von Geldern, 819
Market St., San Francisco, Cal.
ROCHESTER ENGINEERING SOCIETY.
Jan. 20. Secy., John F. Skinner, Reynolds Lihrary Bidg.,
Rochester, N. Y.
THE DETROIT ENGINEERING SOCIETY.
Jan. 20. Secy, Henry Goldmark, Wayne Co., Sav. Bank
Building, Detroit, Mich.
NATIONAL ASSOCIATION OF MANUFACTURERS.
Jan. 24-26. Annual convention, Cincinnati, O. Secy.,
E. P. Wilson, Room A, Chamber of Commerce, Cincinnati, O.

E. P. Wilson, Room A., Calletty.

nati, O.

INDIANA ENGINEERING SOCIETY.

Jan. 24-26. Annual meeting, Indianapolis, Ind. Seey.,

J. B. Nelson, 61 Baldwin Block, Indianapolis, Ind.

MICHIGAN ENGINEERING SOCIETY.

Jan. 24-26. Annual meeting, Lansing, Mich. Secy., F. Hodgman, Cilmax, Mich.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS

Jan. 25. Secy., Raiph W. Pope, 26 Cortiandt St., New York city. Jan. 25. Secy., Ralph W. Pope, 26 Cortlandt St., New York city.
ILLINOIS SOCIETY OF ENGINEERS AND SURVEYORS.
Jan. 25-27. Annual meeting. Champaign, Ill. Scoy.,
Jacoh A. Harman, Peoria, Ill.

ROCHESTER ENGINEERING SOCIETY .- The annual meeting of this society was held on Dec. 16. The follow-ing officers were elected for the ensuing year: Pres., William Jordan; First Vice-Pres., Wm. R. Storey; Second Vice-Pres., C. C. Laney; Secy., John F. Skinner; Treas., Rehert Cartwright.

THE ENGINEERS' SOCIETY OF WESTERN PENN-SYLVANIA .- A regular meeting of this society was held at Pittshurg, Pa., on Dec. 20. The paper of the evening, entitled "Design and Construction of the 29th St. Power Station of the Consolidated Traction Company," was read hy Mr. G. F. Greenwood, Chief Engineer and General Manager of the company

THE ELECTRICAL TRADES SOCIETY OF NEW YORK, a society composed of manufacturers of electrical goods, held a meeting at the Astor House, New York city, on Dec. 6, at which it was decided to file incorporation

papers under the New York State laws.

The following offleers were elected for the ensuing year: Pres., R. E. Gallaher; Vice-Pres., C. P. Geddes; Secy.-Treas., A. P. Eckert. were elected for the ensuing

ENGINEERS' CLUB OF CINCINNATI.-This club held its annual meeting on Dec. 15 with an attendance of over 40. Routine business was transacted, after which the customary hanquet was enjoyed. The officers elected for the ensuing year are as follows: Pres., Schuyler Hazard; Vice-Pres., T. B. Punshon; Secy.-Treas., J. F. Wilson; Directors, A. O. Eizner, W. C. Jewett and L. E. Bogen.

BOSTON SOCIETY OF CIVIL ENGINEERS .- This so ciety attended a meeting of the Society of Arts held in the new Pierce Building of the Institute of Technology, on Dec. 22, to inspect the equipment of the new huilding. Descriptions of the heating and ventilating, and electric light equipments were given by Prof. S. Homer Woodbridge and W. L. Puffer. The apparatus in the mechanical laboratories was inspected and the large Emery testing machine was shown in operation.

ENGINEERS' CLUB OF ST. LOUIS .- The annual meet ing and dinner of this club was held at the Mercantile Club, Dec. 21. Previous to the toasts officers for the ensuing year were elected as follows: Pres., B. H. Colby; Secy., E. R. Fish; Treas., Thos. B. McMath; Lihrarian, E. J. Jolley; Directors, J. H. Kinealy and John A. Laird; Members of the Board of Managers of the Association of Engineering Societies, J. B. Johnson and Richard Mc-Culloch. Richard McCuiloch, Secy.

THE AMERICAN CHEMICAL SOCIETY .- The 18th annual meeting of this society opened on Dec. 27 at the House of the Chemists' Club of New York, 108 W. 55th House of the Chemists' Club of New York, 108 W. 55th. St., New York city. Hon. Randolph Guggenheimer, President of the City Council, welcomed the society to New York. Prof. Alexander S. Webb, President of the College of the City of New York, spoke in behalf of the educational institutions of the city. The President of the society, Mr. Chas. E. Monroe, responded, and the reading of papers was then taken up.

CONNECTICUT ELECTRIC LIGHTING ASSOCIATION. -The annual meeting of this association was held at New Haven, Conn., on Dec. 17. Papers were read by Prof. W. L. Robb on the "Use of Rotary Transformers and Storage L. Rood on the "Use of Rotary Transformers and Storage Batteries by the Hartford Electric Light Co.," and on "The Merits and Demerits of the Welsbach Lamp," by H.

L. Purrington.

The following officers were elected for the ensuing year:

Pres., James English; First Vice-Pres., C. A. Learned;
Second Vice-Pres., C. H. Nettleton; Secy., A. F. Hunie; Treas., A. M. Young.

UNDERWRITERS' NATIONAL ELECTRICAL AS-SOCIATION.—The 6th annual meeting of the Electrical Committee of this association was held in New York city, Dec. 6-8. Such matters as specifications for standard electric light fittings and slight changes in the national electrical code were discussed. A committee was appointed to formulate specifications for tests of rubber covered

Several resolutious were passed recommending the general adoption by all underwriters' associations of a List of Approved Electrical Fittings. This is a list of fittings approved by the National Board of Fire Underwriters.

approved by the National Board of Fire Underwriters.

MONTANA SOCIETY OF ENGINEERS.—A regular meeting of this society was held on Dec. 10, at which Mr. Francis W. Blackford read a paper on the "Butte-Centerville Electric Ry.," in which the construction of this road was fully described. The next meeting, to be held at Helena, Mont., Jan. 12-14, will be the 12th annual meeting. Mr. M. S. Parker will present a paper upon the "Big Hote River Dam." The State Engineer's Bill will also come up for discussion. Excursions will be made to the dam at Canyon Ferry. Missouri River. the Peck conthe dam at Canyon Ferry, Missouri River, the Peck con-centrator, East Helena and the East Helena smelter.

A. S. Hovey, Secy.

NORTHWESTERN ELECTRICAL ASSOCIATION. The 7th annual convention of this association will be held

The 7th annual convention of this association will be held at Milwaukee, Wis., on Jan. 18-19.
The following papers will be read: "Trend of Central Station Design," B. J. Arnold, Chicago; "Meter-rate Systems," E. L. Debell, Sheboygan, Wis.; "Design of Secondary Circuits in Alternating Plants," George L. Thayer, Belle Plaine, Ia.; "Electricity Direct from Coal," Prof. A. J. Rogers, Milwankee, Wis.; "Inductive Loads on Alternating Current Transformers," Prof. D. C. Jackson, Madison, Wis.; "Electric Vehicles and Their Relation to Central Stations," H. M. Maxim, Hartford, Conn.; "Association Management," H. L. Doherty, Madison, Wis.

WESTERN SOCIETY OF ENGINEERS.-At the meeting western society of engineers.—At the meeting on Dec. 21. Mr. W. H. Fluiey, Bridge Engineer of the Chicago & Northwestern Ry., described the design and erection of the new Kluzie St. drawbridge over the Chicago River. It is a riveted lattice structure, replacing an old pin-connected bridge built of "Hay" steel, which is hard and brittle. In order to provide an increased width of channel and still prevent luterference with the adjacent Kinzie St. Nighway, bridge, the railway bridge has its Kinzie St. highway bridge, the railway bridge has its pivot under one of the trusses. On the inner side of the roller tracks are top and bottom racks, with which engage spur wheels on roller shafts. This is done to pregage spur wheels on roller shares. In is done to provent any tendency of the rollers to work out from under the bridge. The structure was partially erected on launching ways on land, then hauled out 30 ft. to allow of its compiction, the completed structure being then carried by scows to the site, the old bridge being floated away on scows at the same time.

NEW PUBLICATIONS.

THE USE OF COKE BREEZE IN SEWAGE PURIFICATION.—A Paper by Jno. W. Alvord, C. E., read before the Western Society of Civil Engineers, May 18, 1898. Paper; 6 x 9 ins.; pp. 11. Address the author, The Rookery, Chicago.

A number of experiments with filters designed to work at a high rate, both in this country and abroad, are reviewed in this pamphlet.

MUNICIPAL REPORTS.—The following reports have been received, the reports and the names given being those of city engineers, unless otherwise specified: Bosthose of city engineers, unless otherwise specified: Boston, Mass., Benj. Wells, Superintendent Street Department. Cambridge, Mass., Special Report on Means to Prevent Back Flooding from Sewers, L. M. Hastings. Newton, Mass., H. D. Woods. Central Faiis, R. I., W. F. Keene. Easton, Pa., Harrison R. Fehr. Philadelphia, Pa., Thos. M. Thompson, Director Public Works. Wilstenders and Chapter Computer Services. Pa., Thos. M. Thompson, Director Public Works. Wilmington, Del., T. Chalkiey Haiton, Engineer Sewers. Glenville, O., Report on Sewerage and Sewage Purification for Glenville, O., by John P. Force, Columbus, O. Indianapolis, Ind., J. Clyde Power, Engineer and Superintendent of Parks. Detroit, Mich., Henry D. Ludden. Dninth, Minn., Thos. F. McGilvray, Minneapolis, Minn., W. M. Berry, Superintendent of Parks. St. Paul, Minn., L. W. Rundiett. St. Louis, Mo., A. N. Milner, Street Commissioner. Toronto, Ont., Report on Sewage Disposal, C. H. Rust.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recom-nended by all the principal engineering societies of the United tates are: 31.2×6 ins.; 6×9 ins., and 9×12 ins.) GEL LATH.—Bostwick Steel Lath Co., Niles, O. Pamph.; 6×9 ins.; pp. 28; illustrated.

This catalogue contains descriptions and illustrations

of the Bostwick patented, perforated metal lath, Holton's patent slip joint eave trough, and a general line of gutters, ventilators, etc., etc.

IRON AND STEEL ROOFING.—Sykes Iron & Steel Roofing Co., Niies, O. Pamph.; 9x6 ins.; pp. 40; illustrated.

This is a descriptive catalogue of a general line of cor rugated iron and steel roofing and siding.

FRICTION CLUTCHES.—G. D. Grannis, Syracuse, N. Y. Pamph.; 3% x 5½ ins.; pp. 15; illustrated.

This pamphiet describes and illustrates the construction and operation of the Jackson friction cintch for which several advantages are claimed in economy and efficiency.

WIRE CABLE FERRIES.—Trenton Wire Co., Trenton, N. J. Pamph.; 5% x 8% ins.; pp. 7; lilustrated. This pamphlet gives a pretty complete illustrated description of the above company's system of wire rope ferry coustruction

VALVES, INJECTORS, STEAM SPECIALTIES, ETC.— The Lunkenheimer Co., Cincinnati, O. Pamph.; 4% × 7½ ins.; pp. 20s. This is a very complete illustrated catalogue of the well-

known Lunkenheimer specialties for steam, water, gas and oii.

STRUCTURAL STEEL WORK.—The Pittsburg Bridge Co., Pittsburg, Pa. Pamph.; 6 x 3½ ins.; pp. 40; illustrated.

This pamphiet is made up chiefly of illustrations of a great variety of bridges and buildings for which the company named has furnished the steel work.

VALVES, EXPANSION JOINTS, STEAM AND WATER APPLIANCES.—Caldwell Wilcox Co., Newburgh, N. Y. Pamph.; 9 x 5 ins.; pp. 20.

This is an illustrated catalogue of a variety of appli-

ances used in connection with steam and water piping, including screens, flexible joints, steam and water separators, or water-catchers, slip joints, etc.

RECENT BALDWIN LOCOMOTIVES.—Baldwin L tive Works, Philadelphia, Pa. Pamph.; 9xc in 32; iliustrated.

This is No. 9 of the 1898 series of pamphiets describing the locomotives built by the above-named company to American and foreign orders, and it is devoted mostly to heavy locomotives for freight service.

WINTER TOURS: LEHIGH VALLEY R. R.—Passenger Department, Lehigh Valley K. R., New York, N. Y. Pamph.; Dyx 8 ins.; pp. 14; linstrated.

This pamphet outlines a large number of tours to the winter resorts of Fiorida and other southern states, with

such details of the natural attractions, hotel accommodations, railway and hotel rates, etc., as are likely to interest the prospective tourist.

STEEL ROOFING.—Canton Steel Roofing Co., Canton, O. Pamph.; 6×9 ins.; pp. 128; illustrated.

This is a catalogue and price list of the different forms

of stamped sheet metal manufactured by the above company. Among the various forms of piain and stamped work produced are sidings, ceilings, moldings, cornices, gutters and eaves troughs, roofing, ridges, skylights, vanes, ventilators, finiais, etc.

FIREPROOF GRAIN ELEVATORS.—Steel Storage & Elevator Cons. Co., Buffalo, N. Y. Pamph.; 6×9 ins.; pp. 31; illustrated.

This catalogue gives a very good illustrated description of the steel storage grain elevators and pneumatic grain conveying system of which the above company makes a specialty. Views of a number of elevator plants built by the company in the Western and Central States are given.

STREET SWEEPING MACHINES,—Improved Street Sweeper Co., German National Bank Building, Pitts-burg, Pa. Paper; 4½ x 7 ins.; pp. 12; filustrated. This catalogue describes a pick-up street sweeping ma-

chine. The broom is of wire, instead of fiber. The dirt is accumulated in a tank, which is emptied mechanically either at intervals on the street, or at the dump, the broom being raised in case the dirt is to be hauled to the dump.

STEEL ROOFING.—Niles Iron & Steel Roofing Co., Niles, O. Pamph.; 6×9 Ins.; pp. 25; ilinstrated. This catalogue describes the construction of the different

forms of steel roofing, ceilings, ridges, gutters and other forms of stamped sheet metal work produced by the company named. Special qualities of roof paints and tools used in laying sheet metal roofing are also described and

a price list of all articles is given.

STEAM SHOVELS AND DREDGES.—The Toledo Foundry & Machine Co., Toledo, O. Pamph.; 9½×6¾ ins.; pp. 94; illustrated.

several classes of "Victor" shovels which a The several classes of "Victor" shovels which are built by this firm are quite inly described and illustrated in this pamphlet. It also contains a number of illustrations of dipper dredges built by the same company, together with the "Victor" railway pile driver and the tor" turntable.

HOISTING AND CONVEYING MACHINERY.-G. D Grannis, Syracuse, N. Y. Pamph.; 8½ × 6 ins.; pp 16; Illustrated.

This pamphlet describes and illustrates quite fuily the Jackson hoister and conveyor for sewer and trench work, the Jackson rotating hoister and conveyor, and the Jackson revolving, seif-propelling pile driver. These machines son revolving, self-propering pile driver. Inese machines have been quite extensively used on the Eric Canal enlargement, and on various pieces of sewer work.

"SALAMANDER" FIREPROOFING.—The American Fireproofing Co., Boston, Mass. Pamph.; 6 × 3½ ins.; pp. 32; illustrated.

32; illustrated.

Salamander is made in rolis, like roofing felt, and is designed to be used as a lining between floors, and in other places where a sound deadener or a dust and air-proof lining is desired. Among the claims made for the material are that it is non-inflammable and a non-conductor of heat, and this pamphlet describes more particularly the results of various tests made to de strate these characteristics.

ELECTRICALLY OPERATED TURNTABLES.—The Westinghouse Electric & Mfg. Co., Pittsburg, Pamph.; 9 x 6 ins.; pp. 12; illustrated.

In this pamphiet the company presents a berief description and a number of illustrations of its expectations.

In this pampniet the company presents a brief description and a number of illustrations of its special motor car, or "donkey," for turntable operations. The device requires no changes in the turntable proper, and can be attached to any construction of table, and a quite complete account of its construction and operation was given in Engineering News of May 27, 1897, and Aug. 25, 1808. BRIDGE RAILINGS.—Chester B. Aibree, Aliegheny, Pa. Pamph.; 9×6 ins.; pp. 130; iliustrated.

This pamphiet ifinstrates and describes very briefly a This pamphiet ilinstrates and describes very briefly a large number of structural and special styles of railings, portal castings, lamp posts, cornice and facias, stairways, etc., for bridges, which are manufactured by the abovenamed firm. The variety of desigus shown is very large and most of them are examples of actual work. In a supplement the pamphlet devotes several pages to the special forms of bridge riveters designed and bnilt by Mr. Albree.

THE REMINGTON TYPEWRITER AFLOAT.-Wyckoff, Seamans & Benedict, New York, N. Y. Pauph.; 35 x ins.; pp. 24; illustrated.

This pamphiet contains handsome half-tone engravings of the different larger vessels of the United States Navy, each accompanied by a brief description giving dimeneach accompanied by a prier description giving dimen-sions, armament, a general outline of the machinery, and other similar details. The statement that each vessel's equipment also includes one or more Remington type-writers constitutes the "trade" feature of the pamphiet, which is in many respects a better handbook of our larger war ships than many more formal and pretentious pooks which we have seen.

TRANSFORMER DESIGN AND OPERATION.—General Electric Co., Schenectady, N. Y. Pampa.; 8 x 10% 148.; pp. 35.

This pamphlet, number 9,064 of the General Electric eries, is a reprint of two papers on transformers, one, 'Alternating Current Transformers from the Station Man ager's Stanupoint," by Mr. W. F. White, read occore the American Institute of Electrical Engineers, and the other, "Transformer Economy," by Prof. W. E. Goldsborough, read before the National Electric Light Association. These read before the National Electric Light Association. These are supplemented by several maps of Conshohocken, Pa., showing how a few large transformers were substituted for a number of smaller ones, with a considerable saving in operating expenses. As a further example of the economy of large transformers, the aftertuating current distribution existence at Purchle Color, inchessive themselves the content of the content of the color of the content of the color of the col distribution system at Pueblo, Colo., is shown in the same way. Instruments for making transformer tests are mustrated and briefly described.

TARGET-READING TACHEOMETER.—Bell-Elliott patent, Messrs, Elliott Brothers, Opticlans to the Government, 101-102 St. Martin's Lane, London, England, Paper; 8 x 5½ ins.; pp. 22.

This pamphiet describes the method of using a target-

reading tacheometer invented by Mr. George Joseph Bell, Assoc. M. Inst. C. E., of Carlisie, Eugiand. The Instrument is intended to measure distances and airtitudes, when a graduated staff is placed on the point to be measured and it accomplishes the work of a transit, level and chain at one operation and with extreme accuracy. In general the instrument resembles a transit with level divided wide and compass attached. But it is also provided with a tangent scale, moved by a micrometer drumhead, dividing one full division of 1-16 in. on the tangent scale into I,-000 equal parts; it is read by a microscope. The instru-ment reads the actual natural tangent of the observed angle, and books of tables are not required for field work. While instruments of this type are not much used in this country, the results obtained with the Beli-Elliott tacheometer are said to be accurate to five places of decimals, and to be more precise than when obtained by the chain The cost of the instrument complete ranges from \$200, for a 4-in. reading to 1', to \$250 for a 6-in. reading to 20".

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING

W	ITH DATE OF	OPENING BIDS.	
Bids to be			See Eng.
opened.	Work.	Place.	News.
Dec. 29. Stree	t bonds. George	town, Ky	Dec. 8
Dec. 29, Asph	ait paving, Loui	sville, Ky	Dec. 22
Dec. 29. Brids	ge superstructur	e, Boston, Mass.	Dec. 22
Dec. 29. Heat	ing, etc., Brockt	on. Mass	Dec. 29
Dec. 29. Pum	ping station, Bo	ston, Mass	Dec. 29
Dec. 29. Stree	t lighting, Came	len. N. J	Dec. 29
Dec. 29. Reme	oving garbage, e	tc., Hudson, N.	Y Dec. 29
Dec. 30. Laur	dry machinery,	Danville, Ili	Dec. 29
Dec. 30. Eiect	ric light wiring,	Syracuse, N. Y.	Dec. 29
Dec. 30. Build	ling aiterations,	Wilkesbarre, Pa	aDec. 29
Dec. 30. Rive	ted steel pipe, F	ittsburg, Pa	Dec. 29
Dec. 30. Repa	irs to workhous	e, New York, N.	YDec. 22
Dec. 30. Stati	on house renair	e, New York, N. s, New York, N.	YDec. 22
Dec. 30. Town	ng garbage scov	VS. New York, N.	Y Dec. 22
Dec. 30. Scow	New York, N.	Y	Dec. 22
Dec. 30. Self-	dumping cars (6), New York, N.	YDec. 22
Dec. 30. Sewe	rs, East Clevela	nd, O	Dec. 8
Dec. 31. Plan	s for station, etc	., Stockhoim, Swe	eden.June 23
		outh, Neb	
Dec. 31.Steam	m Dollers, Alexa	ndria, Egypt	Dec. 15
Dec. 31. Clear	ning market gro	unds, Cieveland,	O Dec. 13
Dec. 31. Elect	tric lighting, Es	u Ciaire, Wis	Dec. 99
Dec. 31. Wate	or bonus, bemin	ji, Minn.	Dog 99
Dec. 91 Wee	den nier New	New York, N. York, N. Y	Doc 99
Dec. 31. Woo	go Columbus N	leb.	Dec 29
Dec. 31. Brid	ges for 1800 Con	neva, Neb	Dec. 29
Inn 1 Riec	reic lighting Pla	easantville, O	Dec. 22
Ian 7 City	hall plant Brid	geport, Conn	Aug IS
Ian 1 Dray	phridge Cathlam	et, Wash	Nov. 17
Ian 1 Wate	er-works Pasade	ena, Cai	Nov. 17
Jan. 1. Eiec	trio plant. Paris	dena, Cal	Dec. 1
Jan. 2. Brid	ge. Quebec. Que		Sept. 20
Adv	ertised, Eng. No	ws, Sept. 29 and	Oct. 6.

Jan. 2. Are lighting, Vincennes, Ind	
2 Storm sewer, etc., Hamilton, O Dec. 8	
	9
len 2 Bridge, Aspen, Colo	1
1sp. 2. Sea water pmpg franchise, Santa Cruz, Cal. Dec. 15	t
1an 2. Cutting and logging, Cherokee County, N.C. Dec. 22	8
Jan 2. Dralnage ditch, Ponca, Neb Dec. 22	(
Jen 2. Water bonds, Stanberry, Mo Dec. 22	
1an 2 Sewers, Kingston, Pa Dec. 29	
Jan. 2. Bridge work for 1899, Newton, Ia Dec. 29	1
1an 2. Bonds, Chatham, N. B	1
Jan 3. Steel plates, Mare Island, Cal Dec. 29	-
Jan. 3. Navai supplies, New York, N. Y Dec. 29	
3. Public works and supplies, Philadelphia Dec. 29	1
Jan. 3. Bridge work, Nelson, Neb Dec. 15	- 1
Jan. 3. Pipe sewers, Mount Vernon, N. Y Dec. 15	
Jan. 3. Sewers, Cincinnati, O	-
lan 3. Church. Ashland, Ky	1
Jan 3 Court house, jail, etc., Balsam Lake, Wls., Dec. 15	
1an 3. Steel bridge, Brookhaven, Miss	1
lan 3. Water-works, Gaffney, S. C	t
Jan. 3. Bath plans, Albany, N. Y Dec. 8	1
Ian. 4. Library building, Owatonna, Minn Dec. 15	(
Jan. 4. Bridge work for 1899, Denison, Ia Dec. 22	8
Jan. 4. Drainage ditch (8,300 ft.), Burlington, Ia. Dec. 22	1
Jan. 4. Steamboat, Fort McHenry, Md Dec. 22	-
Jan. 4. Sewers, Oshawa, Ont	1
Jan. 4. Repair of bridge, Trent, S. Dak Dec. 29	
Jsn. 4. Electric lights, Columbus, Ga Dec. 29	5
Jan. 4. School building, Wapakoneta, O Dec. 29	1
Jan. 5. Sewer, Scranton, Pa	- 1
Jan. 5. Asphalt paving and sewers, Rochester, N. Y. Dec. 29	
Jan. 5. Library building, Cincinnati, O Dec. 22	
Jan. D. Pile tresties (3), Sacramento, Cal Dec. 22	-
Jan. 5. Water-works, Darlington, Okla Dec. 15	-
Jan. D. Macadam roads (1/1/2 miles), Decatur, IndDec. 1	-
Jan. 6. Water-gas plant, Jonannesburg, So. Africa. Oct. 27	1
Jan. 6. Extension electric pint, Johannesburg, S.Af. Oct. 27	,
Jan. 6. Dredging, New York, N. Y	
Jan. 7. Gravel road, Valparaiso, Ind Dec. 8	1
Jan. 7. Macadam road (10 miles), Cincinnati, O Dec. 22	1
Jan. 9. School building, Wilmington, Del bec. 8	-
Jan. 9. Water supply, Bucharest, RoumaniaDec. 15	9
Jan. 9. Excavating, paving, etc., Houston, Tex Dec. 15	
Advertised, Eng. News, Dec. 13 to Jan. 5.	1
Jan. 10. Portland cemt (12,000 bbis.), Duluth, Minn. Dec. 15	3
Advertised, Eng. News, Dec. 15 to Jan. 12.	. 1
Jan. 10. Pumping engine for dredge, Charleston, S.C. Dec. 15	-
Advertised, Eng. News, Dec. 15 to Jan. 12.	-
Jan. 10. Capitol building, Phoenix, Ariz	
Jan. 10. Sewer bonds (\$50,000), Grass valley, Cal. Dec. 1	,
Jan. 10. Bridge work for 1000, flastings, Neb Dec. 22	
Jan. 10. Jan building plans, boone, ia	
Jan. 10. Telegraph poles, Alberth, D. C	
ton 11 Weter-works Vailshurg N I Dec 20	
Advertised Engineering News Dec 29	
lan 12 Cement St Paul Minn Dec. 15	
Advertised Eng. News Dec. 15 to Jan. 5.	
Ian 12 Power house, Annapolis, ad Dec. 22	
Ian 12 Sea wali, Annapolis, Md	
Ian 13 Loading garbage scows, etc., New York., Dec. 29	
Ian. 14 Park work and plans. Philadeiphia. Pa Nov. 17	
Ian 14 Steam tenders (3), St. Louis, Mo Dec. 22	
Jan. 14. Piles and stones, St. Louis, Mo Dec. 22	
Jan. 15. Sewers and drainage, Callao, Peru Dec. 1	
Jan. 15. Street cleaning, Indianapolis, Ind Dec. 15	
Jan. 16. Saie of telephone franchise, Duluth, Minn. Dec. 8	
Advertised, Eng. News, Dec. 8 to Jan. 12.	
Jan. 16. Plpe sewers, Enzabeth, N. J Dec. 22	
Jan. 16. Broken stone, etc., Tampa Bay, Fia Dec. 29	
Advertised, Eng. News, Dec. 29 and Jan. 5.	
Jan. 17. Water-works bonds, Bozeman, Mont Dec. 29	1
Jan. 17. Macadamizing, Cincinnati, O Dec. 29	1
Ion 17 Bridge and plane Ringhamton N V Dec 22	
Jan. 11. Diluge and plans, Dinguamen, 14. 1 Dec. and	
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RAILWAYS.

Mar. 31. Telephone concessions, Shanghai, China. Nov. 24 Advertised, Eng. News, Nov. 17 to Dec. 8.

ARKANSAS & CHOCTAW.—We are informed that this company has built 13 miles in Arkansas and two miles in indian Territory this year. The line has been located some 12 miles west from Choctaw City, Ark., into Indian Territory, and a preliminary line surveyed to the Chickasaw and Choctaw boundary line, via Doaksville, Goodiand and Atoka, a distance of about 130 miles. Mr. Valiliant will make a location through Indian Territory and Oklahoma, following Red River; and probably before any more contracts are let. This will require about four or five months. R. H. Kelth, Pres. of Kansas City, can furnish any other information. F. W. Valilant, Ch. Engr., Rocky Comfort, Ark.

information. fr. w. values fort, ark.

ARKANSAS, GUTHRIE & CALIFORNIA.—Henry Hudson, Pres., Guthrie, Okla., Informs us that surveys were expected to begin last week for this proposed railway from Shawnee to Guthrie and thence northwest to a point on the Chicago, Rock Island & Pacific Ry., a distance of 250 miles. The line will cross the St. Louis & San Francisco at Shawnee, the Choctaw, Oklahoma & Gulf, and the Chicago, Rock Island & Pacific if the road is built to Enid. The prospects for construction are good. J. W. McNeal,

CHICAGO, ROCK ISLAND & PACIFIC.—Reports state surveys have heen completed and that construction work will soon he commenced on the proposed extension from the main line at Chilaska, Ind. Ter., to Fort Sill, Okla., a distance of about 33 miles. W. E. Dsuchy, Supt. of Construction, Topeka, Kan.

CHINA.—Press reports from St. Petersburg, Russia, state that the embankment of the Russian raliway will soon be partially completed as far as Port Arthur. The rallway to Shan Haikwan is making progress. The embankment and cuttings at Niu-chwang have been begun, and are completed for 50 miles from Shan Haikwan onwards. The ralls are now being isid, and a temporary bridge erected; the final bridge will consist of 30 spans of 100 ft. each. Thus Niu-chwang will soon be connected with Peking by rallway.

CINCINNATI, HILLSBORO & WELLSTON.—C. Gillilan.

Thus Niu-ebwang will soon be connected with Peking by railway.

CINCINNATI, HILLSBORO & WELLSTON.—C. Gillilan. Porrsmouth, O., informs us that a second expert examination of the resources and practicability of this proposed line will be made next January. The route is from the coal fields at Wellston to Cincinnati, via Jackson. Piketon and Milford, O., 112 miles. It is hoped that this report may help to secure the capital needed to commence work early next spring. M. McKeehan, Pres., Hillsboro, O.; P. H. Doyle, Columbus, O.

CLEVELAND, CANTON & SOUTHERN.—Press reports state that this railway will be sold in Cleveland, O., on Feb. 2, at 10 a. m., by Special Master Commissioner Carleton. J. W. Wardwell, Recvr. and Gen. Mgr., Cleveland. CLEVELAND TERMINAL & VALLEY.—Reports state that the Magnolia Coal Co. has made a contract with this company for the construction of six miles of track from Sandyville to the company's mines at Magnolia, O. Work is expected to begin at once. E. G. Lone, Ch. Engr., COAHUILA & PACIFIC.—We are informed that an Im-

Cleveland, O.

COAHUILA & PACIFIC.—We are informed that an Important charter has been granted by the Mexican Government to A. W. Lilliendahl for a standard gage railway, 310 klometers long, from Saltillo to Torreon, the junction of the Mexican Central Ry. and the Mexican International R. R. This line will traverse the rich "Laguna," the great cotton producing belt of Mexico, also passing through Parras, the wine and fruit district. Throughout its entire length the line will be through haclendas of wealth and importance, the owners of which are large subscribers. Surveys are in progress by T. S. Abbott, Ch. Engr., of New York, with headquarters at Saltillo, Mexico. Construction work is expected to begin within one year.

and importance, the owners of which are large subscribers. Surveys are in progress by T. S. Abbott, Ch. Engr., of New York, with headquarters at Saltillo, Mexico. Construction work is expected to begin within one year.

COLORADO, UTAH & WYOMING,—E. H. Saltiel, Trustee, Rawlins, Wyo., informs us that this company was incorporated in Wyoming in 1895. to build a railway 600 miles in length, and that the first proposed section of line to he built is from the Union Pacific Ry., six miles east of Rawlins, to Iron, Wyo., 28 miles, with eight spurs to various iron mountains, coal mines and limeatone quarries, about 15 miles additional. Necotiations are now nending and will possibly be concluded in January. The Wyoming Land, Iron & Coal Co., of which Mr. Saltiel is president, has offered to guarantee 500 tons of coal a day to the first company building to Iron, and to further agree to double the tonnage or guarantee 300,000 tons a year, to commence six months after line shall have been nut in operation. Many offers have been made, but all excent one, which is expected to be considered in January. have heen unsaltsfactory. It will be a sheap railway to construct, as the country is largely a flat alkall desert, with about 214 miles of sand hills, and without any rivers.

FARMINGTON & IRONDALE.—Surveys bave commenced at Irondale, Mo., according to reports, for this proopsed trailway from Irondale, Washington county, to Farmington, through the Flat River lead district, about 20 miles. The company was incorporated Nov. 26 by H. I Cantwell, William Carter and others.

GEORGES VALLEY.—Reports state that this line, now in operation between Warren and Holoo, Me., eight miles, north of Union. J. Mitchell, Pres. and Mgr., Union, Me. HUMBOLDT. DYERSRURG & TIPTONVILLE.—This company was incorporated in Tenoessee, Dec. 21, with an authorized caolital stock of \$1,500,000 to build a railway from Humboldt, in Gibson county, to Dversburg, and then to Tiptonville, in Lake county, about 60 miles. The incorporators are: F. S. Blake, J. S. Mc

bave already heen graded and are ready for ties and ralls. B. J. Dalton, Ch. Engr., Cane., Kan.

KANSAS SOITHWESTERN.—This company was incorporated in Kansas. Dec. 23, with a capital stock of \$8,000,000. The incorporators own the old Anthony branch of the St. Louis & San Francisco Ry., which as bondholders they lately purchased at the foreclosure sale. The property is now operated by the Santa Fe, which, it is reported, will buy it in due time. It is stated in the articles of incorporation that the road is to be extended into Oklahoma and the Indian Territory. The directors spectrum of the same of t

bard, 23 Broad St., New York.

MINNESOTA & IOWA.—This company was incorporated in Iowa, Dec. 23, with a capital stock of \$50,000. to construct and operate a line from Sanborn, on the Winona & St. Peter Ry., south to the state line, via Brown, Cottonwood, Watonwan and Martin counties. Marrin Hughitt, Pres.; M. M. Kirkham, Vice-Pres. and Treas; J. B. Redfield, Seey; J. M. Whitman and J. B. Redfield, of Chicago; Edward C. Cartney, of Evanston, and W. A. Scott and J. C. Stuart, of St. Paul, are the incorporators.

ONTARIO & RAINY RIVER—D. F. Burke, Port Arthur, Ont., is stated to have said that the construction of this new line from Port Arthur towards Rainy Lake, 200 miles, is progressing, and that shout 400 men are at work on the line. It is expected that by the end of next May the rails will be laid on 20 miles of the roadbed, extending from Stanley station, on the Port Arthur, Duluth & Western Ry. to the Mattawan River, A further extension of ten miles will be made by July. bringing the railway to the Msttawan Iron range, thus permitting the sbipment of Iron ore. There are now 12 survey parties at work between Stanley station and the mouth of the Rainy River. The company hopes to ohtain a graot of the 85,400 a mile at the coming session of the legislature, in which case about 4,000 men will be put on construction work next summer, and an effort made to complete the line within two years. E. F. Fauquler, Ottawa, Ont., is the contractor for the first 20 miles. Wm. Mackenzle, Pres., Toronto; T. H. Wbite, Ch. Engr., Port Arthur.

QUEEN ANNE'S.—Reports state that this company has decided to build a branch from Queenstown to Centreville, Md., a distance of seven miles. Right of way has already been secured and the survey is now being made. It is expected that construction will begin this winter or early in the spring and the line will be opened next summer. The company is also considering the advisability of eatablishing steamer service between Reboboth Beach and Cape May, a distance of 12 miles. I. W. Troxel. Gen. Mgr. and Ch. Engr., Queenstown, Md.

SABINE PASS & NORTHWESTERN—This company, which has heen incorporated in Texas, with a capital stock of \$400,000, proposes to construct a line from Sabine Pass to Bonham, via Psiestine. Athens. Canton and Greenville, Tex., a distance of about 300 miles. Surveys have been made between Greenville and Palestine, 100 miles, and contracts on this section will probably be let about Jan. 15. W. H. Brooker. Gen. Mgr., Fort Worth, Tex.

ST. LOUIS, IOWA & NORTHERN.—Preliminary surveys h

north and south.

ST. LOUIS & O'FALLON -- Press reports state that the St. Louis & O'Fallon Coal Co. will soon let contracts for the coestruction of 12 miles of railway from East St. Louis to the company's mines near O'Fallon, III.

St. Louis & O'Fallon Coal Co. will soon let contracts for the construction of 12 miles of railway from East St. Louis to the company's mines near O'Fallon, III.

SAN FRANCISCO & SAN JOAQUIN VALLEY.—Poley Bros. & Muir. St Paul, Minn. and Grant Bros. San Francisco, Cal., have been awarded contracts for different pieces of grading between Port Richmond and Pinole. a distance of nine miles. Work on the Franklin tunnel is said to be about half floished. East of this tunnel, two more will be built, one 1,260 ft. in length and the other 300 ft. Bast of the Contrac Costa hills no grading has yet been done. It will be easy work, and the contract will soon be let. From Actioch east 12 miles to the tules half the grading has been completed. Through the tules sever miles of embankment has been thrown up and two miles of bridges and trestles are being built; the embankment is 16 ft. high. The grading from the tules to Stockton, a distance of eight miles, is also being rushed forward Across the San Joaquin River at Stockton a bridge 240 ft. in length will have to he constructed. Plans for the hidge are now heing orenared. A steel viaduct one-half mile long will also be built across one end of the Alhambra Valley. W. B. Storey, Jr., Ch. Engr., San Francisco, Cal. SAN JUAN & RIO PFEDRAS.—This company has been incorporated in New York, with a capital of \$300,000, to construct and operate an electric or steam railway. Tigniles in length, from San Juan to Rio Piedras, Porto Rico. The directors are: George H. Walbridge, Fernando G. Echeveddia, H. H. Harrison, Edward Schmidt, Lathrop R. Bacon, F. Kingsbury Curtis, Philip H. McMillan, Augustin N. Hand and Wm. B. Parsons, of New York Reports state that this company recently purchased the street railway in San Juan, which is operated by steam and was formerly owned by Count Ubarri, and that the new owners purpose to change the motive power from steam to electricity. As stated in our issue of Dec. 15, J. G. White & Co. Engdocers and Contractors, of New York and Baltimore, informed us t

that no immediate changes were cootemplated. SOMERSET.—This company has issued a notice that It will petition the legislature for nermission to build an extension to Moosehead from Bingbam, Me., the present terminus. On account of previous unsettled ittigation the extensions could not be made. As yet no survey has been made of an extension to Moosehead or to a point where connections might be made with the Canadian Pacific or the Bangor & Aroostook. R. W. Dunn, Pres., Oakland, Me.

Inc. Banko.

A Arostock. R. W. Dunn, Pres. Oakland, Me.

SOUTHERN PACIFIC.—This company is said to contemplate extending its double track from Oliver to Segura, La., a distance of eight miles J. T. Mahl, Ch. Engr., Houston, Tex.—Reports state that the Southern Pacific Co. has just placed with several Eastern firms contracts for new cars and locomotives of the aggregate value of about \$2,000.000. The new rolling stock comprises 2,500 box ears, 250 fist cars, 250 gondoins or coal cars and 50 locomotives. Most of the locomotives will be of the 10-wheel type, and are intended for the freight service. Quite a number of them will be used on the mountain sections of the road in California. The new box cars will mostly be used in the overland freight service. This is said to be the largest order ever given for equipment at one time by the company.

WABASH.—Reports state that this company is unloading

the company.

WABASH.—Reports state that this company is unloading material for the construction of its 27-mile cut-off between Moulton and Albia, Ia. The surveys are completed, specifications are out and contracts will be awarded early in the spring. W. S. Lincoln, Ch. Engr., St. Louis, Mo.

WASHINGTON.—Malcolm WDougail, Colonial Bldg., Sesttle, Wash., has applied to the commissioners of Kings county for a franchise for the construction and operation of a standard gaze rallway from Tacoma northward, pre-sumably to Seattle.

of a standard gage rallway from Tacoma northward, presumably to Seattle.

WASHINGTON & COLUMBIA RIVER.—The trustees of
this company have decisred their intention to build seven
branch lines in Oregon and Washington of a total length
of 160 miles. J. G. Cutler. Ch. Engr., Walla Walla, Wash.
WISCONSIN & MICHIGAN.—Press reports state that
this rallway, 60 miles in length, has been sold to the
Tolede & Ann Arbor R. R. Co. The Wisconsin & Michigan
is to be extended six miles, to connect with the Holmes &
Son logging line, which extends 40 miles in a northwesterly direction from Pembina. The Holmes road will
be extended to tap a big tract of vine timber in Forest
and Vilas counties, estimated at 1.000,000,000 ft. This
timber will be brought to Marinette to be sawed
in Marinette and Menominee mills, and will prolong the life of the mills here many years.
Ultimately the Holmes road will be extended to Duludh.
The Wisconsin & Michigan extends from Peshtigo Harbor
to Falthorn Junction. The company will lay its own tracks
into Marinette, Wis. Next year the extension will reach

STREET AND ELECTRIC RAILWAYS.

BIDDEFORD, ME.—It is announced by F. A. Hobart, of Boston, that a contract has been closed and executed with lasac A. Walker & Son, contractors, of Philadelphia, Pa., to build, equip and put in operation early in the season of 1899 the Saco River Electric R. R., from the Biddeford line to Bonny Eagle, in the town of Standisb.

line to Bonny Eagle, in the town of Standisb.

PORTSMOUTH, N. H.—The stockholders of the Portsmouth & Dover R. R. Co, have voted to authorize the Boston & Maine R. R. Co, to extend the Portsmouth Electric St. Ry, throng Newcastle, Rye and Hampton, and accept its proposition for the loan of money to complete the road until new stock could be issued to repay the loan. The project of equipping the Portsmouth and Dover line with electricity was not acted upon.

LAKEVILLE, MASS.—N. G. Staples, First Selectman, Lakeville, informa us that no opposition was made to the granting of a franchise to the Taunton & Middleboro St. ity. Co., at the public hearing on Dec. 17. The proposed route is from Taunton to Lakeville, six miles. Chas. H. Wilson, Pres., Exchange Bidg., Boston, Mass.

TEMPLETON, MASS.—It is reported that work will be-

TEMPLETON, MASS.—It is reported that work will be gin in the spring on the proposed Templeton & Gardn Electric St. Ry., in which P. Blodgett, of Templeton, as others are interested. The company has been incorporat for two years, but its charter has been extended to ne

March.

Wartsfield, Mass.—This town has voted to Issue \$19,000 in bonds to aid in the construction of the proposed Mad River Valley Electric Ry., from Montpeller to Warren, via Middiesex, Moretown and Watsfield, a distance of about 26 miles. F. C. Kennedy, Pres., Burlington, Vt.; V. K. Nash, Cb. Engr., Woonsocket, R. I.

BRANFORD, CONN.—The Branford Electric Co., has organized the Branford Electric Ry. Co., with a capital stock of \$200,000 to build a line to East Haven. A. M. Young, Pres.; A. E. Hammer, Secy.; A. O. Shepardson, Treas.

Young, Pres.; A. E. Hammer, Secy.; A. O. Shepardson, Treas.

ELMIRA, N. Y.—H. M. Herbert, Ch. Engr., Bound Brook, N. J., informs us that the news item in our last issue referring to the construction of the Eimira & Seneca Lake Ry., was correct, except that no contract bas yet been made for the ties, poles or labor. The American Engineering Co., Bound Brook, N. J., and 710 Harrison Bidg., Philadelphia, Pa., has the contract to build and equip the line, which will be 17 miles in length, and will be put in operation by May 15. The final location of the line is now heing made, after which the dry masonry culverts will be built, piles driven, and the iron work ordered for hridges. Grading and track laying will not be commenced until the frost is out of the ground. The route is from Horseheads to Watkins, via Pine Valley, Milliport and Montour Falls. Fourteen miles of the line is on private right of way, all of which has been secured. Gen. John E. Mulford, Pres., of Montour Falls, N. Y.; John Blair MacAfee, Pres. of American Engineering Co. SCHUYLERVILLE, N. Y.—The company which proposes to build a line from Greenwich to Schuylerville, and in which J. A. Powers, Lansinghurg, N. Y., is interested, bas bought the water power at Middle Falls, on the Batten Kill.

MORRISTOWN, N. J.—J. E. Melick, of Morristown, informs us that definite facts regarding the proposed electric railway from Paterson to Trenton, N. J., can not be given until about April.

ROSELLE, N. J.—A public hearing will be given here Jan. 6, on the application of the Westfield & Elizabeth

tric railway from Paterson to Trenton, N. J., can not be given until about April.

ROSELLE, N. J.—A public hearing will be given here Jan. 6, on the application of the Westfield & Elizabeth Eliectric Ry. Co., for a franchise to huild through this place. Should the franchise be granted it will complete the company's right of way between Elizabeth and Plainfield.

LANCASTER, PA.—It is reported that the Inter-Urban Ry. Co., bas decided to build a trolley line from 63d and Market Sts., Philadelphia, to Lancaster, via Willistown Inn, Westchester. Unionville and Quarrytown, with a branch between Oxford and Westchester. For the construction and equipment of the line an issue bas been made of \$1,000,000 of 5 per cent. 40-year gold bonds, being at the rate of \$12,000 a mile. Among those interested are; W. T. Forsyth, Cb. Engr., of Avondale, Pa.; J. P. Thomas, Whitford, Pa.; Dr. G. N. Philips and Marshall S. Way.

MACUNGIE, PA.—An extension of the trolley line from

MACUNGIE, PA.—An extension of the trolley line from Emans to 'his borough, a distance of 3½ miles, is projected. Hugh E. Crilly, Allentown, Pa., is said to be the promoter.

promoter.

POTTSTOWN, PA.—Joseph MacCarroll, Pres. of Fairmount Construction Co., 723 Walnut St., Pbiladelphia, Pa., informa us that his company has already received the contract for the construction of the proposed Montgomery & Chester Electric Ry. from Pottstown to Phoenixville, via Limerick Square, Royersford and Spring City, a distance of 16 miles. The rights of way between Spring City and Phoenixville have been obtained and the necessary capital for construction secured. The Incorporation of this company was noted in our last issue. John S. Ridgway, Pres., Philadelphia.

Pres., Philadelphia.

BALTIMORE, MD.—J. G. White & Co., of Baltimore, and 29 Broadway, New York, have the contract for hullding an extension of one mile to connect the Baltimore, Middle River & Sparrow's Point Electric Ry. with the Fairmount Ave. line of the Central Ry.

NORFOLK, VA.—Reports state that the Norfolk & Atlantic Terminal Ry. Co. has asked permission of the city council to hulld a trolley line in the city. This road is proposed from Norfolk to a point on Chesapeake Bay, nearly opposite Old Point Comfort. D. Lowenburg, Pres., Norfolk.

CHATTANOOGA, TENN.—The Chattanooga Electric Ry. Co. is said to contemplate the extension of its Carter St. line to the factories west of Cameron Hill. J. H. Warren, Pres.

line to the factories west of Cameron Hill. J. H. Warren, Pres.

HAMILTON, O.—Press reports state that a company has been incorporated by J. C. Hooven, G. A. Rentschler, C. B. Hooven, George Helvey, Fred. Shaffer and Stanley Shaffer, of Hamilton, with a nominal capital of \$25,000, to build from the terminus of the Cincinnati Consolidated line at Anderson's Ferry, seven miles below Cincinnati, to the towns of Lawrenceburg, Aurora and Rising Sun and the "Queen City," a distance of 38 miles. Rights of way and franchises bave been secured from the Indiana line to Aurora, and the preliminaries necessary for a continuation to Rising Sun, will soon be completed.

MARION, IND.—Charley L. Harry, Supt. of Kokomo St. Ry. Co., bas fied petitions with the commissioners of Tipton and Hamilton counties asking for the right of way for an electric railway extending from Tipton south through Atlanta, Arcadia and Cicero to this city. E. H. Shirk, Pres. of the Tipton National Bank, is also said to be interested in the proposed line.

new numbers of the proposed line.

NEW CASTLE, IND.—The commissioners of Henry county, Dec. 16, granted a franchise to the New Castle Electric Ry. Co., consisting of E. B. Phillips, R. Wisehart, Thad. Gordon, D. P. Jennings, Dr. J. F. Thompson and T. B. Millikan. The franchise requires work to begin before Oct., 1899, and one of its proposed lines to be finished within six months from that time.

FLINT, MICH.—The common conneil Dec. 21 granted W. E. Avery, of Detroit, and Dan. L. Davis, of Pontiac, Mich., a 30-year franchise to build an electric street railway system in Filint, to he operated in connection with a line to be huilt to Long Lake. Work is to hegin March 1, and cara are to be running to the lake by June 15. The franchise provides for a guarantee bond of \$5,000.

CHICAGO, ILL.—The People's St. Ry. Co., of Chicago, has been incorporated with a capital stock of \$10,000, hy Joseph W. Latimer, Rohert R. Reynolds and J. Guy Latimer, according to reports.—It is announced that the Northwestern Elevated R. R. Co., of this city, bas closed negotiations for \$4,500,000 whereby it will he enabled to resume work on its proposed elevated system. The directors of the company will he C. Ledyard Blair, of New York; Edward L. Brewster, Clarence Buckingham, Bryan Lathrop and D. H. Louderhack, of Chicago; W. W. Miller, of New York, and John C. Welling, of Chicago Electric Traction Co., will extend its line from Blue Island to Harvey in the spring. J. S. Bache, Pres., S8th St. and Vincennes Road.

KENOSHA, WIS.—John C. Wegner, of Milwaukee, Wis.,

Vincennes Road.

KENOSHA, WIS.—John C. Wegner, of Milwaukee, Wis., has made application for a street railway franchise in Kenosha in hehalf of the Kenosha Traction Co.

IOLA, KAN.—Work has begun, according to reports, on the proposed line of the Iola Rapid Transit Co., in this city. This company was incorporated May 17, with a capital stock of \$10,000, to build between Iola and Laharpe and Moran. Alfred W. Beck, Secy.

LEAVENWORTH, KAN.—Amos A. Fenn, of Leavenworth, and others, have been granted a franchise to huild an electric line hetween this city and Kansas City, to cost about \$400,000. A power bouse will be built near Wallala.

lula.

OMAHA, NEB.—An extension of the Omaha St. Ry. in the spring is said to he projected. D. H. Goodrich, Secy. FENTON, MO.—Reports from St. Louis state that the McCoy Construction Co. will begin at once the construction of the proposed Fenton & Southwestern Ry. from Fenton to Carondelet, St. Louis, a distance of 28 miles. Thos. F. Sneed, Pres.

Thos. F. Sneed, Pres.

GALENA, MO.—A. H. Rogers, Pres. of Southwest Missouri Electric Ry. Co., is stated to bave said that his company intends to huild a power house at Galena, so as to be able to extend the line through to Empire City, Riceville and Spring Grove.

ville and Spring Grove.

ST. LOUIS, MO.—The St. Louis County St. Ry. Co. has filed a petition with the county commissioners for leave to substitute electricity for the present mule motive power.

M. B. Greenfelder, Pres., Central P. O., St. Louis

county.

PINE BLUFF, ARK.—Jeff Hicks, Pres. of Pine Bluff Electric Light & St. Ry. Co., of Pine Bluff, informs us that contracts for the construction of the proposed seven miles of electric railway for this company will he let not later than Jan. 10. Bonds are now heing placed. This company was incorporated Dec. 6, with a capital stock of \$300,000.

ELECTRIC LIGHT AND POWER.

EVERETT, MASS.—The petition of Perry D. Blackden for permission to construct and maintain an electric lighting plant bere will be referred to the next city government.

HARTFORD, CONN.—The Housatonic Power Co. will petition the general assembly for an amendment to its charter, giving it the right to huild a dam across the Housatonic River, between Bridgewater and Brookfield, and the right to conduct electricity from New Haven county to points in Hartford county. The company intends to obtain power from the water fall created by the construction of one or more dams for the generation of electricity.

ALBANY, N. Y.—Plans for the establishment of an electric light plant at the penitentiary whereby all the county building in this city and possibily Watervilet and Coboes will be lighted, have heen presented to the board of county supervisors.

CANANDAIGUA, N. Y.—Reports state that the village

CANANDAIGUA, N. Y.—Reports state that the village trustees bave refused the petition of M. D. Munger for the operation of an electric light plant. Mr. Munger will petition the new board when organized.

CLEVELAND, N. Y.—A fire bere, Dec. 18, destroyed the electric light plant which furnished the light and power for the United Glass Co.; loss, about \$2,000.

ILION, N. Y.—John V. Schmidt informs us that the question of municipal ownership of light and power plant is being agitated.

LOCKPORT, N. Y.—W. T. Ransom informs us that the plans for developing power at Lockport are not yet completed, and that it cannot he stated at present when work will be started.

plans for developing power at Lockport are not yet completed, and that it cannot he stated at present when work will be started.

NEW YORK, N. Y.—The following blds were received Dec. 17 by the hureau of yards and docks, Washington, D. C., for enlarging the wiring system at the navy yard: Blake & Williams, New York, \$19,577; Chas. L. Elditz, New York, \$16,529; Commercial Construction Co., New York, \$16,529; Commercial Construction Co., New York, \$16,555; T. M. Mowrey, New York, \$21,000; New York Selectric Equipment Co., New York, \$16,509; Western Electric Equipment Co., New York, \$16,870; Western Electric Co., New York, \$18,300.—The following blds were also received, according to reports, for extending the electric light system at the uavy yard (a, engines, dynamos, etc.; h, condensors, insulators, pumps, piping, etc.): Eddy Electric Mfg. Co., Windsor, Conn., a, \$18,300; b, \$6,366; a, Ball engines, \$21,500. Ridgway Dynamo & Engine Co., Ridgway, Pa., a, \$20,977; alternate, deduct \$650. Burhorn & Granger, 136 Liherty St., New York, a, \$19, 191.62; b, \$6,371. Sheppard engines. Triumph Blectric Co., Cincinnati, O., a, \$20,575. Francis Bros. & Jellett, Philadelpbia, a, \$22,700, \$23,100, \$23,700 and \$24,200; h, \$21,200. Northern Engineering Co., New York, a, \$19, 167; Ball engines, \$21,972; Armington-Sims engines, \$4,200,982; b, \$5,278. Thresher Electric Co., Dayton, O., Buckeye engines, a, \$18,401; Ball engine, \$20,062; \$26,766; Watertown, \$16,486. Stemens & Halske Electric Co., New York, a, \$19,962; do., \$21,150; Ball engine, \$21,237; Ball, \$21,987; A. & S. engines, \$11,962; do., \$21,512, A. & S. engines, \$19,962; do., one wbeel, \$20,362; Watertown, \$16,486. Stemens & Halske Electric Co., New York, a, \$19,962; do., \$21,512, A. & S. engines, \$21,150; Ball engine, \$1,500 General Incandes, \$21,150; Ball engine, \$21,500. General Electric Co., New York, a, \$18,602; do., \$21,512, A. & S. \$19,962, A. & S. \$20,362; Watertown, \$1,500; one extra engine, \$1,500 more. Western Electric Co., New York, a, \$18,602; do., \$21,514, 6

NEW YORK, N. Y.—Reports state that the New York Gas, Electric Light, Heat & Power Co. has purchased land between 95th and 96th Sts., 1st Ave. and the East River,

and also on Berrian's Island. The erection of a power plant on the latter and a distributing station on the former in order to furnish light and power for New York city is projected. W. C. Whitney and John D. Grimmins are interested.

CAMDEN, N. J.—Bids are asked until 7.30 o'clock, Dec. 29, for lighting the streets of this city with incandescent and are lights for the terms of one, three and five years, heginning July 1, 1899. Chas. C. Soutbard, Chn.

SYRACUSE, N. Y.—Bids will be received until for the wiring, etc., of the Washington Irving schoing for electric fighting. P. D. Cooney, Cik.

SWEDESBORO, N. J.-H. W. Ridgway, Secy., us that nothing bas been done towards the propostric light plant.

VINELAND, N. J.—The Citizens' Committee of this place will petition the property holders for \$140.000 in bonds for electric light, water and sewerage improvements. WILDWOOD, N. J.—L. R. Baker informs us that no steps have been taken towards securing an appropriation or awarding contracts for proposed electric light plant.

or awarding contracts for proposed electric light plant.

EASTON, PA.—The Easton Power Co., according to reports, will soon hegin the erection of an electric light plant at this place. T. A. H. Hay, Easton, Pres.; L. I. Fletcher, Boston, Mass., Supt. of Construction.

BALTIMORE, MD.—Reports state that Thos. F. Hayward has purchased the charter of the Wenstrom Electric Light Co.

SALISBURY. S. C.—It is reported that the Yadkin Power Co. contemplates the erection of a plant.

SPARTANBURG, S. C.—J. L. Carson Informs us that preliminary estimates for an electric light and power plant are heing sought to see whether it would be a paying investment.

ATLANTA, GA.—George Hillyer informs us that the people voted in favor of municipal ownership of power plant last Octoher, and that the problem will he considered by the new council taking office Jan. 1.

COLUMBUS, GA.—Blds will be received until Jan. 4 for 100 arc lights in old city and 15 in annex, 200 c. p. each.

M. M. Moore, Clk. of Council.

TUSKEGEE, ALA.—The legislature bas passed a bill authorizing the issuance of \$30,000 water-works and electric light bonds.

TUSKEGEE, ALA.—Alber & Byrne, Engrs., Birmingham, Ala., have been engaged by this city to prepare plans and specifications for a plant in this city. Contracts will be let about Feb. 1.

LAKE PROVIDENCE, LA.—This city has voted in favor f the issuance of \$7,500 of water and electric light bonds.

NEW ORLEANS, LA.—Alfred Raymond, Cy. Electrician, informs us that no plans have been made for an electric light plant for this city. Light will be supplied by the present contractor until the end of 1902.

RICHMOND, KY.—The Richmond Electrical Co. has heen organized with a capital stock of \$10,000 to erect a plant at this place. J. D. Hariss, Pres., Cincinnati, O.: F. H. Adair, Supt., Carlisle, Ky.

NEW PHILADELPHIA, O.—The injunction which restrained the work being done by Mr. Beyer has been dissolved.

solved,

NEW RICHMOND, O.—The following contracts were awarded for the construction of an electric light and water-works plant, the engine only being omitted: Rumsey & Co., Seneca Falls, N. Y., pump, \$1,950; American Pipe & Foundry Co., Chattanooga, Tenn., pipes and special castings, \$6,766; R. D. Wood & Co., Philadelphia, Pa., hydrants, 6-in., \$22.50, 4-in., \$19.80; Bourhon Copper & Brass Works, Cincinnati, O., valves, 10-in. at \$18.50, S. in. at \$13, 6-in. \$9, 4-in. \$5.65, Standard Boiler & Bridge Co., Beilaire, O., building (including smokestack), boil-res, well and intake, reservior and pipe-laying, \$11,268; Westingbouse Electrical & Mfg. Co., Pittsburg, Pa., electric light system complete, \$5,000.

SIDNEY, O.—The council proposes to issue \$15,000 in bonds for constructing a plant.

bonds for constructing a plant.

INDIANAPOLIS, IND.—A power bouse is being designed for John H. Murphy for supplying power and light to small manufacturing concerns in this city. The huilding will be five stories bigh, 90 × 250 ft., and will cost from \$40,000 to \$45,000.

MUNCIE, IND.—The electric light plant here was damaged by a natural gas explosion, Dec. 16, to the extent of ahout \$5,000.

BELDING, MICH.—We are informed that bids will be received until Jan. 20 for street lighting. Fred. P. Smith. Cy. Clk.

DETROIT, MICH.—It is probable that an additional planfill be necessary for Beile Isle; estimated cost, \$10,000. D

Will be necessary for Belie Isie; estimated cost, \$10,000. D. W. Simons, Comr.

GRAND RAPIDS, MICH.—The council bas decided to spend \$16,000 for the purchase of the electric light towers from the Grand Rapids Electric Light & Power Co.

MOUNT PLEASANT, MICH.—The following hids were received Dec. 20 by the Indian Office, for installing an electric light plant at the Mount Pleasant School: Arthur Frantzen & Co., Chicago, Ill., plant complete, \$4,351:
Fort Wayne Electric Corporation, Fort Wayne, Ind., plant complete, \$2,500; Fisher Electric Mfg. Co., Detroit, Mich. dynamo and switchboard, \$799; Ridgway Dynamo & Engine Co., Ridgway, Pa., engine, generators and foundation, \$2,221; Westingbouse, Church, Kerr & Co., New York, engine belting, etc., \$1,410; Bullock Electric Mfg. Co., Cincinnati, O., generators, \$735; switchboard, \$115.

WAUKEGAN, LILL—Reports state that the committee on

WAUKEGAN, ILL.—Reports state that the committee on electric lighting has engaged Force Bain, of Chicago, to furnisb estimates for an electric light plant. Com., Aldermen Rice, Garvin and Welch.

furnisb estimates for an electric light plant. Com., Aldermen Rice, Garvin and Welch.

Little Falls, MINN.—F. E. Hall, Cy. Clk., Informs us that nothing will be done towards the proposed water and electric light plant until some time in January.

MENAHGA, MINN.—Carl Eastwood informs us that bids for the electric light plant will prohably be received Feb. 1; estimated cost, \$4,000.

EAU CLAIRE, WIS.—Reports state that the Chippewa Valley Electric Ry. Co. contemplates the construction of a power plant and will bid for the contract for city lighting. SIOUX CITY, IA.—The lowa Building Co. has closed a contract for the purchase of a \$4,000 electric light plant for the lowa building, according to reports.

CENTRAL CITY, NEB.—Reports state that the construction of an electric light plant in this city is contemplated.

O'NEILL, NEB.—Reports state that the electric light plant will be started again. & W. Johnson, Treas. West-ern Electric Association of Omaha, and A. Minnick, Falis City, Neb., are interested.

HASTINGS, NEB.—Reports state that the establishment of another electric light plant at this place is projected. WICHITA, KAN.—The construction of the electric light light will begin soon. L. B. Bradley, of the Western ingineering & Construction Co., Chicago, Ill., will supernized the work.

tend the work. SEDALIA, MO.—W. H. Powell has petitioned the city for a electric light franchise.

PRAIRIE GROVE, ARK.—Reports state that this place

will soon build water-works and an electric light plant. HOUSTON, TEX.—The Cilizen's electric light plant will be constructed by the General Electric Co. Gus. Warneeke has contracted with the Electric Company for supplying the new plant with a 6-in. artesian well.

REDLANDS, CAL.—F. G. Ferand, Secy., informs us that the Rediands Electric Light & Power Co. desires bids for 13 unnels, ten miles of pipe line 22 to 28-in., four generators, and four water-motors, power house, two excitors, switchboard, transformers, and 80 miles of transmission line. Cost of plant is estimated at \$250,000. F. C. Finkle, Engr., San Bernardino, Cal.; H. H. Sinclair, Gen. Mer.

Mgr. PRESCOTT, ONT.—The citizens of this place will vote for \$15,000 electric light honds on Jan. 2.

winnipeg, MAN.—F. A. Cambridge, Cy. Electrician, informs us that the Issuance of bonds for the proposed electric light plant has been dropped for the present; estimated cost, \$50,000.

stimated cost, \$50,000.

NEW COMPANIES.—Milo Electric Light & Power Co., tilo, Me.; \$10,000, commencing with \$150; to supply lectricity for lighting, heating and manufacturing pursoses; Julian d'Este, Pres., Boston, Mass.; Frank E. Guerney, Clk., Dover, Me. Donley Electric Light Co., Lansing, Mich.; \$40,000.

Perry Electric Co., Peoria, Ill.; \$2,500; Nathaniel V. Perry, Ralph E. Seymour and Dwight R. Chapman.

Britton Power & Electric Light Co., Britton, S. Dak.; 3,500; to operate artesian well, water-works system and n electric light plant at this place; Charles Hamilton, fenry L. Stokes, Eugene A. Cooper, George Thiel and oseph Barber.

83,500; to operate artesian welf, water-works system and an electric light plant at this place; Charles Hamilton, Henry L. Stokes, Eugene A. Cooper, George Thiel and Joseph Barber.

Artesian Water, Ice, Light & Fuel Co., Arkanass City, Ark.; \$25,000; J. E. Lacy, Pres.; H. F. Balley, Vice-Pres.; H. Thane, Secy. and Treas.

Elizabeth Lake Water & Power Co., Los Angeles, (S.; \$500,000, commencing with \$250,000; S. R. Thorpe, W. H. McCoy, C. E. Hayne, P. J. Kennedy rni C. C. Wright, all of Los Angeles.

Cuban Electric Co., Asbury Park, N. J.; \$1,000,000; to manufacture electricity for light, heat and power; Wm. R. S. Melvin, East Orange, N. J.; G. K. B. Wade, I East 42d St.; Herbert A. Howell, 350 West 22d St.; Henry K. Davis, 534 East 104th St., New York; Francis A. Fuller, 455 Halsey St., Brooklyn, N. Y.

BRIDGES.

BOSTON, MASS.—Wm. J. Marvin, Bridge Comr., Cambridge, has recommended in his annual report the construction of two new bridges over the Charles River, to replace the Craigli and North Harvard St. bridges.

BRIDGEPORT, CONN.—The board of aldermen voted Dec. 19 to ask the state legislature for power to issue 860,000 in bonds for the proposed new draw bridge over Yellow Mill Pond.

S00,000 in bonds for the proposed new draw bridge over Yellow Mill Pond.

BATAVIA, N. Y.—The town board is considering a proposition to construct a bridge over the New York Central & Iludson River R. R. and the Erle R. R., at Jackson St. Justice Leavenworth, Com.

RENSSELAER, N. Y.—Robert H. Strong submitted the lowest bid, Dec. 20, at \$4,982, for extending Washington St., and constructing a bridge over Mill Creek. C. A. Ryan, Cy. Clk.

TROY, N. Y.—The Albany Ry. Co. will construct a new bridge over the canal, according to reports.

TUPPER LAKE, N. Y.—W. E. La Fountain, Supervisor, Tupper Lake, writes us that he awarded a contract, Dec. 22, to the Groton Bridge Co., Groton, N. Y., for the construction of a steel bridge 160 ft. long, roadway 16 ft., capacity 190 lhs. per sq. ft., on four cylinder plers, 4 × 24 ft.

PHILADDELPHIA, PA.—Bids were received Dec. 13 for

PHILADELPHIA, PA.—Bids were received Dec. 13 for a bridge at Sheaf Lane, from S. Gourley, Jr., 21st St. and Ridge Ave., Philadelphia (accepted), at \$6,392, and Delaplaine & West, Fidelity Bidg., Philadelphia, at \$4,957 Thos. M. Thompson, Dir. Dept. Puh. Wka.

CARROLLTON, KY.—The fiscal court has appropriated \$20,000 for the construction of a bridge over the Kentucky River.

River.

LORAIN, O.—We are informed that the following hids were received Dec. 22 for constructing the superstructure of a lift bridge over the Black River at Erie Ave., as advertised in Engineering News. Geo. H. Lewis, County Audr., Elyria, O.:

*King Bridge Co., Cleveland, O	\$145,000
Variety Iron Works, Cleveland, O	150,000
Youngstown Bridge Co., Youngstown, O	154,000
Groton Bridge Co., Groton, N.Y.,	148,800
**C. L. Strohel, Chicago, Ill	144,100
Wrought Iron Bridge Co., Canton, O.	148,000
Mt. Vernon Bridge Co., Mt. Vernon, O	150,000
Toledo Bridge Co., Toledo, O	150,000
J. Wagner Co., Milwaukee, Wis.,	147,000
Edge Moor Bridge Works, Wilmington, Del	149,000
Horsehead Bridge Co., Horsehead, N. Y	160,000
Massillon Bridge Co., Massillon, O	150,000
Champion Bridge Co., Wilmington, O	155,000

*Plan B, \$145,200; C, \$140,000. *Plan B, \$146,050; C, \$144,150.

NORWALK, O.—The council proposes to construct a ew steel vladuct at Linwood Ave., to cost about \$15,000.

CHICAGO, LLL.—Blds are asked by the hoard of trustees of the sanitary district until Feb. 20 for furnishing the material and constructing the substructure and superstructure of a two-track Scherzer rolling lift bridge over the Chicago River, near Taylor St., as described in our advertising columns. Wm. Boldenweck, Pres.; Joseph F. Haas, Cik.

FOOSLAND, ILL.—Welter Ritchie, Comr. Highways, Foosland, informs us that a contract has been awarded to the Massillon Bridge Co., Massillon, O., for a bridge south of Bellifower Road.

MINNEAPOLIS, MINN.—The contract for furnishing the steel and iron work f. o. h. cars for the widening of the stone arch bridge over the East Channel of the Mississippi River was awarded by the council, Dec. 21, to the Toledo Bridge Co., Toledo, O., at \$10,990. F. W. Cappelen, Cy. Engr.

elen, Cy. Engr.
NEWTON, IA.—Bids are asked until Jan. 2 for hridge ork for the year 1899, according to reports. Frank isk, County Audr.

COLUMBUS, NEB.—Bids are asked until Dec. 31 for constructing a bridge across Shell Creek, according to reports. G. W. Phillips, County Clk.

GENEVA, NEB.—Bids are asked until Dec. 31 for constructing hridges for the year IS99, according to reports. A. M. Strickland, County Cik.

TRENT, S. DAK.—Bids are asked until Jan. 4 for replacing the Trent bridge, according to reports. H. W. B. Souther, County, Audr., Flandreau, S. Dak.

LEXINGTON, MO.—A bill has been presented to congress for the construction of the proposed bridge over the Missouri River, to cost about \$50,000. Frank Bowman, Secy. Com., Lexington.

SEATTLE, WASH.—Reports state that the Great Northern Ry. Line proposes to replace all the wooden bridges with steel structures and fill in trestles west of Minot St., aggregating about 172,560 lin. ft., in the spring. N. D. Müller, Ch. Engr., St. Paul, Minn.

MULBERRY, CAL.—R. T. Stone, County Surveyor, Hol-

Miner, Ch. Engr., St. Paul, Minn.

MULBERRY, CAL.—R. T. Stone, County Surveyor, Hollister, writes us that it is proposed to construct a combination bridge of one span, 100 x 18 ft., capacity, 1,400 lbs. per lin, ft., on two cylinder piers 40 ft. in diameter and 22 ft. high, filled with Portland cement I to 5 parts; estimated cost, \$1,500. There is no other work projected at present.

at present.

LEWISTON, IDAHO.—W. E. Moore, Engr., Lewiaton Water Power Co., informs us that the Pittsburg Bridge Co., Pittsburg, Pa., has the contract for the sub and superstructure of a cantilever Pratt truss bridge, with viadura approaches. Work was commenced Dec. 15 on the concrete piers. Des. Engr., J. R. Worcester, Boston, Mass.

ELORA, ONT.—The Wellington county court has adopted a resolution to construct a steel bridge at this place, to cost \$3,100, according to reports.

SUMMERHILL. ONT.—Reports state that the county commissioner at Seafortb, Out., recommends the construction of a bridge 100 ft. long on concrete abutments, next spring.

BUILDINGS.

BARRE, MASS.—Competitive plans are being prepared by six architects of Boston and Worcester for a new high school building in this town, to cost \$30,000.

BOSTON, MASS.—The contract for erecting the new Quincy St. school building is reported to have heen let to James Fagen, at \$81,670.

BROCKTON, MASS.—Blds are asked until Dec. 29 for heating and ventilating the Copeland school building (four rooms). A. E. Woodward, Supt. of Pub. Property.

PAWTUCKET, R. I.—The council has appropriated \$52,000 for the erection and furnishing of two new school huildings, one to cost \$32,000 and the other \$20,000.

BROCKLYN, N. Y.—Newman & Co., 355 Allen St., Brooklyn, were the lowest bidders, Dec. 22, for repairs and alterations to the Municipal Building in this city, at \$31,750. Other hidders were: Leonard Bros., 903 Bergen St.; Charles Hart, 4th Ave. and Degraw St., Brooklyn; Keily & Keiley, 220 Broadway, New York.—M. Gibbons & Son, Brooklyn, are said to have been the lowest bidders, Dec. 23, for the erection of a storehouse at the Navy Yard, at \$62,975.

NEWARK, N. Y.—The Sherman House in this villege was destroyed by fire Dec. 27, causing a reported loss of about \$25,000. Stephen F. Sherman, Mgr.

NEWARK, N. Y.—The Sherman House in this cillege was destroyed by fire Dec. 27, causing a reported loss of about \$25,000. Stephen F. Sherman, Mgr.

NEW YORK, N. Y.—It is announced that Jacoh H. Schiff will erect a new huldling at 92d St. and Lexington Ave., which he will present to the Young Men's Hebrew Association; estimated total cost, \$150,000.—Plans have been filed by Roberts & Haines, 703 East 135th St., for four 5-story brick flat buildings on 136th St., east of Willis Ave., to cost \$88,000. Harry T. Howell, Arch., 748 East 128th St.; by Arthur Moore, 232 West 112th St., for three 5-story brick tenement buildings on 198th St., near Columbus Ave., to cost \$34,000. C. A. Millner, Arch., 81 East 125th St.; by A. L. Norrie, 17 East 41st St., for a 2-story brick stable at 14 and 16 East 86th St., to cost \$85,000. Renwick, Aspinwall & Owen, Archa; by L. F. J. Welher, Jr., Owner and Arch., 125th St. and Park Ave., Jr. or a 6-story brick flat and store buildings at 3d Ave. and 81st St., to cost \$100,000; by C. F. Rodgers, 1663 Amsterdam Ave., for a 6-story and two 7-story brick flat and store buildings at 142d St. and Hamilton Place, to cost \$240,000. Neville & Bagge, Archs, 217 West 125th St.; by Charles Naarden, 128 East 194th St., for four 6-story brick flat and store buildings at 621 to 629 East 9th St., to cost, \$100,000. Schneider & Herter, Archs., 46 Bible House; by Leopold Kaufman, 35 Nassau St., for two 6-story brick flat and store buildings at 621 to 629 East 9th St., to cost, \$100,000. Schneider & Herter, Archs., 46 Bible House; by Leopold Kaufman, 35 Nassau St., for two 6-story brick flat and store buildings at 621 to 629 East 9th St., to cost, \$100,000. Schneider & Herter, Archs., 46 Bible House; by Leopold Kaufman, 35 Nassau St., for two 6-story brick flat and store buildings at 621 to 629 East 9th St., to cost, \$110,000. M. Bernstein, Arch., 145 Centre St.; by Mary C. Dempsey, Astoria (L. I.), N. Y., for a 7-story brick flat and store buildings at 408 to 418 Cherry St., to cost, \$110,000. M. Bernst

F. A. Williams, 362 West Broadway, \$1.464.

NEW YORK, N. Y.—We are informed that the following hids were received Dec. 23 by the engineer of the 3d Light House District, Tompkinsville (S. I.), N. Y., for the erection of West Bank light house, lower hay, New York Harhor; advertised in Engineering News:

R. G. Packard, 130 Pearl St., New York. . \$43,950 \$47,775 Philadelphia Construction Co., Phila., Pa. . 31,400 35,400 Engineering Contract Co., New York. . 32,800 36,700 W. H. Flaherty, 7 South St., New York. . 34,500 37,000 Jas. Symington, 16 Exchange Pl., N. Y. . 35,000 40,000 —The following hids were also received for metal work for West Bank light house:

*Louisville, Ky.

WHITEHALL, N. Y.—The following bids were received by the adjutant-general of this state Dec. 23 for erecting and furnishing a new armory huilding in this city: John J. Turner, Amsterdam, N. Y., \$36,493; Heury E. Wieher, Rondout, N. Y., \$45,800; A. Pasquini, Albany, N. Y., \$41,512; Peter Keeler, Albany, N. Y., \$39,440; Pat McCann, Albany, \$38,400; O'Brien & Hoolihan, Syracuse, N. Y., \$39,780; William P. Buckley, Oxford, N. Y., \$33,854; P. J. McCaffery, Utica, N. Y., \$42,000; H. Prohst,

New York, \$47,600; R. Richards & Son, Utica, N. Y., \$39,070.50; Andrew Douglass, Rome, N. Y., \$32,368.47; J. W. Whalen, Whitehall, \$33,000; J. & L. McCarthy, \$40,779; Reardon & Burnham, Glens Falls, N. Y., \$38,100. For electric wiring the following offered bids: Blake & Williams, \$1,683; Gaylord & Eitapence, \$1,290; Com Car Co., \$2,155; Seymour Taylor, \$1,250. The contracts were to he awarded on Dec. 28, at a meeting of the armory board.

PATERSON, N. J.—A fire in the city last week de-troyed Continental Hall; estimated loss, \$60,000.

stroyed Continental Hall; estimated loss, \$60,000.

TOM'S RIVEIR, N. J.—The following bids were received Dec. 21 for the construction of a life-saving station on Berkeley Beach, near the present station at Tom's River:
Bernard Johnson, West Hoboken, N. J., April 15. \$8,906
L. J. Stone, Haddonfield, N. J., June 1. 7,169
Henry A. Tolhert, Barnegat, N. J., Sept. 1. 6,650
N. H. Glover Co., Rockland, Me., June 1. 6,490
Chas, W. Kafer, Trenton, N. J., May I. 6,490
Chas, W. Kafer, Trenton, N. J., May I. 7,468
McKEESPORT, PA.—McGallum & Ely, Washington, Pa., have been selected as the architects for the new 3-story brick, stone and terra cotta high school building to he erected on Shaw Ave., McKeesport, at a cost of about \$80,000.

PHILADELPHIA, PA.—Bids are being received by J. E. & A. L. Pennock, contractors, according to reports, for he erection of an 11-story flat building for the Clarendon Flats Co., at 23d and Walnut Sts. Jas. D. Alien, Arch., 017 Chestnut St.

1017 Chestnut St.

POTTSVILLE, PA.—Bids are asked by the supervising architect, Washington, D. C., until Jan. 19, for the low pressure, return circulation, steam heating and ventilating apparatus for the U. S. post-office building at Pottsville.

WILKESBARRE, PA.—Bids are asked until 12 o'clock noon, Dec. 30, for alterations to the City Building. B. H. Carpenter, Chn. of Pub. Property Com.; A. H. Kipp, Arch., Wilkesbarre.

Carpenter, Chn. of Pub. Property Com.; A. H. Kipp, Arch., Wilkesharre.

WASHINGTON, D. C.—Bids are asked until Jan. 21, according to reports, for erecting a new building for the "Evening Star" Newspaper Co. Marsh & Peters, Archs., 1503 Pennsylvania Ave.

ATLANTA, GA.—We are informed that the following bids were received Dec. 21 for the erection of a new court house for this county: The Butler-Ryan Co., St. Paul, Minn., granite, \$144,090; colite limestone, \$143,420; msrbie, \$146,920; sandstone, \$144,350. F. P. Heifner, Atlanta, granite, \$135,561; marble, \$139,111; colitie, \$135,561; anglie, \$138,762; limestone, \$144,350. Gil; sandstone, \$134,461. Lewis B. Beman, Cincinnati, O., granite, \$135,560; colite, \$148,672; limestone, \$144,759. William Bensel & Co., Atlanta, marble, \$137,000; granite, \$135,500; colitie, \$133,560. Gude & Walker, Atlanta, granite, \$149,275; colitie, \$148,233; marble, \$152,503; sandstone, \$122,900. Chapman & Son, Atlanta, granite, \$149,275. colitie, \$148,233; marble, \$152,503; sandstone, \$149,267. As the appropriation was but \$100,000, all of the bids were rejected.

DOUGLASS, GA.—Bids are asked by the commissioners of Coffee county, until Feb. 25, for the crection of a new court house; surety, certified check for \$500. Andrew J. Bryan & Co., Archa, 444 Equitable Blydg, Atlanta, Ga. LEITCHFIELD, KY.—A fire in this city Dec. 27 caused a reported loss of about \$80,000; partly insured.

AKRON, O.—Bids are asked by the supervising architect, Washington, D. C., until Jan. 19, for the low pressure, return circular steam heating and ventilating apparatus and pipe covering for the U. S. postoffice building.

WAPAKONETA, O.—Bids are asked until Jan. 4 for creeting a new school building for St. Joseph's Church.

and pipe covering for the U. S. postoffice building.

WAPAKONETA, O.—Bids are asked until Jan. 4 for erecting a new achoel building for St. Joseph's Church. Leech & Leech, Archs., Lima, O.

DANVILLE, ILL.—Bids are asked by the National Home for Disabled Volunteer Soldiers, until Dec. 30, for the laundry machinery, engine, etc., for the laundry huilding at the Danville branch. W. B. Franklin, Pres. Bd. of Mgrs.; W. C. Gunnell, Engr., Danville.

DANVILLE, ILL.—It is reported that the L. J. Muelier Furnace Co., of Milwaukee, has been awarded the contract for supplying the heating apparatus in the Danville Soldiers' Home. The contract is one for material worth \$35,000.

JOLIET, ILL.—The Auditorium Block, valued at \$50.

\$35,000.

JOLIET, ILL.—The Auditorium Block, valued at \$80,000, was damaged by fire, Dec. 27.

DES MOINES, IA.—Frost & Granger, Archs., \$06-184
La Salle St, Chicago, Ill., inform us that bids will be let in March for the proposed passenger station to be erected in this city at a cost of about \$75,000. The main station will be 280 × 40 ft., of stone and pressed brick and tile roof, with a shed 600 ft. in length. Low pressure boilers and electric lights will be installed.

MALDEN, MO.—A fire at Malden, Dec. 20, damaged the Eexton Merchandise Co.'s block and other buildings; reported loss, \$70,000.

PHOENIX. ARIZ.—Bids are asked by the Office of In-

PHOENIX, ARIZ.—Bids are asked by the Office of Indian Affairs, Jan. 25, for the construction of one brick dormitory and of one water and sewer system at the U.S. Indian school. S. M. McCowan, Supt., Phoenix.

WATER-WORKS.

WATER-WORKS.

LIVERMORE FALLS, ME.—The Livermore Falls Water Co. has heen incorporated with \$100,000 capital; \$1,200 paid in. D. J. Bogan, Pres.; J. H. Maxwell, Treas.

WATERVILLE, ME.—A mass meeting was held, Dec. 15, to take steps towards obtaining a new water supply, and a committee was appointed to confer with the cities of Winslow, Fairfield and Benton, with a view to presenting a bill to the legislature for the municipal ownership of the water system now in operation in these places. The Maine Water Co. owns the present system.

BOSTON, MASS.—Bids have been asked until Dec. 29 from the contractors of this city for constructing the new pumping station to be built at Spot Pond, in Stoneham. Shepley, Rutan & Coolidge, Archs.

CLAYTON, N. Y.—Sidney S. Snell, Lowville, N. Y. writea us that the specifications for the water-works and sewerage system for this town will be completed in about two weeks. There will be ahout five miles of mains and an equal amount of sewers.

EASTHAMPTON, N. Y.—The Home Water Co. has been incorporated with \$25,000 capital, to build a plant in this village. A. M. Psrsons, A. G. Terhell and J. Hunting are the incorporators.

the incorporators.

LESTERSHIRE, N. Y.—Bids have been received for the machinery required for the new works to be, built in this village. The contract involves the following: Two triplex pumps with a capacity of 350 gallons a minute; one triplex pump with a capacity of 60 gallons a minute; two, gasoline engines of about 40 HP. each, and one gasoline engine of about 8 HP. Two 12-in. wells will be sunk. W. G. Faatz, Chn.; C. A. Cockroft, Engr.

MASSENA, N. Y.—A company is being organized in this place to huild works, according to reports. H. B. Chase, Atty.

WHITESBORO, N. Y.—It is reported that the taxpay-rs voted, Dec. 19, to build works.

JERSEY CITY, N. J.—The board of finance has approved the contract to build a plant in this city, recently awarded to Patrick H. Fiynn, of Brooklyn, N. Y., as noted in our issue of Dec. 15.

RIDGEWOOD, N. J.—A committee has been appointed to secure propositions for the building of works, according to report. Trustees Crouter, Stavens and Edwards have been instructed to consider them and report on Feb. 15.

Feb. 15.

VAILSBURG, N. J.—Bids are asked by the council until Jan. 11 for furnishing the material and constructing a system of water-works, including about 31,680 lin. ft. of 8, 6 and 4-in. iron pipe, 14,000 lbs. of special castings, 45 valves and valve boxes, and 43 hydrants, as stated in our advertising columns. Eugene A. McMurray, Borough Engr., 22 Clinton St., Newark, N. J.

PHILADELPHIA, PA.—Plans for the new \$4,000,000-gallon Belmont reservoir, at George's Hill, have been approved of by the committee. Reports state that bids will be called for at once. Thos. M. Thompson, Dir. Pub. Wks.

PITTSBURG, PA.—Bids are asked by the bureau of water supply and distribution until Dec. 30, for laying a 48-in riveted steel force main to the reservoir in Highiand Park. Edw. M. Bigelow, Dir. Pub. Wks.

Edw. M. Bigelow, Dir. Pub. Wks.

ROBESONIA. PA.—The Robesonia Water Co. has been incorporated with a capital stock of \$10,000, with \$1,000 paid in, to build works in this town. H. F. Fidler, of Womeisdorf, Pa., Treas. The other incorporators are Geo. H. Valentine and Wm. D. Filhert, of Womelsdorf; Saml. P. Keppel, Sinking Spring, Pa.; W. W. Light, Reading, Pa. WASHINGTON, D. C.—It is reported that plans have been completed for a new 15,000,000-gallon reservoir, for which hids will soon be asked. W. A. MacFarland, Supt. of Water Dept.

of Water Dept.

TUXEDO, MD.—Press reports state that plans and specifications have been prepared by the Tuxedo & Embia Park Water & Light Co. for a system of water-works to be built in this place and Embia Park, and that bids will soon be asked for the construction of the same, involving a 300,000-galion steel tower, a pump house and about two niles of 4-ln., 6-in. and 8-in. cast-iron pipe. Kennedy & Beck have the contract for the 8-in. artesian wells, two of which have been sunk. D. G. Addsberger, Engr.

ROME, GA.—It is reported that this city has decided to install a filltration system.

INSTALL A HILITATION system.

TUSKEGEE, ALA.—We are informed that Alber & Byrne, Engrs., Birmingham, Aln., have been engaged by the city to prepare plans and specifications, and to superintend the construction of the proposed water-works and electric light plant. The city will be prepared to let the contracts about Feb. I.

NEW ORLEANS, LA.—A. Brittin, Pres. of Council, writes us that an ordinance has just been adopted for a special tax of 2½ mills to purchase the existing waterworks, owned by a private company, and to extend the same, and for building sewers. The ordinance will be voted upon on Feb. 2.

voted upon on Feh. 2.

CLEVELAND, TENN.—Reports state that Judge Clark has decided in favor of the city, in a suit against the National Water-Works Construction Co., on the ground that the charter of the company is void. The company has been doing husiness in Cleveland under the name of the Cleveland Water & Electric Light Co. R. J. Cunningham, Iteer.

Recr.

KNOXVILLE, TENN.—Press reports state that the council has refused to pass an ordinance allowing the Knoxville Water Co. and the Lonsdale-Beaumont Water Co. to consolidate, as the city will soon make an effort to purchase both plants. W. A. Gage, Cy. Engr.

WELLSVILLE, N. Y.—John A. George, East Liverpool, writes us that bids will be asked in about 30 days for furnishing and laying about 1% miles of 12-in. water pipe.

GOSHEN, INB.—Bids have been asked for three miles of water mains for an extension across the Elkbart River, at an estimated cost of \$10,000, according to press reports.

itOCKPORT, IND.—It is stated that citizens of this town are in correspondence with the state board of health with regard to building works.

with regard to building works.

HARTFORD, MICH.—It is reported that this town would vote, Dec. 27, on the question of issuing \$12,000 in bonds for the erection of works.

MINNEAPOLIS, MINN.—It is reported that the Minnesota Sugar Co., St. Louis Park, has awarded a contract to S. Stenson to sink an artesian well on its property, at a cost of \$6,000, with an guarantee of a supply of 1,000,000 gallons a day.

COLFAX, IA.—The council has just bought a pump for \$460 from the Gardner Governor Co., Quincy, Ill., having a capacity of 500,000 gallons in 24 hours; it will be installed at once.

GREARD KAN.—I. B. Gratham, Cy. Cik., writes us that

a capacity of 500,000 gallons in 24 hours; it will be installed at once.

GIRARD, KAN.—J. B. Gratham, Cy. Clk., writes us that the council has advertised for bids for a reservoir 80 ft. in diameter and 12 ft. deep to be built of brick and cement. W. S. Hitch, Chn. Water-Wks. Com.

WAMEGO, KAN.—Bids are asked until Jan. 24 for the purchase of \$25,000 of water-works bonds. F. S. Haacke, Cy. Clk., write us that the contract for constructing works has been awarded to W. W. Cook, Junction City, Kan., at \$22,473. B. F. Evans, Newton, Kan., \$22,500.

BOZEMAN, MONT.—Bids are asked until Jan. 17 for the purchase of \$165,000 of water-works bonds; cbeck, \$2,500. Geo. D. Pease, Cy. Clk.

NEVADA, MO.—J. B. Quigley is reported to have bought the works at, this place.

ARKANSAS CITY, ARK.—The Artesian Water, Ice, Light & Fuel Co. bas been incorporated with \$25,000 capital, to build works in this place.

J. E. Lacy, Pres.; H. Fane, Secy. and Treas.

ABILENE, TEX.—N. Werenskiold, Engr., P. O. Box

ABILENE, TEX.—N. Werenskiold, Engr., P. O. Box 511, Dallas, Tex., writes us that the work which the Lytic Water Co. proposes doing, as noted last issue, consists of raising the masorry spilway and dam 18 inches, and in building a flood levee to prevent high water from spreading over the land near the dam. The work will be done by day labor. Fred. Cockrell, Pres.; J. Lowdon, Secy.

and Treas.

CORSICANA, TEX.—J. S. Thatcher, Dalias, Tex., has just completed a survey for the Corsicana Water Co. of the land on which it proposes to hulld a large reservoir. A pumping station will also be built.

WACO, TEX.—The city is reported to have secured several acres in East Waco for the establishment of a new system of srtesian wells and a large reservoir. LAKEPORT, CAL.—A special election was held Dec. 20 to vote on bonding the town for \$15,400 for the construction of works.

BILLINGS BRIDGE, ONT.—The proposition to build works in this viliage was defeated, Dec. 15, according to reports.

GANANOQUE, ONT.—The town council is reported to be reparing plans and specifications for the construction f water-works and a sewerage system.

UXBRIDGE, ONT.—Wm. Hoster, Mayor, writes us that the resolution to build works passed the public meeting but nothing more will be done until after the elections are over.

CASCADE CITY, B. C.—The Cascade Water Power & Light Co. has begun the construction of a water supply and electric light plant, according to report. Engr. Anderson may be addressed.

NIAGARA, B. C.—It is reported that S. K. Crocker has accured a franchise to build a water supply system at this place. A dam across Fisherman Creek, 1,500 ft. above the village, will be built, and 5,000 ft. of pipe will be laid.

IRRIGATION.

BEAUMONT, TEX.—The Beaumont Irrigation Co. awarded a contract to the Connorsville Blower Co., Connorsville, Ind., Dec. 15, for Installing a pumping plant with a capacity of about 60,000 gals. per minute, to cost about \$40,000. J. T. Wilkins, Engr., Connorsville. PERRIS, CAL.—Reports state that C. J. Ritcble, Los Angeles, Cal., will sink a well and put in a pumping plant at once, to irrigate about 160 acres.

SALT LAKE CITY, UTAH.—R. S. Carberry and F. S. Dettricb, of the Marysville Power & Canal Co., Idabo Falls, Idabo, have applied to the state land board for permission to reclaim about 20,000 acres.

PHOENIX, ARIZ.—A meeting was held by the canal

mission to reclaim about 20,000 acres. PHOENIX, ARIZ.—A meeting was held by the canal companies in the city hall, Dec. 12, to consider the question of constructing a storage reservoir for the Salt River valley. The building of a reservoir hy private capital was considered the most feasible plan. No definite action was taken. Aaron Goldberg of the Territorial Council, may be addressed.—N. W. Haggart and J. H. Ivy have filed a claim for 5,000 ins. of water in Salt River. A canal will be constructed about 8 miles long.

be constructed about 8 miles long.

GUERRERO, MEX.—The state government has been asked to give its aid for the sinking of a number of artesian wells in the waterless regions of the state, which, experts say, can be sunk without great expense or difficulty, and would provide ample water for irrigation.

NEW COMPANIES.—Yokohl Water Co., Exeter, Cal.; \$24,000; to do an irrigation business; B.T. Teagan, A. D. Moore, Harvey Ferris, James Kirk, E. H. Miles, Exeter. Silver Lake Irrigation Co., Silver Lake, Orc.: \$100,000; to carry on an Irrigation business; Jamea M. Small, Gilbert B. Wardwell, James M. Martin, Francis M. Chrisman.

HARTFORD, CONN—A petition is being circulated requesting the selectmen and sewer commissioners to construct sewers in the section known as Charter Oak, according to report. Neil Stalker, New Park Ave., is interested.

terested.

NEW BRITAIN, CONN.—Saml. M. Gray, Providence, R.

I. has been engaged to furnish plans and specifications for sewerage disposal systems with a view to introducing a system in this city.

ONEIDA, N. Y.—Geo. S. Miller was awarded the contract Dec. 19 to construct a sewer, at \$587, according to report.

port. KINGSTON, PA.—Bids are asked until Jan. 2 for the Instruction of 9,462 ft. of sewers. P. B. Reynolds, Pres.; Vm. P. Somers, Secy.; Thos. Wright, Borough Engr., Lu-

Wm. P. Somers, Secy.; Thos. Wright, Borough Engr., Duzerne, Pa.

SCRANTON, PA.—Bids are asked until Jan. 5 for constructing a sewer on Von Storch Ave. and Honesda!e St. M. T. Lavelle, Cy. Clk.

STEELTON, PA.—John D. Young, Secy. of council. writes us that the borough has voted to build a sewer system during next summer from plans prepared some years ago by the late Geo. E. Waring. Bids will be asked within a short time.

SALISBURY, N. C.—Dowd & King are reported to have a contract for a private sewerage system in this place.

BIRMINGHAM, ALA.—The aldermen have decided to construct a sanitary sewer to cost about \$250. F. V. Evans, Mayor; A. J. Camp, Cy. Clk.

GREENSBORO, ALA.—Ti is reported that the city will construct about two miles of sewers—within the next three months. E. B. Randelph, Mayor.

JACKSON, MISS.—The board of aldermen has ordered

construct about two miles of sewers within the next three months. E. B. Randelph, Mayor.

JACKSON, MISS.—The board of aldermen has ordered an election Feb. 1 on the proposition of issuing \$100,000 in bonds for a sewerage system. W. G. Kirkpatrick, Cy. Engr.; D. P. Porter, Jr., Cy. Clk.

DAYTON, O.—Bids will be asked for the construction of a sanitary sewer on Simpson St., from Howard St. to Madriver St., according to report. City Engineer Turner. EAST LIVERPOOL, O.—John A. George, Cy. Engr., writes us that specifications for about seven miles of 8-in., 19-in. and 12-in. pipe sewers, to cost about \$30,000, will be ready in about two weeks. Proposals for pipe will be called for in about a month and for construction in the spring. ZANESVILLE, .—The city council bas voted to construct brick and tile sewers on five streets and alleys. J. F. Brown, Pres.; C. N. Bainter, Cy. Clk.

TOLEDO, O.—Plans and specifications have been prepared for the construction of sewers in several streets and alleys. Lem. P. Harls, Cy. Clk.

WELLSVILLE, O.—John A. George, East Liverpool, O., writes us that the alone is accordance to the construction.

well-streets and Well-Syller. O.—John A. George, East Liverpool, O., writes us that this place is considering the advisability of building a sewerage system.

YOUNGSTOWN, O.—M. Rochford & Sona, are reported to have received the contract for the construction of a sewer in Hayes Ave., noted in our issue of Dec. 15. H. W. Caivin, Clk.

LEBANON, IND.—J. H. Busby, Mayor, writes us that the council is contemplating some improvements in the spring, but has made no definite plans as yet.

NEENAH, WIS.—The board of public works has prepared plans for a sewerage system, with an outlet into Little Lake Butte des Morts, and will bear objections from property owners Jan. 21. W. L. Davis and Ole O. Myhre may be addressed.

Myhre may be addressed.

NEWTON, KAN.—H. H. Hendershot, Designing and Constructing Engr., Wichita, writes us that the outfall was finished Dec. 6, and work on 1½ miles of 6-in. lateral pipe sewers, to cost about \$3,800, has been suspended until spring.

McKINNEY, TEX.—Kelly & Steele, Gainesville, have the contract to build a sewerage system in this city of about seven or eight miles in length.

OKMULGEE, IND. TER.—H. H. Hendershot, Engr., Wichita, Kan., writes us that this city contemplates the construction of a system of sewers.

DENVER, COLO.—The board of aldermen has passed the Capitol Hill storm sewer bill, noted in our last issue. GANANOQUE, ONT.—The town council is preparing plans and estimates for the construction of a sewerage system, according to report.

OSHAWA, ONT.—Bids are asked until Jan. 4, 1809, for the construction of a complete system of sewers and water-works in this town, at an estimated cost of about \$110,000. C. French, Chn. Fire and Water-Works Com.

PEMBROKE, ONT.—The town council has pass law to raise \$12,000 to construct main sewers, a to report. A public election to vote on the quest be held Jan. 2.

WINNIPEG, MAN.-W. F. Lee is reported to have received the contract to furnish \$909 worth of sewer pipe. MEXICO, MEX.—Vezin & Letellier are reported to base received the contract to construct sowers in this city.

GARBAGE DISPOSAL-STREET CLEANING

WOONSOCKET, R. I.—The people of this city are discussing the question of garbage disposal.

BINGHAMTON, N. Y.—The board of health is preparing a resolution to be presented to the council, calling attention to the need of a crematory at this place.

ing a resolution to be presented to the council, calling attention to the need of a crematory at this place.

HUDSON, N. Y.—Bids are asked until Dec. 29 for removing garbage, etc., for three years. Wm. S. Hallenbeck, Seey.

NEW YORK, N. Y.—Bids are asked until Jan. 13 by the department of street eleaning, in 346 Broadway, for loading and trimming deck seews and dumpers, and unloading the pocket dumps in the boroughs of Manhattan and the pocket dumps in the boroughs of Manhattan and the Bronx. James McCartney, Comr.

ATLANTIC CITY, N. J.—The following bids were received for one collection of garbage for one, two or three years, beginning Jan. 9, and for building road to the new erematory: Joseph M. Johnson, first year, \$10,373, with a deduction of \$500 if city provided stabling for horses required; Penf. F. Leeds, first year, \$9,875, second year, \$10,575, third year, \$10,995, with an allowance of \$5 a year for city stabling; John Unsworth, first year, \$13,500, \$27,900 for two years, or \$43,000 for three years, \$13,500, \$27,900 for two years, or \$43,000 for three years, \$14,000 one year, \$28,000 two years, and \$43,000 for three years, allowing \$200 a year for city stabling; John Unsworth, first year, \$14,000 one year, \$28,000 two years, and \$43,000 for three years, allowing \$200 a year for city stabling; John Unsworth, first year, \$14,000 one year, \$28,000 two years, and \$43,000 for three years, allowing \$200. The bids received for building the road to the new cremtory, to be 2,800 ft. in length, were those of Alvin P. Risley, of Pleasantville, \$5,800, and of Benjamin G. Leeds, \$6,878.

MILLMONT, PA.—Beard & McConnell, Reading, Pa. Have been awarded the contract of the property of the paraged and the contract of the paraged and th

MILLMONT, PA.—Beard & McConnell. Reading, Pa. ave heen awarded the contract, at \$2,008, for erecting building, 30 ft. high and 40 × 65 ft., for the General merican Reduction Co.

American Reduction Co.

NEWPORT, KY.—W. L. Glazler, Cy. Engr., has made a report on the disposition of garbage for this elty, and has recommended the erection of a crematory and the destruction of garbage by burning. Report will be acted on in January and appropriations then made for same if the council approves of the plans.

STREETS AND ROADS

BRIDGEPORT, CONN.—The board of aldermen voted Dec. 19 to apply to the legislature for power to issue \$100,000 for street improvements. Address, Chairman

Foster.

ROCHESTER, N. Y.—Bids are asked until Jan. 5 for asphalt paving on South Fitzhugh St. estimated cost, \$11,-100, and constructing a pipe sewer on Caroline St. and Weddale Way. Chas. M. Beattle, Clk.: Edwin A. Fisher. Cy. Engr.—An ordinance has been passed to pave Bartiett St. with asphalt, to cost about \$9,700.

NISKAYUNA, N. Y.—A committee, consisting of John A. De Remer, Andrew J. MeMillan and Wm. Kohring, are considering the question of reconstructing the Dennison Road, a distance of 2,000 ft.

PHILADEL BILLA PA—The denartment of public works

PHILADELPHIA, PA.—The department of public wo has received the lowest bid for repairing and maintain roads during 1890, from David McMahon, at \$94,800, will require about 50,000 tons of broken stone.

SCRANTON, PA.—The council received the following bids Dec. 17 for the repair of asphalt pavement for five and ten years respectively: Barber Asphalt Paving Co. \$87,500 and \$175,200; Pennsylvania Asphalt Paving Co. \$93,500 and \$187,000; Alcatraz Co., \$108,680 and \$234. OSS; George McDonald, \$141,756 and \$305,293. M. T. Laveli, Cy. Cik.

JACKSONVILLE, FLA.—The board of public works has passed resolutions to pave portions of Adams, Bay, Myrtie and Forrest Sts., with shells.

and Forrest Sts., with shells.

CINCINNATI, O.—Bids are asked until Jan. 17 for grading, macadam, etc., on Hopson St. Geo. H. Spellmire, Clk. Bd. Cy. Affairs.

HAMILTON, O.—The board of control awarded a contract Dec. 20 to the David Folz Asphalt Paving Co., Cincinnati, O., at \$46,100, for paving Second St. from Black to Wood Sts., with sheet asphalt and limestone curbing.

EVANSVILLE, IND.—Bids will soon be asked by the county commissioners for nsphalt paving around the courtbouse square, including Vine, Fourth, Division and Fifth Sts.

Fifth Sts.

OWOSSO, MICH.—Engineer Riggs has submitted estimates of the cost to the board of public works, for the proposed paving of Main St., between Washington St. and the river, with asphalt, at \$42,305, and brick \$38,315.

PEORIA, ILL.—The board of local improvements has recommended the proposed paving of St. James St. with brick, a distance of 3,000 ft.

OSKALOGA LA Blds pre-ested with Lav. 15 or 15.

OSKALOOSA, IA.—Bids nre asked until Jan. 10 for Ed-600 sq. yds. of brick paving, 8,900 lin. ft. of Portland cement curbing, and 500 cu. yds. of grading, on D St. Sam Ver Ven, Cy. Engr.; D. C. Waggoner, Clk. OMAHA, NEB.—A petition is being circulated for the paving of Farnan St., between 10th and 15th Sts., with sheet asphalt.

sheet asphalt.

HESSELTINE, WASH.—Reports state that the county commissioners, Sprague, Wash., have ordered surveys for the construction of a new road from the post office to the ferry at Columbia River.

LOS ANGELES, CAL.—Ordinances have been passed to grade and gravel portions of Willow and six other streets. J. H. Drain, Supt. Sts.

SEATTLE, WASH.—The council has decided to pave portions of Mattison St. with macadam and sandstone, according to reports.

BELLEVILLE, ONT.—The city clerk desires to obtain prices from the manufacturers of stone crushers and road rollers, according to reports.

MANUFACTURING PLANTS.

MADISON, ME.—O'Keefe & Orbison, Archs., Appleton, wis, have been swarded the contract for sitering the mill of the Manufacturing Investment Co., of this place, according to reports.

OLDTOWN, ME.—The contract for the mill for the Oungan Woolen Mill Co., has been awarded to M. C. Foster & Son, Waterville, Me.

LINCOLN, N. H.—A fire at this place Dec. 24 destroyed the steam saw mills of J. E. Henry & Sons. Loss, about \$80,000; insurance, \$51,000.

\$50,000; insurance, \$51,000.

BURLINGTON, VT.—The plant of the Shepard & Morse Lumber Co., of Boston, Mass., and this city, was destroyed by fire Dec. 24; estimated loss, \$250,000.

NORTH ANDOVER, MASS.—The North Andover Cotton

insured.

TIVERTON, MASS.—Billings, Clapp & Co., chemical manufacturers of Newton Upper Falls, Mass., are said to contemplate establishing a plant here.

WORCESTER, MASS.—Reports state that Rice & Hutchins, shoe manufacturers, contemplate moving their factory from Marlboro, Mass., to this city.

NEW BRITAIN, CONN.—A new brewery plant for this city is projected. W. E. Hexamer, Philadelphia, Pa., is said to be interested.

city is projected. W. E. Hexamer, Philadelphia, Pa., is said to be interested.

BUFFALO, N. Y.—The Fleischmann Yesst & Vinegar Co., of New York, is reported to contempiste moving its plant to this city.

NEWBURGH, N. Y.—The Granite City Soap Co. will: erect an addition 50 ft. square to its factory.

OSWEGO, N. Y.—A. Paine & Son have been awarded the contract for the carpentry work on the new McGowan brewery work, to be completed by Feb. 15.

JERSEY CITY, N. J.—A fire in this city, Dec. 23, destroyed Wittemsnn Bros.' box factory on Greene St.; estimated loss, \$30,000.

DUQUESNE, PA.—Reports state that the Carnegie Steel Co., Pittsburg, will tear down the plant of the Duquesne Tube Works, and erect new works on the site.

EAST LIBERTY, PA.—Local papers report the sale of the Pennsylvania R. R., to the Crystal Lake Ice Co., of Allegheny, which will expend shout \$100,000 on the erection of an artificial ice plant.

ERIE, PA.—The Ohio Gum Co., Lisbon, O., will remove

ERIE, PA.—The Ohio Gum Co., Lisbon, O., will remove its plant to this city, according to reports—The Eric Car Works Co., is said to contemplate the enlargment of its

plant.

HOMESTEAD, PA.—The Carnegie Steel Co., Pittsburg, is reported to have bought 35 acres of land near this place upon which will be erected a shop, 250 x 1,500 ft., for the manufacture of flat and hopper-bottom freight cars, etc.

MONONGAHELA, PA.—A company is being organized for the purpose of establishing a brewery near here. John A. Senner, Monessen, Pa., is interested.

A Senner, Monesser, Pa., is interested.

PHILADELPHIA, PA.—A permit has been granted to Macey, Henderson & Co., Ltd., contractors, for the erection, of a 2-story brick machine and smith shop, 169 × 102 ft., to cost \$44,000, on Hamition St., for the Baidwin Locomotive Works. The above contractors have also submitted plans to the bureau of building inspection for a 3-story brick machine repair shop, 193.6 × 60.4 ft., to cost \$40,000, for the same firm, to be erected on Buttonwood St. PITTSBURG, PA.—The Pittsburg Reduction Co. Is reported as about to enlarge its plant at New Kensington and increase the horse power of the Nisgara Falls plant to 12,000 HP.—The contracts have been let for the extension of the plant of the Westinghouse Electric & Mfg. Co., which will include a 6-story office building and a large machine shop; reported cost, about \$200,000.

READING, PA.—The Reading Iron Co. has been granted permit for the erection of a building, 40×145 ft. and nother 45×160 ft., for its new rolling mill plant.

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snother 45 × 160 ft., for its new rolling mill plant.

SAYRE, PA.—It is reported that the car department of the Lehigh Vailey shops will be moved from South Easton, Pa., to this place.

ANNAPOLIS, MD.—The Annapolis Ice Mfg. Co. expects to erect an ice plant on St. Johns St.

BALITIMORE, MD.—The Smith Flexible Chair Co., Washington, D. C., contemplates moving its plant to this city. Eidridge Smith, Washington, D. C., is Interested.

WHEEL, MD.—A fire here destroyed the Hollingsworth Spoke & Wheel Co.'s plant; estimated loss, about \$40,000.

WHEELING, W. VA.—A fire in this city, Dec. 15, destroyed the Wheeling Paper Mill; estimated loss, 255,000.

—The La Belle Iron Co. is said to contemplate the erection of two new plate mills as additions to its plant.

BREWTON. ALA.—It is reported that a contract has

BREWTON, ALA—It is reported that a contract has been made with Allen, Scott & Co., Chicago, Ili., by the clizens of this place and the Louisville & Nashville R. R., for the erection of a glucose and starch factory here. The plant will probably cost about \$500,000.

OWENTON, KY.—Reports state that Arnold & Riley will erect a flour mill with 50 bbls, daily capacity, to be operated by a gasoline engine, in the spring. The firm also contemplates establishing an electric plant.

EVANSVILLE, IND.—The erection of a distillery at this lace is projected.

place is projected.

TERRE HAUTE, IND.—The rim, stock and drying rooms of the Standard Wheel Works plant were destroyed by fire Dec. 13; loss, about \$20,000; fully insured.

BAY CITY, MICH.—W. D. Young & Co., whose planing mill was recently destroyed by fire will rebuild at once.

COLDWATER, MICH.—Reports state that the Michigan Portland Cement Co. has awarded contracts for the erection of a steel building, 80 × 350 ft., to cost about \$100,000.

PONTIAC, MICH.—Woodward Bros., according to reports, will erect a 5-story brick carriage factory, 60 × 80 ft., at a cost of \$20,000.

SAGINAW, MICH.—The National Iron Co. is said to contemplate the consolidation of its plants at Toledo and Cieveland, O., and removing them to this place. A. O. Dunk, Treas.

WYANDOTTE, MICH.—The Michigan Alkali Co. have placed an order with the Riter & Conley Mfg. Co., Pitts-burg, Pa., for a new steel building for the cement depart-

ment.
CHICAGO., ILL.—It is reported that the Titan Steel Co. and the Federal Steel Co. will unite and erect a plant at South Chicago and at Kensington for the manufacture of armor plate and shells.

armor plate and shells.

NEW LONDON, WIS.—The factories and warehouse of Page & Lyon, which were destroyed by fire recently, at a loss of \$16,000, will probably be rebuilt at once.

ELY, MINN.—The S. Simpson Co. is said to contemplate the erection of a mill on Fall Lake, near this place. The Diamond Iron Works is to supply all the machinery except the engines.

OMAHA, NEB.—The Fred Krug Brewing Co. will soon iet the contract for erecting a bottling works, to cost \$10,000, according to reports.—The Union Pacific Co. is said to contemplate the erection of new shops in this city. COLORADO SPRINGS, COLO.—Reports state that the Gillette-Hierzog Mfg. Co., Minneapolis, Minn., has been awarded the contract for the erection of two steel and asbestos buildings for the Colorado Midiand Co. The locomotive erecting shop will be 45 × 125 ft., and the boiler and blacksmith shop, 60 × 150.

WOODLAND PARK, COLO.—The erection of three cyanide works is projected. John Annisheid and A. B. Marshall, Cleveland, O.; J. Stanley Brown, Washington, and the Treadwell Co., are said to be interested.

MARIOPOL, RUSSIA.—Press reports state that Robert G. Wells, of the Nicopol-Marlopol Mining & Metallurgical Co., Marlopol, is in Pittsburg, Pa., to place orders for machinery for the mills to be erected at this piace. It is said that the plans have been prepared by Julian Kennedy, Pittsburg, and the contracts for their construction will be under his direction.

GAS PLANTS.

CINCINNATI, O.—Reports state that the Cincinnati Gas Light & Coke Co. has increased its capital stock from \$500,000 to \$9,000,000.

GLOUCESTER, N.J.—The city gas works were damaged y fire Dec. 23, at a reported loss of \$15,000. Harry C.

GLOUCESTER, N.J.—The city gas works were damaged by fire Dec. 23, at a reported ioss of \$15,000. Harry C. Chew, Supt.

DURANT, IND. TER.—Reports state that capitalists of Sherman, Tex., and Gainesville, Tex., will construct an oli plant at this place, to cost about \$40,000.

NEW COMPANIES.—Home Gas, Oil & Mining Co., Arcadia, Ind.; \$3,000; C. C. Ray, J. F. Tudor, J. M. Driver, Clayton Martz and A. Guy,

Modern American Light Co., Kittery, Me.; \$300,000; to manufacture and seli vapor gas; John W. Chase, Pres., Dedham, Mass.

MISCELLANEOUS CONTRACTS.

DAM.—Chelan, Wash.—It is proposed to construct a dam on Lake Chelan, to cost about \$1,750. M. M. Kingman is interested.

nterested.

BONDS.—Chatham, N. B.—Bids are asked until Jan. 2 or the purchase of \$10,000 of bonds, according to reports.

M. Gaynor, Town Cik.

STEEL PLATES.—Mare Island, Cai—Bids are asked until Jan. 3 for furnishing steel plates, at the navy yard. Jan. 3 for furnishing steel plates, at the navy yard. Jan. 3 for furnishing steel plates, at the navy yard. Jan. 3 for furnishing Steel Plates.—San. State Sta FIRE ALARM AND ILLUMINATING SYSTEM.—San ose, Cal.—The city elerk has been directed to ask bids for istalling an automatic fire alarm and illuminating sys-

em.

DREDGING.—New York N. Y.—The dock department has awarded a contract to the Morris & Cummings Dredging Co., at \$4,690, for dredging near Catharine St., East

DRY DOCK.—Boston, Mass.—Bids are asked by the navy department until Jan. 31 for the construction of a new dry dock, $\alpha 0 \times 300$ ft., of stone and cement. Appropriation, $\alpha 25,000$.

O25,000.

DREDGING.—New York, N. Y.—Bids are asked until Jan. 6 for dredging in the East and Harlem rivers, about 100,00c cu. yds. of mud. J. Sargeant Cram, Comr. Docks, Pier A, North River.

NAVAL SUPPLIES.—New York, N. Y.—Bids are asked until Jan. 3 for furnishing boits and nuts, machinery steel, brass pipe, iumber, etc., at the navy yard. Edwin Stewart, Paymaster Gen., Navy Dept., Washington.

TUNNEL.—Wheeling, W. Va.—Reports state that surveys are being made for a tunnel, 2,400 ft. iong, to be driven through Whitehall Hill, near Clayville, on the Wheeling division of the Baltimore & Ohio R. R.

tance of 38 miles, according to reports. Address the department of public works, Ottawa, Ont., or Wm. Henderson, Clk., Victoria, B. C.

BROKEN STONE, E. C.—Tampa Bay, Fla.—Bids are asked until Jan. 16 for furnishing at Muliet Key and Egmont Key, Tampa Bay, broken stone or gravel and random stone, as stated in our advertising columns. Lt.-Col. W. H. H. Benyaurd, U. S. Engr., St. Augustine, Fla.

BRICK, SPECIAL CASTINGS, ETC.—Washington, D. C.—Bids are asked until Jan. 26 for furnishing at shafts of Washington aqueduct tunnel, brick, cement, sand, special castings and boits, as stated in our advertising columns. Lt.-Col. A. M. Miller, Engr., 2728 Pa. Ave.

BROKEN STONE, STEEL BEAMS, ETC.—New London, Conn.—Bids are asked until Jan. 23 for furnishing at New London and Fisher's Island, N. Y., broken stone, sand, iumber, steet beams, angles, sewer pipe, manhoic covers, etc., as stated in our advertising columns. Maj. Smith S. Leach, U. S. Engr., New London.

ORE DOCK.—Two Harbors, Miun.—The Duluth & fron Range R. R. Co., J. L. Greatishney, Pres., Duluth, has awarded a contract to the Barnett & Record Co., Minn-apolis, for tearing down and rebuilding ore dock No. 1. The new dock will be 49 ft. wide, 591½ ft. high and I,400 ft. long, and contain 200 ore pockets with a capacity for 40,000 tons; estimated cost, \$250,000.

PUBLIC WORKS AND SUPPLIES.—Philadelphia, Pa.—Bids are asked by the denartment of public groves.

ft. iong, and contain 200 ore pockets with a capacity for 40,000 tons; estimated cost, \$250,000.

PUBLIC WORKS AND SUPPLIES.—Philadeiphia, Pa.—
Bids are asked by the department of public works, City Hall, until Jan. 3 for furnishing cils, hardware, hrass fittings, cocks and valves, wrought iron pipe, cast tron water pipe and castings, iron and steel, repairs to boilers and roofs, lumber, brick, lime, cement, etc., asphalt paving, curbing, etc. Thos. M. Thompson, Dir.

PNEUMATIC ODORLESS EXCAVATORS.—Puerto Principe, Cuba.—We are informed that Maj. S. T. Armstrong, M. D., Ch. Surgeon, U. S. Army, Puerto Principe, desires prices and full information regarding pneumntic oderless excavating apparatus for the removal of night soil, etc., complete with an air pump, wheeled tank, 300 ft. of coupled hose and harness for two muies, delivered Line.

Line. Dikkes.—Newport, Ky.—Congressman Berry and a committee consisting of ex-Aldermen L. Hehmann, A. J. Mossett, Charles Mauget, Squire Donelan and John Holloran, were to meet Maj. W. H. Bixby, U. S. Engr., Cinctinati, O., Dec. 23, to discuss the bill for the improvement of the Licking River, and providing for the building of dikes, to prevent a flood in Newport at 62 ft. of water. W. L. G. azier, Cy. Engr., writes us that an effort will be made to pass the bill at this session of Congress.

CONTRACT PRICES.

CONTRACT PRICES.

FIRE HOSE.—St. Louis, Mo.—Jas. Richardson, Comr. Supplies, opened bids Dec. 16 for furnishing 4,000 ft. of 2½-in. rubber-lined fire hose, and for rubber suction hose. Contracts have been awarded as follows: Manhattan Rubber Co., 1,000 ft., at 90 cts. a ft.; New York Beiting & Packing Co., 1,000 ft., at 85 cts; Day Rubber Co., 1,000 ft., at 90 cts.

BRICK PAVING.—Jacksonville, Fia.—Philip Prioteau, Cy.Engr., writes that the following bids were received Dec. 22, 1898, for paving a portion of Main St. with brick, the work including 21,431 sq. yds. of vitrified brick pavement, together with the furnishing of all labor and material, grading for paving, grading for 20-ft. parkway in center, four lines of stone curbing, etc.: W. M. Lasley, Chattanooga, Teun., \$1.47 a sq. yd. for work complete (awarded contract); S. S. Leouard Co., Jacksonville, \$1.49\%; J. E. Bryan, Jacksonville, \$1.55\%; Geo. R. Foster, Jr., Jacksonville, \$1.75.

PUMPING ENGINE.—Dunkirk, N. Y.—The foliowing

PUMPING ENGINE.—Dunkirk, N. Y.—The following blds were opened by the water commissioners Dec. 20, for a pumping engine:

Bids Received by the Board of Water Commissioners, Dunkirk, N. Y., Dec. 20, 1898, for Pumping Engine.

										0
Bidder.	Туре.	Cylinders,	Stroke,		Revo-		1,000,000	Duty,ft-lbs per 1000 ibs. steam.	Weight,	Price.
	.,,,,,,			ntai Eng	rine.					4 1100.
Loretz & Son	Cross compound	28×56	42	(2) 16	23	238	-	100 000 000		
" "		28 × 56	36	(2) 16	34	238	4	120,000,000		
Snow S. Pump Wk		24 × 48	36	13	134	204	6	120,000,000		15,660
Show S. Lump Was	ь.	21 X 10	90	10	117	102	6	120,000,000	$\{270,000$	17,490
Holly Mfg Co	Comp condens's	(2) 20×36	32	(9) 90			3	110,000,000	1	
Hoily Mfg. Co	. Comp. condens g	22×40	36	(2) 20	26	135	6	110,000,000	250,000	
Nordberg Mfg. Co	(Telele supersion			131/4	50	300	6	110,000,000	230,000	
Hones D Worth	Triple expansion	(2) 10×21×05	24	(2) 19	1371/2		6	105,000,000		12,270
Henry R. Worth-	,	(0) 10 00			1 25	100	4	80,000,000		
ington	Comp. condens'g	(2) 18×36	24	$(2) 19\frac{1}{2}$		140	6	110,000,000	100,000	18,135
		0			124	95	4	100,000,000		
Barr Pmp'g Eng.Co	o. Cross compound.	24×48	36	18	30	180	0	110,000,000	240,000	22,000
		F	or Verti	cal Engi	ne.					
Pioneer Iron Works	s. Triplex comp'nd.	$26 \times (2) 38$	42	(3) 18		252	7	120,000,000		200 000
	Triplex comp'nd.	1111	36	(0) 10				120,000,000		
Loretz & Son			36	(3)*	42	252	7	125,000,000		20,86
more a continu	Cross comp. diff.		36	16 × 22						21,966
Snow S. Pump Wk		24 × 48	36	16	34	204	6	125,000,000	950 000	20,800
	p at haif-speed	21 / 10			17			120,000,000	350,000	
Holly Mfg. Co			36	171/		180	6	110,000,000		23,991
Barr Pmp'g Eng.C		24 × 48	36	18×25½		180	6	110,000,000		
Dail Imp & Big.C	0.	44 × 40	90	10/20/2	00	100	0	110,000,000	300,000	-25,500

Remarks.—Loretz & Son: Deduct \$1,500 from each bid if foundations are furnished by city; Barr Pumping Engine Co.: Deduct \$1,500 from bid if time was extended to July 1, 1899. *Three tubular plungers, 12½x18 ins.

BOILERS AND MacHINERY.—St. Joseph, Mich.—Bids are asked by Capt. J. C. Warren, U. S. Eugr., Milwaukee, Wis., until Jan. 20, for furnishing boilers and machinery for six steam fog signals, in sets of two, as stated in our advertising columns.

DOCKS, DREDGING, ETC.—Cieveland, O.—Bids are asked until Jan. 19 for constructing pile and timber docks, protecting the aouth abutment of Main St. bridge, removing old docks and dredging the Cuyahoga River. Geo. R. BENDEWENDERS.

REVETMENTS AND DREDGING.—Houghton, Mich.— Bids are asked until Jan. 20 for constructing 8,000 ft. of revetments, and until Feb. 3 for 1,750,000 cu. yds. of dredging, according to reports. Maj. Clinton B. Sears, U. S. Engr., Duluth, Minn.

U. S. Engr., Duluth, Minn.

BRICK CHIMNEYS.—Buffalo, N. Y.—The department of public works has received the lowest bids for constructing three brick chimneys, each 8 ft. in diameter and 225 ft. high, at the pumping station, from B. I. Crooker, at \$13,380, \$13,855 and \$12,430, respectively.

\$13,350, \$13,855 and \$12,430, respectively.

WHARVES AND DREDGING.—Honolulu, H. I.—Bids are asked by the navy department, Washington, D. C., until Jan. 20 for the construction of wharves and dredging the slips at the coaling station, according to reports.

R. R. Bradford, Ch. of Bureau, Washington.

TELEGRAPH POLES.—Alberin, B. C.—Bids are asked until Jan. 10 for furnishing telegraph poles for a line to be constructed between Alberin and Cape Beale, a dis-

REVETMENT WORK.—Duluth, Minn.—Maj. Clinton B. Sears, opened the following bids Dec. 20, 1898, for revetment work, Portage Lake Ship Canais, Mich., as advertised in Engineering News:

		pieted v			
			t	Repair	
		evet-	work,		
		ent-		etc.,	
Bidder.				(Cut 1),	
Didder.	Plie,			17 M.ft.,	
	8,000 ft.	ft.		pr M.ft.	FF - 4 - 1
Fitzgerald & Norris1			ft. 84.10	B.M. \$50.00	Total. \$58,715
Edward Gillen2				58.00	88,581
Powell & Mitchelia	7.58	10.50		55.00	65,190
Frank Camphell1					68,785
John M. Borgman			6.70		76.842
Frederick Davis1			3.91	46.73	65,783
Frank P. Timss	. 7.00	10.00	4.00	50.00	60,350
Grandon Marie Control					

¹Duluth. ²Racine, Wis. ²Marquette, Mich. ⁴Kewanee, Wis. ⁵West Duiuth.

BRICK PAVING.—Meadville, Pa.—D. T. McKay, Jr., Cy. Clk., writes us that the contract for 3,120 aq. yds. of brick paving on concrete foundation in Terrace St., as advertised in Engineering News, has been awarded to Ross & Robinson, Meadville, at \$1.24 a sq. yd. for Brady Run repressed brick. The bids were opened Dec. 16 and 10 dif-

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ferent makes of hrick were submitted. The bidders included Thomas McGuigan, Meadville; James McAfee & Co., Aliegheny; Peter Schenck, Butler, Pa. WATER-WORKS SUPPLIES.—Honolulu,H.I.—Contracts were awarded Nov. 30 as follows: Crane Co., 12 and 8-in. water pipe, \$28.75 a ton; pig lead, \$3.35 per 100 lbs.; connections and fittings, \$54 a ton; packing yarn, 3 cts. a lb.; 8-in. gate valves, \$16; 12-in. gate valves, \$36. MAIN SEWER.—Newburgh, N.Y.—The following bids.

MAIN SEWER.—Newburgh, N. Y.—The following bids were opened Dec. 19, for constructing the 1st St. main sewer, as advertised in Engineering News:

and from there direct through the Suez Canal. The Shanghai Inland Water Co. secured the concession for the water-works, and will also take an engineer from Cincinnati to put up the plant and operate it under contract for one year or 18 months.

for one year or 18 months.

THE RUBBER GOODS MFG. CO. is announced in press reports as about to secure a charter at Trenton, N. J., with a capital stock of \$30,000,000. Mr. Chas. R. Flint, who organized the United States Rubber Co., which makes boots and shoes, is conducting the preliminary negotiations for the new company. It is claimed that these two

South African General Electric Co., Schenectady, N. Y.: \$50,000; to deal in electrical apparatuses and construct works and plants involving their use in the United States, South Africa, and other foreign countries; S. D. Greens, Henry W. Darling, D. Mazent, J. R. Lovejoy and M. F. Westover, of Schenectady.

Massies Mills Telephone Co., Massies Mills, Va.; \$2.000.

Massies Mills Telephone Co., Massies Mills, Va.; \$2.000.

telephone and telegraph business; W. D. Meeks, James Dickle, J. C. Bentz, M. B. Hughes, E. P. Parsons, W. H. Miller, Massles Mills; A. G. Bryant, W. M. Boyd, Bryant, R. K. Anderson, Roseland, Va.

BIDS RECEIVED AT NEWBURGH, N. Y., DEC. 19, 1898, FOR CONSTRUCTING MAIN SEWER.

Bidder.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5. iin. ft	No. 6.	No. 7.	No. 8.	No. 9. 1	No.10.	No.11.	No.12.	No.13.	No.14.	Á	tunnel Forms- B.	C.
Mack Paving Co	\$4.95 7.00	\$9.45 8.50	\$6.95	\$7.95 9.00	\$6.95 9.00	\$6.45 8.00	\$5.75	\$1.75		\$2.95	\$95.00	\$75.00	\$5.75	\$27.50	\$8.95	ce a lin. \$14.95	\$14.95
John Sutcliffe	9.00	9.90	11.50	13.00	12.00	9.00	$\frac{6.00}{7.50}$	2.00 2.25	3.00 2.50	6.00	60.00 100.00	60.00	3.00	40.00	22.00	22.00	22,00
John A. Doolittie & Co	7.00	9.00	7.50	9.40	7.90	6.00	5.00	2.30	2.25	6.00	55.00	$75.00 \\ 60.00$	3.00	25.00 50.00	$\frac{11.00}{23.50}$	15.25 26.00	13.00
R. D. Maynard	10.00	9.79	8.00	9.72	9.72	7.50	6.32	2.50	2.50		1H1.00	75.00	5.00	25.00	15.90	17.32	30.00 20.32
H. E. Wieber & Co	20.00	10.12	9.50	11.00	10.00	9.40	6.59	2.37	5.50	10.00	55.00	65.00	3.50	30.00	13.50	15.50	11.50
Farrell & Hopper	9.00	10.00	6.25	6.25	6.25	5.50	4.75	2.25	2.50	6.50	100.00	40.00	6.50	45.00	25.00	28.00	32.00
M. J. Dwyer and W. Sager	6.32	9.65	7.60	8.61	7.93	6.41	4.48	2.14	1.49	4.00	73.00	51.00	2.43	24.00	8.50	14.46	12.25
Troy Public Works Co	8.20	8.20	8.20	8.20	8.20	8.20	6.50	3.25	2.00	5.40	40.00	50.00	5.00	25.00	14.50	18.50	15.50
W. J. Flansgan	6.00	11.25	12.00	10.50	8.50	8.00	7.00	3.50	2.25	5.00	50.00	80.00	7.00	50.00	16.35	16.35	16.35
E. R. Pateson Construction Co		8.25 6.75	8.50 9.37	9.00	8.75	7.35	5.55	2.00	1.95	5.00	40.00	60.00	3.00	35.00	17.00	20.00	20.00
T. Henry Dumary	8.00	7.54	12.00	9.94 14.25	9.37	7.87	6.65	2.10	1.50	6.00	150.00	75.00	3.25	34.00	10.50	20.00	27.50
E. M. Haines & Co	11.50	9.00	9.20	9.20	11.90 9.20	9.59	8.40	1.99	3.50	6.00	89.00	65.00	3.55	25.00	17.91	17.91	17.91
Caliery & Murphy E. Brown Baker	5.00	8.50	8.00	9.50	8.50	6.55 7.00	5.45	2.50	1.45		100.00	60.00	2.50	30.00	13.50	17.00	14.75
Frank Pidgeon	20.00	15.00	16.66	22.25	23.10	11.88	9.30	$\frac{3.00}{3.87}$	3.00	6.00	80.00	60.00	5.00	25.00	12.00	15.00	18.00
J. D. Wilson	9.50	10.50	12.00	18.00	14.50	11.00	9.50	3.25	$\frac{2.50}{2.30}$	6.00 4.75	90.00	60.00	15.00	25.00	20.00	26.00	30.00
J. D. Wilbon		20100	22.00	20.00	11.00	11.00	0.00	0.20	2.00	4.10	98.00	68.00	3.00	35.00	15.00	16.50	17.00

The estimated quantities are as follows: No. I—About 30 ft. timber trunk sewer, 4 × 4 ft., at Hudson River; No. 2—About 860 ft. cast-iron pipe sewer, 42-in., with average depth of about 8 ft.; No. 3—About 320 ft. brick sewer with invert blocks and average depth of 12 to 20 ft.; No. 4—About 500 ft. 54-in. brick sewer with invert blocks and average depth of 15 to 20 ft.; No. 6—About 250 ft. of 34-in. brick sewer with invert blocks and average depth of 15 to 20 ft.; No. 6—About 250 ft. of 36-in. brick sewer with invert blocks and average depth of 15 ft.; No. 8—About 13 ft.; No. 8—About 13 ft.; No. 8—About 13 ft.; No. 9—About 250 ft. of 36-in. brick sewer depth of about 9 ft.; No. 9—About 2,750 cu. yds. rock excavation in trench, if made open; No. 10—About 150 cu. yds. concrete with American eement; No. 11—About 8 manholes built with brick; No. 12—About 3 manholes built with special castings; No. 13—About 120 ft. of sewer to connect Chambers, Lander, Johnston, and Dubois St. sewers with main sewer; No. 14—About 1,000 ft. B.M. of timber grillage in place.

INDUSTRIAL NOTES.

THE MONASH WATER HEATER CO., Pittsburg, has eased the 4-story building, 306 Wood St., for its new

factory.

THE RITER-CONLEY MFG. CO., Pittsburg, has a contract for cyanide tanks, to cost \$30,000, for the Gold Hill Mining Co., Johannesburg, South Africa.

THE Q. & W. TIE PLATE, illustrated in our issue of Dec. 15, has been deciared in interference in the patent office with a plate known as the Glendon Flange tie-plate, patented by Wm. Golde, of Dilworth, Porter & Co., Sept. 6, 1898, Patent No. 610,179.

THE CRUMLISH FORGE CO., 18 and 20 Elk St., Buffalo, N. Y., announces that the increasing demand for its forges has necessitated the removal of its shops to the above address. The company was formerly located at 80 Virginia St.

above address. The company was formerly located at 80 Virginia St.

THE WESTINGHOUSE ELECTRIC & MFG. CO., Pittsburg, is said to have a contract from the Kings County Electric Light Co., Brooklyn, for two 3,000 K-W. generators, which will produce about 4,000 HP. each, and reported as to cost \$80,000 to \$85,000.

THE F. W. EMERSON MFG. CO., Rochester, N. Y., informs us that there were about 50 adjustable drafting tables in the large shipment just made to the University of California. These tables are now in use in many drafting rooms, and are said to give excellent satisfaction.

THE NEW YORK & OHIO CO., Warren, O., manufacturer of the Packard incandescent lamps and transformers, received a contract Dec. 22 for 15,000 incandescent lamps of from 8 to 100 c. p. from the Bangkok Electric Light Syndicate, Bangkok, Siam, which has a 20-years' contract to light the king's palace. The order is for one year's supply.

year's supply.

THE ERIE CAR CO., Eric, Pa., reports that it has so many orders on hand that it has been obliged to enlarge the plant. The company has an order for 400 gondola cars for the Pennsylvania R. R., and another order for 300 gondola cars for the Pennsylvania Lines West of Pitsburg. The cars are to be of 80,000 lbs. capacity each. Mr. William H. Hamilton is the President of the com-

pany.

THE CARNEGIE STEEL CO., Pittsburg, is reported in local papers to have purchased 35 acres west of Homestead upon which will be erected a 250 × 1,500-ft. shop for the manufacture of flat and hopper-bottom freight cars, similar to those now made by the Schoen Pressed Steel Co., of Aliegheny. It is said that the new plant will have a capacity of 40 cars a day, in addition to a forge for the manufacture of car axies.

capacity of 40 cars a day, in addition to a forge for the manufacture of car axies.

THE THOMSON METER CO., 79 Washington St., Brooklyn, states that it recently received from a large city, a 6-in. water meter, No. 44,368, for repairs. On examination it was found that this meter was sold Oct. 17, 1893, since which time it has registered 99,889,870 cu. ft., or 749,924,025 gallons, of water, and it has never been repaired before. The cost of repairs necessary to put it in as good shape as new was less than \$28.

THE PENNSYLVANIA & MARYLAND STEEL CO., is announced in press despatches to have contracts from the Russian Government for 80,000 tons of steel rails for the Eastern Chinese Railway, and from the government of Victoria, Australia, for 35,000 tons. One cargo of rails has aiready been sent to the latter country. It is stated that each contract was secured because the American bidder named a lower price than any competitor.

THE ERIE GAS ENGINE CO., Erie, Pa., is now in-

der named a iower price than any competitor.

THE ERIE GAS ENGINE CO., Erie, Pa., is now installing a 200-HP, gas engine in the plant of the McCoy Glass Co., Kane, Pa. This is claimed to be the largest gas engine ever built in the United States. The company has, among other orders on hand, one for a 100-HP. gas engine for the Grand Driller Co., New Kensington, Pa., and an order for seven 50-HP. gas engines for use in the natural gas district. Mr. F. F. Curtze is the Secretary of the company.

tary of the company.

THE LOMBARD WATER WHEEL GOVERNOR CO., 61 Hampshire St., Boston, reports that the demand for its governors is constantly on the increase. Last month orders were received for upwards of 20 governors to regulate 41 water wheels, which will develop 15,750 HP. More than half of this machinery will be used in electric stations, principally in power transmission plants, and electric rallway stations, the balance being in textile and other manufacturing plants driven by water power.

THE LAIDLAW-DUNN-GORDON CO., Cincinnati, has just shipped to Shanghui, China, four carloads of machinery, consisting of two cross-compound condensing pumping engines, with condensers, bollers and other equipments. It is said that the machinery goes to New York

companies will tontrol five-eights of the annual world's production of crude rubber. Among the companies mentiined as included in the new eoncern are the Boston Belting Co., New York Belting & Packing Co., B. F. Goodrich, Akron, Ohio; New York Mechanical Rubber Co., Cheveland Rubber Co., New York Gutta Percha & Rubber Co., New York Rubber Co., Stoughton, Mass.; Hartford Rubber Co., and Morgan & Wright, Chicago.

Chicago.

THE BALL ENGINE CO., Erie, Pa., reports a good husiness in Ball engines, having a number of government orders on hand, among them the following: A 300-HP. vertical, double Ball engine, direct-connected to a Siemens-Haiske dynamo, for the Norfolk Navy Yard, two 175-HP. double Ball engines, direct-connected to Siemens-Haiske dynamos, for the Norfolk Navy Yard, and a 175-HP. double Ball engine, direct-connected to a General Electric dynamo, for the naval station on Puget Sound, at Bremerton, Wash. The company also has orders for a 250-HP. engine and a 275-HP. engine to be direct-connected to Western Electric dynamos, by means of the Arnold system of connecting, for the Garrett Building. Chicago; also orders for three 250-HP. cross-compound engines, to be direct-connected to Western Electric dynamos, for the Great Northern Hotel, Chicago. The officers of the company are: Pres. and Mgr., Jas. McBrier; Vice-Press., D. N. McBrier, and Secy. and Treas., H. L. McBrier.

Pres., D. N. McBrier, and Secy. and Treas., H. L. McBrier.
THE PLAYFORD STOKER CO., Cleveland, O., received the following orders for stokers on Dec. 19: From the Apollo Iron & Steel Co., Pittsburg, 24 stokers, to be attached to 24 250-HP. Cahall vertical water-tube boilers at Vandergrift, Pa., where the former company has just completed installing six stokers, and for which it also has six more under construction; from the Heine Safety Boiler Co., Pittsburg, one stoker for a 200-HP. water-tube holier, for the H. J. Heintz Co., Aliegheny, Pa., and from W. F. Patterson, Pittsburg, one stoker to be fitted to a 250-HP. Eric City water-tube boiler, for the Howard St. pumping station of the Allegheny, Pa., water-works. The Playford Co. is also installing eight stokers to 300 HP. boilers for the Crystal Ice Co., Allegheny, Pa., and three to 250-HP. Babcock & Wilcox holiers in the electric light plant, Allegheny, The company, since Sept. 1, has had orders for 58 stokers, of which all but one were 250 HP. or over. The exception is noted above.

NEW COMPANIES.—American Central Contracting Co.

electric light plant, Allegheny. The company, since Sept. 1, has had orders for 58 stokers, of which all but one were 250 HP. or over. The exception is noted above.

NEW COMPANIES.—American Central Contracting Co., 127 Market St., Camden, N. J.; \$100,000; to do general contracting; John C. Cathoun, 617 West End Ave.; James McNaught, Syndicate Bidg., New York; John W. Gephart, Beflefonte, Pa.; Samuel P. Langdon, 315 Drexel Bidg., Philadelphia, Pa.; Norman Grey, Woodbury, N. J. Paragon Fan & Motor Co., New York; \$2,500; to manufacture electric fan motors; James P. Williams, of 39 Cortlandt St., New York, and two others.

Yaryan Hot Water Distributing Co., Chicago, Ill.; \$200,000; to operate hot water plants; H. T. Yaryan, H. C. Adams, T. P. Keater.

Metropolitan Water Filtering Co., New Jersey Guarantee & Trust Co. Bidg., Camden, N. J.; \$2,000,000; Leander P., Randall, Edward P. Evans, Howard H. Sypher and Christian Phaum, Jr., of Camden.

Mexican Land & Colonization Co., New Jersey Registration & Trust Co. Bidg., Orange, N. J.; \$100,000; to deal in rubber, fruit, etc., construct bridges, canals, etc.; F. M. Crawford, S. M. Biddison, J. W. Le Rieur and John W. Burns, 67 Clark St., Chicago, Ill.

Moritz-Borwick Construction Co., St. Louis, Mo.; \$10,000; Oive J. Borwick, Ellwin P. Moritz and M. W. Hoff. Franklin H. Buills Mfg. Co., New York; \$100,000; commencing with \$500; to manufacture and sell snow melting machines; Franklin H. Buills, V. L. Haines, Frank Kugler, Brocklyn, N. Y.

Philadelphia & Baltimore Ice Cold Storage & Produce Co., 127 Merket St., Camden, N. J.; \$100,000; cm. H. Parker, Joseph H. Young, Thomas Williams, James G. Pratt and James W. Gill, of Philadelphia, Pa.; \$2,500,000 with \$2,500 paid in; to own and lease lands; to mine and sell son; to build and operate rallroads; W. H. Ingham, F. T. Patterson, A. L. Green, F. B. Lee, W. D. Marks, Philadelphia.

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Harbor Water Front Co., Portsmouth, Va.; \$10,000; to buy and develop real estate and maintain factories, warehouses and wharves; to do general storage and wharfage business and to furnish light, water and sewerage; O. F. Byrd, L. C. W. Page, I. L. Watson, T. J. Wool, F. D. Gill, A. A. Bilsoly, I. S. Crawford

Speed Elevator Co., Louisville, Ky.; \$20,000; to conduct an elevator and storage business, and to buy and sell coal; J. S. Speed, W. S. Speed, F. M. Locket, Louisville.

Randshurg Reduction Works, Los Angeles, Cal.; \$50,000, with \$23,000 paid in; Austin Granville, Edward Osborn, George R. Wilton, E. W. Gilmore, John A. Fairchild, Chas. St. Moris and James McLachlan. Garretson Engine Co., Buffalo, N. Y.; \$5,000, commencing with \$3,000; to deal in engines and machinery; Albert F. Garretson, 786 Ellicott Sq.; N. H. Wolcott, R. L. Cox. all of Buffalo.

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Dennison Motor Carriage Co., 1 Montgomery St., Jersey City, N. J.; \$100,000; to manufacture engines and electrical and other motors; Geo. L. Record and Ernest Merrick, 1 Montgomery St., Jersey City; J. F. Dennison, New Haven, Conn.

Knoble Filter Co., Chicago, Iil.; \$10,000; to manufacture filters; T. J. Knoble, M. E. Knoble, J. A. O'Donnell. Liquid Pressed Casting Co., Chicago, Ill.; \$60,000; to manufacture metal castings; F. G. Hewser, T. B. McGregor, R. I. Terry.

American Chemical Co., St. Louis, Mo.; \$100,000; John E. Keller, Frank C. Lewis and Harmon J. Bliss.

Finlayson Steam Generator Co., Detroit, Mich.; \$25,000 with \$16,800 paid in; to manufacture steam generators. heaters and engines; A. W. Finlayson, J. L. Hacket, E. Lutz, C. A. Howell, Detroit.

Missouri Wrecking Co., St. Louis, Mo.; \$4,000; G. M. Cherry, J. W. Drabelle and Robert A. Cherry.

Western Railway Equipment Co., East St. Louis, Ill.; \$30,000, commencing with \$100,000; to manufacture railway equipments; E. S. Barreiras, R. Payne, J. D. Houseman, Jr., G. W. Taussig, H. P. Taussig, H. L. Magee.

Manhattan Dry-Dock Construction Co., New York; \$5,000,000, commencing with \$100; to build, repair, seli and operate ships, vessels, etc.; C. F. Peck, J. A. McDuffie, W. A. Davis, G. H. Smith, W. H. Brower, New York; School, Ood, commencing with \$100; to build, repair, seli and operate ships, vessels, etc.; C. F. Peck, J. A. McDuffie, W. A. Davis, G. H. Smith, W. H. Brower, New York; School, Ood, Commencing with \$100; to build, repair, seli and operate ships, vessels, etc.; C. F. Peck, J. A. McDuffie, W. A. Davis, G. H. Smith, W. H. Brower, New York; School, Ood, Commencing with \$100; to build, repair, seli and operate ships, vessels, etc.; C. F. Peck, J. A. McDuffie, W. A. Davis, G. H. Smith, W. H. Brower, New York; School, Scho

City, N. J.; \$125,000; to mine silver, gold and copper, Roscoe M. Wlers, Raiph M. Jacoby, John M. Enright, Jersey City.
Thompson & Moab Telephone Co., Sait Lake City, Utah; \$1,400; to build and operate a telephone line between Thompson and Moab, Utah; Arthur A. Taylor, Pres; J. C. Taylor, Vice-Prea.; Robert James Thompson, Treas.; Chas. Wilson, Secy.
Eagle Iron Co., Attalla, Tenn.; \$20,000; to manufacture Iron, etc.; company has secured and will put in blast the furnace at Attalla; L. S. Colyar, George H. Webb and James H. Barr, all of Chattanooga, Tenn.

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Special efforts are made to deliver our paper to its eaders each week at the earliest possible moment. readers each week at the earliest possible moment. The largest binding and mailing establishment in New York begins work on Engineering News early each Wednesday evening, and all papers for Boston, Philadelphia and Washington are usually in the New York postoffice by midnight; all Brooklyn and New York city papers by 3 o'clock—in ample time for the first delivery Thursday morning. The entire edition, including foreign copies, is in the mail soon after 6 o'clock Thursday morning. If your paper is not received promptly we advise that you make a complaint to your local post-office officials. readers each week at the earliest po

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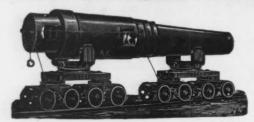
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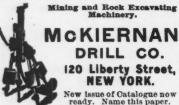
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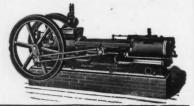
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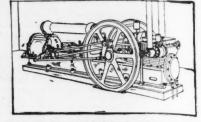
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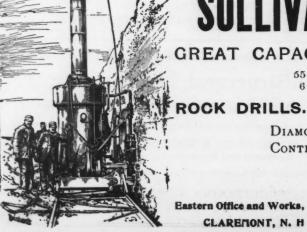
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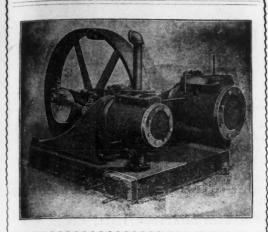
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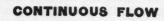
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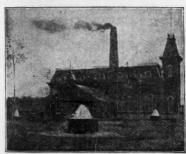
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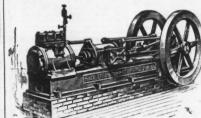
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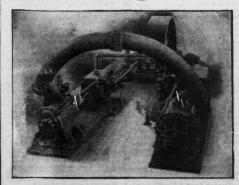
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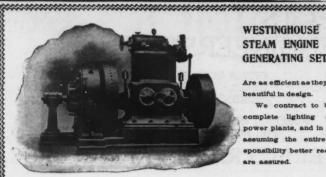
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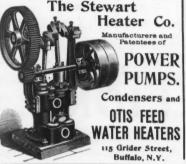
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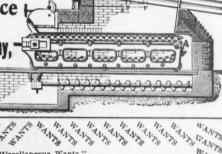
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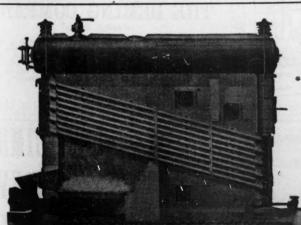
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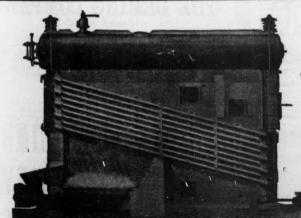
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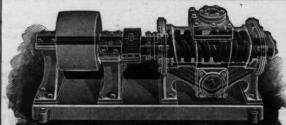
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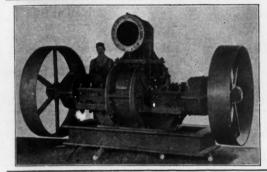
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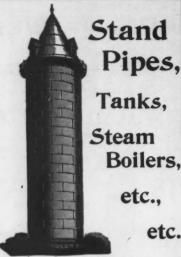
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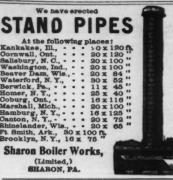
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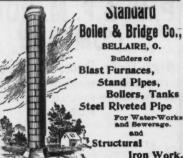


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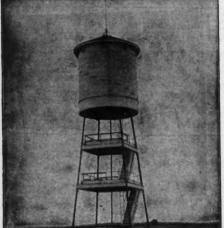
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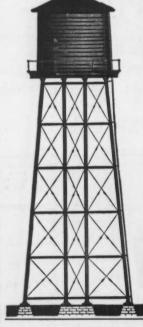
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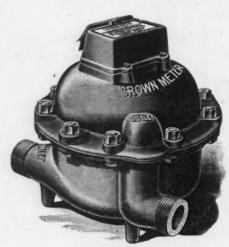
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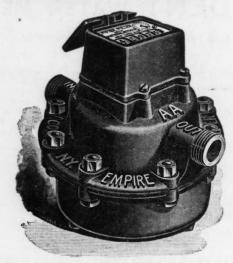
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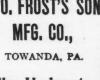
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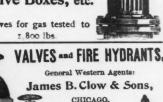
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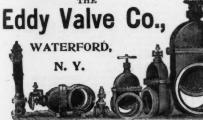
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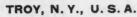
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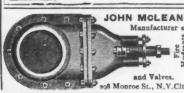
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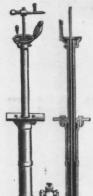
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continued from ADVERTISERS' CLASSIFIED DIRECTORY. Continued on Page 8

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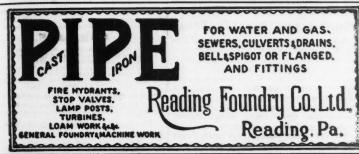
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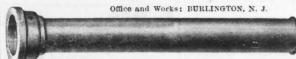
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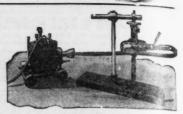
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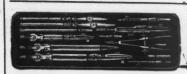
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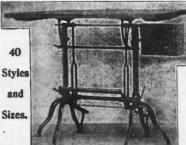
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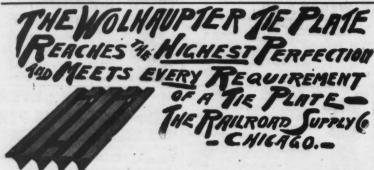


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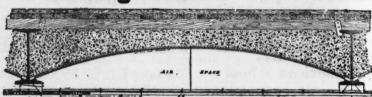
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Notice is hereby given that the City of Duluth will receive tenders for the purchase of a telephone franchise in said city, January 16, 1899. The condition of the sale of such franchise to be obtained upon application to the City Clerk of said City. All tenders

must be addressed to the Common Council of

the City of Duluth and handed to the City

DULUTH, MINN., Dec. 1, 1898.

SANITARY DISTRICT OF CHI-CAGO.

TO CONTRACTORS:

CHICAGO, Dec. 21, 1898.

dealed proposals addressed to the Board of ustees of the Sanitary District of Chicago

Trustees of the Sanitary District of Chicago and indorsed:
"Proposals for erecting the substructure and the superstructure of a railroad bridge crossing the Chicago River near Taylor street, and also all in the city of Chicago." will be received by the Clerk of the said Sanitary District at room 1110 Security huiding, Chicago River at room 1110 Security huiding, Chicago River 1110 Security huiding huiding, Chicago River 1110 Security huiding huid

at its regular meeting of the Board held that day.

The railroad hridge for which said tenders are invited is a two (2) track structure for the use of the Chicago Terminal Transfer Railroad Company, and the street hridge will be a structure with roadway eighteen (18) feet wide and sidewalks five (5) feet wide each. The work for which said tenders are invited includes supplying all materials for the substructures and superstructures of said bridges and erecting them completely according to plans furnished by the Sanitary District of Chicago on designs prepared under the Scherzer Rolling Lift Bridge patents and in conformity with specifications furnished by the said district.

The designs for said bridges are owned and

designs for said bridges are owned and blied hy said Sanitary District of Chi-

the said district.

The designs for said bridges are owned and controlled by said Santary District of Chicago.

Each hid for the railroad bridge must he accommanied by a certified check or cash to the amount of four (4) thousand dollars, and each hid for the street bridge must he accommanied by a certified check or cash to the amount of fifteen (15) hundred dollars.

All certified checks must be drawn on some responsible bank doing business in the city of Chicago and be made payable to the order of the Clerk of the Sanitary District of Chicago. Said amount of four thousand (\$4,000) dollars for the railroad bridge will be held by the Sanitary District until all of the hids for said structure have heen canvassed and the contract awarded and signed, the return of said check or cash being conditioned upon the appearance within ten (10) days after receiving notice of award to him of the bidder to whom the award of said work shall have been made, with bondsmen, and executing a contract with the Sanitary District for the work so awarded, and giving a bond satisfactory to the Board of Trustees for the fulfillment of the contract, the amount of said bond to he thirty-five thousand (\$35,000) dollars.

The amount of said bond to he thirty-five thousand (\$35,000) dollars.

The amount of said check or cash heing conditioned upon the appearance within ten (10) days after receiving notice of award to bim of the bidder to whom the award of said work shall have been made, with bondsmen, and executing a contract with the Sanitary District to the Work so awarded, and giving a bond satisfactory to the Board of District for the work so awarded, and giving a bond satisfactory to the Board of Trustees for the fulfillment of the contract. The amount of said bond to be fifteen thousand (\$15,000) dollars.

All bids must be upon blank forms furnished by the Sanitary District.

the fulfillment of the contract. The amount of said bond to be fifteen thousand (\$15,000) dollars.

All bids must be upon blank forms furnished by the Sanitary District.

No bid will be considered unless the party making it shall furnish evidence satisfactory to the Board of Trustees of his experience in this class of work, and his financial ability successfully to prosecute the said contract in case the same shall be awarded to him.

Bidders are required to state in their bids their individual names and places of residence in full.

Designs of bridges may be seen and specifications and plans may be obtained at the office of the Chief Engineer, room 1010 Security building, Chicago, Ili., on or after Jan. 25, 1899.

The said Board of Trustees reserves the

25, 1899.
The said Board of Trustees reserves the right to reject any and all bids.
THE SANITARY DISTRICT OF CHICAGO.
By WILLIAM BOLDENWECK,
President of its Board of Trustees.
Attest: JOSEPH F. HAAS, Clerk. 52-1t

U. S. ENGINEER OFFICE, Custom House, Charleston, S. C., Dec. 10, 1898.—Sealed proposals for removing old and furnishing and placing new pumping engine on dredge "Charleston," in this harbor, will be received here until 12 o'clock, noon, Jan. 10, 1899, and then opened. Information furnished on application.

U. S. ENGINEER OFFICE, Duluth, Minn., Dec. 10, 1898.—Sealed proposals for furnishing 12,000 barrels of PORTLAND CEMENT for the concrete superstructure for piers for Duluth ship canal, will be received here until noon, Jan. 10, 1899, and then publicly opened Information furnished on application. CLINTON B. SEARS, Major, Engrs. 50-41

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VALLSBURGH, N. J.

Sealed proposals will be received hy the
Council of the Borough of Vailsburgh, at the
Borough Hail, Vailshurgh, N. J., at eightchirty o'clock in the evening of Wednesday,
the 11th day of January, 1890, for furnishing
the materials for constructing a system of
water-works for said Borough.

The materials required will he approxi-

The materials required will he, approximately, 11,345 lineal feet of six-inch cast-iron pipe, weighing 390 pounds per liength of tweive feet.

16.885 lineal feet of four-inch cast-iron pipe weighing 226 pounds per jength of twelve

3,450 lineal feet of eight-inch cast-iron pipe, weighing 555 pounds per length of twelve

14,000 pounds special castings.
45 Vaives and vaive boxes.
43 Hydrants.

Also for doing the work of laying said pipes and setting said special castings, valves, valve boxes and hydrants in the streets of the Borough of Vailsburgh.

Separate bids are requested for furnishing east-iron pipes and special castings; and for

east-fron pipes and special castings; and for furn'shing valves, valve boxes and hydrants; and for trenching, back-filing, laying pipes and setting valves, valve boxes and hydrants. A certified check upon some bank in the State of New Jersey for the sum of Three Hundred Dollars, made to the order of George V. Aschenbach, Treasurer, must accompany each hid, but shall not be sealed up with it. P'ans may be seen and specifications and blank forms for proposals procured at the office of the Cierk of the Borough of Valis-

office of the Cierk of the Borough of Valis-burgh, N. J., or at the office of the Engineer of the Borough, Eugene A. McMurray, 22 Clinton Street, Newark, N. J. The Council reserves the right to reject any

and all bids.

THE MAYOR AND COUNCIL OF THE BOR-OUGH OF VAILSBURGH. 52-1

U. S. ENGINEER OFFICE, St. Augustine, Fla., Dec. 26, 1898.—Sealed proposals for furnishing and delivering at Muliet Key and Egmont Key, Tampa Bay, Fla., BROKEN STONE, or GRAVEL, and RANDOM STONE, will be received here until 2 p. m., Jan. 16, 1899, and then publicly opened. Information furnished on application. W. H. H. BENYAURD, Lieut.-Col., Engrs.

O CONTRACTORS.

Italian labor of all kinds; masons, rockmen-laborers, etc., etc., furnished in any number and on short notice to any part of the coun-try.

For Other Prososals see Page XXII. THE ITALIAN EMIGRANT AID SOCIETY (Incorporated), N. Y. CITY.

ST. THOMAS, ONT., Dec. 19, 1898.

Sealed proposais for the construction of two iron hridges with solid floors, each 120foot span, to be hulld across Kettle Creek in the City of St. Thomas, Ontario, will be received by the undersigned until noon Tuesday, the 24th day of January, 1899.

Forms of tender and particulars may be had on application to the undersigned.

The Committee does not bind itself to ac cept the lowest or any tender.

JAMES A. BELL,

City Engineer

TREASURY DEPARTMENT.—Office Supervising Architect, Washington, D. C., December 20, 1898.—Sealed proposals will be received at this office until 2 o'clock P. M., on the 19th day of January, 1899, and then opened, for the low pressure, return circulation, steam heating and ventilating apparatus for the U. S. Post Office Building at Pottsville, Pa., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Pottsville, Pa. JAMES KNOX TAYLOR, Supervising Architect.

PROPOSALS FOR FURNISHING CEMENT.

—U. S. Engineer Office, Globe Building, St.
Paul, Minn., Dec. 12, 1898.—Seafed proposals
for furnishing and delivering American Portiand Cement, f. o. h. cars at factory, will be
received here until 12 o'clock M., January J2,
1898, and then publicly opened. Information
furnished on application. FREDERIC V. ABBOT, Major, Engrs.

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S. R. BRANCH, 261 Broadway, NEW YORK.



HOUSTON, TEXAS, Dec. 8, 1898.

Sealed proposals, addressed to P. S. Banner, City Secretary, will be received up to 12 o'clock, noon, on Monday, January 9th, 1899, for the repaying of Main Street, between Franklin Avenue and McKinney Avenue, in the City of Houston, Texas, as per plans and specifications on file in the City Engineer's

Estimated approximate quantities are: 8,500 cubic yards Excavation.
19,000 square yards Paving.
4,500 lineal feet Stone Curbing.

Full information and conditions governing ids can be obtained on application to City Engineer.

S. H. BRASHEAR, Mayor. I. AUSTIN MILLER, City Engineer.

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Milwaukee, Wis., until 12 o'clock m., January 20, 1899, and then opened, for furnishing the boilers and machinery for six complete steam FOG SIGNALS, in sets of two, delivered at the Light-House Depot, St. Joseph, Mich., in accordance with specifications, copies of which, with hiank proposals and other information, may be had upon application to J. G. WARREN, Captain, Corps of Engineers, U. S. A.

OFFICE OF WASHINGTON AQUEDUCT, 2728 Pa. Ave., Washington, D. C., Dec. 27, 1898.—Sealed proposals for furnishing and delivering at shafts of Washington Aqueduct Tunnel, brick, cement, sand, special castings and boits will he received here until 12 m., Janusry 26, 1899, and then publicly opened information on application. A. M. MILLER, Lieut-Col., Engrs.

U. S. ENGINEER OFFICE, New London, Conn., Dec. 22, 1898.—Sealed proposals for furnishing and delivering at New London, Conn., and Fisher's Island, N. Y., hroken stone, sand. tumber, steel heams, angics and boits, doors and frames, hand-railing, speaking-tuhes, sewer pipe, and manhole covers, will be received here until noon, Jan. 23, 1899, and then publicly opened. Information furnished on application. SMITH S. LEACH, Maj., Engrs.

GRAPHOPHONE

BRIDGE.

BINGHAMTON, N. Y.

Notice is hereby given that the City of Bing-Notice is hereby given that the City of Binghamton, N. Y., will receive up to 7:30 o'clock p. m., January 17th, 1899, sealed, competitive plans, with approximate estimates of costs, for a bridge across the Susquehanna River at Thompkins Street, in said city. All plans and estimates must be marked "Plans and Approximate Estimates for a Bridge at Thompkins Street, Binghamton, N. Y.," and he addressed to B. W. Mosher, City Clerk. Such plans and estimates upon their receipt will he referred to the Special Committee on will he referred to the Special Committee on Bridges. Said Committee to examine the plans and estimates, and to report to Coun-cil the plan hest adapted to meet the requirements of the situation. The person or company whose plans shall be selected shall receive therefor the sum of \$200, providing he or it shall not be the successful hidder for the construction of said bridge when bids for such construction shall be received, and the work awarded. Data as to requirements for hridge, surroundings, etc., can be obtained by addressing S. E. Monroe, City Engineer, Binghamton, N. Y.

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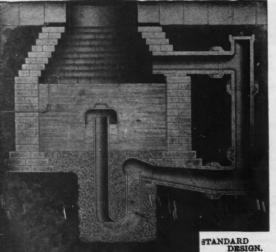
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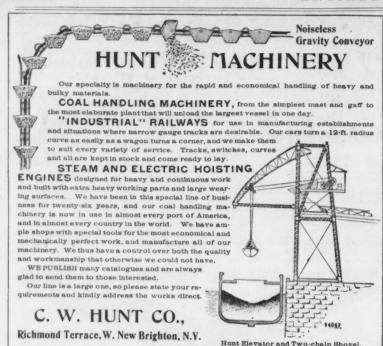
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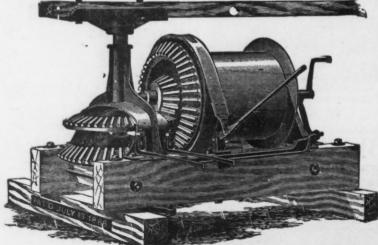
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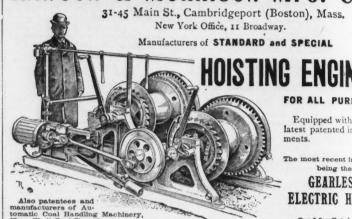
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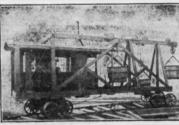
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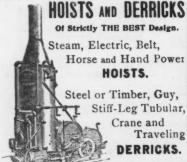
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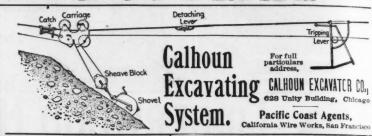
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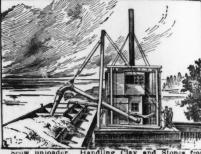
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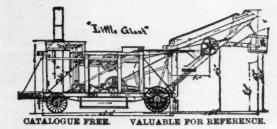
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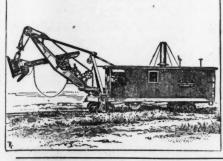
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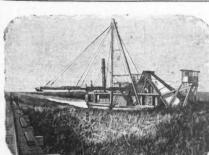
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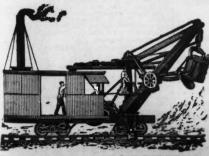
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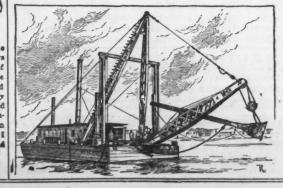


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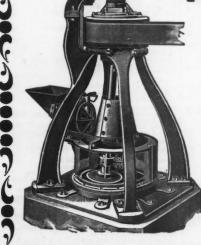
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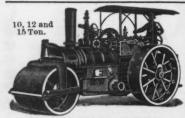
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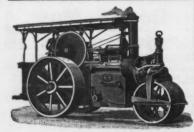
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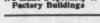
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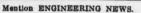
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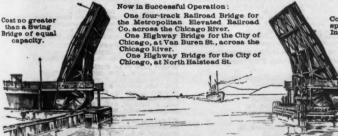
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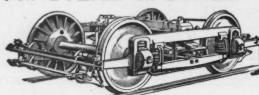


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