

THE PAPER TRADE JOURNAL.



"The Consumption of Paper is the Measure of a People's Culture."

VOLUME XX.—NO. 28. NEW YORK, JULY 11, 1891. WHOLE NUMBER 897.

Trade Topics.

Animal Sizing.

[WRITTEN FOR THE JOURNAL.]

BY H. ROMANOFF.

(Concluded.)

The writer visited some time ago a very well managed works in Germany, where a new process was in use for preparing a fine quality of almost colorless and entirely odorless variety of size which was obtained in a solid form, like the best Cologne or Russian glues, and showed remarkable adhesive power. Here the bones were first automatically broken up and chipped into a uniform state, and then treated with hydrochloric acid to remove as much of the calcium phosphate as possible. By this treatment the bones were rendered quite pliable and could be packed and pressed down solid into the receptacle, where they were extracted after being drenched with strong milk of lime, to neutralize all acid left after washing. The extraction was done at comparatively low temperature and under reduced pressure, giving a, but slightly colored solution, which easily solidified and gave a fine product, fetching a high price.

To give full details would take up too much space, but this instance is simply mentioned to show what can be done even in glue making by the application of practical chemical engineering. Generally speaking, size made from bones is not as adhesive as that made from hides, piths, &c., although for certain special purposes it is decidedly preferable if pure enough. The highest class of glue or size of the latter kind is represented both in America and Europe by what is well known as "Cologne glue," and is simply a fine, strong glue made from selected clippings.

Formerly Cologne glue was partly bleached by means of calcium hypochloride (bleaching powder), but it was found that so much glutin was destroyed by this treatment that other more suitable bleaches are now used or else bleaching is done away with altogether in favor of a process of extraction where the temperature is kept so low as to avoid any discoloration.

If Cologne glue be dissolved and treated with a certain amount of acid it remains liquid, and is often sold in stores for miscellaneous and desk purposes under all kinds of fancy names, such as "Crystal Palace" glue, "Extra Super" liquid gum, "Sindecticon," animal gum, &c.

The best kind of glue which comes under the heading of fish glues is isinglass, which, however, is hardly, if ever, used outside of the confectionery industry. A large quantity of common fish glue, incapable of being got in a solid form and consisting chiefly of chondrin, is manufactured and shipped from certain islands in the North of Europe in barrels, after being rendered incapable of fermentation or putrefaction by the use of powerful antiseptics. The raw material is fish debris, and the product is mostly shipped in a very crude form, although quite recently refined fish glue has also been offered now and then. For textiles it has been found to work admirably, and it is regularly used by some producers of large quantities of low grade stained papers.

A very high-class glue is what is known as "Russian white," which is also a hide and pith, &c., product, and has a most peculiar non-transparent "matt" white appearance, or rather, to speak more correctly, a yellowish white intermixed with dead white particles, which are, however, perfectly blended in the whole and do not at all produce a spotted appearance. This kind of size was formerly made only at a few places in Russia from carefully selected slaughterhouse sinews and is a very fine product, preferred by some to Cologne glue. Besides its peculiar appearance it also possesses great brittleness

and if tested as to adhesiveness shows a tenacity which is really remarkable.

Genuine "Russian white" leaves hardly any ash on ignition, by which means it can easily be distinguished from the imitation article, which is made from inferior raw material and in which the peculiar appearance of the original article is imitated by adding either barium sulphate or else levigated china clay. Further, the imitation is not at all brittle, but can be broken up with the hand into large pieces without any chipping or flying off.

In making high grade papers, whether coated or not, care should be taken never to use any glue which is not quite brittle after lying in a warm, dry place for some days, as the results are never satisfactory. The more brittle a sample of glue is usually the better is the quality, and the worst of all are the glues which are elastic and capable of being "pulled."

The chemical tests which are ordinarily applied to glues and sizes are extremely simple, but are worth describing, as they afford valuable data. Before doing so a few words will be devoted to the legend which is often inscribed on samples of glue sent for analysis, viz., "Guaranteed free from fatty matter and acid."

For the very best kinds of hand made papers and for non-porous machine made, which is heavily tub sized, the absence of any fatty matter is very desirable for obvious reasons; in most other cases a little grease makes very little difference, although anything above a trace is not to be passed without comment. As a matter of fact, the grease test generally used (*i. e.*, ether or ligroine extraction) is so delicate that almost any kind of ordinary glue will show a more or less insignificant trace. The practical use of the grease test is, however, not to find traces but to reject those glues which from careless manufacture are "chock full" of grease, as is sometimes the case, and often result in endless spoiled paper and serious damage to the morals of all around.

As to the acid test it cannot be too often or too carefully applied. There is no earthly excuse for glue being acid if properly made and used, and as the presence of a mere trace of acid is productive of most unaccountable phenomena great care should always be taken to keep it out of the way.

To test for acid ordinary litmus paper is applied to a concentrated solution of the glue. If blue litmus is turned red a trace of acid is present, and such glue should be rejected, unless it may be convenient to neutralize it.

To find fatty matter a portion of the concentrated glue solution is treated in a stoppered funnel with ether or ligroine (petroleum spirit). After vigorous shaking the upper layer is decanted off and allowed to evaporate in a basin and the fatty residue is wiped up with unsized paper. From the stain so obtained a pretty fair idea can be gained as to the amount of grease present. Mineral residue is determined by the ignition and complete calcination of a known weight of the dry glue. Unloaded glues should only leave a very small incombustible residue.

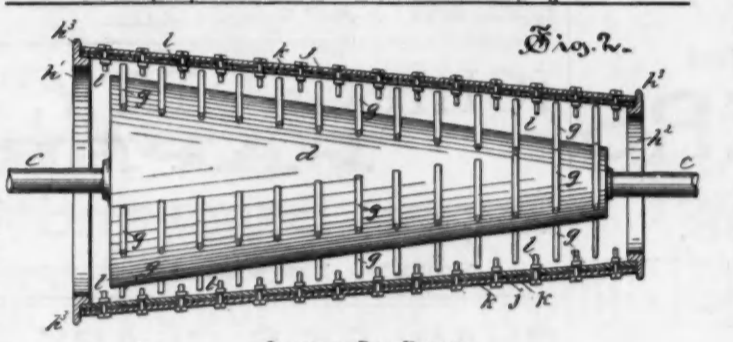
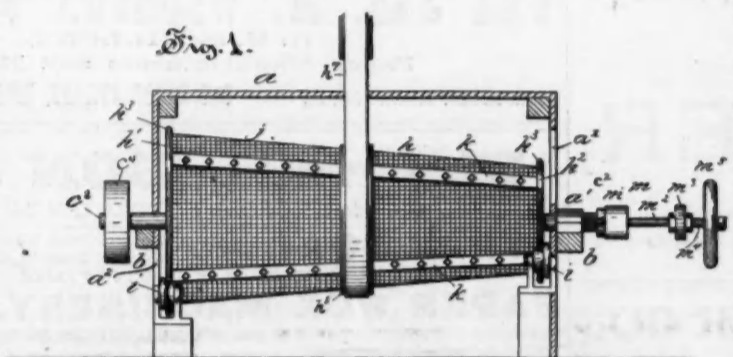
To describe the arsenic test would be beyond the scope of this article, and if no chemist is available it is generally necessary to send out the sample for analysis, as, although the test is simple

enough in itself, it requires some preparation and skill to conduct it successfully.

Rag Duster.

A new machine intended to provide for the more thorough cleaning of rags or other material adapted for use as paper stock is herewith illustrated, Figure 1 being a view in side elevation of the machine, the supporting frame being in section, and Fig. 2 a view, on an enlarged scale, in lengthwise central section of the machine, the inner cone being shown in elevation.

The letter *a* denotes the casing or frame, within which the moving parts of the ma-



IMPROVED RAG DUSTER.

chine are supported and arranged. At suitable points, as on cross beams *b*, the bearings *a'* for a central shaft, *c*, are secured, and on this shaft is mounted the duster cone *d*. This cone *d* is made of spiders or like parts fastened to the shaft *c* at suitable intervals, and to these spiders are fastened lagging strips, which in turn support the teeth or duster arms *g*, securely bolted to the lagging strips. These pins or arms *g* are secured at intervals along the surface of the cone either in successive lines around it or in a spiral line, the object of the latter construction being to aid in causing a progressive feeding movement of the rags or other stock in the duster. The pins are round in cross section and are curved backward, so as to present the curved side in the direction of motion. These pins are preferably made with a short bend at the base, and are secured to the lagging strips by thrusting this end into a socket hole in the strip which anchors the pin, and a bolt is passed through a hole in the pin and through the strip near the base, and held by a nut. Outside of this cone is arranged a rotary screen, *h*, which turns about the same axial centre as the cone and like it has the general shape of the frustum of a cone, the angular sloping surface of the cone being greater, however, than that of the screen. The object of making the cone and screen of different tapers is to allow proper space to first thoroughly open out the rags or other stock, and then to dust them by throwing them in contact with the screen, and it is also to give more surface on the cone for the spreading out of the stock as it advances from the inlet end, so that the apparatus will not become clogged but allow each piece to get a proper dusting; and the object in the difference in length of the cone and the surrounding screen is to enable the distance between the ends of the pins or arms on the cone to be changed with

relation to the inner surface of the screen by a lengthwise adjustment of the cone within it, the length of the pins, of course, being constant. The screen is somewhat longer than the cone, so that it extends far enough beyond the line of both ends of the cone to completely inclose the periphery of the latter.

The screen is made up of the heads *k* *h*, each having a flange, *h*, which rests upon the tread of the flanged rollers *i*, on which the screen is mounted, so as to turn readily about the inclosed cone. The shell of the screen is made up of a cover, *j*, of perforated material or of a network of wire, the holes or interstices being of suitable size with reference to the work to be done. This cover is supported by lengthwise strips, *k*, of stiff material, as iron, which also support the pins *l*, which are straight pieces of round iron held in place by a nut outside and head within the screen. These pins in the screen are fixed at intervals corresponding to those of the duster arms or pins *g* on the cone, and they vary in length from the larger to the smaller end of the shell, being longer at the smaller end. The pins on the cone also vary in length in the same way, and the respective sets of pins on the screen and on the cone are alternately arranged as to position.

In order to provide for the lengthwise adjustment of the cone *d*, the shaft *c*, on which it is supported, has both ends, *c*, extending beyond the bearings, *c'*, and one end is connected to a slide piece, *m'*, forming part of the adjusting device *m*. This slide, *m'*, is supported and movable along the rods *m*, which have secured to their outer ends the yoke piece *m*. Through a threaded socket in this yoke piece a feed screw, *m*, extends, the inner end being connected to the slide *m'* in such a manner as to provide for a rotary movement only of the screw within the slide, while the outer end of the feed screw is provided with a hand wheel, *m*, by means of which the screw may be turned in such a manner as to cause the slide to be moved outward or inward along the supporting rods. This movement of the slide carries with it the shaft *c*, and by means of the adjusting device the lengthwise position of the cone within the screen may be determined within a certain extent of adjustment.

The machine is said to be particularly adapted for use in opening out and dusting rags, although its use is not limited to that particular material, as jute, papershavings, old paper or any other kind of material used for paper stock may be dusted and cleaned in the machine that may require, if anything, mere minor changes within the mechanical skill of the workman to adapt it to the special or particular kind of material to be used. The material is fed into an opening, *a'*, in one end of the machine, either by hand or by other convenient means. This opening in the framework or cover of the machine is directly opposite the open end of the screen, and the material to be cleaned is introduced through this opening into the outside shell. At the other end of the shell and cone the material is delivered through an outlet opening, *a*, in the cover, and is removed in any convenient manner.

On entering the machine the material is carried around by the outside shell until it falls onto the pins on the inside cone, and is by them struck and driven to the opposite

side of the revolving screen, the cone and screen traveling in the same direction, the former at a much greater rate of speed than the latter. For dusting rags a speed of about five to one is said to be practicable. The material is then carried around, dropped onto the pins on the cone and again thrown against the screen, and the operation continued until the material slowly works its way to the large end or outlet of the screen that is open on the ends.

The cleaned material is fed from the machine into a suitable receptacle in any convenient manner.

The cone is driven by means of a belt passing over a pulley, *c*, on the shaft on which the cone is mounted, and the screen is driven by a belt, *h*, passing over a pulley, *h*, on the surface of the screen, or a pulley secured to either of the heads.

Setting Up Steam Power.

[WRITTEN FOR THE JOURNAL.]

BY W. H. WESTON.

The question of a new steam plant for a mill or factory is of as much importance as any element of the business, although it is seldom so considered.

The large percentage of unprofitable plants goes to prove that proper attention is not given to this part of the business, or that the charge of putting it in place and selecting the kind used is intrusted to someone who advertises to do such work, and yet knows very little about what is the proper thing to work advantageously.

I know a good many who have had the determining of what should be used for a mill and had superintendence of erection who, when you came to talk to them, showed that they knew comparatively little about steam engineering.

In view of these facts it is much to the advantage of the owner of a new mill to look more carefully to these things.

In planning for a new plant the amount of power to be used should first be got at very carefully and absolutely ascertained before anything further is done. Much vexation and loss in the working of mills have arisen from failure in this point at the start. It is too often the case that the decision to spend as little money for the first cost of a plant as possible is made, and consequently every machine and place where any power is to be applied are figured down as small as it is possible to do it, and if there is any allowance made it is almost sure to be done on the wrong side. The result of all this is that when the mill is completed and started running it is not long before the machines fail to do the work of which they are capable, as they cannot be kept up to their full capacity because of want of engine power.

Now that the plant is all supposed to be completed, the owner of course does not wish to stop, tear out and put in additional power, for this would mean the purchase of a new engine of larger size or else the putting in of an additional engine to help the first, and if this is done it makes a patched up job, which is never satisfactory. But if this additional power is not provided the machines are not kept up to what they can and ought to do, and consequently the profits are reduced.

Next, all of the provision possible should be made at the starting of the plant for an increase which may be demanded in the course of a few years, so that this can be made without having to move or tear down any more than is absolutely necessary.

It is better to make the engine room so large that another engine of the same size can be placed in it without interfering with the running of the first until it is time to connect it to the shaft. If there is a good probability of this increase of engine capacity in three or four years it is well to put in foundations for both engines at first.

(Continued on page 603.)

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(Continued from first page.)

It may be argued that when the second engine is required a different make may be wanted, and that consequently the foundations for the style of the first would not answer for the second.

This, of course, may occur, and if it is likely to no part of the second foundation can be put in at first, except the lower courses, which might be put in up to the height where the through bolts of the engine are likely to come. Of course this cannot be got at exactly, but it can be approximated.

The next thing to be considered in getting out the plans is the character of the power to be used; that is, whether the machinery of the mill is to run fast or slow, whether the work at the machines is heavy, intermittent or uniform, or whether it is light and machines are to be run at high speed. Power to run such work as is found in a rolling mill or rubber works requires a very different engine from that required for cotton machinery or a machine shop or a shoe shop. And here is where many mistakes are made. Some people think that one build of engine is competent for handling any kind of work; but the valves and valve gear of an engine which would be efficient for a cotton mill would be about worthless for a rolling mill, and at best the engine in the latter mill would not run long before the valve gear would be used up and practically the whole engine for that matter.

Next comes the element of a water supply for condensing purposes. This is of such importance that it should govern the location of an industry; that is, if it is any way possible, and there are very few exceptions to be made, where this element of water should not control the selection of a location for manufacturing purposes. If water cannot be secured from lake or pond, it may happen that a sufficient supply can be obtained from wells. The expense of sinking artesian wells is not warranted, except in a locality which has to be selected on account of other and special reasons. This might occur in some cases.

If a condensing supply of water can be had in such an instance from artesian wells it would pay to bore them, if the plant is of any size, as the saving on the coal bills by a compound condensing steam plant mounts up very fast, and in a year would make up for a large expense in sinking the wells required. Practice has shown during the last few years that where compound condensing engines have been used a saving in coal of 40 per cent. is made in comparison with a non-compound, non-condensing engine,

and this 40 per cent. can be figured on as an absolutely correct and reliable amount to go by.

With this fact so apparent, it certainly seems strange that any concern should put in other than compound condensing engines for a new factory.

The slight increase of cost in one of these plants is not of sufficient importance to be considered, and it would be made up in six months' run by the amount of money saved on coal.

The extra cost of the engine may be 30 per cent., but the cost of the boiler plant will be about 40 per cent. less than for a non-compound, so that the extra cost of a steam plant as a whole for a given power will not be much in excess of that for an ordinary plant; and the attendance on a compound condensing plant will not cost any more than the other, as the extra money paid to the engineer will be made up by the reduction in force needed in the boiler room, as a reduction in the number of boilers—say, from ten to six—will save the labor of one man, which will make up for the extra expense of engineer's attendance.

(To be continued.)

Correspondence.

Fox River Notes.

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., July 6, 1891.

The Wisconsin River Paper and Pulp Company, of Stevens Point, has to-day been letting some of its machinery contracts. The Scott & Roberts Company will furnish eight of its largest and heaviest "New England" grinders. Two hundred horse power will be put on each grinder, and the output from the eight grinders is expected to be 24 tons daily. About 2,000 horse power of water wheels will be put in the pulp mill, and the contract for most of them has been given to the Dayton Globe Iron Works for their well-known New American wheels. The rest will probably be of the "Success" pattern made by S. Morgan Smith, York, Pa. The core wheels, pinions and general iron work for the pulp mill will be made by the Dayton Globe Iron Works. The paper and pulp mill buildings will be put up together, but the pulp mill will probably be in operation by January 1, 1892, two or three months before the paper mill.

The new pulp mill of the Kaukauna Paper Company will be started this week. It is equipped with four D. T. Mills grinders. One of the paper machines is now running

full and the Fourdrinier part of the second machine was shipped from Beloit to-day.

The building of the big paper mill of the Combined Locks Paper Company is progressing satisfactorily. In addition to the foundation put in last fall about seven hundred cards of stone have been laid this year and the brickwork is now up above the first story windows all around. The scheme for putting in a sulphite plant has been abandoned for the present, and the rag room will be constructed on the foundations provided for it.

It is expected that the new mill of the Gilbert Paper Company at Menasha will be ready to start before the end of the present month. The eight engines are already in place and belted and the machine is being set up. The machine is the finest ever seen in this part of the country, and is undoubtedly the peer of anything of the kind in America. It will have six stacks of calendars. There will be no supercalenders whatever, and none will be needed. The new mill will make flats and book papers, putting on the Scotch and English finish for the finest plate work, which has never heretofore been attempted in this country. Three Campbell screens will be used to prepare stock for the machine. Other machinery will be three Hill cutters and one Cranston trimmer. The square brick smoke chimney is nearly completed; it will be 125 feet high and has a 6½ foot flue.

The body of an infant was found one afternoon last week in a bale of rags at the Telulah Paper Company's mills in this city. The circumstances were very similar to those attending a like find in a bale at the Fox River Paper Company's mill a few months ago. The body was pressed out of shape, and little remained of it but skin and bones. The rags came from a firm in Detroit.

D. H. Shurtle & Co., of Kaukauna, have begun making tissue paper at their new mill. The machine is a 68 inch Black & Clawson, and the motive power a 25 horse power engine. One 1,200 pound beater, run by water power, prepares the stock, which consists principally of sulphite. The machine has four dryers, 48 inches in diameter, from which the paper passes to a large single reel, 5 feet in diameter.

The Fox River Paper Company, of Appleton, received an order last week for 85,000 pounds of writing paper, ruled on two sides. On account of the large demand for flats, the company is again putting the size box into its machine in the old mill, which since the starting of the new mill has been run exclusively on book.

The Globe Wall Paper Company, of Neenah, has arranged with H. W. Martin, of

Chicago, for the manufacture of paper twine from a paper fibre which he has produced and which is said to rival jute cord.

The Manufacturing Investment Company, of this city, recently sent out to the trade a circular calling attention to the result of a test lately made by the Patten Paper Company, of Appleton, concerning the relative merits of paper made from its "T" or second grade sulphite and the best grade of sulphite produced by the quick cooking bronze digester process, from which it appears that the paper made from its product was 29½ per cent. stronger than that made from the quick cooked fibre.

This company recently purchased 655 tons of the porous limestone used in making its acid, and this stone is now arriving. The purchase makes about forty carloads.

Albert Buske, an employee of the Patten Paper Company, suffered quite serious bruises on his hip and side a few days ago by becoming caught in some moving machinery.

A meeting of the general freight agents of all the railroads in this vicinity will be held in Appleton next week, at which time a schedule for pulp wood transportation will be made out with the Pulp Wood Supply Company.

John S. Van Nortwick, of Batavia, Ill., who is very largely interested in paper manufactories in this valley, has purchased the residence of William S. Whorton, in a very desirable locality in this city, paying \$13,000 therefor, and will transfer his home to Appleton. Mr. Van Nortwick and his family will be cordially welcomed here.

The Potter Paper Company recently presented the fire department of this city with a check for \$50, in recognition of services at its late fire.

Thomas Pearson, superintendent of the Atlas Paper Company's mills in Appleton, and his estimable wife were made the recipients of a very delightful surprise party a week ago, on the fourteenth anniversary of their wedded life, by a party of thirty friends and neighbors.

C. H. Dobilinski, of Lambertville, N. J., called on friends here last week.

F. Garrison, of Centralia, was in town on Saturday on business.

A large number of paper jobbers visited this valley last week. Among them were Ben. Brown, of the Graham Paper Company, St. Louis; J. B. Halliday, of Chicago; T. F. Rice, of Bradner Smith & Co., Chicago, and Mr. Adams, of the Calumet Paper Company, Chicago.

Frank Taylor has returned from his vacation visit to his home in Poughkeepsie.

H. P. Clawson, of Hamilton, Ohio, was in the city last week.

W. M. Mills, of Dayton, Ohio, is in town.

F. W. Taylor, general manager of the Manufacturing Investment Company, returns to-morrow to the East.

FOX RIVER.

Boston Notes.

[FROM OUR REGULAR CORRESPONDENT.]

EASTERN OFFICE PAPER TRADE JOURNAL,
67 Federal Street,
BOSTON, July 9, 1891.

Comparing business in paper trade circles with the developments of last week, a little better movement is noted.

Local demand for paper seems at the moment to be very good, mail orders also being more numerous.

As illustrative of the changes of a week a leading paper jobber relates that one of his traveling salesmen visited a nearby city during Fourth of July week, but printers there were not in need of paper at that time. Since then these very same printers have sent in their orders by mail, from which fact it is inferred that job printers have had a little rush of business this week which calls for paper for immediate use.

The present condition of the paper manufacturing industry seems, on the whole, to be good.

The outlook for the coming fall season is encouraging, especially to the manufacturers of news, since the political campaign of this fall will demand an increased supply of news paper, as is usual during a campaign just preceding the year of a general election.

So far this month very little in the way of improvement is noted in the paper stock market. Business is by no means at a standstill, for sales of stock are being made right along from day to day, but orders are not as large as importers might wish for, nor are prices as satisfactory as desired. With a better demand, as is expected to develop in time, better prices may be realized and profits become more satisfactory.

Imports of paper stock for the week to date include 2,094 bales of rags, 72 bales, 127 coils of manillas, 1,694 bales of low grade stock, 995 rolls of straw pulp, 715 bales of chemical pulp and 632 bags of sizing.


Receipts of chemicals for the same time were 649 casks of bleaching powder, 50 drums of caustic soda, 459 casks, 1,400 bags of soda ash, 700 barrels of soda crystals and 987 bags of crude sulphur.

Beyond the quotations there is nothing of interest to report concerning the chemical market, the quotations even being only a repetition of old time figures, which are cer-

THE GLEN MFG. CO., 244 WASHINGTON STREET, BOSTON, **THE HAVERHILL PAPER CO.,**
 DAILY PRODUCT: 100,000 Pounds Finished Paper. **News Paper and Wood Pulp.** DAILY PRODUCT: 100,000 Pounds Wood Pulp—Dry Weight.

HOLLINGSWORTH & VOSE, 44 FEDERAL ST., BOSTON, MASS.,
 MANUFACTURERS OF **PURE MANILLA ROPE PAPER.**
 Z. T. HOLLINGSWORTH. Mills at West Groton and East Walpole, Mass. Daily Capacity, 25,000 pounds. CHARLES VOSE.

W. A. BINGHAM & CO., 186 & 188 FRANKLIN STREET, NEW YORK.
 PAPER, PAPER BAGS, FLOUR SACKS, &c.

MANILLA ROPE. TRADE MARKS REGISTERED IN THE U. S. PATENT OFFICE.
 ESTABLISHED 1866. **LIVERPOOL MARINE STORE CO.,** Liverpool, Eng., **L. M. S. AND** 
 Packers of the well-known and reliable **L. M. S. WOODEN TAG ROPE,**
 AND SHIPPERS OF THE "STAR BRAND" FROM ALL PARTS OF GREAT BRITAIN, &c., UNDER THEIR PERSONAL SUPERVISION.

FRIEND & FORGY PAPER CO., Franklin, Ohio.
 Manufacturers of **PURE MANILLA ROPE PAPER.** Daily Capacity 24,000 Pounds.

PERKINS, GOODWIN & CO.,
 Nos. 66 and 68 DUANE STREET, NEW YORK,
 Have on hand and to arrive all grades of Bleached and Unbleached

SULPHITE AND SODA PULPS. SEND FOR SAMPLES AND PRICES.

tainly familiar to every buyer by this time. The market is firm in tone and there is a very fair demand for paper maker's chemicals, but conditions are such that prices remain steady.

W. E. Whitney, of Whitney Brothers, the Essex street paper dealers, who left Boston last May for a trip to Europe, will sail for home on July 18 from Liverpool. Mr. Whitney is accompanied by his family, and all will return together.

F. N. Bigelow, for two years past a member of the firm of J. E. Peckham & Co., paper dealers, No. 86 Lincoln street, has retired from that house and established himself in chambers at No. 17 South street, where he will do business as a jobber of paper, twine and leather board.

Among recent trade visitors were: Elisha Morgan, of Springfield, Mass.; Hon. William Whiting, S. R. Whiting, of Holyoke, Mass.; Geo. Knowlton, of Watertown, N. Y.; Frank P. Carpenter, S. W. Holt, of Manchester, N. H.; Warren F. Daniels, of Bellows Falls, Vt.; H. T. Bartow, Robert E. Green, of New York; Oscar D. Hartwell, of Nashua, N. H.; James Ramage, of Monroe Bridge, Mass., and John M. Carre-cabe, of Milton, N. H.

Among other matters to call for the attention of paper manufacturers is the coming annual convention, and very little time is to pass before the paper and pulp makers will gather at the Saratoga meeting.

Secretary Barker is working hard to get everything in order for the occasion.

In response to his official notice of the convention many replies have been received, so that the indications give promise of a good attendance.

Since it may be possible that some few of the trade might have been overlooked in addressing the notices, Mr. Barker would have every paper manufacturer and every pulp maker in the United States consider himself personally invited to the convention. Let them notify the secretary and arrangements will be made for their accommodation.

Some paper manufacturers, whose wives no doubt took part in the ladies' banquet at the Grand Union last year, are making inquiries to learn if a ladies' banquet will be a feature of the coming convention.

Such inquiries have been referred to George W. Russell, of the Russell Paper Company, who inaugurated the ladies' banquet last year—a banquet which proved so enjoyable to the ladies present that it will no doubt be repeated at the next convention.

Should Mr. Russell conclude to interest himself in this particular he will have a much larger gathering of ladies at the banquet table than last year, and the ladies will bring their husbands to Saratoga, and this will double the attendance at the convention.

Considering the matter to be presented for attention at this meeting paper makers should hasten to respond to the call of the association. Especially should the Western trade be largely represented to shape the direction of matters concerning the action to be taken relative to the world's fair at Chicago in 1893.

The idea of having the American Paper Manufacturers' Association propose some plan whereby this great industry might be properly represented is good, and such an exhibition should be given under the auspices of the association.

But the undertaking is big, and yet none too big for the paper manufacturers of this country to carry out, and successfully, too, if they are interested in the idea.

The matter, of course, when presented at the convention will be referred to a special committee, and that committee should have the financial support of the trade at large.

The A. T. Stearns Lumber Company has removed its Boston office from Federal street to No. 166 Devonshire street, in the newly fitted up building of the Master Builders' Association.

While this company furnishes large quantities of cypress to the New England market for mill construction for floors, vats, tanks, &c., the company has developed quite a demand for this Gulf cypress for interior use in house building and office fittings.

To show the handsome grain of this wood, its different shades and the high finish that can be given, the A. T. Stearns Lumber Company has fitted up its new business quarters in Gulf cypress.

From the display thus made one is able to see at a glance the handsome effects produced by the proper combination of the various shades of this southern wood.

At one side of the office is built a large mantelpiece, such a mantel as would find a place in some elegantly furnished dining room, its columns of turned cypress being highly polished and its large centre panel of dark grained cypress over the shelf giving a very rich effect to this handsome piece of wood work.

All of the office doors are built of cypress, the body of the doors being of light grained wood and the panels of selected stock, in

varied shades of coloring natural to this wood.

Cypress dados border the walls of the rooms and a portion of one room is partitioned off in cypress, the partition itself being beautifully paneled, every panel looking like a picture because of the harmonious blending of the shades, from a dark coloring to light, mellow tints.

Even the large office desks of the company are made of cypress, and they compare most favorably with desks of other woods.

All of the wood work is in natural finish, this treatment being necessary to bring out the rich grain of the wood and to produce the handsome effects of the wood's natural colors.

Parties interested are cordially invited to visit the office of the A. T. Stearns Lumber Company, and such visitors will receive a warm welcome from Mr. Stearns.

DELESDERNIER.

Holyoke Notes.

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, MASS., July 9, 1901.

Most of the mills started up again bright and early on Monday morning of this week and business was resumed as usual. The Crocker Manufacturing Company's mill did not start with the rest and only a part of the Beebe & Holbrook Paper Mill was started, as the improvements on these mills have not been completed. The mills have received more attention this year than usual, nearly all having received more or less overhauling. Several new water wheels have been put in to take the place of smaller ones, new boilers have superseded old ones and several penstocks have given way to larger and better. The machinists and blacksmiths have been kept busy during the shut down, some running a force of night hands in addition to the day men.

Business is moving along with very few changes. The midsummer inventories are being taken at some of the mills, and the showing for the past six months will soon be made manifest to the manufacturers. It is believed that the balance on the right side of the ledgers will exceed that of the corresponding term of 1890.

The Winona Paper Mill is a thing of the past, as far as the name goes, and it will hereafter be known as the Chemical Paper Mill No. 2. The men who recently bought the property have organized, with these officers: President, Moses Newton; vice-president, James Kirkham; treasurer, Geo.

C. Gill. The agent has not yet been selected, but a good man will be placed in charge of the business. The mill will be started to-morrow morning with Robert W. Allan, for a number of years with the Collins Manufacturing Company, of North Wilbraham, but more recently with the Fairfield Paper Company, of Fairfield, as superintendent. This starting of the mill before the expiration of the sixty days after the sale seems to indicate that the new owners are satisfied that the creditors of the Winona Paper Company do not intend to take advantage of the redemption law. It is good news, however, that the mill is to be started so promptly and under such capable management.

Improvement in paper mills is the order of the day, and the Whiting Paper Company is to make some important changes in its No. 1 mill, which have been under consideration for two years or more. The grades of the street which passes near the mill and the railroad which crosses the street are to be separated, and the street will run under the tracks about 14 feet, affording a better driveway for the company. A new wall will be put in on the east side of the road next to the canal, to afford better protection. The east wall of the mill will be torn down its entire length and a more substantial one substituted. The roof will be raised and one story added to the building. This will afford considerable more loft space. The company may also decide to put up an addition on the south end of the mill, 30 or 40 feet. These changes will be made under the supervision of D. H. & A. B. Tower.

A. B. Tower recently returned from a business trip through New York State, where his firm has the oversight of some important building operations. The Glens Falls Paper Company, of Fort Edward, N. Y., has the foundations in for a new paper mill and the wheel pit is being put in for a wood pulp mill. The mill will have four paper machines and when finished will produce 40 tons a day of news. The Holyoke Machine Company will furnish fifty-four Hercules water wheels for this mill. The Ticonderoga Pulp and Paper Company, of Ticonderoga, N. Y., has the foundations in and the main walls of its new mill ready for the main floor. It will have two machines and its capacity will be 20 tons a day of news. M. E. Cummings, of this city, has the contract for the carpenter work.

A little fellow named Charlie Caswell, who was drowned in the second level canal last week, had a history connected with his

young life. Very few people here when they read of the accident knew that he was the little messenger boy who did such brave work during the prevalence of the yellow fever at Jacksonville, Fla., three years ago. The family moved here last February and many messages of sympathy were received by the family from Southern people.

E. S. Towne, treasurer of the National Blank Book Company, has resigned to fill a similar position with the new Norman Paper Company. He is succeeded by Walter J. Livermore, recently traveling salesman for Smith & White.

John B. Callaghan, for some time a clerk in the office of the National Blank Book Company, has become a reporter on the Daily Democrat.

Among the visitors this week were E. C. Walker, formerly of this city, now superintendent of F. R. Walker & Son's mill at Burnside, Conn., and Sylvester Smith, superintendent of the Adirondack Mill at Malone, N. Y.

The water in the river has been falling quite rapidly of late and very little is going over the dam.

Lockwood's Directory of the Paper and Stationery Trades is an invaluable guide to first hands and a reference book of great usefulness. The seventeenth annual edition, 1891-2, is now ready for distribution. Orders will be filled according to date of receipt, at \$2 per copy.

Mortgages, Etc.

[In the appended list R. signifies a renewal of a pre-existing mortgage; B. S., bill of sale; and Real, a mortgage on real estate.]

MIDDLE STATES.

Table with columns: Mortgages, Amount. Includes entries for Gardner & Hamlin, Robert Dezell, Charles W. Burt, David Rosenthal, Allen W. Sterner.

WESTERN STATES.

Table with columns: Mortgages, Amount. Includes entries for Charles E. Marble, Ruben Mayer, Charles L. Gillette, Martin Brothers, D. A. Reynolds, George A. Severance, J. Q. Brown, Jeffries, Brooks & Brooks.

LIENS DISCHARGED.

Table with columns: Liens Discharged, Amount. Includes entry for Shaw & Borden.

SMITH'S PNEUMATIC CALENDER FEED.

Patented September 29, 1885; November 16, 1886; other Patents now pending. This Machine is also Patented in England, France and Germany.

THE DANGER TO PAPER MACHINE TENDERS and the LOSS IN BROKEN PAPER at the CALENDER ROLLS MAKE THIS INVENTION OF ESPECIAL VALUE FOR THE REASONS THAT:

It prevents all danger and risk to the person of the operatives ordinarily incident upon leading the paper through the stack. It avoids "making broken" in the stack, as the doctors prevent the paper from clinging to the rolls, and as the action of the doctors upon the individual rolls removes any and all calendar spots from their surfaces, the latter are kept in perfect condition, thereby preventing defacement or injury to the paper, which would otherwise be the case; also by keeping the rolls clean, removing all dust and grit, the necessity for frequent grinding of the latter is avoided.

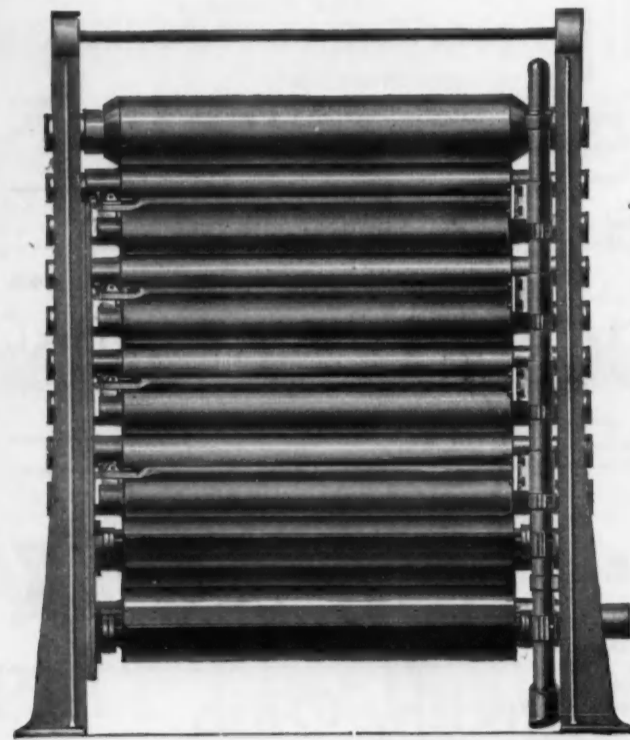
The blower or fan which supplies the air should be located in some place where cold moist air can be obtained, and as this cold air is supplied through the doctors to the surface of the rolls the latter are prevented from heating, and a better and more uniform surface is given to the paper.

In operation, the paper is introduced at the top roll and is conducted automatically between the other rolls, emerging from the bottom, and can be conducted immediately, without loss, to the reel.

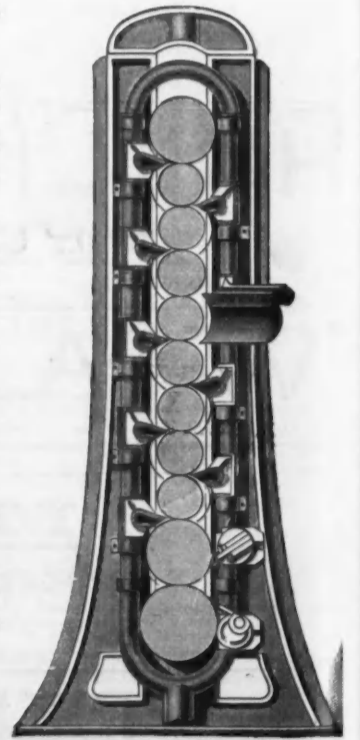
Among Paper Manufacturers now using Smith's Pneumatic Calendar Feed, all of whom indorse it most highly, are:

- POLAND PAPER CO., Mechanic Falls, Me. (1)
WEBSTER PAPER CO., Orono, Me. (2)
SUGAR RIVER PAPER CO., Claremont, N. H. (1)
GLEN MANUFACTURING CO., Berlin Falls, N. H. (5)
WINNIPESOGEE PAPER CO., Franklin, N. H. (5)
FALL MOUNTAIN PAPER CO., Bellows Falls, Vt. (7)
WILDER & CO., Otis Falls, Vt. (3)
MONTAGUE PAPER CO., Turner's Falls, Mass. (4)
HAVERHILL PAPER CO., Haverhill, Mass. (2)
G. W. WHEELWRIGHT PAPER CO., Leominster, Mass. (1)
SYMS & DUDLEY PAPER CO., Holyoke, Mass. (1)
RUSSELL PAPER CO., Lawrence, Mass. (8)
WINONA PAPER CO., Holyoke, Mass. (2)
PAGE PAPER CO., Hardwick, Mass. (1)
G. R. DICKINSON PAPER CO., Holyoke, Mass. (1)
EXCELSIOR PAPER CO., Holyoke, Mass. (1)
FAIRCHILD PAPER CO., Pepperell, Mass. (1)
TILESTON & HOLLINGSWORTH, Mattapan, Mass. (2)
BRIDGE MILL C. M. CO., Pawtucket, R. I. (1)
BRIDGEPORT PAPER CO., Bridgeport, Conn. (2)
C. H. DEXTER & SON, Windsor Locks, Conn. (2)
F. B. WALKER & SON, Burnside, Conn. (1)
HUDSON RIVER PULP AND PAPER CO., Palmer Falls, N. Y. (4)
REMINGTON PAPER CO., Watertown, N. Y. (2)
GLEN FALLS PAPER MILL CO., Glens Falls, N. Y. (4)
FRANK GILBERT, Watertown, N. Y. (1)
TICONDEROGA PAPER CO., Ticonderoga, N. Y. (1)
LAKE GEORGE PULP AND PAPER CO., Ticonderoga, N. Y. (2)
H. POWELL RAMSDELL, Salisbury Mills, N. Y. (4)
HERKIMER PAPER CO., Herkimer, N. Y. (2)
ADAMS & BISHOP CO., Newburgh, N. Y. (2)
ONTARIO PAPER CO., Watertown, N. Y. (2)
FORT ORANGE PAPER CO., Castleton, N. Y. (2)
FRONTENAC PAPER CO., Dexter, N. Y. (1)
ST. LAWRENCE PAPER CO., Dexter, N. Y. (1)
NIAGARA PAPER CO., Niagara Falls, N. Y. (1)
CLIFF PAPER CO., Niagara Falls, N. Y. (2)
FONDA LAKE PAPER CO., Watertown, N. Y. (1)
JEFFERSON PAPER CO., Black River, N. Y. (1)
TAGGART BROS. CO., Watertown, N. Y. (2)
M. & W. H. NIXON PAPER CO., Manayunk, Pa. (4)
P. H. GLATFELTER, Spring Forge, Pa. (5)
W. C. HAMILTON, Philadelphia, Pa. (1)
CLARION PULP AND PAPER CO., Johnsonburgh, Pa. (1)
JESSUP & MOORE PAPER CO., Wilmington, Del. (1)
G. H. FRIEND PAPER CO., West Carrollton, Ohio. (1)
VAN NORTWICK PAPER CO., Batavia, Ill. (2)
BREMMAKER-MOORE PAPER CO., Louisville, Ky. (2)
KIMBERLY & CLARK, Kimberly, Wis. (4)
CENTRAL PULP AND WATER POWER CO., Centralia, Wis. (2)
CALIFORNIA PAPER CO., Stockton, Cal. (1)
RIORDAN PAPER MILLS, Merrittton, Ontario. (2)
TORONTO PAPER MILL, Merrittton, Ontario. (1)
ANDERSON PAPER CO., Anderson, Ind. (1)
DENVER PAPER MILL CO., Denver Col. (1)
WILLAMETTE PULP AND PAPER CO., Oregon City, Ore. (1)

Convincing testimonials as to the real merits and advantages of SMITH'S PNEUMATIC CALENDER FEED will be shown upon application. The entire device is compact, readily adjusted, and enables large stacks to be easily and efficiently managed with least labor, and with but little or no loss of broken or damaged paper.



Applied to Calendar on the Machine.



A Doctor for each Roll keeps off all Calendar Scabs.

THE SMITH IMPROVED PAPER MACHINERY CO., 85 WATER STREET, BOSTON.

DETROIT SULPHITE FIBRE CO.,

— MANUFACTURERS OF —

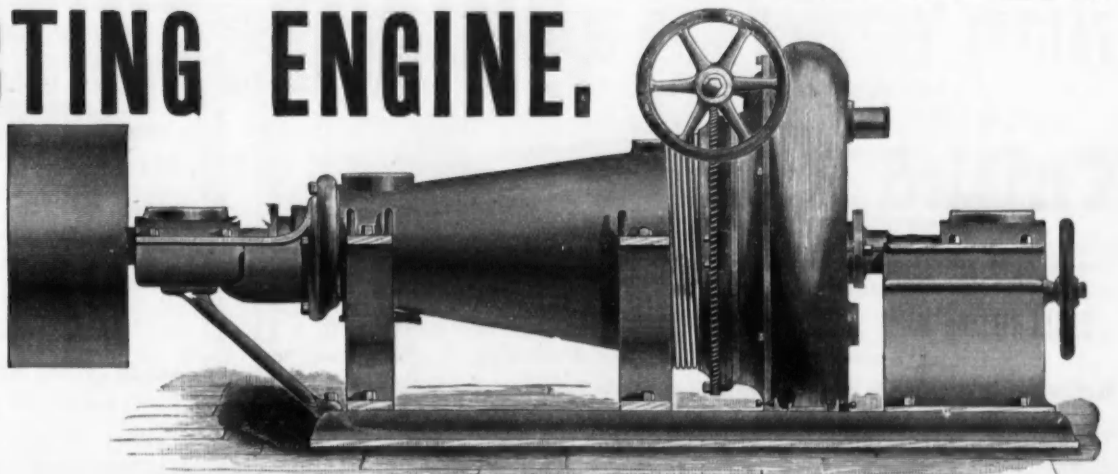
SULPHITE FIBRE,

CORRESPONDENCE SOLICITED.

Mitscherlich Process.

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MARSHALL'S PERFECTING ENGINE.



THESE ENGINES

Are now running on all Grades of Paper,

—FROM A—

MANILLA TO ANIMAL SIZED WRITINGS.

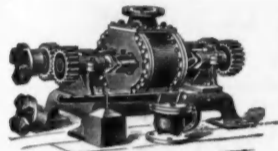
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ADDRESS **MARSHALL ENGINE COMPANY, TURNER'S FALLS, MASS.**

D. H. & A. B. TOWER, ARCHITECTS, HOLYOKE, MASS.

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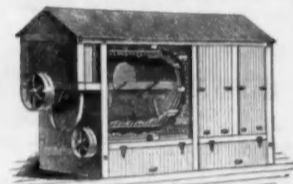
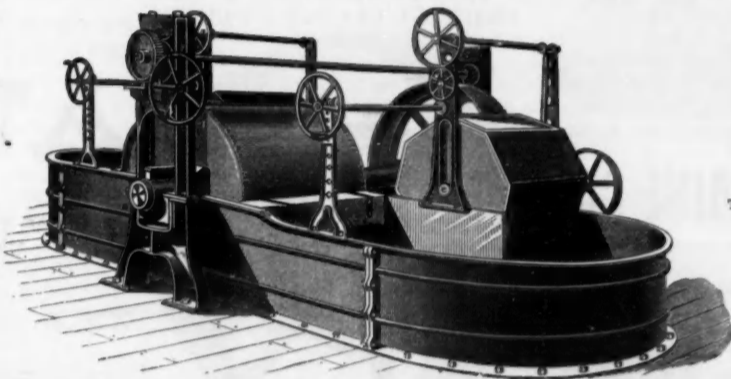
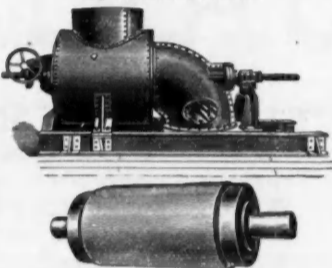
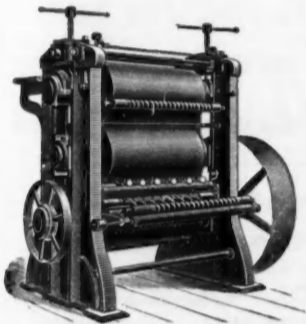
Paper Mills, Soda and Sulphite Fibre Mills, Ground Wood Mills.



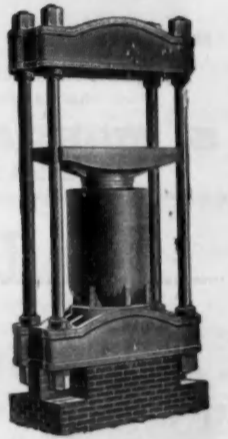
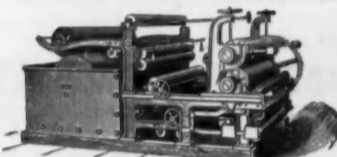
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All Kinds of CALENDERS for PAPER MILLS, GLAZED PAPER and CARDBOARD MANUFACTURERS.

Dusters, Engines, Turbine Wheels,
Cotton Rolls, Husk Rolls,
Paper Rolls, Chilled Iron Rolls,
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CORRESPONDENCE SOLICITED.

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MANUFACTURERS OF

FOURDRINIER PAPER MACHINES

AND PULP AND PAPER MACHINERY.

G. W. KNOWLTON, Pres.

Office of THE ONTARIO PAPER CO.,

JOHN A. DECKER, Supt.

THE BAGLEY & SEWALL CO.:

GENTLEMEN—The following is the record of the 86 inch wire Fourdrinier Machine purchased of you for the past week:

August 4, . . . 24,335 lbs.	August 6, . . . 24,020 lbs.	August 8, . . . 23,337 lbs.
August 5, . . . 23,390 lbs.	August 7, . . . 24,010 lbs.	August 9, . . . 24,865 lbs.
Average per day, . . . 23,992 lbs.		

These figures are the net shipping weight of the paper, averaging 31 lbs. to the ream, 24 x 36 in.

Yours respectfully, E. B. STERLING, Sec'y.

FRONTENAC PAPER CO.,

DEXTER, N. Y., August 20, 1890.

BAGLEY & SEWALL CO., WATERTOWN, N. Y.:

GENTLEMEN—At 8:30 to-night our machine tender shut down to put on a NEW FIRST FELT. The paper was off the reel less than ELEVEN MINUTES. It cannot be done on any other make of machine than the BAGLEY & SEWALL.

Hastily,

F. W. SPICER, Sec'y and Treas.

THE CENTRAL PAPER AND FIBER CO.,

CLEVELAND, OHIO,

MANUFACTURERS OF

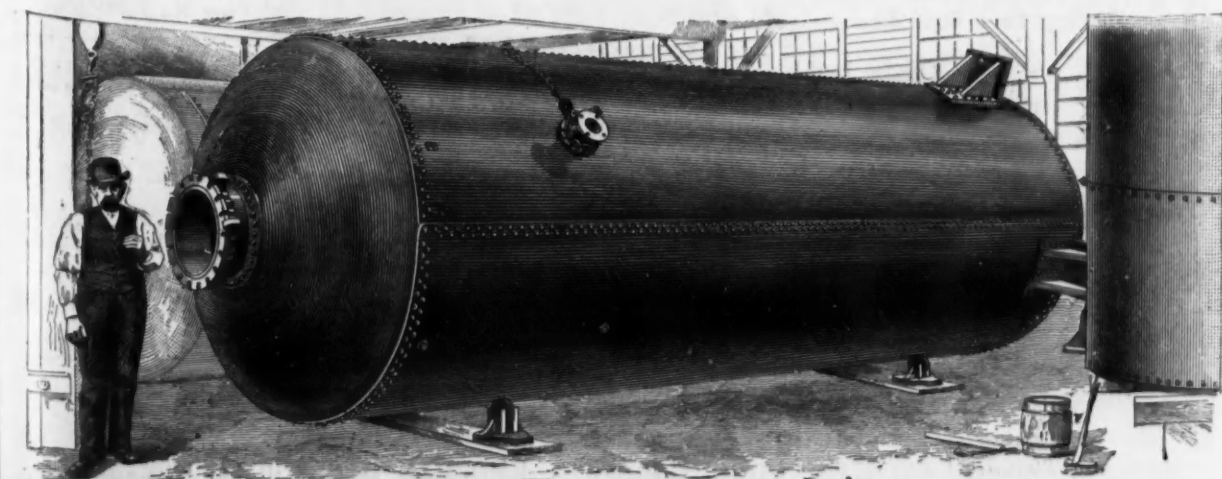
Paper and Fiber Machinery,

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Rotary Bleachers, Boilers, Tanks,

TOMPKINS PATENT DIGESTERS.

CONTRACTS TAKEN TO FURNISH MILLS COMPLETE.



Two TOMPKINS PATENT DIGESTERS under construction at the works of THE CENTRAL PAPER AND FIBER CO., Cleveland, Ohio.

FARREL FOUNDRY AND MACHINE CO.,

ANSONIA, CONN., U. S. A.,

THE LARGEST MANUFACTURERS OF

Chilled Rolls

IN THE WORLD.

ALSO MANUFACTURERS OF GRINDING MACHINES FOR ALL KINDS AND SIZES OF ROLLS.

CHILLED AND DRY SAND ROLLS

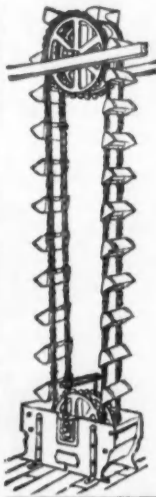
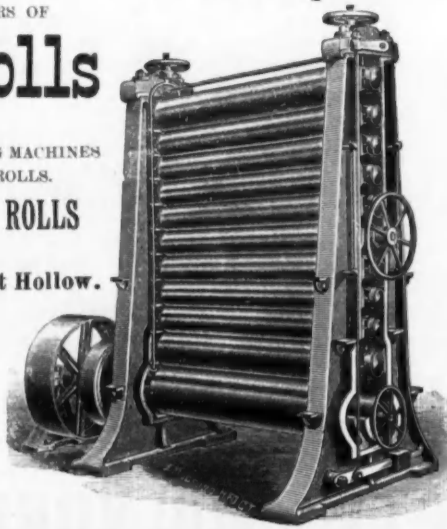
FOR ALL PURPOSES.

Rolls Bored for Steam or Cast Hollow.

COMPLETE CALENDERS.

Lift Rods operated by wheels above for raising any number of the rolls. Housings so made that the rolls may be taken out endwise through frame.

OLD ROLLS RE-GROUND AT SHORT NOTICE.



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FOR CONVEYORS, CARRIERS DRIVING BELTS, For the handling of Pulp, Straw, Clay, Sales, Boxes, Chemicals, &c.

We furnish complete outfits for handling materials of all kinds.

Catalogue can be had on application. Address

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GEO. J. BURKHARDT'S SONS' CEDAR TANK FACTORY,

2831 TO 2839 NORTH BROAD ST.,

Downtown Office, 221 Chestnut St. PHILADELPHIA.



FRICITION CLUTCH PULLEY.



Licensed under Friction Clutch Patents of 1879, 1883, 1888, 1890, and other patents pending. All kinds of Machinery for the Transmission of Power. SEND FOR CATALOGUE.

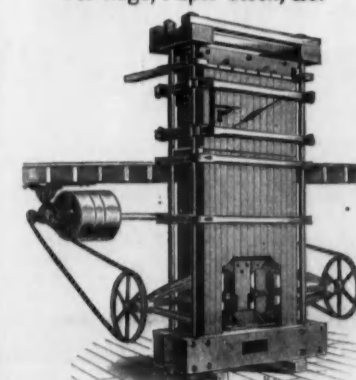
THE IMPROVED Lancaster Turbine Wheel



Lancaster Turbine Wheel Co., Lancaster, Pa.

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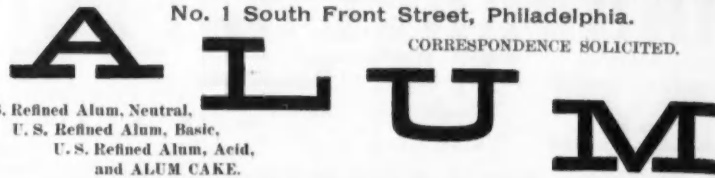


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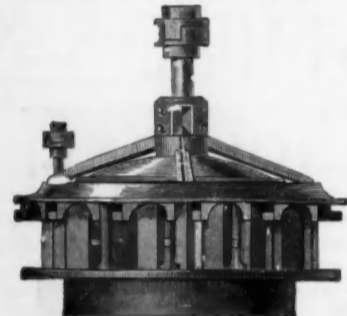
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Legal Status of Bank Checks.*

[WRITTEN FOR THE JOURNAL.]

The bank check has gradually assumed a position so firmly imbedded in the fabric of commerce that we pay but little more attention to its legal aspects than we do to the chemical properties of air. And yet the bank check involves many intricate principles of law. In the first place, considered entirely without reference to special statutes which may be in force in different States, a check upon a bank is simply an assignment of a claim against the bank, and its value therefore depends wholly upon the validity of the claim of the drawer against the bank, and, further, upon the solvency of the bank. In most States there are statutes which make it a criminal offense to draw and negotiate a check upon a bank with which the drawer has no account; but this does not cover the drawing of the check for more than the amount on deposit, if there be a current account in existence between the bank and the maker. A check for which there are no funds on deposit, in the absence of any special statutory regulation, becomes in legal effect a note, and may be used and recovered upon the same as a demand note, and the indorsers thereof are liable in the same manner as indorsers of other paper.

Being an assignment of funds, or an order to pay, it must be pursued with diligence, and failure to present a check for payment within a reasonable time will relieve all parties to it of further liability thereunder. What is a reasonable time for presenting a check for payment depends entirely upon the circumstances of the case, but as a general rule immediate presentation is necessary. If a person draws a check to the order of another at a distant place, and sends it there, he is presumed to hold funds in his bank to meet it until in the ordinary course of mail it would reach the bank. But if the person to whom it was sent, instead of forwarding it for collection, sends it somewhere else, so that its course of collection would be delayed, he assumes the chance of funds being withdrawn in the meantime and the consequent refusal of payment. In order to maintain the life of the check it must be presented with diligence.

The failure to present a check within a proper time, while it invalidates the check, does not, of course, operate as an extension

of the debt for which it was given, but it throws the parties back into the positions which they occupied before the check was given. If between the time the check was given and its presentation the bank upon which it was drawn should become insolvent, the question of diligence in presentation becomes very material. If presented with diligence the liability of the maker is unchanged, but if there should be delay in presenting it, then the debt is discharged and the payee must look to the assets of the bank for payment.

In the absence of any special agreement to the contrary, no change takes place in the relations of the parties until payment of the check. That is, the giving of a check is not payment of an account, and as a matter of law the taking of a check is not acceptance of payment, as the check is only an order for money, so that it cannot operate as payment unless it shall be fulfilled.

The liabilities of the bank itself with reference to checks and funds on deposit present some interesting phases. A person who has a running account at a bank has a right at any time to make a deposit for a special purpose, and if this is accepted subject to such conditions the bank is bound by them. A person whose account is overdrawn may still draw a check and make a deposit with instructions to apply it on the check, and if the bank applies such deposit to the overdraft and refuses the check it is liable in damages as well as for the amount of the check. It is settled that when a bank wrongfully or negligently refuses to pay checks properly drawn upon it the person whose checks are refused may recover damages for the injury which he will be presumed to have suffered from such a course.

It is incumbent upon the bank to see that when it pays a check it is paid to the proper person, and the bank is liable for payment to any person other than the proper party. The bank therefore has a right to insist upon full and complete identification of the person presenting a check for payment. And a person who seeks to identify another at a bank for the purpose of securing payment of a check thereby assumes the responsibility of the bank to that extent, and if a mispayment results he is liable to the bank for any loss sustained by it. And this is so although he may have acted in perfect good faith.

It is true that the great mass of bank checks, constituting an immense volume of funds, pass through the various channels of commerce without conflict with legal principles and restrictions; but it is equally

true that a full and thorough understanding of the legal aspects of this form of contract would prevent many suits at law which result from a lack of popular knowledge on these subjects.

Electric Millwrighting.

[WRITTEN FOR THE JOURNAL.]

There are lots of things which the millwright is obliged to perform "quicker than lightning," and there are many other operations which lightning in the form of electricity might help the millwright to perform to better advantage than by any other medium. Every paper mill of any consequence has been or is being fitted with electric lights. The incandescent form is the best for paper mills, and the lamps may be placed everywhere where there is the slightest possible need of artificial light.

Wherever a lamp socket is found in a mill there is an opportunity for the millwright to take half the power to help him in his work. A good deal of drilling has to be done during the year, and the usual way is to rig up the "old man" and wear away the iron by the medium of a ratchet drill. A little motor of one-half horse power is a very portable tool which one man can carry and two men can handle with ease in any situation. Such a motor may be placed in position in fifteen minutes and connected up by means of a flexible shaft direct to the drill. The way such a drill rig will make the chips fly is a caution to unbelievers.

Whenever any soldering is to be done a special soldering iron, which is made hollow and fitted with a coil of wire of high resistance, may be connected direct to the electric circuit and the electric current will heat this iron hot enough in a very few minutes to do all the soldering that is required.

There are lots of other things which the millwright will make electricity do for him. If he is doing a flume job and gets tired of ripping up 3 inch planks by means of a hand saw, or of hewing them to shape with a broad axe, he will plank down a portable saw bench in one end of the flume, hitch on his one-half horse power electric motor and saw the plank much better and quicker than could be done by hand. A one-half horse power motor is hardly heavy enough for such work, but there is nothing to prevent the millwright from attaching a 1 horse or even a 2 horse power machine, except that motors of this size cannot be attached to the lamp sockets. They must

have special wires run for their use and take the current direct from the mains.

Whenever a cylinder is to be bored out the electric motor will do the work in short order. If the millwright wants to grind a calender roll, the motor will both run the emery wheel and turn the roll. With one or two motors in use around a paper mill, the number of things which will be done by them will increase so fast that the conundrum will come up: "How did we get along without them?"

Supplies—War Department.

The following are the awards and the successful bidders for the annual supply of paper, &c., for the War Department:

- E. Morrison Paper Company, items 1, 2, 3, 4, 5, 9, 10, 11, 13, 59.
 - Ballantyne & Son, items 6, 8, 14, 18, 23, 26, 1/2 of 27, 30, 43.
 - Easton & Rupp, items 7, 31, 32, 34, 38, 40, 42, 41, 45, 53, 57, 60, 61, 65, 66, 67, 68.
 - Isaac Friedenwald, item 70.
 - J. H. Mann, items 15, 16.
 - A. G. Elliot, items 17, 20, 22.
 - J. C. Parker, item 19.
 - West Jersey Paper Company, items 21, 24, 25.
 - F. A. Schmidt, items 1/2 of 27, 39.
 - H. Baumgarten, item 28.
 - Fairfield Paper Company, items 29, 33.
 - Sheffield Manufacturing Company, items 35, 36, 51, 52, 69.
 - G. R. Dickinson Paper Company, item 37.
 - J. J. Chapman, item 41.
 - Morgan Envelope Company, items 46 to 50 inclusive, 54, 55, 56, 58, 62, 63, 64.
 - Connecticut River Paper Company, item 12.
- PAPER.
- Item 1. 50 rms. legal cap, \$1.90 per rm.
 - 2. 100 rms. foolscap, \$1.90 per rm.
 - 3. 100 rms. quarto post, \$1.62 per rm.
 - 4. 200 rms. flat letter, \$1.56 per rm.
 - 5. 30 rms. bond paper, glazed, \$3.25 per rm.
 - 6. 100 rms. commercial note, 79c. per rm.
 - 7. 100 rms. cream linen note, \$2.07 and \$2.14 per rm.
 - 8. 10 rms. flat letter, 7 lbs. to the rm., 69c. per rm.
 - 9. 73 rms. do., 10 lbs. to rm., 95c. per rm.
 - 10. 400 rms. do., 12 lbs. to rm., \$1.08 per rm.
 - 11. 10 rms. flat cap, 18 lbs. to rm., \$2.50 per rm.
 - 12. 100 rms. do., 16 lbs. to rm., \$1.52 per rm.

- 13. 10 rms. double flat cap, 17x28 in., 36 lbs. to rm., \$4 per rm.
 - 14. 30 rms. white book, 24x38 in., 50 lbs. to rm., \$2.40 per rm.
 - 15. 100 rms. white copying, 12x19 in., flat, 68c. per rm.
 - 16. 25 rms. buff copying, 12x19 in., flat, 58c. per rm.
 - 17. 20 rms. gold envelope, 20x25 in., 28 lbs. to rm., \$2.25 per rm.
 - 18. 1,000 rms. tissue manilla, 11x15 in., 11 1/2c. per rm.
 - 19. 7,000 rolls tissue manilla, 7 1/4-10c. per rm.
 - 20. 30 rms. wrapping manilla, 20 lbs. to rm., 95c. per rm.
 - 21. 20 rms. wrapping, No. 1 rope manilla, folded, 49 lbs. to rm., \$2.85 per rm.
 - 22. 40 rms. do., 50 lbs. to rm., \$3.25 per rm.
 - 23. 40 rms. do., 90 lbs. to rm., \$6.48 per rm.
 - 24. 40 rms. do., 150 lbs. to rm., \$10.12 per rm.
 - 25. 10 rms. do., 200 lbs. to rm., \$13.50 per rm.
 - 26. 40 rms. blotting, No. 120, \$14.96 per rm.
 - 27. 200 sheets drawing, 27x40, 10c. per sheet, Schmidt; 12c. per sheet, Ballantyne.
 - 28. 5,000 sheets carbon paper, typewriter, 1 1/2c. per sheet.
 - 29. 200 rms. typewriter paper, extra heavy, legal, ruled or plain, \$1.32 per rm.
 - 30. 40 rms. do., thin, legal, plain, 77c. per rm.
 - 31. 200 rms. do., extra heavy letter, ruled or plain, \$2.28 per rm.
 - 32. 50 rms. do., whole sheets, \$2.21 per rm.
 - 33. 25 rms. do., thin, letter, plain, 66c. per rm.
 - 34. 150 rms. white wove paper, 16x23 in., 28 lbs. to rm., \$2.59 per rm.
 - 35. 150 rms. yellow wove paper, do., \$1.75 per rm.
 - 36. 150 rms. green wove paper, do., \$1.76 per rm.
 - 37. 10 rms. linen ledger paper, medium, 36 lbs. to rm., \$4.77 per rm.
 - 38. 10 rms. do., royal, 44 lbs. to rm., \$6.60 per rm.
 - 39. 150 rolls blue print paper, 39 in. wide, \$1.28 per rm.
 - 40. 1,000 rms. linen ledger paper, 105 lbs. to rm., \$17.39 per rm.
- ENVELOPES.
- 41. 75 M. white, No. 5, XX, adhesive, 99 1/2c. per M.
 - 42. 25 M. gold, No. 5, XX, do., 92c. per M.

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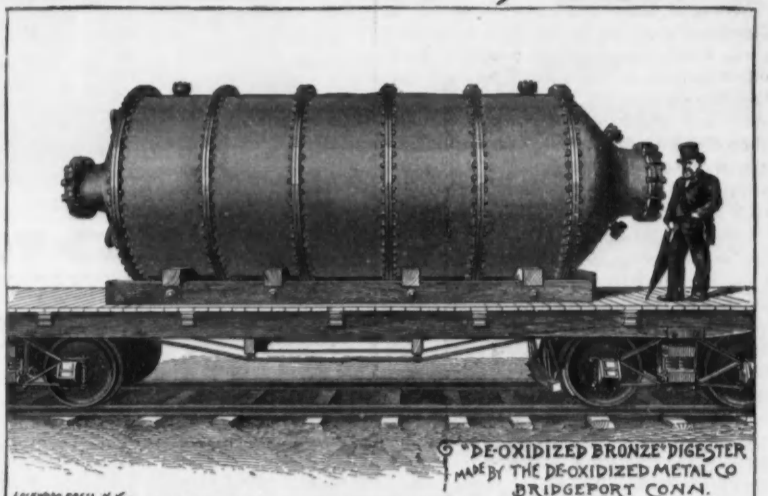
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- 43. 50 M. white, XXX, No. 6, do., \$1.18 per M.
- 44. 15 M. white, XXX, No. 7, do., \$1.49 per M.
- 45. 50 M. cream, No. 5, XX, do., \$3.17 per M.
- 46. 100 M. white, 8 $\frac{3}{8}$ x3 $\frac{3}{4}$ in., XX, do., \$1.38 per M.
- 47. 200 M. white, 8 $\frac{3}{8}$ x3 $\frac{3}{4}$ in., XX, do., \$1.46 per M.
- 48. 800 M. white, 8 $\frac{3}{8}$ x3 $\frac{3}{4}$ in., XX, un-gummed, \$1.46 per M.
- 49. 200 M. white, 9 $\frac{3}{8}$ x4 $\frac{1}{2}$ in., XX, adhesive, \$1.62 per M.
- 50. 20 M. blue, 9 $\frac{3}{8}$ x4 $\frac{1}{2}$ in., XX, do., \$1.70 per M.
- 51. 75 M. white, 10 $\frac{1}{4}$ x4 $\frac{1}{4}$ in., XX, do., \$1.92 per M.
- 52. 30 M. white, 10 $\frac{1}{4}$ x4 $\frac{1}{2}$ in., XX, do., \$2.36 per M.
- 53. 5 M. white, 10 $\frac{1}{2}$ x5 $\frac{1}{4}$ in., XXX, do. \$3.77 per M.
- 54. 65 M. manilla, 8 $\frac{3}{8}$ x3 $\frac{3}{4}$ in., X, do., 87c. per M.
- 55. 50 M. manilla, 9 $\frac{3}{8}$ x4 $\frac{1}{2}$ in., XXX, do., \$1.34 per M.
- 56. 30 M. manilla, 10 $\frac{1}{4}$ x4 $\frac{1}{2}$ in., XX, do., \$1.53 per M.
- 57. 5 M. manilla, 9 $\frac{3}{8}$ x3 $\frac{3}{4}$ in., XXX, do., \$2 per M.
- 58. 20 M. manilla, 10 $\frac{1}{4}$ x4 $\frac{1}{2}$ in., XXX, do., \$2 per M.
- 59. 30 M. manilla, 9 $\frac{3}{8}$ x6 $\frac{1}{2}$ in., XXX, do., \$2.10 per M.
- 60. 10 M. manilla, 8 $\frac{1}{4}$ x11 in., XXX, do., \$3.21 per M.
- 61. 25 M. manilla, 6 $\frac{1}{2}$ x10 $\frac{1}{2}$ in., XXX, do., \$2 per M.
- 62. 10 M. manilla, 10x8 in., XXX., do., \$3.15 per M.
- 63. 30 M. manilla, 6x8 $\frac{1}{2}$ in., XXX., do., \$2.65 per M.
- 64. 8 M. manilla, 9x11 in., XXXX, do., \$4.65 per M.
- 65. 30 M. manilla, 11 $\frac{1}{4}$ x7 $\frac{1}{2}$ in., XXXXX, do., \$4.30 per M.
- 66. 10 M. manilla, 12x5 $\frac{1}{4}$ in., XXXXXX, do., \$4.19 per M.
- 67. 15 M. manilla, 12 $\frac{3}{4}$ x10 $\frac{1}{4}$ in., XXXXX, un-gummed, \$7.68 per M.
- 68. 5 M. manilla, 13 $\frac{1}{2}$ x9 $\frac{3}{4}$ in., XXXXX, do., \$6.60 per M.
- 69. 2 M. manilla, 12x15 in., XXXXXX, gummed, \$14.75 per M.
- 70. 1,500 M. manilla, 4 3-16x9 $\frac{3}{8}$ in., XXXXXX, un-gummed, \$4.25 per M.

Legal Decisions*

[SPECIALLY REPORTED FOR THE JOURNAL.]

Risks of Employment.—While a person was employed as grinder on an emery stone he was injured by its bursting. Over the stone was an iron plate, through the centre of which a small part of the stone projected. The plate was fastened at each corner to an iron standard, which extended only part way through the plate. The mere fact that plaintiff might not have been injured had the plate been bolted down would not render the employer liable, as a master is bound only to furnish machinery of the kind and quality in ordinary use.—*Angerstein v. Jones & Laughlins, Limited, Supreme Court of Pennsylvania, 21 At. Rep. 24 (1907).*

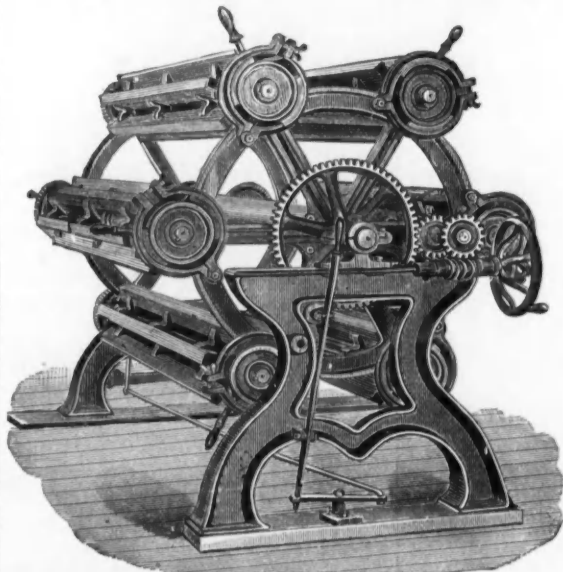
Wrongful Attachment and Admixture of Goods.—If a person levies upon and takes goods which were then the property of another than the person against whom the attachment was issued, but which were in his store and which were purchased by him before the commencement of the suit, he can recover what he is damaged by the wrongful attachment. Where goods of such a person were mixed with those claimed to belong to the attachment defendant, but were distinguishable from his, there is no forfeiture of them, although the purpose of the intermingling was to hinder and delay the creditors of the attachment debtor. Where such goods are mixed with those alleged to belong to the attachment defendant, and are levied upon by the officer, he is liable for their value, unless it appears that he endeavored unsuccessfully to separate such goods, or that, from the nature of the mixture, they of necessity could not be separated. Evidence of the value of a stock of merchandise by persons who have had no experience in buying and selling goods of the same kind, and who have no knowledge of the quality or quantity or cost of the goods, is properly excluded.—*Allen v. Kirk, Supreme Court of Iowa, 47 N. W. Rep. 907 (1901).*

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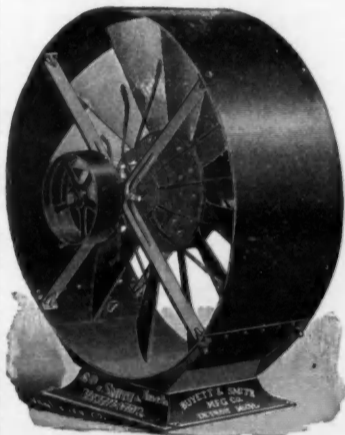
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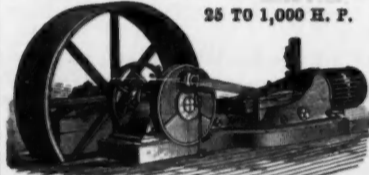
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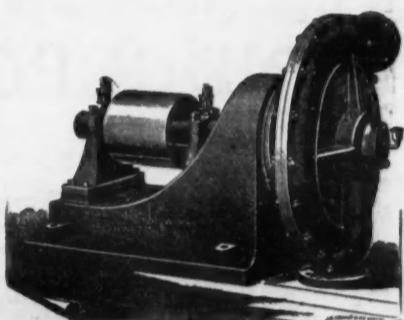


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Manufacturers of SULPHITE FIBRE, RITTER-KELLNER PROCESS. CHATHAM, NEW BRUNSWICK.

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Imports and Exports.

IMPORTS AT NEW YORK.

FOR THE WEEK ENDED JULY 3, 1891.

Table with columns for various goods like Alum, Soda, Ultramarine, Books, Engravings, Ink, Lead Pencils, and their respective quantities and values.

Imports General Merchandise for the week ended July 3, 1891. \$9,734,083

IMPORTS OF PAPER STOCK AT NEW YORK.

FROM JANUARY 1 TO JULY 7, 1891.

Large table with columns for 'Whence Imported', 'Bales', 'Tons', and 'Value'. Lists various countries like Alexandria, Amsterdam, Antwerp, etc.

a. Including 560 bs. flax waste. b. Including 126 bs. flax waste. c. Including 861 bs. cotton waste. d. Including 531 bs. flax waste. e. Including 108 bs. cotton waste. f. Including 9 bs. flax waste.

NEW YORK IMPORTS.

FROM JUNE 30 TO JULY 7, 1891.

Paper Stock. George Hamilton, Waeland, Antwerp, 21 tons wood pulp. James Arkell & Co., Wells City, Bristol, 58 bs. rope. Train, Smith & Co., Ebenezer, Dublin, 64 bs. waste paper.

Darmstadt & Scott, by same, 41 bs. bagging. Atterbury Brothers, by same, 21 bs. rags. Woolworth & Graham, by same, 38 bs. papers. J. W. Mason & Co., Greece, London, 67 coils rope.

Paper.

E. G. Soltmann, Waeland, Antwerp, 3 cs. Kupfer Brothers, by same, 4 cs. James E. Ward & Co., by same, 1 cs. L. C. Wagner, by same, 3 cs. Keuffel & Esser, by same, 8 cs. Metz & Meyer, by same, 7 cs. W. Henemann, Rotterdam, Rotterdam, 3 cs. Regenhard & Shevill Company, Urbino, Hamburg, 1 cs.

BOSTON IMPORTS.

FROM JULY 1 TO JULY 7, 1891, INCLUSIVE.

Paper, &c. Wm. Guild & Co., Cephalonia, Liverpool, 5 bs. periodicals. Gregory & Brown, by same, 1 cs. paper hangings. Paper Stock. Train, Smith & Co., Prussian, Glasgow, 145 bs. waste paper. Russell Paper Company, by same, 71 bs. rags. J. B. Moore & Co., by same, 48 bs. rags, 224 bs. waste paper.

Caustic Soda. Patterson & Co., Ottoman, Liverpool, 50 drums. Soda Ash. Mason, Chapin & Co., Cephalonia, Liverpool, 80 cks. and 400 bags. Linder & Meyer, by same, 600 bags. Mason, Chapin & Co., Columbian, Liverpool, 70 cks. and 400 bags. Linder & Meyer, by same, 77 cks. Order, by same, 150 cks. Warren & Co., Ottoman, Liverpool, 76 cks. Soda Crystals. Warren & Co., Ottoman, Liverpool, 250 bbls. E. & F. King & Co., by same, 280 bbls. Jerome Marble, by same, 140 bbls. Crude Sulphur. Linder & Meyer, Columbian, Liverpool, 987 bags.

PHILADELPHIA IMPORTS.

FOR THE WEEK ENDED JULY 4, 1891.

Paper. Charles Beck Paper Company, Venango, Hamburg, 19 bs. Paper Stock. Jessup & Moore Paper Company, Venango, Hamburg, 165 bs. rags. Order, by same, 101 bs. chemical fibre, 50 bs. rags. Brown Brothers & Co., Missouri, London, 90 bs. waste paper. Order, by same, 99 bs. waste paper. Leon Gotthel, Belgenland, Antwerp, 115 tons chemical fibre.

EXPORTS of Paper, &c., from New York for the Week Ended July 7, 1891.

BOOKS, cases, to British West Indies, 3; to Liverpool, 10; to Central America, 3; to United States of Colombia, 2; to Hamburg, 3; to London, 57; to Havre, 1; to Venezuela, 6; to Argentine Republic, 9; to British Australasia, 12; to British possessions in Africa, 11; to Brazil, 10; to Barcelona, 1; to China, 1; to Cuba, 1; to Japan, 6; to New Brunswick, 1 pkg.; to Rotterdam, 3; to San Domingo, 1; to St. Petersburg, 3. PAPER, to British West Indies, 152 pkgs.; to Hamburg, 9 cs.; to Liverpool, 30 cs.; to London, 99 cs.; to Mexico, 2 cs.; to United States of Colombia, 133 pkgs.; to Central America, 49 pkgs.; to British Australasia, 69 pkgs.; to Bremerhaven, 35 cs.; to British Honduras, 51 cs.; to Copenhagen, 31 bbls.; to Cuba, 911 pkgs.; to Danish West Indies, 14 cs.; to Denton, 16 bbls.; to Hayti, 2 cs.; to Leicester, 18 bbls.; to Leith 33 pkgs.; to New Brunswick, 2 cs.; to New Zealand, 179 pkgs.; to Peru, 9 cs.; to San Domingo, 106 pkgs.; to Schoonenwerd, 10 bbls.; to Valencia, 1 cs.; to Venezuela, 1 pkg. STATIONERY, cases, to British West Indies, 13; to Cuba, 5; to Liverpool, 3; to Central America, 7; to London, 11; to Mexico, 11; to British Australasia, 19;

to United States of Colombia, 12; to Bremen, 1; to British possessions in Africa, 1; to Copenhagen, 1; to Danish West Indies, 2; to Hull, 1; to Hayti, 1; to Japan, 7; to San Domingo, 1.

AGGREGATES AND VALUES.

Table with columns for Paper, reams, Paper, pkgs, Paper, cases, Books, cases, Stationery, cases, Rosin, bbls, and Totals.

Exports General Merchandise for the week ending July 7, 1891. \$7,088,516

Paper Making and Its Accessories.

BOOKS OF REFERENCE

The following is a list of Books of Reference on subjects connected with Paper Making, Chemicals, Colors, Machinery, Hydraulics, &c.: AUERBACH.—Anthracene: Its Constitution, Properties, Manufacture and Derivatives. 8vo. \$5 00. BAIRD.—Standard Wages Computing Tables Folio. 5 00. BENSON.—Principles of the Science of Color. 4to. 7 50. BENSON.—Manual of the Science of Color. 12mo. 1 00. BESANT.—A Treatise on Hydro-Mechanics. 8vo. 5 00. BOY.—A Practical Treatise on Heat as applied to the Useful Arts. Illustrated by 14 plates. 12mo. 5 00. BOY.—A Practical Treatise on Mill-Gearing. 12mo. 3 50. BOY.—Practical Hydraulics. 12mo. 2 00. BRASSE.—Hydraulic Motors. 8vo. 2 50. BROWN.—Five Hundred and Seven Mechanical Movements. 12mo. 1 00. CALVERT.—Dyeing and Calico Printing, including an Account of the Most Recent Improvements in the Manufacture and Use of Aniline Colors. With dyed Patterns. 8vo. 8 00. CHEVREUL.—The Principles of Harmony and Contrast of Colors and their Application to the Arts. Illustrated with Colored Plates. 12mo. 3 00. COOPER.—A Treatise on the Use of Belting for the Transmission of Power. 8vo. 3 50. CORFIELD.—Water and Water Supply. 16mo. 50. CROOKES.—Handbook of Dyeing and Calico Printing. With dyed Patterns. 8vo. 15 00. CULLEN.—Practical Treatise on the Construction of Horizontal and Vertical Water Wheels. Quarto. 5 00. DOWNING.—The Elements of Practical Hydraulics. 8vo. 2 75. DUNBAR.—The Practical Paper Maker. 1 00. FAIRBAIRN.—The Principles of Mechanism and Machinery of Transmission. 12mo. 2 50. FAIRBAIRN.—A Treatise on Mills and Mill work. 2 vols. 8vo. 10 00. FANNING.—A Practical Treatise on Water Supply Engineering. 8vo. 5 00. FRANCIS.—Lowell Hydraulic Experiments on Hydraulic Motors. Quarto. 15 00. FRESSENIUS.—Manual of Qualitative Chemical Analysis. 8vo. 3 50. FRESSENIUS.—System of Instruction in Quantitative Chemical Analysis. 6 00. GLYNN.—A Treatise on the Power of Water. 12mo. 1 00. HERRING.—Paper and Paper Making, Ancient and Modern. Plates. 8vo. 3 75. JACKSON.—Hydraulic Manual. 8vo. 10 00. JACOB.—The Designing and Construction of Storage Reservoirs. 16mo. 50. JOHNSON.—The Practical Draughtsman's Book of Industrial Design and Machinist's and Engineer's Drawing Companion. With over 50 Steel Plates. 4to. 10 00. KANE.—Elements of Chemistry, including the most Recent Discoveries and Applications of the Science to Medicine and Pharmacy, and to the Arts. Illustrated. 8vo. 1 65. KINGZETT.—The History, Products and Processes of the Alkali Trade, including the most recent improvements. 8vo. 2 50. KIRKWOOD.—Report on the Filtration of River Waters, for the Supply of Cities, &c. quarto. 15 00. KOOPS.—Historical Account of the Substances which have been used to describe Events and to Convey Ideas from the Earliest Date to the Invention of Paper. By Matthias Koops. Printed on Paper Manufactured solely from Straw. London, 1801. 10 00.

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WOOD PULP—CHEMICAL AND MECHANICAL, IMPORTED BY A. WERTHEIM & CO., "Times" Building, NEW YORK.

The Paper Trade Journal.

DEVOTED EXCLUSIVELY TO THE INTERESTS OF

The American Paper Trade.

Weekly, \$4.00 per Annum.

Single Copies, 10 Cents

HOWARD LOCKWOOD & CO.,

Publishers.

HOWARD LOCKWOOD, WILLIAM F. HAMILTON.

NEW YORK: SATURDAY, JULY 11, 1891.

THE JOURNAL contains the latest and fullest information relative to the paper trade in all parts of the world, including descriptions of new appliances and processes for making paper, experiments with new fibres and other materials, a record of the water supply, with the latest manufacturing news in all parts of the country. It gives the cream of all the foreign technical journals which relate to the paper interest, besides communications from competent persons in the trade, both at home and abroad. The market review and quotations show the state of trade in all the principal cities, and no pains have been spared to make these accurate and complete.

Advertisements cannot be received for insertion in the current week later than 9 A. M. on Friday. The charge for advertising is 25 cents a line, each insertion. The rates for standing and displayed advertisements to be had on application. Card in Directory Column and one copy of paper, \$15 a year.

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Boston Office—A. L. DELESNERIER, General Manager, 67 FEDERAL STREET, BOSTON, MASS.

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Paper Trade Journal, Every Saturday,	\$4.00
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American Mail and Export Journal, Monthly,	3.00
Lockwood's Directory of the Paper and Stationery Trades, Annually,	2.00

All Pioneer Publications.
HOWARD LOCKWOOD & CO.,
126 & 128 DUANE ST., NEW YORK.

OUR first page illustration this week is that of a new rag duster, which, while said to be particularly useful in the treatment of rags preparatory to paper making processes, is also available for other material. The machine appears to possess features which will commend it to the attention of paper manufacturers.

A NOTIFICATION from the secretary of the American Paper Manufacturers' Association will be found in another column. If there are any of the trade who may not have received an invitation to attend the Saratoga meeting, but who would like to be present, they are advised not to stand upon the order of their going nor to assume that they have been overlooked. Go by all means.

If the work outlined for the convention shall be properly carried out it will be important in its results. The world's fair appeals to paper makers of every degree, and the event should be signalized by a complete exhibit of the paper making industry. Some interesting features are promised for the banquet which will follow. Trade gatherings which involve free discussion of points generally interesting are always valuable, and we trust that the forthcoming meeting will be so characterized.

It will be remembered that last year a pleasing adjunct to the paper manufacturers' meeting was the banquet given to the ladies who were present at Saratoga. The members of the trade who desire to take their wives and daughters with them will be gratified to know that like arrangements are in prospect this year. The acquaintances made at that time have not been forgotten, and it is likely that more ladies will be present on this occasion than on the last. If a sufficient number signify

their intention arrangements for the ladies' banquet will be made, and members of the trade desiring to have their ladies participate in it are requested to send word to George W. Russell, Lawrence, Mass., to whose efforts the success of last year was so largely due.

RETURNS of the foreign commerce of the country for May and the eleven months of the fiscal year ending therewith, just received from the Treasury Department, present some interesting figures. The statistics show a gain of \$71,000 in the values of American paper exported during the period mentioned, while exports of stationery, exclusive of paper, show a gain of \$59,787. The comparisons are made with the eleven months of the year preceding. In manufactured products, outside of paper, stationery and correlated manufactures, some noteworthy figures appear. Thus, refined sugar shows an increase in export values of \$4,490,776; meat and dairy products gain \$6,000,000; cotton goods valued at \$3,339,070 more than the exports of last year were shipped abroad, while of iron and steel and their manufactures an increase of \$3,000,000 in domestic exports is noted. The total value of exports of domestic merchandise for the eleven months ended May 31, 1891, was \$816,217,297, against \$793,221,564 for the eleven months ended May 31, 1890. The increase is \$22,995,733. No account is here taken of our exports of foreign merchandise, which were about even.

A PAPER published in Berlin—*Kuhlow's German Trade Review*—discusses the export trade of Germany, particularly in its relation to the United States. It says: "The consequences of the McKinley bill are indeed making themselves felt now. While the trade which was formerly conducted with the United States for the first three months of this year amounted to many thousands of dollars, the exact figures which have been returned vary considerably, and seem to betoken a fall in German exports to the United States of \$6,000,000 in value, which can be accepted as an exact statement, being only founded on reliable figures; that is to say, it may be more, but it cannot be less. It is not, however, so easy to make this loss good in spite of all the exertions made to win another trading circle. Production has not decreased to any noticeable extent, which causes depression even in the ranks of those branches of trade which have not been otherwise directly affected and adds to the difficulty by causing universal prices to fall still lower." In contradistinction to this it may be said that American exports are increasing. If the tariff has had the effect of keeping even \$6,000,000 at home, that amount is to be distributed among our own industries. It will be useful in keeping many employed.

WITH the close of the first half year there is a perceptibly better tone to trade, although only ten days have elapsed since then. Nothing in the general situation of the country seems to warrant fear of trouble, and it is possible—yes, probable—that the slowness of business of which some have complained has been wholly due to the reflex action of the financial troubles in Great Britain last year, aided perhaps by the unwholesome exhibits in the affairs of a few banks in this country. If the crop promise holds out to the good, the returns both as regards quantity and quality of all of our most important agricultural products may be beyond precedent. The wheat harvest alone seems to be full of assurance, and if to this abundant returns in all other cereals and in tobacco and cotton shall be added we shall be able to emphasize this year as one of the most prosperous in our history. Of course the fruits of the labors of the husbandmen influence the whole course of commercial and industrial life. It is already known that America will be called upon to meet the requirements of Europe as to food supplies in a more than ordinary degree. The gold which has been going outward must therefore come back in exchange for our products. Domestic consumption will not only be

maintained, but must increase. The normal demand of the consuming public for all lines of production is constantly enlarging. Money is easy; there is no distress widely affecting the community apparent. With all conditions favorable, why should not business be good?

FOLLOWING the proclamation of the President the Secretary of the Treasury has communicated to the customs officers the following regulations in relation to copyrighted publications:

1. Copyrighted books and articles, the importation of which is prohibited by Section 4956, Revised Statutes, as amended by Section 3 of said act, shall not be admitted to entry. Such books and articles, if imported with the previous consent of the proprietor of the copyright, shall be seized by the collector of customs, who will take the proper steps for the forfeiture of the goods to the United States, under Section 3082, Revised Statutes.

2. Copyrighted books and articles imported contrary to said prohibition and without the previous consent of the proprietor of the copyright, being primarily subject to forfeiture to the proprietor of the copyright, shall be detained by the collector, who shall forthwith notify such proprietor, in order to ascertain whether or not he shall institute proceedings for the enforcement of his right to the forfeiture. If the proprietor institutes such proceedings and obtains a decree of forfeiture the goods shall be delivered to him on payment of the expenses incurred in the detention and storage and the duties accrued thereon. If such proprietor shall fail to institute such proceedings within sixty days from date of notice, or shall declare in writing that he abandons his right to the forfeiture, then the collector shall proceed as in the case of articles imported with the previous consent of the proprietor.

3. Copyrighted articles, the importation of which is not prohibited, but which, by virtue of Section 4965, Revised Statutes, as amended by Section 8 of said act, are forfeited to the proprietor of the copyright when imported without his previous consent, and are moreover subject to the forfeiture of \$1 or \$10 per copy as the case may be, one-half thereof to the said proprietor and the other half to the use of the United States, shall be taken possession of by the collector, who shall take the necessary steps for securing to the United States half of the sum so forfeited, and shall keep the goods in his possession until a decree of forfeiture is obtained, and the half of the sum so forfeited, as well as the duties and charges accrued, are paid; whereupon he shall deliver the goods to the proprietor of the copyright. In case of failure to obtain a decree of forfeiture the goods shall be admitted to entry.

It is yet too early to be apprised of the views of our English contemporaries and of the members of the trades most likely to be affected as to the declaration by Lord Salisbury upon which the extension of copyright to British authors is based. As it now stands the operation of the law is likely to be decidedly favorable to American paper makers, printers and publishers, unless the contention is made and sustained that the British Premier's decision as to publication involves the necessity of preparing the work within the British dominions; but this does not seem to be justified by any construction of the term.

Watermarks.

BY DANDY.

Would it be out of place to give a few items not of a paper making character, although indirectly the paper trade are interested? No? "Well, here goes."

At the risk of being called a "tin plate liar" I desire to interject a remark which is taken from the *Ironmonger*, published, I believe, in London. That paper, speaking of American enterprise, says: "If our tin plate makers are wise they will exercise considerable vigilance relative to the whole matter, and if they can move ahead in any of the respects indicated they should do so, in order to forestall their coming rivals on the other side of the Atlantic."

Delegates representing the Welsh tin plate workers are coming here to view the "lay of the land." Anent this the London *Times* says: "Should the sixty delegates report favorably upon the prospects for tin plate workers in the United States, it is not unlikely that there will be so large an exodus to America as to lead to a great part of the trade hitherto monopolized by Wales being transferred to America. Hitherto the idea has been that it was impossible to manufacture tin plates in America, owing to atmospheric conditions, but tin plate makers who accompanied the Iron and Steel Institute delegates to America reported that there was nothing except the want of skilled labor to prevent the successful manufacture of tin plate in America."

This admission of "coming" rivalry must be a "surprise party" to those who are trying to decry the tin plate industry of this country.

A lace mill has been built and started in a Pennsylvania town. It makes a line of goods not heretofore produced in the United States. And the tariff did it.

In view of the progress in invention caused by the protection of the patent laws

the following paragraph, taken from an English printed historical treatise on paper making, published at the beginning of this century, needs no comment:

"A pamphlet has been suffered to be published monthly since the year 1794, which describes not only the existing patents of the country, but contains complete drawings and descriptions of new invented machines. This pamphlet has been and will continue to be immediately translated into the Continental languages—a practice which has no doubt proved highly detrimental to the revenue and commercial interest of this country."

Returning from his Fourth of July excursion (sound in body, but weak in pocket), a linguistic contortionist let fly this squib: "If there were no paper, human knowledge would be a pauper. Even as the word *pauper* without U becomes *paper*, so without paper you would indeed be a pauper." "Cert."

A gentleman addicted to sports afield, but not addicted to drawing the "long bow," was giving some interested auditors an account of some of his piscatorial successes recently. His remarks were listened to without objection or dissent, but imagine his surprise when, at the conclusion of a specially interesting story, the crowd stood up and one of its number solemnly presented him with a card bearing the following certificate:

LONDON
AMALGAMATED SOCIETY OF LIARS
(UNLIMITED).

Satisfied from testimony and experience of your qualification and fitness, you have been unanimously elected a LIFE MEMBER of this Society.

Yours truly,
BOSS LIAR,
SECRETARY.

A prominent paper maker wants to know if it is necessary to wear a dress suit to the paper makers' dinner. He alleges that it is warm weather, which is an undoubted fact, and further says that under the circumstances an ordinary cutaway ought to be considered what the boys would call "just the cheese."

There is no law compelling the wearing of a dress suit, and it is a fact that the ordinary dress has more solid comfort to the square inch than any "clawhammer" which was ever built. That would furnish a foundation for a combination against the aforesaid "d. s.," which might last for an evening at least.

I agree with the complainer, but suggest that he should not go to the other extreme and appear in negligé shirt, tennis trousers and gorgeously colored blazer. That would scarcely do.

One of the daily papers takes up "silver tissue" this week and shows how the poor consumer is just being skinned alive by being compelled to buy imported paper at a higher price than domestic, when the latter is said to be as good.

The interview which is given is said to be distorted and the figures quoted are somewhat off. The American maker says that his paper is equally as good as the imported, and as proof of the statement shows that it is being used by jewelers all over the country, and that it is doing the work for which it is designed and doing it well. That portion of the story the daily paper did not print.

Trade Talks.

George W. Millar, of G. W. Millar & Co., New York—Business keeps up very nicely, and we are really busy. Orders have been coming in at a very good pace, and we see no reason at all to complain.

Col. G. W. Thompson, Diamond Mills Paper Company, New York—I see that this morning's *Times* tries to make a point against the McKinley bill by printing an article in regard to silver tissue paper, in which there is given an interview with Mr. White, of Rogers & Brother, silversmiths, of this city. The article is very erroneous, and Mr. White says that he did not make the statements which are attributed to him. In the first place they have never used the paper which we make. The paper which he used was some which was made by H. V. Butler years ago, and which proved to be a failure and which did tarnish the silver. Mr. White believes in using American products, and says that he prefers American to imported paper if it gives the same results. We have made and sold 50,000 reams of our silver tissue paper and never have had a complaint. It is being used by jewelers

all over the country, and those who have used it show their appreciation of it by sending in regular reorders. We have increased the price of the paper slightly. Before the passage of the McKinley bill we made a cylinder paper. Now we make a Fourdrinier paper, and put more labor and expense on it, and a good part of the advanced price is put right into the paper. The *Times* says that the imported paper rose from \$1.25 to \$1.75 a ream. Our highest price is only \$1.45, and it ranges from that down to \$1.25, according to quantity. Since the passage of the bill we have increased the price about 12 per cent., most of which is represented in the added quality of the paper. The increase has not been 45 per cent., as stated by the *Times*. That paper quotes Mr. White as saying: "Whenever an agent for domestic paper comes in here to sell his article I say to him: 'If you will put up \$1,000, with a written agreement to forfeit it as soon as we get the first complaint of the appearance of a single spot on our goods, we will buy your paper.' The effect is that he generally walks right out of that door." Mr. White says that he did not so state. We will give \$1,000 to any charitable institution where it is shown that our paper, "Mill 44," tarnishes the silverware on which it is used.

Communications.

Information Wanted.

JULY 9, 1891.

To the Editor of the Journal:

We noticed in your letter from Boston in issue of June 20 reference to a stuff chest agitator gotten up by Mr. Smith. Will you kindly put us in communication with him, and let him write us particulars of the arrangement?

ANS.—Write to the Smith Improved Paper Machinery Company, 85 Water street, Boston, Mass.—ED.

The Saratoga Meeting.

230 DEVONSHIRE STREET,
BOSTON, July 8, 1891.

Editor of the Journal:

I have, as I believe, forwarded notice of the next meeting and banquet of the American Paper Manufacturers' Association to every member of the trade, but if any invitation has miscarried, or if anyone has been overlooked, the members of the trade and others accustomed to attend, or those who may desire to attend may consider themselves invited by the announcement in THE JOURNAL, and if they will send their names and addresses to me I will forward special notification to them, or something to this effect.

The banquet committee desires to know as early as possible how many will attend the banquet, and we want their names. I inclose notice of banquet, with blank which has been sent out. The blank is to be filled out by members of the trade attending the meeting and desiring to secure tickets to the banquet. I have already received a good many favorable replies, and it looks like a large attendance.

WM. T. BARKER, Secretary.

Changes, Removals and New Firms.

Thomas Cline, publisher, Sidney, Wash., has sold out.

S. C. Beach, publisher, Lakeview, Ore., has sold out.

Alfred Davis, publisher of the *Courier*, Kelso, Wash., has sold out.

A. W. Lang, printer, Hartford, Conn., has been succeeded by Lang & Gaines.

George A. Hickox, editor and publisher of the *Inquirer*, Litchfield, Conn., has sold out.

Chandler & Estes, booksellers and stationers, Lewiston, Me., have dissolved partnership.

Hardy & Payne, booksellers and stationers, Colorado, Tex., have dissolved partnership.

C. G. Cole, dealer in paper hangings, Tacoma, Wash., has been succeeded by Lorenger & Cole.

The New York Carbon and Transfer Paper Company, New York, has removed to No. 51 Nassau street.

Eick & Lewis, wholesale paper dealers, Newark, N. J., have been succeeded by the Eick & Lewis Company.

Warren, Lange & Co., manufacturers of paper hangings, New York, have been succeeded by Warren, Fuller & Co.

James Bain & Son, booksellers and stationers, Toronto, Ont., have dissolved partnership, but the style remains unchanged.

The Mangum Star Printing, Publishing and Town Site Company, Mangum, Tex., has been incorporated with a capital stock of \$30,000.

A. B. Pierson, formerly of Pierson & Robertson, booksellers and stationers, San Francisco, Cal., has formed a copartnership with his brother under the style of Pierson

Brothers. The new firm has engaged in the book and stationery business at 225 Kearny street, San Francisco.

Coburn Brothers, printers, Boston, Mass., have dissolved partnership, and the business will be carried on by the Coburn Stationery Company.

The French Copyright Office has been organized as agent in the United States for a number of French authors and publishers. It is located at 208 Fifth Avenue, New York.

George A. D. Bridgman, publisher of the Ontario County Journal, Canandaigua, N. Y., has sold out to E. P. Gardner and W. H. Hamlin, who will continue the publication of the paper under the style of Gardner & Hamlin.

The Chemical Paper Company No. 2, of Holyoke, Mass., has been organized with Moses Newton as president, James Kirkham vice-president, and George C. Gill treasurer. It owns and will operate the mill formerly run by the Winona Paper Company.

The copartnership between E. Parke Coby as general and William H. Baker as special partner, under the firm style of E. P. Coby & Co., printers and stationers, New York, and which has just expired by limitation, has been renewed for a term of five years, ending June 1, 1896. The capital contributed by the special partner is \$15,000.

The copartnership existing between Samuel Huntington, George W. Whitney and Hobart J. Shanley under the firm name of S. Huntington & Co., at Burlington, Vt., has been dissolved by mutual consent, Samuel Huntington having sold his interest and good will in the book and stationery business. Either of the old firm will sign in settlement of old business. The business will be continued at the old stand by George W. Whitney and Hobart J. Shanley under the firm name of Whitney & Shanley, who will assume all liabilities of the old firm and will collect all accounts due it.

Failures.

S. H. Willey, printer, Pittsburg, Pa., is in the hands of the sheriff.

The mortgagee is in possession of the stock of J. S. Crew & Co., booksellers and stationers, Lawrence, Kan.

Albert Burnton, bookseller and stationer, at No. 49 Sixth avenue, New York, has made an assignment to William L. Snyder. He had been in business there for over twenty years, and succeeded Burnton & Corey on April 1, 1880.

Deputy Sheriff Tracy has taken possession of the store of Wm. J. Emmerich, importer of paper hangings at 92 Chambers street, New York, judgment for \$5,146 having been entered against him in favor of L. Emmerich. He was a partner for five years in the firm of F. J. Emmerich & Son, withdrew February 12, 1889, and started for himself, representing several European houses.

The schedules of Samuel Booth and John A. Snook, composing the firm of Samuel Booth & Co., printers, New York, were filed in the Court of Common Pleas this week. They show liabilities of \$29,737; nominal assets of \$146,842.89, and actual assets of \$5,379.26. The assets are made up as follows:

Table with 2 columns: Item, Value. Includes Outstanding accounts, Printed bills, Cuts, Presses, Type, etc.

The outstanding accounts, which are mainly small in amount, but are many in number, are against theatrical and circus people who have for the most part failed. The great majority of the claims are returned as "uncollectable." The printed bills are circus and theatrical posters, useful only to the people for whom they were printed. The creditors whose claims are over \$100 are: Geo. Mather's Sons, \$331.40; J. G. Lightbody & Co., \$755.47; J. W. Fleck & Son, \$723.32; L. G. Wemyss, \$137.07; M. R. Kunkley, \$612.23; John Maguire, \$145; L. H. Gein, \$160.10; Charles Craske, \$442.97; Bingham, Daley & O'Hara, \$153.70; Edwin Flower, \$239.95; J. De Beauvais, \$179.84; Thomas & Wylie, \$122.25; Frank A. Gardner, \$404.70; Charles E. Johnson & Co., \$3,083.56; J. H. Gerdes, \$290; Sinclair & Valentine, \$1,378.79; Estate of Calvin Stevens, \$1,589.24; George H. Morrill & Co., \$6,172.55; Perkins, Goodwin & Co., \$1,858.07; Woolworth & Graham, \$2,660.41; H. Behr, \$305.25; Molleson Brothers, Company \$169.98; Union National Bank, \$4,524.75; Nassau Bank, \$1,250; J. J. Nathans, \$500; John B. Snook, \$789.

M. Fitzgibbon & Co., dealers in strawboards, 81 Crosby street, New York, and the Boonton Paper Company, Boonton, N. J., are in financial difficulties. The members of the firm at both places were Maurice Fitzgibbon and George F. Barcalow, the latter succeeding to the interest of Culver Barcalow, a relative, who up to the time of his death was Mr. Fitzgibbon's

partner. The New York store is now in possession of G. F. Cook, attorney for H. M. Gaston, executor of the estate of Culver Barcalow, while the mill is shut down and in possession of the sheriff under a judgment taken by the estate, the New York property having passed to the estate by a bill of sale. The estate of Culver Barcalow is a creditor for about \$60,000, which amount will be reduced by the value of the New York property and whatever may be realized by the sale of the mill. Mr. Cook, when spoken to about the matter, said: "We have taken possession of the business under a bill of sale. I do not know where either Mr. Fitzgibbon or Mr. Barcalow is. The mill is now in the hands of the sheriff, under a judgment taken by the estate for money loaned. I do not know what will be done with this business or the mill." J. C. Shaw, the counsel for the estate, corroborated this statement, and added: "The firm had either the option of making an assignment with preferences or of turning over its property to those creditors which it would have preferred. It took the latter course, and my client, the estate of Culver Barcalow, to which \$60,000 was owed, has taken the business, and the mill is in the sheriff's hands under our judgment. I do not know anything about Mr. Fitzgibbon's affairs, but I do not believe the other creditors will get a cent. They, however, I understand, are not large in amount or number." On May 18 of this year the firm made the following statement:

Table with 2 columns: ASSETS, LIABILITIES. Includes Book accounts, Bills receivable, Cash on hand, Machinery, Building, Dams, raceways, etc., Stock in New York store, etc.

In Town.

G. K. Baird, Lee, Mass.; H. M. Whitney, Boston, Mass.; A. F. Heath, Middle Falls N. Y.; H. S. Van de Carr, Stockport, N. Y.; James Ramage, Monroe Bridge, Mass.; George West, Ballston, N. Y.; F. W. Curtis, Newark, Del.

Lockwood's Directory of the Paper and Stationery Trades is an invaluable guide to first hands and a reference book of great usefulness. The seventeenth annual edition, 1891-2, is now ready for distribution. Orders will be filled according to date of receipt, at \$2 per copy.

Market Review.

OFFICE OF THE PAPER TRADE JOURNAL, FRIDAY, JULY 10, 1891.

THE MONEY MARKET.—The stock market is dull and the majority of moving shares closed at lower figures. The loan market was unchanged. Call loans on stock collateral were made at an average rate of 2@2½ per cent. Time loans were firm on the basis of 4½ per cent. for short terms and 5½@6 per cent. for six months or longer. Commercial paper is quoted as follows:

Table with 3 columns: Double named, Single named, Sixty days, Four months. Includes First class, Good, Not so well known.

The market for sterling was extremely dull, but a shade firmer, though quotations were practically unchanged. The supply of commercial bills continues fair. Posted rates closed at \$4.85@4.86 for sixty days' and \$4.87½ for demand. Rates for actual business were as follows: Sixty days' sight, \$4.84½ @ 4.85; demand, \$4.86½ @ 4.87; cables, \$4.87½; commercial, \$4.83½. Continental bills were quoted as follows: Francs, 5.21¼ and 5.18½; reichsmarks, 95 and 95 11-16; guilders, 40¼ and 40½. Government bonds were steady but quiet.

THE PAPER TRADE.—The month opened very quietly in the paper market, and local circles do not show a great deal of activity. While there is not a great deal of snap to trade, the figures at the end of each month aggregate well, and the six months' business will, in all probability, show progress as compared with the first half of last year. There is nothing of special interest in the market. The Winona Mill at Holyoke, under its new management, is again in operation, and the Ivanhoe Mill, which has so long lain idle, has been started up on Tissues and Copying papers. Makers of Writing, News and Manilla are busy. Book mills are rather slack, Strawboards are in very fair call and Straw Wrappings are in average demand.

JUTE BUTTS.—Business continues light and quotations are unchanged, small sales

being made at 1.17½@1.20c., time. The statistical position, as given by Cabot, Ray & Co. in their July circular, is as follows: Imported to the United States in 1888, 457,884 bs.; 1889, 412,689 bs.; 1890, 481,071 bs. Consumed in the United States 1888, 389,684 bs.; 1889, 417,889 bs.; 1890, 496,994 bs. Stock on hand, Boston and New York, January 1, 1891, 50,250 bs. Imported, New York and Boston, since January 1, 1891, 394,753 bs.; 1890, 248,519 bs.; 1889, 302,744 bs. Stock, New York and Boston, July 1, 1891, 65,506 bs.; 1890, 73,507 bs.; 1889, 156,000 bs. On passage for United States June 22, 1891, and by cable to June 30, 1891, 141,653 bs.; 1890, 189,650 bs.; 1889, 89,761 bs. Visible supply to November 1, 207,159 bs.; 1890, 263,157 bs.; 1889, 245,761 bs. Consumption since January 1, 1891, 379,497 bs.; 1890, 241,185 bs.; 1889, 217,444 bs. Delivered to consumers past thirty days, 52,287 bs.; 1890, 23,259 bs.; 1889, 73,780 bs. The same circular adds: "Market past thirty days has shown more strength and has slowly and gradually advanced in paper quality. Calcutta prices have been high and fully maintained with light shipments. New crop reports are meagre yet. We quote spot 1.20c. for paper, mixing 1 5-16c. Shipments from Calcutta for the month, 17,000 bs. Spot stock, 36,547 bs. paper quality; 28,959 bs. mixing quality. Deliveries past thirty days have been: Bagging manufacturers, 34,600 bs.; paper manufacturers, 25,132 bs.

WOOD PULP.—The market is not active at the moment, but prices still range from 1.15@1.25c. delivered. The arrivals this week included 21 tons of ground wood from Antwerp.

WOOD FIBRE.—There continues a fair call for Chemical Fibres and prices are about stationary. Domestic Soda Fibre ranges from 3½@3¾c. for Bleached. Domestic Sulphite is moving at 2.90@3¼c., for Unbleached and 3¼c. for Bleached. Foreign grades are quoted as follows: Unbleached lino, soda process, 2.65@3.05c.; Bleached, same process, 3¼@3.90c.; Unbleached, sulphite process, 2½@3.35c.; Bleached, do., 3.90@4¼c.; Bleached Straw Pulp, 4@4¼c. Imports this week aggregated 108 tons, being 107 tons from Hull and 1 ton from Liverpool.

FOREIGN RAGS AND PAPER STOCK.—The call for foreign rags has not improved to any extent, and nearly all importers and dealers report business as quiet. Imports for the week aggregated 2,156 bales and 129 tons, being 421 bs. rags, 97 bs. papers, 108 tons chemical fibre, 21 tons ground wood and 1,638 bs. manillas. Ports of shipment and quantities are as follows: Antwerp, 21 tons ground wood; Bristol, 58 bs. manillas; Dublin, 64 bs. papers; Dundee, 815 bs. manillas; Glasgow, 25 bs. rags; Ghent, 290 bs. rags; Hamburg, 129 bs. manillas; Hull, 107 tons chemical fibre; Liverpool, 85 bs. rags, 328 bs. manillas; London, 21 bs. rags, 33 bs. papers and 308 bs. manillas.

DOMESTIC RAGS.—There is not much life to the market and transactions are small and infrequent. Prices, however, hold their own very well considering the circumstances.

BAGGING, &c.—There is almost nothing doing in the market for Gunny Bagging. Goods are being offered at 1.10c. for shipment, but no sales are reported. Ropes and Threads are quiet. Manilla imports for the week aggregated 1,638 bales, being 58 bs. from Bristol, 815 bs. from Dundee, 129 bs. from Hamburg, 328 bs. from Liverpool and 308 bs. from London.

OLD PAPERS.—The call for papers is not brisk, but prices are pretty regular for good packings. We quote: No. 1 Hard White Shavings, 3¼@3¾c.; No. 1 Soft White do., strictly free from wood, 2.80@2.90c.; Soft White do., ordinary, 2½@2¾c.; Old Ledgers, 2½c.; Solid Printed Books, 1.60@1.70c.; Mixed Shavings, No. 1, 1.30@1.35c.; Mixed Shavings, No. 2, 1@1¼c.; Extra No. 1 Manillas, 1.40c.; No. 1 Manillas, ordinary, 1.20c.; No. 2 Manillas, .90@1.05c.; Light Book Stock, ½@.60c.; Folded News, 60@.65c.; Commons, .40c.; Bogus Manillas, 60@.90c.; Straw Clippings, 55c.; Binders' do., 50c.

STRAW.—Straw is inactive and prices are almost nominal. We quote: No. 1 Rye at 75@80c., Short Rye at 55@65c., Oat at 45@50.

ROSINS.—Prices are easy on limited demands. We quote in lots from the yard: Common to Good Strained, \$1.62½@1.67½; E, \$1.80; F, \$1.90; G, \$2; H, \$2.50; I, \$2.75; K, \$3.05; M, \$3.25; N, \$3.40, and W. G., \$3.50.

CHEMICALS.—The market for paper makers' chemicals is quiet and without any special features. Under date of June 26 Peter R. McQuie & Son speak as follows of the Liverpool market: "Since our last issue we have had severe thunder storms, which have cleared the atmosphere and rendered business more amenable to the views of buyers and sellers. Independent of the stoppage of several chemical works for

extensive reorganization, the output from the remaining manufactories has certainly been reduced, owing to the prevailing heat, which, added to the normal temperature of alkali works, has affected the energies of the 'British workman;' and we are not surprised. The contemplated advance in duty of about 30 per cent. on Caustic Soda and Bleaching Powder by the Russian Government has stimulated orders, and temporarily the demand is quite up to the production. Soda Ash is also firm and comparatively in short supply, while Bleaching Powder is now virtually in the hands of the 'union,' the resellers having been enabled to clear out a large proportion of their early contracts at profitable figures. We quote as follows: Bleaching Powder, £7 per ton, hardwood. Soda Ash—Ammonia Alkali, 58 per cent., £6 7s. 6d.@6 10s. per ton, net cash; Carbonated, 48 per cent., £5 7s. 6d.; 58 per cent., £6 7s. 6d.@6 10s. per ton, net cash; Caustic, 48 per cent., £5 2s. 6d.; 58 per cent., £6 4s. per ton, net cash. Caustic Soda—Quotations unchanged, with a firm market. Salt Cake (ground and packed in casks), 54s. per ton, net cash. Soda Crystals, £3 5s.@3 7s. 6d. per ton, according to quantity." In the local market the spot supply of Bleaching Powder continues to be very limited, and sellers' views are firm. Caustic Soda Ash, 48 per cent., is not wanted except in a limited way, but values are steady. There is a fair call for Alkali, but Caustic Soda is dull. Prices, however, are regular and are no lower. Sal Soda is in moderate call at steady rates. During the week there have been sales of 100 cks. Bleaching Powder at 1.80@1.85c.; 200 tons Soda Ash at 1.60@1.70c.; 100 tons 58 per cent. Alkali at 1.45@1.50c.; 100 drums 70 to 74 per cent. Caustic Soda at 3.10c.; 200 bbls. Natrona Porous Alum at 2¼c.; 50 bbls. Ground Alum at 1.75c.; 50 bbls. Lump Alum at 1.65c.; 100 bbls. Keystone Alum at 1¾c.; 10 cs. German Ultramarine at 16¼c.; 10 bbls. American Ultramarine at 12¼c.; 5 cs. Brown Sugar of Lead at 7c.; 25 tons Sal Soda at 1.10c.; 5 cks. Bichromate of Potash at 10c.; 5 cks. White Sugar of Lead at 12c.

CHINA CLAY.—The demand for high grades has shown a little falling off from the comparative activity of the month past, but this is no doubt attributable to the breaking up of the month by holidays, &c. Low grade goods are even more affected proportionately than are the higher grades. Quotations remain unchanged at our former figures.

TWINES.—There is a fair business being done and prices are regular. Quotations are as follows: Cordage—Manilla Rope, half inch, 10½c.; Sisal Rope, half inch, 7c.; New Zealand Rope, half inch, 6½c.; Jute Rope, half inch, 5½c.; Sisal Hay Rope, 6¾c.; Sisal Lath Yarn, fine, 6¼c., and medium, 5¾c.; Jute Lines, 5½@6c.; Jute Ready, 5¾@7c.; New Zealand Hay Rope, 6¼@7¼c.; New Zealand Lath Yarn, fine, 5½c., medium, 5c. Twines—Hemp, 4½ and 6 B Russia, 12c.; 4½ and 6 A American, 12c.; 4½ and 6 D Jute, 8c.; 4½ and 6 L Jute, 10½c.; Hemp Ball, 18 B C, 17c.; 18 C, 15c. Russian Hemp Hay Rope, 8½c.

COAL.—The market generally is quiet. Advices from the Northwest state that there is no relief from the dullness of the past few weeks, and that the small interest which existed in Anthracite a month ago has passed, and with the reasonable probability that prices will not change during the month all ideas of purchase have been laid aside by dealers until an advance in price or the opening of the domestic demand forces the subject upon them. Chicago advices are that there appears to be a feeling of relief that June is gone and over with, for it was readily seen early in the month that the coal trade was to be poor, and there was constant anxiety as to how it was to be got through with. Milwaukee reports that no advance for July was made on car prices, and the present condition of affairs promises to continue until toward the end of the month. Boston advices are that everything is very dull; the recent advance in circular has had little effect; coal can be bought for immediate shipment at prices rather favorable to the buyer. At Philadelphia there is nothing doing, in spite of the meeting at New York and its aftermath; the advance has had no effect whatever; it is not expected that there will be much business this month. It is the belief of well informed operators that the trade will continue dull until the middle of August, but after that time an improvement is expected and an excellent fall and winter business is anticipated. At New York traffic is not large at any price, and one can hardly look for any great demand for coal this month; there is no lack of supply with the majority of the retailers, and until they begin to move off this tonnage it cannot be expected that there will be any particular "snap" to the business. It is not saying too much, however, to report that prices are held in decidedly better shape than they were a year ago.

EDWIN BUTTERWORTH & CO., MANCHESTER, ENGLAND. PACKERS OF ALL KINDS OF Paper Stock, Cotton Waste and Buffalo Sizing, Wood Pulp, Moist and Air Dry Pulp, Soda and Ground Pulp. 83 GUNNY BAGGING, &c., OFFICE IN NEW YORK: Tract House, 150 Nassau St., near Tribune Office, JAMES FIRNIE, Manager.

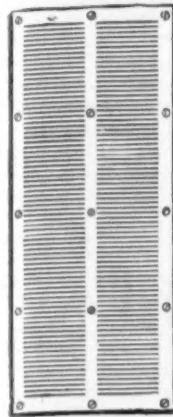
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PRICES CURRENT. NEW YORK MARKET.

Table with 2 columns: Paper Market, Dealers' Selling Prices. Includes Ledger and Record, Flat Caps, Blotting, Book, super sized and calendered, News, rag and wood, Hanging, machine satin, Hanging, white blank, No. 1, Hanging, curtain, Hanging, brown, Colored papers, double medium, Colored papers, glazed medium, Colored papers, tobacco, Colored papers, tissues, 20x30, 1/2 ream, 1.10 @ 1.20, Tissues, black, 20x30, 1/2 ream, 1.40 @ 1.50, White tissue, 20x30, 1/2 ream, .85 @ 1.00, White tissue, 24x36, 1/2 ream, 1.20 @ 1.40, Manillas, Flour sack, cream, 10½ @ 12, Manillas, Flour sack, drab, 9½ @ 11, Manillas, Rope, unbleached No. 1, 9½ @ 11, Manillas, Rope, unbleached No. 2, 7½ @ 9, Manilla, No. 1, light weight, 6½ @ 8, Manilla, No. 1, heavy weight, 6½ @ 8, Manilla, No. 2, 5 @ 6, Manilla, Bogus, 3½ @ 4, Wrapping Parchment, 16 @ 20, Tissue Manilla, full count, weight and size, 84x25, other sizes in proportion, 75 @ 80, Hardware, light colored, No. 1, 9 @ 10, Hardware, No. 1, glazed, tarred, 7 @ 8, Hardware, No. 1, glazed, 4½ @ 5, Binders' Boards, 1/2 ton, No. 1, 70.00 @ 80.00, Binders' Boards, 1/2 ton, No. 2, 40.00 @ 50.00, Strawboards, air dried, No. 1, 1/2 ton, 45.00 @ 50.00, Strawboards, steam dried, XXX, 1/2 ton, 31.00 @ 32.50, Strawboards, steam dried, XX, 1/2 ton, 29.50 @ 30.00, Strawboards, air dried, Penn., 1/2 ton, 35.00 @ 40.00, Strawboards, air dried, State, 1/2 ton, 27.50 @ 30.00, Straw Wrapping, basis, 18x30, 15½ lbs., 30 sheets, 90 @ 100, 30x40, from 38 to 42 lbs., 1/2 ream, 90 @ 100, 30x40, from 34 to 38 lbs., 1/2 ream, 80 @ 90, 22x32, from 34 to 38 lbs., 1/2 ream, 54 @ 60, 20x30, 21 lbs., 1/2 ream, 45 @ 46, 20x30, from 14 to 17 lbs., 1/2 ream, 36 @ 40, 16x22, from 13 to 15 lbs., 1/2 ream, 27 @ 30, 18x28, 10 lbs., 1/2 ream, 25 @ 28, 15x20, from 7 to 8½ lbs., 1/2 ream, 18 @ 20, 14x18, 1/2 ream, 15 @ 18, 12x16, 1/2 ream, 14 @ 16, 11x15, 1/2 ream, 12 @ 14, Straw Wrapping, 1/2 lb., heavy weight, 1.75 @ 1.85, Straw Wrapping, 1/2 lb., light weight, 1.50 @ 1.60, Cigarette Straw Tissue, per case of 100 boxes, 50 books to the box, 300 sheets to the book, 21.00 @ 30.00, Tea Papers, 16 sheet quires, 14x20, 18 @ 20, 14x30, 22 @ 25, Card Middles, ground wood, 5½ @ 6½, Card Middles, long fibre wood, 8½ @ 9, Card Middles, rag and wood, 6 @ 9, Wood fibre, bleached, 3½ @ 4, Wood fibre, unbleached, 3½ @ 4, Pulp Lined Boards, single manilla, No. 1, 100 and heavier, 68.50 @ 70, Pulp Lined Boards, double manilla, No. 1, 100 and heavier, 47.50 @ 50, Woolen Rags, Comforter Stock, 8 @ 9, White Woollens, 9 @ 10, Blue Gray Stockings, 7 @ 8, White Stockings, 15 @ 16, Blue Flannels, 6 @ 7, Reds, old, 7½ @ 8, Read new Shag Clippings, 20 @ 21, Mixed Sofas, free of Carpets, 7½ @ 8, Seamed Cloth, 3½ @ 4, Skirted Cloth, 2½ @ 3, New Cloth Clips, 6 @ 6½, Hard White Shavings, clean stock, 2½ @ 3, Satinets, old, 1½ @ 1½, Seams, 1½ @ 1½, Delaines, stripped for extract, 2½ @ 3½, Blankets, Woolen, 2½ @ 3½, Wool carpets, 4 @ 4½, Mixed carpets, 4 @ 4½, White Linseys, 3 @ 3½, Mixed Linseys, 1½ @ 2, Rags, Rope and Bagging, White Shirt Cuttings, No. 1, 8½ @ 9, Mill Assorted Whites, 8 @ 9, Unbleached Muslins, 5½ @ 6, City Whites, No. 1, 3½ @ 4, New Seconds, light, 3½ @ 4, No. 2, Whites, 2 @ 2½, Cotton Canvas, No. 1, 3½ @ 4, Linen Canvas, No. 1, 3½ @ 4, Country White Rags, 5 @ 5½, Gunny Bagging, No. 1, 1½ @ 1½, Gunny Bagging, No. 2, 1½ @ 1½, Burlap Bagging, No. 1, 1½ @ 1½, Kentucky Hemp Bagging, 3½ @ 4, Hemp Twine Stock, 1½ @ 1½, Jute Waste, 1½ @ 1½, Shavings and Old Paper, White Collar Cuttings, 2½ @ 3, White Envelope Cuttings, 3½ @ 4, Hard White Shavings, No. 1, 3½ @ 4, Soft White Shavings, No. 2, 1½ @ 1½, Mixed Shavings, part white, 1½ @ 1½, Ledger and Writing, 6 @ 8, Solid Stock, 1.00 @ 1.65, Book Stock, No. 1, light, 1½ @ 2, Old Wrappers, 1½ @ 2, Imperfections, 1½ @ 2.

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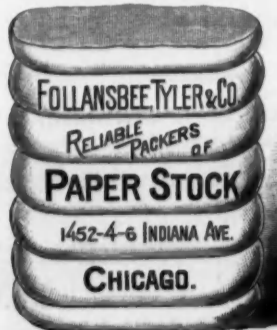
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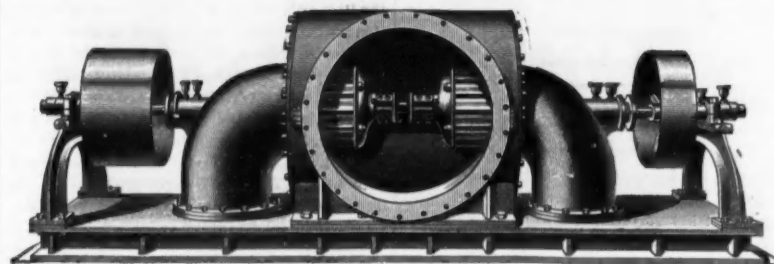
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THE above engraving represents a pair of 12 inch **VICTOR TURBINES** arranged on a horizontal shaft, with Cast Iron Flume, Draft Tubes, End Bearings for Shaft, and Driving Pulleys complete, all mounted upon a substantial cast iron bed plate. The entire arrangement is very complete and strictly first class in every particular. We are now prepared to furnish Victor Turbines either single or in pairs on horizontal shafts and where the situation admits of their use we recommend them.

UPRIGHT or HORIZONTAL.

In use in a large number of best Paper and Pulp Mills in this and other Countries.

Possesses more than Double the Capacity of ordinary Water Wheels of same Diameter, and has produced the Best Results on Record, as shown in the following tests at Holyoke Testing Flume:

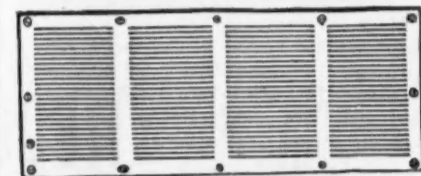
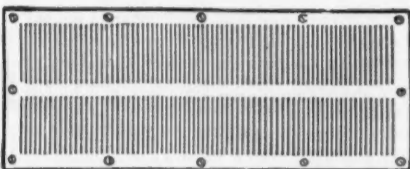
SIZE WHEEL.	HEAD IN FEET.	HORSE POWER.	PER CENT. OF USEFUL EFFECT.
15 inch.	15.00	30.17	.8632
17 1/2 inch.	17.96	36.35	.8680
20 inch.	18.21	49.00	.8532
25 inch.	17.90	65.62	.8584
30 inch.	11.85	72.54	.8676
35 inch.	17.29	133.19	.8497
40 inch.	16.49	148.98	.8253
48 inch.	15.51	179.29	.8202

Such results, together with its nicely working gate and simple, strong and durable construction, should favorably commend it to the attention of all discriminating purchasers.

THESE WHEELS ARE OF VERY SUPERIOR WORKMANSHIP AND FINISH. THE VICTOR WHEEL HORIZONTAL SHAFT, DISPENSING ENTIRELY is particularly adapted to setting on WITH GEARS.

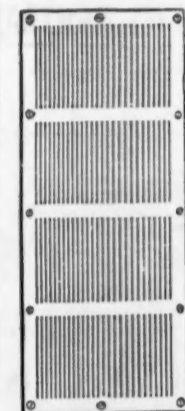
STATE YOUR REQUIREMENTS AND SEND FOR CATALOGUE TO THE
STILWELL & BIERCE MFG. CO., DAYTON, OHIO, U. S. A.

ANNANDALE Screen Plate Co.,
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Manufacturers and Repairers of
SCREEN PLATES.

Our new Plates are made of the **VERY BEST METAL,** and for price and durability cannot be surpassed.
OLD PLATES RE-CLOSED.



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21 Main St., FITCHBURG, MASS.,

MANUFACTURER OF

Screen Plates

OF BRASS OR CAST METAL.

AT PRICES

THAT CANNOT BE SURPASSED.

BEST STOCK USED.

Old Plates Bought.



BROWNVILLE IRON WORKS,
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MANUFACTURERS OF THE
Gotham Centrifugal Pump,

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AND
PAPER AND PULP MILL WORK.

WRITE FOR PARTICULARS.

THE LAWRENCE MACHINE CO.,
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MANUFACTURERS OF
Centrifugal Pumps,

STEAM ENGINES,
GENERAL MACHINERY,

Phosphor Bronze and
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PUMPS and VALVES

For Pulp and Paper Mills.

Send for Catalogue D and Discounts.

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MACHINERY CO., 49 Day St., New York
Chicago, Ill.

APPROVED APPLIANCES FOR

Elevating and Conveying : : : :

Logs, Chips, Reclaimed Ash, Straw, Coal, &c.,

AND FOR THE TRANSMISSION OF POWER,

—EMPLOYING—

Link Belting, Dodge Chain, Manilla Ropes

—AND—

The "Link Belt" Friction Clutch.

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(Successors to KREIDER, CAMPBELL & Co.),
1030 Germantown Avenue, Philadelphia, Pa.

W. H. RUSSELL'S SAND WASHER,
An improvement in Washing Engines.

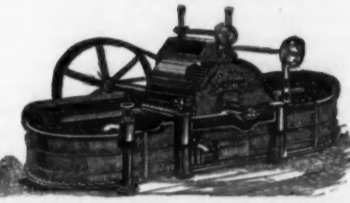
MACHINISTS and MILLWRIGHTS.

Manufacturers of Beating and Washing En-
gines, Pumps, Rag Dusters, and Paper
Mill Work in General.

MILLWRIGHT WORK A SPECIALTY.

ALSO, MAKERS OF

Improved Cylinder and Fourdrinier Machines.



GEO. S. BARTON, Treas. CHAS. S. BARTON, Pres. LEWIS C. STONE, Manager.

RICE, BARTON & FALES MACHINE AND IRON CO.

(At Old Stand of Rice, Barton & Co.,)

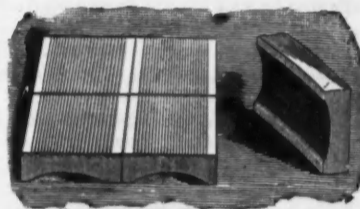
WORCESTER, MASS.,

—MANUFACTURERS OF—

PAPER MACHINERY,

HILL'S PATENT SQUARE AND DIAGONAL CUTTERS,
Iron and Brass Castings, Chilled Iron and Paper Calendar Rolls, Rag Engines,
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HYDRAULIC PRESSES, FROM 5 TO 14 INCH PISTON.

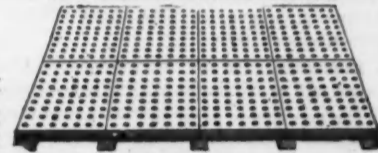


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MANUFACTURER OF

FILTERING STONES,

Under the KILBY and SNELL Patents.



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REFER TO
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ALEX. BURTEN & CO., Montreal, Can.
FATTEN PAPER CO., Appleton, Wis.
MORRISON, BARK & CASS., Tyron, Pa.
And many others.

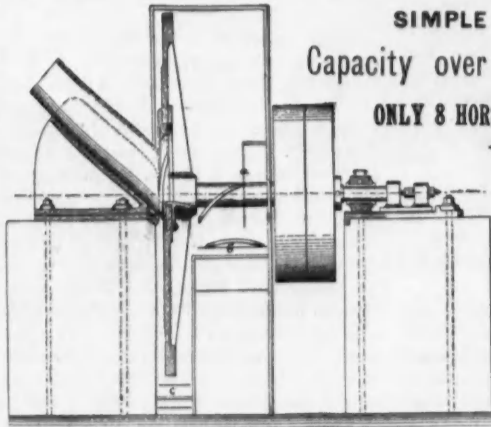
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WIGGER'S PATENT CHIPPER.

SIMPLE AND STRONG.

Capacity over 100 Cords per Day.

ONLY 8 HORSE POWER REQUIRED.



WOOD cut into diagonal disks, well opened for quick and uniform action of acid throughout; more easily and perfectly assorted; wood capacity of digester increased 20 per cent. Specially great saving of wood, sulphur, power and labor in the Mitscherlich process. Much weaker acid used and the cooking time reduced one-half.

A LARGE NUMBER SOLD.

For testimonial of efficiency we respectfully refer you to DEXTER SULPHITE FIBRE AND PAPER Co., Dexter, N. Y.

WENDLER & SPIRO,

MANUFACTURERS,

WATERTOWN, N. Y.

Manufacturing News.

EASTERN STATES.

The mill formerly owned by the Winona Paper Company, Holyoke, Mass., will soon be started up by the Chemical Paper Company No. 2.

The Colt Mill, Pittsfield, Mass., has started in on the manufacture of the new localized fibre paper, for Government use.

The Kelsea Silk Mill at Antrim, N. H., will be occupied by S. R. Robinson as a paper box manufactory.

The Alden & Woods Fibre Company, Concord, N. H., is pushing along work on its brick manufactory quite rapidly. It will turn out hay caps from wood pulp.

The Fall Mountain Paper Company, Belkows Falls, Vt., has started from Woodsville, N. H., down the Connecticut River a log drive which contains 4,000,000 feet of pulp wood.

After a long delay arrangements have been made to start the Housatonic Mill at Lee, Mass. Wellington Smith was in New Haven Tuesday, where a meeting of the men interested was held. It is probable that a partnership will be formed rather than a stock company, as heretofore planned.

MIDDLE STATES.

Manning & Peckham, paper manufacturers, Troy, N. Y., will shortly put two turbines of the newest and most improved pattern into their mill. At present an over-shot wheel is used for running the machinery.

Wilson & Fenimore, Bristol, Pa., have shut down their paper hanging factory, as usual, for two weeks during the summer. During this time an account of stock will be taken and the new building will be put in readiness for occupation.

The paper bag factory at New Hope, Pa., has been shut down for a week.

James Guie & Sons, Downingtown, Pa., have had their mill shut down for several weeks.

The Goulds Manufacturing Company, Seneca Falls, N. Y., has refitted the mill of William Barber, Fulton, N. Y., putting in its mill system. This has been in use for some time and favorable results in the economy of fuel are said to have been the consequence.

The Victoria Paper Mill, Fulton, N. Y., is being refitted by the Goulds Manufacturing Company. This is the fifth plant in which F. G. Weeks is interested to which the Gould system has been applied.

WESTERN STATES.

The Jeffrey Manufacturing Company, Columbus, Ohio, has been awarded the contract for supplying all of the chain conveyors for the new mill of the Illinois River Paper Company, at Marseilles, Ill.; also for the new mill of the Church Paper Company, Rock Falls, Ill.

Henry A. Barber lately placed one of his improved siphon suction on the paper machine furnished by the Bagley & Sewall Company to the Willamette Pulp and Paper Company, Oregon City, Ore., and it is working satisfactorily.

Excavating for the foundations of the paper mill at Salina, Kan., will soon begin.

The new tissue paper mill at Kaukauna, Wis., has started up.

Work on the new paper mill at Depere, Wis., is progressing rapidly. The brick-work on the main building is up above the windows of the first story, and the foundation of the east wing is being built rapidly. It is now stated that the Babcock & Shattuck Company intends to build another large mill building as soon as that now in process of erection is completed. The proposed building will be located on the site of the old Fox River Iron Company furnace and will extend westward from that point. Both mills will be in operation next summer.

The J. W. Sefton Manufacturing Company, Anderson, Ind., is rebuilding its plant injured by fire, and expects to be in market by September 1, in time to catch the oyster pail trade.

The Anderson Knife and Bar Works, Anderson, Ind., are running day and night, and are now arranging to put in additional grindstones, which will bring the number of stones up to eleven, but will not give time to shut down.

SOUTHERN STATES.

William M. Singerly will start up a new 96 inch Fourdrinier machine at his mill at Fairhill, Md., on Monday next.

The seventeenth annual edition of Lockwood's Directory of the Paper and Stationery Trades has been published and the work is now ready for distribution. Orders should be sent in early. Price, \$2.

American Paper Manufacturers' Association.

At the last annual meeting of this association it was voted to have a banquet this year "on the evening of the day of the convention." In accordance with this vote the third annual banquet will be held at the Grand Union Hotel, Saratoga Springs, N. Y., on Wednesday evening, July 29, 1891, promptly at 6 o'clock. Reception at 5:30.

In view of the general dissatisfaction with the quality and service of the banquet last year, the committee desires to say that the Grand Union Hotel is now under an entirely new management, who have given every assurance that they will do all in their power to make the banquet this year a memorable one, both in excellence of cuisine and in efficiency of service.

Prominent speakers are expected and will be announced later in the columns of the trade journals as soon as the list is completed.

Tickets will be necessary for admission to the banquet; price \$5 each.

Parties desiring to secure seats at the table where they will be together must notify the committee and obtain tickets by 12 o'clock noon on the day of the banquet.

In order to enable the committee to complete arrangements necessary for the best results it is important that they should be informed on or before July 25 if you intend to be present and the number of tickets you desire.

WM. T. BARKER, Secretary.

Obituary.

WILLIAM A. HOUGHTON.

William A. Houghton, publisher, 31 Union square, died of heart disease and dropsy on Sunday, July 5, at his residence, No. 129 West 103d street, New York. Mr. Houghton was born at Honeoye Falls, N. Y., in 1844. He was a member of Company K, Seventeenth Regiment, during the war and attached to the Signal Service Corps. Subsequently he was a member of General Sheridan's staff. At the close of the war Mr. Houghton moved to Sacramento, Cal., where he conducted a book and stationery business. While there he entered the State militia, becoming a colonel of one of the regiments. Mr. Houghton afterward served on Governor Perkins' staff. He moved to this city seven years ago and began the publication business at No. 31 Union square. Mr. Houghton was a member of Republic Lodge, F. and A. M.; also a member of Kadosh Commandery, Knights Templar, of Philadelphia. He leaves a widow. The interment took place on Wednesday at Woodland Cemetery, Philadelphia.

William I. Harris, formerly sporting editor of the Boston Globe and the New York Press, and recently of the New York Mail and Express, died at his home, 372 Manhattan avenue, on July 7. He had been sick for about a year with an affection of the lungs. Last winter he took a trip to Bermuda in the hope of regaining his health. After his arrival home in the spring he failed rapidly. In spite of his poor health he worked up to a few days ago. Mr. Harris was born in Washington in 1857. He began his career as a journalist in Boston about ten years ago. He made quite a reputation as a sporting writer, and was regarded as an authority on all matters pertaining to baseball. Mr. Harris leaves a widow, but no children.

James Marshall, formerly superintendent of the mill of the Turner's Falls Paper Company, Turner's Falls, Mass., died on July 5. He leaves a widow and four children.

W. L. Mitchell, publisher, Hazlehurst, Miss., is dead.

Arthur Kearney, of the San Bernardino Publishing Company, publisher of the Courier, San Bernardino, Cal., is dead.

An accident on the beach just below Chelsea, N. J., on July 7, resulted in the death of George S. Harris, the founder of the well-known lithographing house of George S. Harris & Sons, Arch street, Philadelphia. Mr. Harris and his family resided in a handsome cottage at Chelsea. He had a Mrs. Bittinger, of Washington; Mrs. Dr. Schenck, of Philadelphia, and his wife out driving on the beach. When the party reached Montpelier avenue one of the pole straps broke and the team came to a halt. Mr. Harris told the ladies to step out, while he held the horses. They did so, Mrs. Schenck going forward to hold the horse which had been freed by the breaking of the strap. It was a spirited animal, and, in tossing its head, struck Mrs. Schenck's nose with the bit, badly fracturing that member and causing Mrs. Schenck to swoon. When she recovered consciousness she was taken to the cottage and medical aid summoned. In the meantime Mr. Harris led the horses through the sand, and had nearly reached his cottage when

he dropped to the ground dead. He leaves two sons, one of whom is at Harvard College. Mr. Harris was forty-seven years of age. He had amassed considerable wealth in his business, and was noted for his benevolence.

Accidents.

William Smith, head machine tender at the Moose River Paper Mill, Lyons Falls, N. Y., was instantly killed on July 1 by missing his footing and falling into a fly wheel. He was a young man, and had been married only a few weeks.

A serious accident which happened at the mill of the Anderson Paper Company, Anderson, Ind., on July 2, may prove fatal to one or more persons. A leak occurred in the high pressure natural gas regulator, and as the gas was escaping a son of A. Reynolds, the superintendent, struck a match to find the point of leakage. He found it—an explosion followed and he is thought to be fatally burned. His father, turning to his rescue, stepped into a hole in the ground and sustained serious injuries. J. C. Blake was blown 40 feet or more away, but suffered no injury other than a few bruises.

DURABILITY

In a felt is the only true measure of its cost. We make durable Felts, uniform in quality, and sell them at a reasonable price.

THE HAMILTON FELT

Is fully warranted. A trial is invited. In ordering, mention kind of stock used, quality of paper made and speed of machine.

Shuler & Benninghofen, Hamilton, Ohio.

Tariff Decisions.

The Board of General Appraisers has rendered a decision in the following case: R. F. Downing & Co. v. the Collector of the Port of New York.—The goods in contention are certain toy violins and manufactures of paper. The appraiser reports as follows: Certain paper goods and so-called violins imported prior to October 1, 1890, and returned for duty by the collector at respectively 25 per cent. ad valorem as printed matter under T. I. 384, and 35 per cent. ad valorem as toys under T. I. 425, were claimed by the importers to be manufactures of paper, dutiable at 15 per cent. ad valorem under T. I.

388, and 25 per cent. as musical instruments under T. I. 469. The appraiser reports that an inspection of the invoice shows the paper goods to be bottle caps, which bear the name of the purchaser on the top. These caps, having been made into completed articles and for a specific purpose, cannot be classified as printed matter, although they have been subjected to a process of printing. The following is the board's decision: "We find the caps in question are manufactures of paper, as claimed by the importers, and sustain their protest. The so-called musical instruments are toy violins, evidently designed and intended to be used by children as playthings. In the recapitula-

The W. S. Tyler Wire Works Co.,

CLEVELAND, OHIO,

MANUFACTURERS OF

FOURDRINIER WIRES,

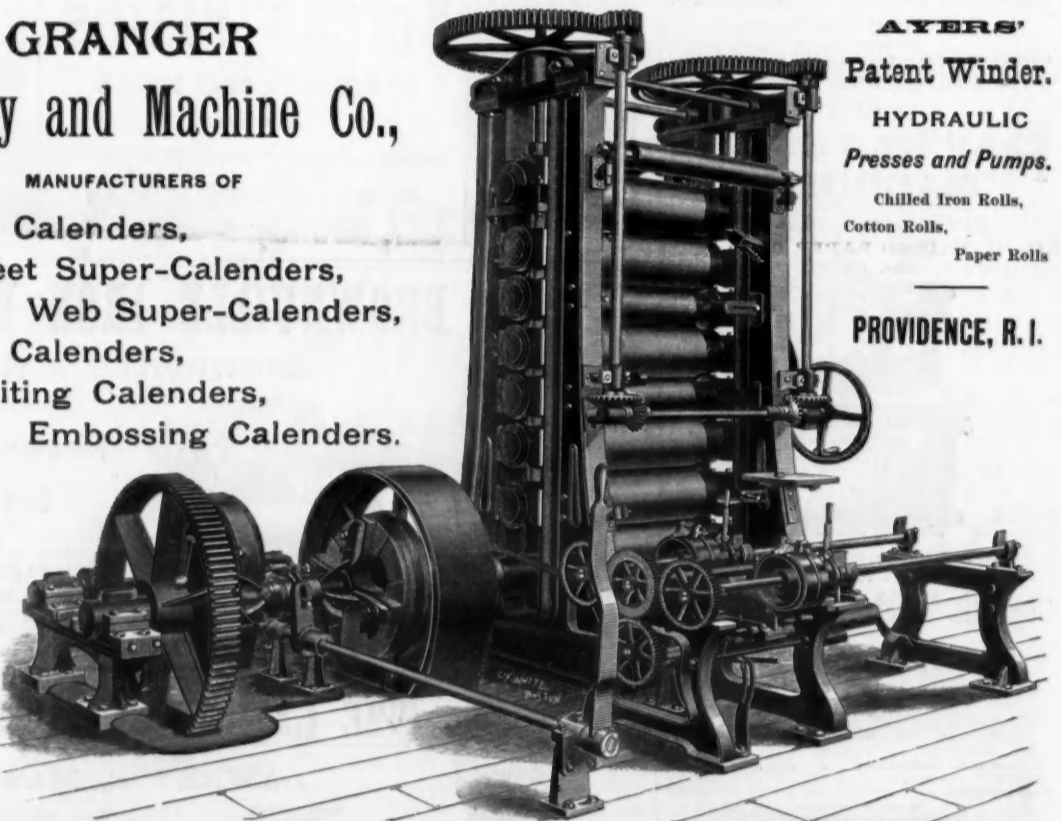
Cylinder Faces and Washer Wires.

THE MASON REDUCING VALVE
GIVES SATISFACTION WHEREVER USED
OFFICE 10 CENTRAL ST. BOSTON, MASS.

GRANGER
Foundry and Machine Co.,

MANUFACTURERS OF

Breaker Calenders,
Sheet Super-Calenders,
Web Super-Calenders,
Friction Calenders,
Plaiting Calenders,
Embossing Calenders.



AYERS' Patent Winder.

HYDRAULIC Presses and Pumps.

Chilled Iron Rolls,
Cotton Rolls,
Paper Rolls

PROVIDENCE, R. I.

THE GRINNELL AUTOMATIC SPRINKLER,



ESPECIALLY CONSTRUCTED to resist the effects of adhesive corrosion or sediment, both inside and outside the sprinkler.

ALL MOVING PARTS are joined together by the fusible solder and are lubricated by it when it melts.

A GLASS VALVE, non-corrodible, non-adhesive and impenetrable.

It retains the essential features of the original GRINNELL SPRINKLER, which has worked successfully during the past eight years in over 800 actual fires.

Officially approved and accepted by the New England Factory Mutual Insurance companies and by the Factory Improvement Committee of the New England Exchange.

For Information and Proposals apply to

PROVIDENCE STEAM & GAS PIPE CO., Providence, R. I.

OFFICES:

BOSTON, 113 Devonshire St. ST. LOUIS, 463 North Broadway. CHICAGO, 115 Monroe St.
BUFFALO, cor. Erie and Terrace Sts. CLEVELAND, 50 Euclid Ave.

AUTOMATIC FIRE ALARM AND EXTINGUISHER CO. (Limited),
413 BROADWAY, NEW YORK.
PHILADELPHIA OFFICE, 49 South Fourth Street. PITTSBURGH, 64 Fifth Avenue.

WM. A. HARRIS STEAM ENGINE CO.

(ESTABLISHED 1864)

PROVIDENCE, R. I.

(INCORPORATED 1885.)

Builders of HARRIS-CORLISS ENGINES.

Forty-Five Regular Sizes,
from 40 to 2,000 Horse Power.

ALL sizes have our new design of CROSSHEAD, PILLAR BLOCK and ENGINE FRAME, with its Heavy Intermediate Support. Also Noiseless Dash Pots, all wearing surfaces are materially enlarged and every detail has received the most careful attention, insuring ECONOMY in the use of STEAM and REGULARITY in SPEED. All oil cups are of glass, with nickel plated trimmings and sight feed, and can be filled while engine is running. We also use the BEST make of Cylinder Sight Feed Lubricator. We construct these Engines either Condensing, Non-Condensing or Compound in various forms, jacketed or unjacketed. Our Engines are adapted for use in Electric Light and Power Plants, Silk, Cotton and Woolen Mills, Flouring Mills, Lumber Mills, Rubber Mills, Paper Mills and any place requiring regular speed and an economical use of steam. Small parts are made interchangeable and kept in stock. We solicit correspondence, and when desirable personal attention will be given to location and arrangement of plants. Mention this paper when writing.

tion of the invoice they were designated as toys, and we find as a fact that these so-called violins are toys. The action of the collector as to this portion of the merchandise is affirmed."

General Notes.

The Crocker Manufacturing Company, of Holyoke, Mass., announces that it expects to make during the week or ten days succeeding July 13 "blue granite," "old gold" and "olive" papers.

S. Morgan Smith, York, Pa., has issued a new catalogue and price list of his "Success" water wheels, gearing, pulleys and other mill machinery. This catalogue also contains interesting information as to water power, setting wheels, &c.

Eugene W. Sutton announces that he will give his entire attention to the business of the New York Waste and Fibre Company, in which he has been interested for the past year, and that he will extend the scope of the company's business in various grades of paper stock.

The Robert Poole Sons Company, successor to Poole & Hunt, has completed a new machine shop at Newberry, Md., for the purpose of manufacturing heavy machinery, including heavy cut gears, &c., more especially for cable railway work. The power house is at one side of the main shop and detached from it. The power plant in this power house consists of one 50 and one 35 horse power single acting compound engine. The 50 horse power engine belts directly to the line shaft on that side of the shop, and the 35 horse power drives the electric generators both for the motor work and the lighting. A third 50 horse power engine is underneath the gallery on the opposite side of the shop for furnish-

ing power to that side. Subdivided power was clearly indicated in this plant on account of the natural subdivision of the plant of tools involved in this method of construction, doing away entirely with the quarter turn belts and underground shafting otherwise required and enabling parts of the shop to run overtime to the best advantage. The new shops of the Pennsylvania Railroad Company at Altoona also show a very complete application of the principle of subdivided power. It consists at present of two 15, one 25 and two 50 horse power "Junior" engines; two 5, one 25 and one 35 horse power "Standard"; three 35, three 65 and two 80 horse power compound engines. Steam loops and separators are freely used where necessary to protect the engine and economize fuel. The contract for the power plant was carried out by Westinghouse, Church, Kerr & Co. The same company has also completed a repair shop for local service at Walls Station, in which the same idea of subdivided power is carried out, making use of one 35, three 50 and one 75 horse power "Junior" engine. The Westinghouse engine is extensively used by this company elsewhere, there being now some fifty-five engines operated by the road in local service.

Personals.

George West will sail for Europe next week on the City of Berlin.

Eugene W. Sutton has severed his connection with Sergeant Brothers.

Jabez Partington, superintendent of the Millburn Mill, Millburn, N. J., who has been dangerously ill, has been declared out of danger.

W. H. Parsons, of W. H. Parsons & Co., who has been abroad for some time, is again

at his place of business renewed in health. He came home on the steamer Germanic.

John J. Manning will sail for Europe next Wednesday on the steamer City of Berlin.

Fires.

Fettig Brothers, paper stock dealers, Cincinnati, were damaged by fire July 4. Loss, \$3,000; insured.

At Xenia, Ohio, July 2, the paper hanging store of C. F. Cretors & Co. was burned. Stock a total and heavy loss; building saved, but considerably damaged.

At Toledo, Ohio, July 2, fire destroyed the large book and job printing establishment of the B. F. Wade Company. Loss, \$60,000; insurance, \$50,750.

The Pawtucket Glazed Paper Works, Pawtucket, R. I., were damaged by fire on July 6. Loss \$25,000; insurance, \$17,500.

Diss Fibre.

The French *Moniteur des Produits Chimiques* says:

"For a long time past a search has been made in all civilized countries for a substitute for rags, which was formerly the only material known from which paper could be manufactured. The consumption of paper having taken formidable proportions, the store of rags has sensibly diminished in all parts of Europe. Attempts have been made to substitute for rags such substances as wood pulp, straw, alfa, &c., but these, with the exception perhaps of alfa, have failed to produce any but the inferior kinds of paper.

"The manufacture of alfa for this purpose has already assumed considerable proportions in Algeria, and now another grass, related to alfa, has been discovered to pos-

sess qualities which may very advantageously be employed in the manufacture of paper. This plant is *diss*, the *Ampelodesmos tenax* of botanists.

"Caselmann and Wetterlé, of Souk Ahras, have placed before the prefecture of Constantine a request for a patent relating to a process, invented by them, by which paper pulp of great delicacy, possessing the same qualities as alfa, can be produced from *diss*. The advantage of the new material is that, thanks to the simplicity of the process to be employed, it can be manufactured in Algeria at half the price of alfa pulp manufactured in France or in England.

"The abundance of *diss* in the North of Africa would easily permit the production of from 50,000 to 100,000 tons per annum. *Diss* is found in Algeria in the Tell, the mountains, where it grows without being cultivated, while alfa is found on the high plateaux—that is to say, at a greater distance from the seaports—and in regions very much more difficult to deal with on account of the lack of water and of means of transport.

"*Diss* occupies in Algeria an area of 150 kilometres in extent, parallel to the sea. It can easily be mown with a scythe; alfa, on the other hand, requires to be picked, and the cost of this manual labor is much more considerable. Various attempts have been made in France and in England to withdraw the cellulose part of the *diss*, but hitherto without success, *diss*, once dry, becoming hard and brittle, its resinous-silicious parenchyma offering a great resistance to chemical agents. The process of Caselmann and Wetterlé allows the *diss* to be used when it is freshly mown by means of chemical products which only cost half of those which are used for the manipulation of wood,

straw or alfa. The amount of cellulose produced by *diss* is much greater than that by alfa. The following comparative table shows the price of alfa fibre and of *diss* fibre:

Alfa—In France.—Chemical products, 10 frs.; combustible, 15 frs.; total, 25 frs.

In England.—Chemical products, 22 frs.; manual labor and general expenses, 8 frs.; combustible, 14 frs. Total, 44 frs.

Diss.—(C. and W. process).—Chemical products, 5.50 frs.; manual labor and general expenses, 4 frs.; combustible, 10 frs. Total, 19.50 frs.

"These figures show the advantage of employing *diss* paste, and more especially as the latter produces a cellulose matter of excellent quality, from which can be manufactured a good paper for printing purposes, valued at a minimum price of 600 frs. the ton.

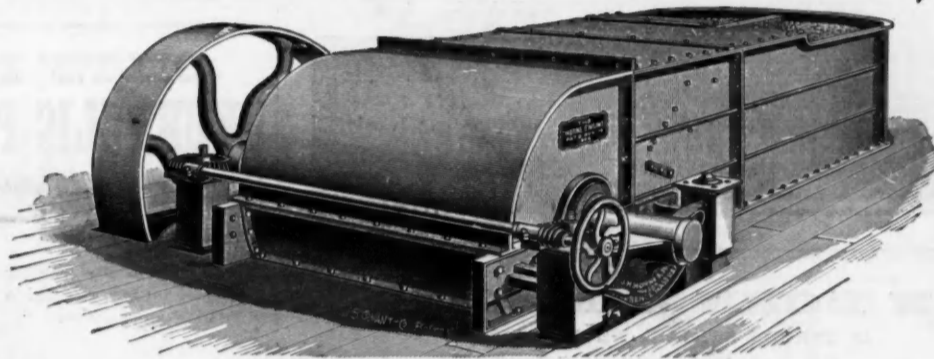
"We may therefore conclude that Algeria possesses in its *diss* a source of wealth hitherto unobserved. Caselmann and Wetterlé will be glad to supply any further information regarding the application of *diss* to the manufacture of paper to any persons interested in the subject."

The Belgian *Bulletin du Musée Commercial* for May 23 says that the Belgian consul at Bona has forwarded to the Commercial Museum of Brussels specimens of *diss* and of *diss* paste prepared for the manufacture of paper, from the factory of Caselmann and Wetterlé at Souk Ahras, in Algeria.

Lockwood's Directory of the Paper and Stationery Trades is an invaluable guide to first hands and a reference book of great usefulness. The seventeenth annual edition, 1891-2, is now ready for distribution. Orders will be filled according to date of receipt, at \$2 per copy.

THE J. H. HORNE & SONS CO., LAWRENCE, MASS.

- WESTMORELAND PAPER CO., 2
- MORRISON & CASS, 3
- P. H. GLATFELTER, 2
- INGHAM & CO., 2
- CHEMICAL PAPER CO., First Order, 1
- CHEMICAL PAPER CO., Second Order, 4
- FALL MOUNTAIN PAPER CO., First Order, 2
- FALL MOUNTAIN PAPER CO., Second Order, 1
- GEO. H. FRIEND PAPER CO., 1
- CLARION PAPER CO., 4
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- DETROIT SULPHITE FIBRE CO., 3



THE "HORNE" PATENT ENGINE.

- HALL & CO., ENGLAND, 1
- ELKIN PAPER CO., ENGLAND, 1
- LYNCHBURG PAPER CO., 2
- CATAWISSA FIBRE CO., 1
- FARLEY PAPER CO., 1
- LISBON FALLS FIBRE CO., 2
- HUDSON RIVER PAPER CO., 1
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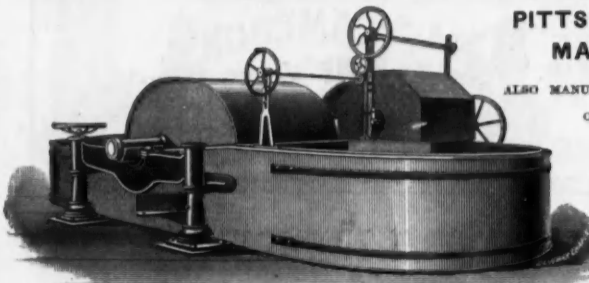
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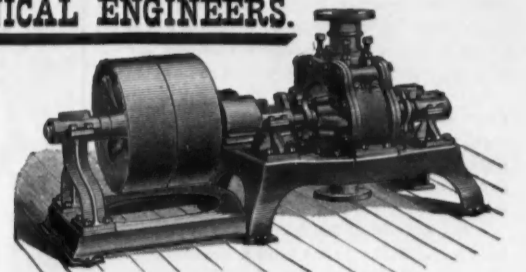
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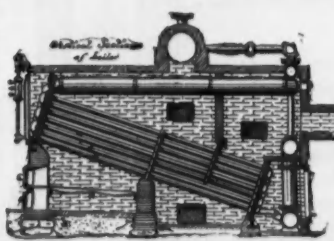
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Brass and Copper Wire Cloth of Every Description.
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New Water Tube Steam Boiler.
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Manufactured with Fittings to suit.
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Utilizing the Power of Niagara Falls.*

BY COLEMAN SELLERS, E. D.

The Falls of Niagara have always been looked upon as a wonderful work of nature and at the same time as a possible source of water power beyond anything that exists that we now know of.

Niagara itself seems to be so situated in regard to the population of the United States as to be a place to which manufacturers might naturally go as a location affording abundant railroad facilities, close to the line where cheap labor can come to the manufactories and also on the line of water communication from the great lakes themselves, and, what is of much importance, near to the great markets.

The drainage area which supplies the water to the Falls of Niagara is something enormous. It can be scarcely realized until you see the figures that have been prepared by the Government of the United States in taking cognizance of the rainfall over one of the largest rain sheds of the country, and from other data, as is shown by the following statements compiled from official records of the United States Government and published by the Cataract Construction Company, with a map showing the location and the great lakes:

"The system of the great fresh water lakes, or inland seas, which drain through the St. Lawrence River into the Atlantic Ocean, extends half way across the continent of North America.

"The water surface of these great lakes, with the land sloping into them and contributing to the Falls of Niagara, has a total drainage basin of over 240,000 square miles, equal to more than twice the area of Great Britain and Ireland, about 40,000 square miles more than the total area of France and more than fifteen times the total area of Switzerland.

"The length of the shore line of these lakes and their connecting rivers is about 5,000 miles.

"The fall of 326 feet between the water levels of Lake Erie and Lake Ontario occurs in the vicinity of Niagara Falls and is distributed as follows:

Five miles of rapids between Lewiston and lower Suspension Bridge.....	feet. 100
Rapids between bridge and the falls.....	10
Falls of Niagara.....	160
Rapids immediately above the falls.....	50
Upper Niagara River.....	6
Total fall.....	326

"The Niagara River forms the boundary between Canada and the State of New York. The Falls of Niagara are 23 miles below Lake Erie and 14 1/2 miles above Lake Ontario. At the falls the international boundary passes in the middle of the channel that forms the 'Horseshoe Falls,' which are 158 feet high and 2,600 feet wide. The other channel in the State of New York forms the 'American Falls,' which are 169 feet high at the eastern side, and 1,000 feet wide, both falls comprising 3,600 linear feet of water.

"At the falls the river turns directly at right angle and flows through a gorge, the cliffs of which are 1,100 to 1,200 feet apart, with perpendicular walls rising 210 feet above the water, which has a maximum depth of 189 feet and a width of from 800 to 900 feet.

"One mile above the falls the river has a width of 6,000 feet. The extreme limit of variation in the depth of the river above the falls is 3 1/2 feet, but this limit is very rarely reached. The ordinary variation is about 1 foot. Below the falls the extreme variation reaches 15 feet. Generally a variation of 1 foot above the falls is followed by a change of level of 5 feet below the falls. These slight changes are of short duration and are due mainly to long continued and violent wind or sudden great accumulations of ice.

"The average discharge of water at the outlet of Lake Erie into the Niagara River is estimated by some authorities at 265,000 cubic feet per second.

"The outflow of the lake basin is about half its rainfall. It has been estimated that if the average discharge of all the lakes passed through a river 1 mile wide, with a mean velocity of 1 mile per hour, such a river should have a depth of 40 feet from shore to shore.

"The volume of water in the lakes, including Lake Ontario, is about 6,000 cubic miles, of which Lake Superior contains a little less than one-half. An idea of this existing quantity of water is given by the statement that the volume is sufficient, without additional rainfall, to continue the present flow of Niagara Falls for about one hundred years, could it be generally exhausted by drainage.

"The flow of water at the Niagara Falls is for all practical purposes unlimited, never failing, constant and pure."

There are several reasons why the advantages of Niagara have never been used to

*From an address before the Franklin Institute.

(Continued on page 618.)

NEW



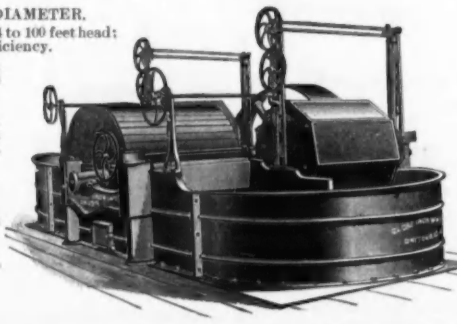
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Cast Iron or Wood Tubs. Made heavy and strong, double lightened, with well made Cone Washers.

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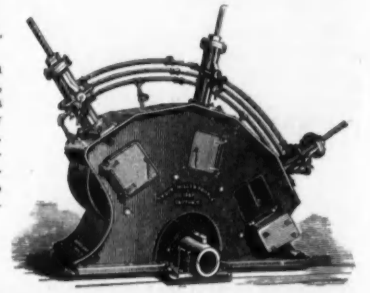
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Superior in construction to any made. Capacity, 4,000 to 6,500 pounds extra good pulp per day, dry weight, per each grinder. Hydraulic feeds, fine adjustments; strong and reliable in every way. Two and three pocket machines.

Descriptive Catalogue Sent Free.



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THOSE WHO HAVE UNSAFE ROTARY BOILERS IN USE CAN EXCHANGE THEM FOR THE Loring Patent Rotary, and can be furnished with abundant evidence that the Loring Boiler is absolutely safe, and the only safe Rotary Bleaching Boiler in use. For the production of chemically prepared wood pulp it has been found extremely difficult to make a boiler that would remain absolutely tight for any considerable length of time. I have accomplished this result by adopting modes of construction far in advance of the best methods for producing first-class boiler work, in combination with substances and methods entirely independent of boiler work, and only known to myself. I invite special inquiries in regard to my patent WOOD PULP BOILERS, patent STRAW PULP BOILERS, and Rotary Bleaching Boilers; also to my patent process for extracting water from wood and straw pulp, and to my improved Fibre or Drainer Tanks, and Fibre Valves. The common steam boilers built by the undersigned have proved more durable and safer than those of any other manufacturer in the United States. Steam boilers now in good condition that have been in constant use twenty-eight years can still be seen in use in Boston. Not one of the many thousand boilers, varying in weight from one-half to forty tons, has ever exploded or given out, to cause injury to a single person or to one dollar's worth of property, during the twenty-eight years.

HARRISON LORING, Boston, Mass.

NOTICE—I have been informed that irresponsible boiler makers have offered to build Rotary Boilers with whole wrought iron heads and a hollow journal, which would be an infringement of my patent. Such boilers will be made by the undersigned at low prices—having special tools for the work—and no extra charge made for the patent right, which would have to be paid by the user if made by an unauthorized person.

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DILTS' IMPROVED THREE AND FOUR POCKET HYDRAULIC FEED PULP GRINDER.

ADJUSTED AND FILLED WITHOUT LOSS OF TIME OR POWER.

Wet Machines and Screens.

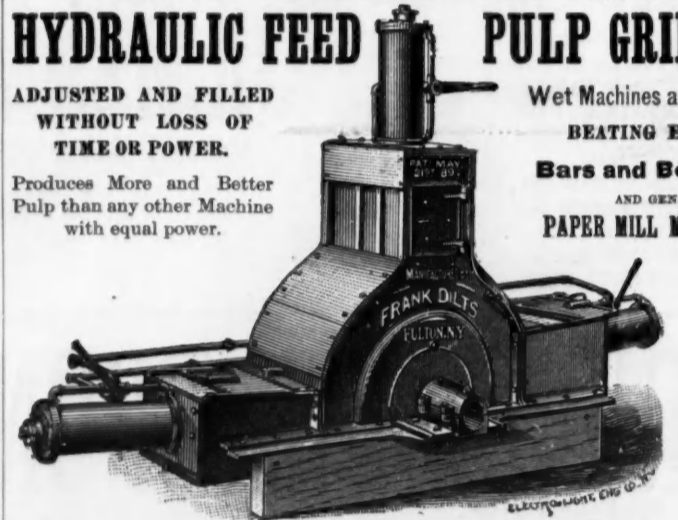
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Produces More and Better Pulp than any other Machine with equal power.



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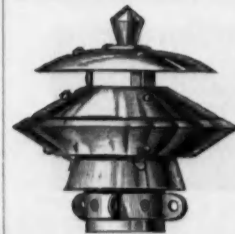
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IS THE BEST ONE MADE FOR DYE HOUSES, PAPER MILLS, AND ALL CLASSES OF BUILDINGS WHERE THOROUGH VENTILATION AND REMOVAL OF STEAM IS WANTED. PLEASE READ ACCOMPANYING TESTIMONIALS.

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Lawrence, Kan., April 22, 1891. *Enns & Enns*—We have just received the large 36 inch Ventilator, which makes the fifth. They do good work, and we can recommend them for Paper Mill use or any similar factory. LAWRENCE PAPER CO.

These Ventilators are in use on Ohio Paper Co.'s mill, Niles, Mich., and many others. For prices, &c., address the manufacturers, REARDON & ENNIS, TROY, N. Y.



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AN IMPROVED SYSTEM—GREAT ECONOMY—LARGE CAPACITY—HIGH OR LOW SPEED.
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A specialty made of the Erection of Engines, Boilers, Elevators and Shafting; also High and Low Steam Heating.

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NO OUTSIDE VALVE GEAR.
THE A. S. CAMERON STEAM PUMP WORKS.
ADAPTED FOR ALL PURPOSES.
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MANUFACTURER OF THE

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OVER 130 ALREADY SOLD.
24 IN HOLYOKE.

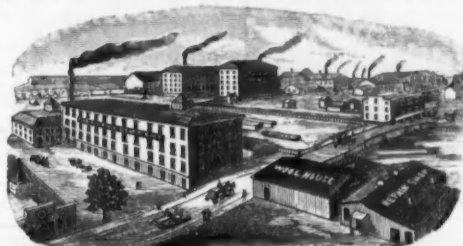
No wear, never needs priming, always gives a dry edge, and stronger and more reliable and steady suction than any double action or three plunger pump. Improved Siphon made of sufficient capacity to work all the boxes on any wide fast running Fourdrinier machine. Less water needed than to drive a pump. Also used in connection with boxes of cylinder machines, Fourdrinier wet felts and felts of wet machines. Write for testimonials and prices.

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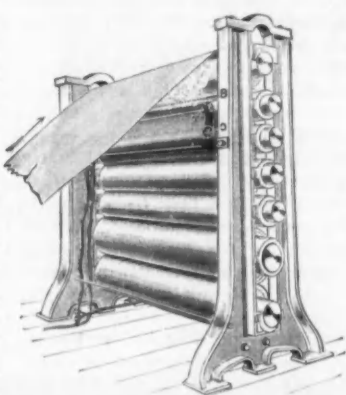
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IT IS VERY SIMPLE, EASY TO OPERATE, BUT VERY EFFECTIVE.

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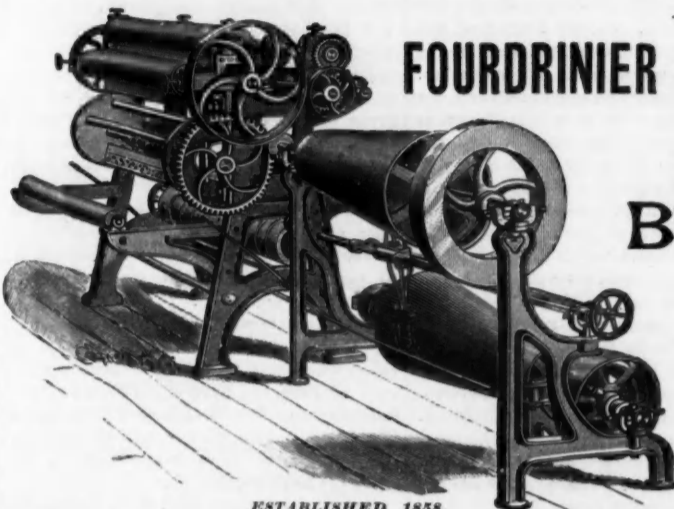
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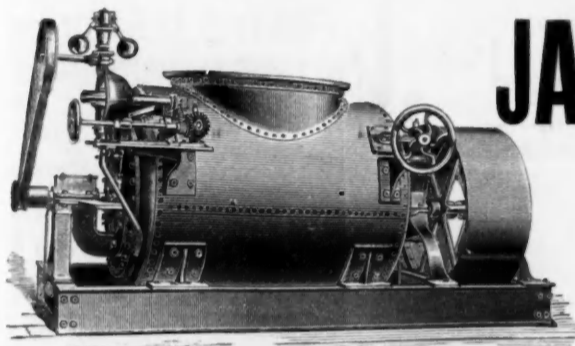
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Duration of test, two hours.
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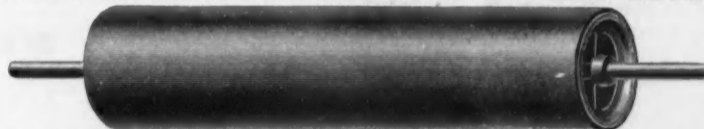
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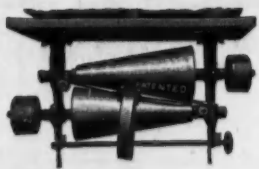
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MANUFACTURERS OF THE CELEBRATED
PENINSULA WOOD PULP GRINDSTONES
For Grinding Wood Pulp.

The grit of the stone from our Peninsula Quarry is particularly adapted to grinding Wood Pulp. All the Wood Pulp Manufacturers who have used these stones say they give general satisfaction, and are much superior to any imported stone. We manufacture stones for the following machines: The Warren-Curtis, Brokaw, Frambach, Valley Iron Works, Dayton Globe Iron Works Co., Lovvill Iron Works Co., Frank Ditts and New England, Scott & Roberts, Eilers, and all others. In sending orders please be particular to give the exact dimension the stone must be. Give the diameter and face of stone, the diameter and depth of flange, where flanges are to be cut. State size of hole for shaft, and if round or square.

THE EVANS FRICTION CONES.

For changing and regulating the speed of machines automatically or by hand.



The speed can be quickly and easily varied while the machine is running.

Address the Evans Friction Cone Co., 85 Water St., Boston.

AUTOMATIC ENGINE

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With WHEEL GOVERNOR,

Giving Economy, Perfect Regulation of Speed, Simplicity and Rigidity of Parts.

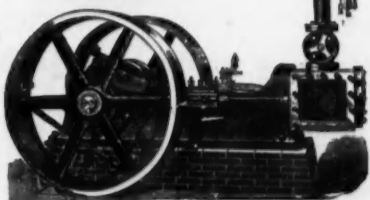
These Engines have Single Flat Slide Valve, perfectly balanced with Cover Plate, so arranged that water may escape from cylinder without accident to Engine. We have adopted the Straight Line Engine Co. Wheel Governor as being the most simple, perfect and powerful Governor yet made, giving perfectly uniform speed under varying load and steam pressure.

We also make the Porter Heavy Duty Engine, and a Complete line of Portable and Stationary Engines and Boilers.

Write for full Descriptive Catalogues and Prices before buying.

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THACHER'S Patent Belt Fasteners,

FOR Double Leather or 3 or 4 Ply Rubber.

The Claffen Mfg. Co.,
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Sole Manufacturers



(Continued from page 616.)

any great extent, the chief being engineering difficulties necessitating the expenditure of large sums of money in anticipation of the power developed being taken up.

I was in a New England town year before last spending the summer and was asked from New York to report upon the cost of transmitting power by electricity as compared to the cost of generating power by steam at any given location.

The gentlemen who had asked this question were those who had been busying themselves with the subject that had first been proposed by Mr. Evershed, one of the surveyors of New York State, who proposed developing the power of Niagara Falls on nearly the same lines now being pursued by the Cataract Construction Company for the Niagara Power Company.

I was asked to take up Mr. Evershed's scheme, and having examined it very carefully I found that it was feasible, and that if 20,000 horse power could be disposed of by rental out of the 120,000 horse power that was talked of being used, a reasonable rental would pay the interest on the investment, not only on the plant that was necessary to develop the power but also on the land that would have to be purchased. On the basis of my report, which was indorsed by other engineers, a company was formed and the money secured to carry out the scheme, Edward D. Adams, of Winslow, Lanier & Co., bankers, of New York, being made the president of the company.

Mr. Adams was in France for a short time last spring, and while there, and afterward in England, studied the mode of transmitting power that was being practiced in some of the foreign cities. Feeling impressed that it would not be wise for any large amount of money to be expended without knowing exactly what was the best method of proceeding, he sent a cable, asking me to meet him in London.

I met Mr. Adams in London in May, 1890, and found that he was more enthusiastic than ever in the scheme, but that he was impressed with the idea that as there is not enough land around Niagara to use the power proposed to be developed for the inhabitants, the operatives and the mill sites, it would be advisable to make the market larger by transmitting the power to a greater distance. With Mr. Adams I visited some parts of Switzerland and Paris; in the latter city to see the plan or system adopted by Mr. Popp, who, having introduced compressed air as a means of moving the works of the tower and other clocks of Paris, had begun to supply air to and work small motors. The enterprise has increased to such an extent that 120,000 feet of pipe has been laid through the streets of Paris and more than 10,000 horse power might be generated by compressed air at his stations to be transmitted to drive engines from 45 or 50 to 200 horse power, and down to the smallest dental machines that are used in any establishment, and also operate the cooling chambers where provisions are kept.

In Birmingham, England, extensive works had been erected and power was being successfully transmitted by compressed air. The main thing, however, was to find out what would be the best means of transmitting the power of Niagara Falls to Buffalo, &c., and to get at a knowledge of the exact state of the art of developing water power as well as transmitting the power. For that purpose it was proposed to interest Sir William Thomson and make him president of a commission to consider plans to be submitted by selected engineers.

Sir William Thomson many years ago said that the time was not far distant when the city of New York and other distant cities would be lighted from the Falls of Niagara. The city of New York is a great many miles away from Niagara, and I don't know that we are very much nearer that desirable end than we were at the time he uttered the prophecy; but at all events there is a great deal more known about transmission of power by electricity to-day than was known yesterday, or the day before. The substantial progress made in this particular branch of transmission is something which is not marked by years of progression, but by daily advance with such rapidity as to astonish the world, apart from the ideal progress in the minds of enthusiastic electricians, which is always greatly in advance of actual results. It was difficult to find men to act upon a

commission with Sir William Thomson to consider the subject, because the majority of those who were noted for scientific pursuits were already retained by one or the other of the various electrical companies, or companies for the transmission of power, and it was not very easy to get any who were free and who could act without bias in a commission of this character.

Finally it was decided to select Col. Th. Turrettini, the mayor of the city of Geneva, as the representative of Switzerland, because Colonel Turrettini was a noted hydraulic engineer, and it was he who had made and supervised the erection of all the improvements on the River Rhone, at Geneva, whereby the individually owned water wheels were swept away from the stream and the power of that river was transferred to all parts of the city by pipes, which convey the water from one central station, from improved pumps worked by turbine wheels, the water being elevated to reservoirs on the hills and brought down into the town under two different pressures suited to two different classes of use that were to be served. Colonel Turrettini had adopted this hydraulic method because the Swiss people were used to hydraulics. They looked upon their mountains and the streams flowing down from the glaciers as their coal mines. They have no coal, but they have water, and water which is running down hill, and water, be it ever so little, if it only runs down hill far enough in a steady stream is a source of power which may be used to drive machinery. During only a few years past small streams which had previously run only a single small flax mill have been made to drive tens of thousands of spindles by the improved methods of utilizing this water, and the Swiss people found that they had the means of developing a great deal of unused hydraulic power.

It is one thing, however, to develop power and another to get people to use it. America is in a better situation for the use of power than Switzerland, because there are more uses for the manufactures and more market for the goods, and more rea-

son why the manufactories should exist than in Switzerland. Colonel Turrettini, however, would not repeat the hydraulic plant that is now in successful operation in Geneva. In all probability, if he was called to do the work again, electricity would be the agent which he would use for transmission, because at the great Falls of Schaffhausen and other places in Switzerland, where the power has been transmitted by wire rope to a number of mills, they are now substituting for their much lauded rope transmission electrical transmission of power, and claim to be doing it in a paying way.

Near the town of Grenoble, in France, there was a paper mill operated by steam. It didn't pay, and it was proposed to take water power, about 5 miles off in the mountains. These mountains are inaccessible in winter. During that season it is impossible for anyone to pass from the paper mill to where the wheels are placed, and they can only communicate with each other by means of the telephone or telegraph. For nearly two years this paper mill has been operated by the water of a stream in the mountains that has given them the power to run their works without the slightest interruption by any of the great storms that prevail in these mountains. They say they have now become used to it, and are so well satisfied with it that they propose duplicating their machinery to rent power, which they can do profitably at the rate of about \$20 per horse power per annum. At that place they claim 55 per cent. efficiency by the continuous current they are using.

To co-operate with Colonel Turrettini and Sir William Thomson, by the advice of many who knew him well, Professor Mascart, of Paris, the head of the Meteorological Bureau of France and professor in the University of France, was selected because he is known to be well informed on the possibilities of electricity.

By great good luck Prof. W. C. Unwin, of the Central Institute of London, dean of the faculty of that great school, which is

intended to teach the sciences to young men under the patronage of the United Guilds of the city of London, was induced to accept the position of secretary to the commission, so that the commission came to be:

Sir William Thomson, president; Coleman Sellers, professor of mechanics of the Franklin Institute, as representing the company and the United States; Col. Th. Turrettini, mayor of Geneva, Switzerland, to represent his country; Prof. E. Mascart, of Paris, to represent France; Prof. W. C. Unwin, secretary.

The headquarters of the commission, by the kindness of the directors of the Central Institute, was established for the time in the Central Institution Building in South Kensington, and in that room the many conferences were held and the correspondence conducted that was required in a matter of such great importance to the company interested and to the scientific world at large.

At early meetings of the commission held in London the persons were selected whose advice was deemed of great value, and these engineering firms and individuals were asked to submit plans:

1. Of the generation of the power by turbines or other water motors.

2. For the transmission of the power so generated to the factories on the land of the company and then to an area within a 2 mile radius from the central station. After that to Buffalo and Tonawanda or to the area contained in a circle within a radius of 20 miles.

Not only were substantial prizes offered, but to all those who would submit plans and estimates in accordance with the specifications a sum of money was to be paid that would in some degree compensate them all for the labor expended.

The plans and estimates came in on the last day of the year 1890, but the meeting of the commission to decide on the plans was not held until the latter part of the month of January, 1891.

Some of the estimates submitted were

remarkable, illustrated by many costly drawings, finished on the highest plane of excellence and accompanied by volumes of valuable information. The whole of the plans were so duplicated that each member of the commission became possessed of a set of the drawings, specifications and estimates, as also of the written explanations that accompanied them.

All of these schemes were based on what the company has already begun, and which I will briefly explain to you.

(To be continued.)

New Source of Oxalic Acid.

A Prague chemist has devised a process for recovering oxalic acid from the waste liquors produced in manufacturing wood fibre by the sulphite process. It is found that 100 parts of waste liquor give an average of 12 parts of dry residue on evaporation, which contains 9.5 parts of organic and 2.5 parts of mineral matter. The filtrate, which contains chiefly lime salts besides the organic matters, is mixed with more than sufficient sulphuric acid to combine with the lime, the action being continued until all free and combined sulphurous acid is expelled, which may be condensed and utilized if desired.

If any excess of sulphuric acid has been added, it is removed by carefully neutralizing with lime or chalk. After settling, the purified liquors are concentrated to about 40° B., sometimes to dryness. While still warm the mass is mixed with double its weight of a mixture of 2 parts of quicklime and 1 part of caustic soda. The mixture is heated, with constant stirring, in iron vessels to a temperature of above 100° C., whereby it is changed into oxalic acid, which combines with the bases, and is afterward purified.—*Chem. and Drugg.*

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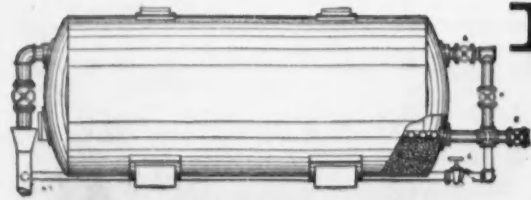
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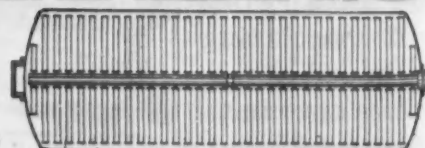
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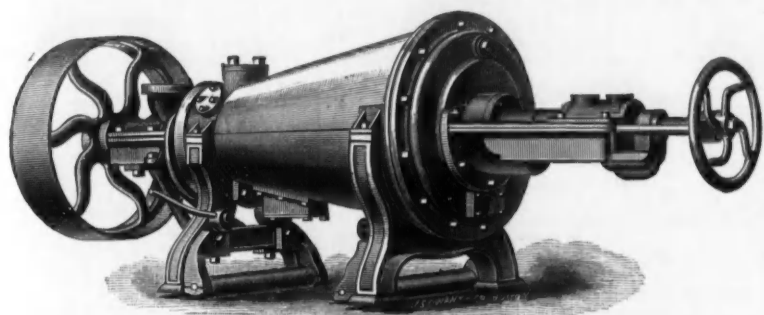
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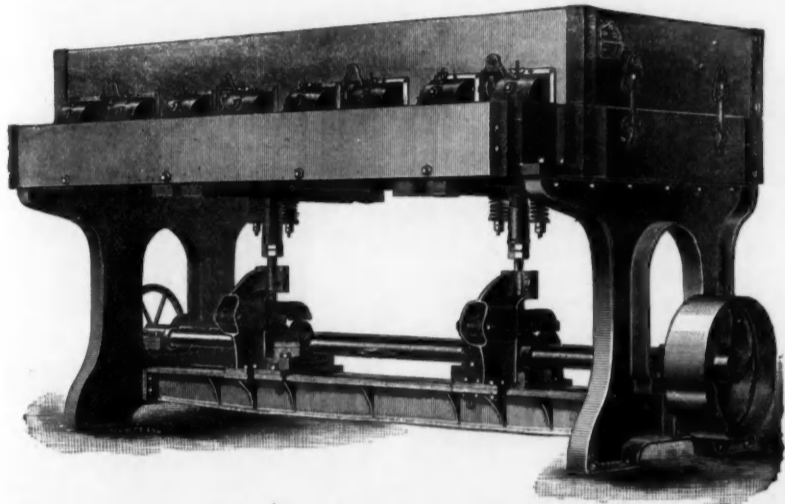
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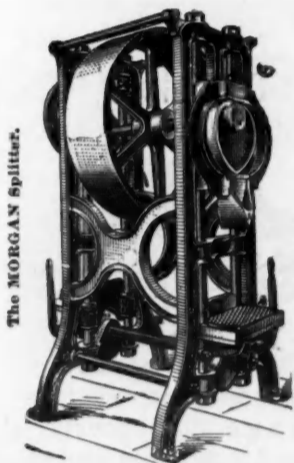
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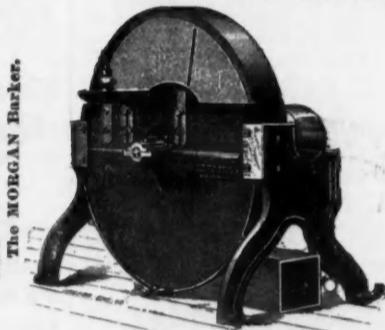
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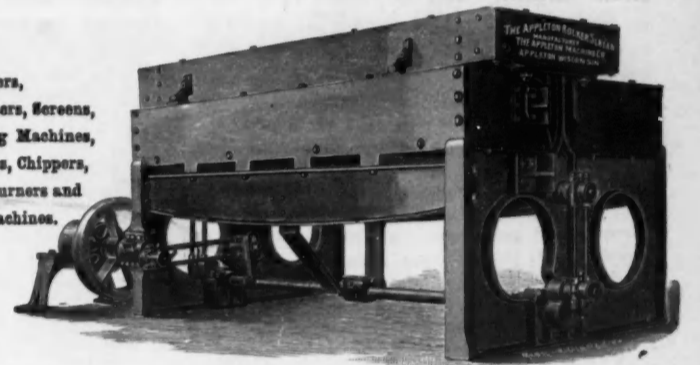


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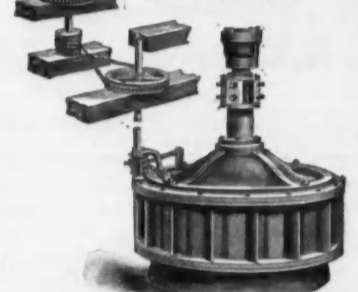
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Superheated Water.

A correspondent writes concerning "mysterious" boiler explosions as follows: "Permit me to give you my version of the phenomena, which I preface by asserting that the pressure of steam in a boiler is never greater than that due to the temperature of the water from which it arises. It is a well established fact that the pressure of steam does not always indicate the temperature of the water from which it arises, and that the temperature of water may, under favorable conditions, be raised to a point very much higher than that indicated by the pressure. A smooth boiler, under which a slow, even fire is kept, and from which no steam is used, is in a favorable condition for superheated water, if I may use this term.

"If distilled water is put into a small, smooth platinum dish, and exposed to a slow steady heat, the water may be heated to such an extent that it will explode by dropping some cold water into it. In making this experiment draughts of air and jarring of the dish must be avoided, as the molecules of water must not be disturbed. Suppose, now, that a slow fire is kept under a boiler from which no steam is being used. Does it not seem reasonable to assume that the water might be heated above the pressure indication? Every engineer of any experience, who is a good observer, must have noticed that at times, when his engine has been at rest and the safety valve is blowing off a little, the sudden starting of his engine will cause more steam to escape from the safety valve. As the removal of part of the steam cannot increase the pressure, the cause of this must be looked for in the superheating of the water in the boiler. There is no doubt that superheating is a frequent occurrence, but it usually amounts to only a few degrees, and hence causes no disturbances. If, however, favorable circumstances exist, water in a boiler may be heated to a temperature which may cause an explosion when these conditions are disturbed. There is no doubt in my mind that most of these 'unaccountable' explosions occur when no steam has been used from the boiler for some time and the conditions for superheating the water have been favorable."

Our correspondent has evidently given this question very careful consideration, but there are one or two points to which we should like to call his attention. In the first place, we do not know that experimenters have successfully superheated any very large quantity of water. The experiment is admitted to be a delicate one, requiring certain precautions to insure its success even with small bodies of water. And, secondly, a smooth containing vessel is required if good results are to be obtained, and we think a steam boiler would hardly be smooth enough. Of course, we cannot deny that the effect may be produced in boilers; but, until there are more definite experimental data at hand, we think, to say the least, that there is room for serious doubt.

It is true that many explosions take place just as the engine is started up, but this is what we might perhaps expect if the boiler was previously strained almost to the point of rupture. The removal of a little steam, although it would reduce the average pressure, might cause a sudden redistribution of strains that the boiler could not stand, even when it had withstood a slightly higher pressure that was brought to bear upon it very gradually.—*Locomotive.*

Corrosion of Steam Boilers.

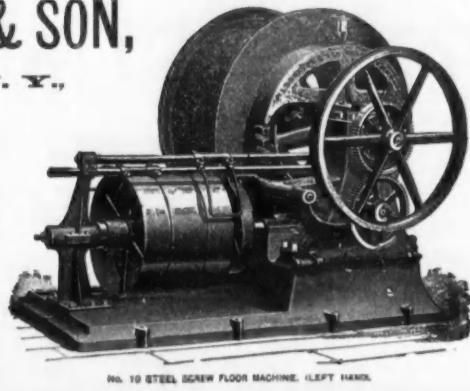
A writer in the *American Machinist*, referring to the corrosion of boilers resulting in the formation of deep furrows parallel and close to the seams, asserts that in nearly every case this furrowing occurs under the water line; and in horizontal boilers with lap joints, the grooves being also deepest along the horizontal seams, the chief cause of this furrowing being, probably, a chemical action, as it is known not to occur with all kinds of water, the phenomenon rarely occurring above the water line. But this chemical action is declared to be accelerated by a mechanical action which tends to change the form of the shell of the boiler, bending or springing the plates along the seams; but this bending of the plates may break off the incrustation, or even the outside of the scale itself, thus continuously exposing a fresh surface of the metal to the chemical action of the water. It is also remarked by this writer that the mechanical action in question may be due to the constantly occurring variation of the pressure as steam is made or blown off; or it may be produced by the changes which take place in temperature, and if this change of form goes on continually, even though in but a slight degree, along the same line, the mechanical action of itself alone must finally produce rupture.

L.S. GRAVES & SON,

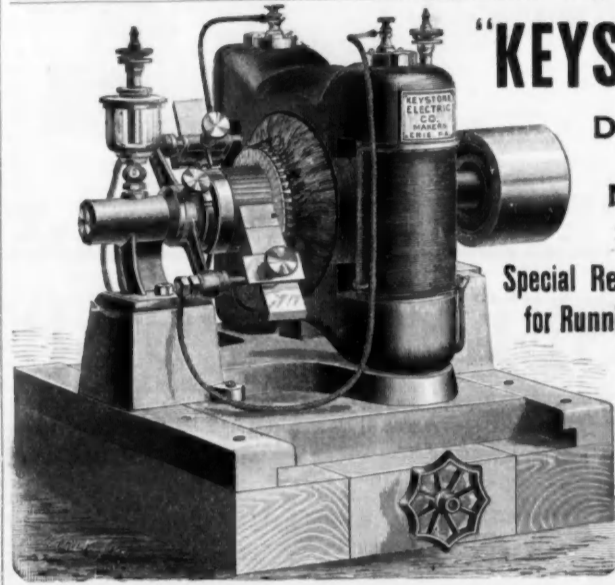
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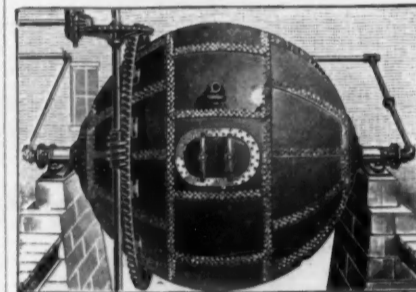
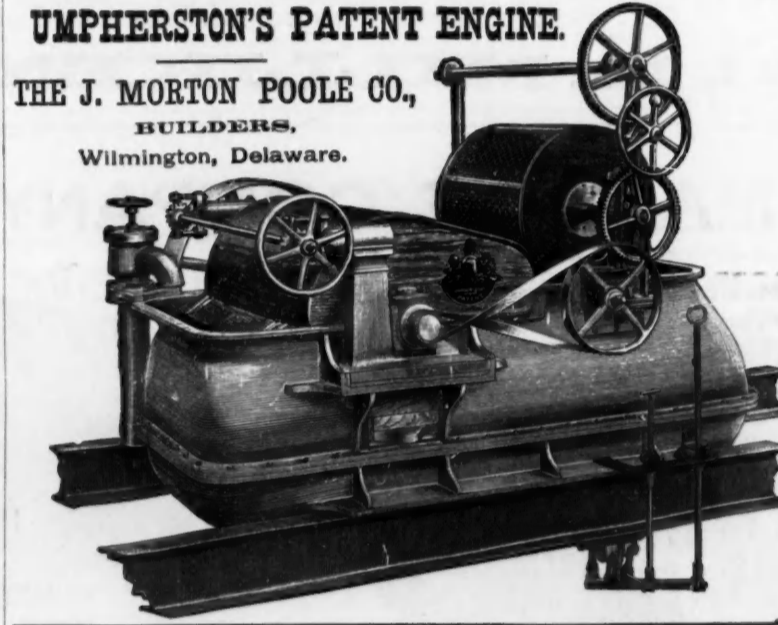
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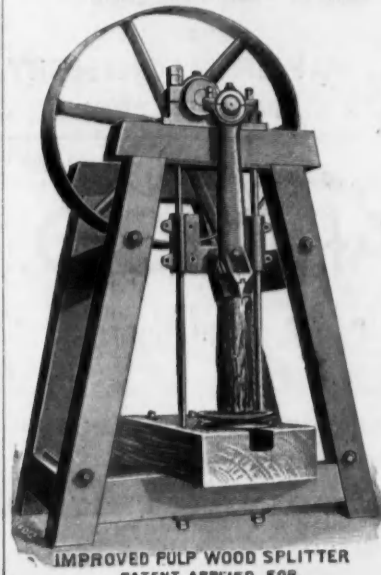


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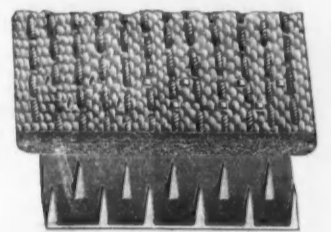
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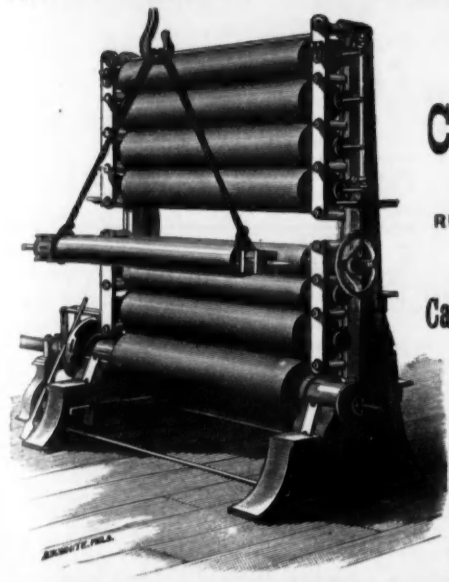
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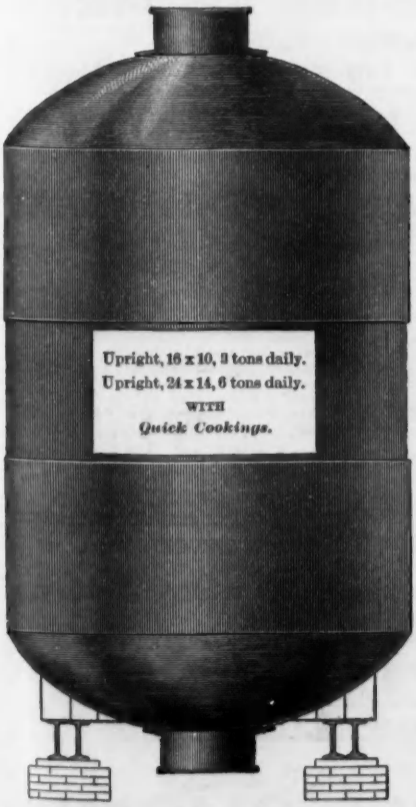
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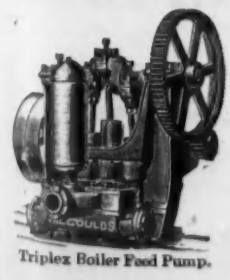
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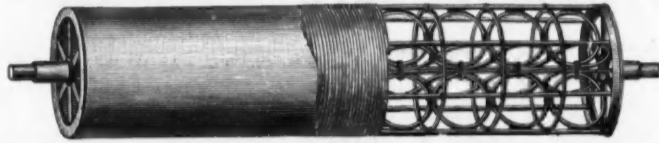
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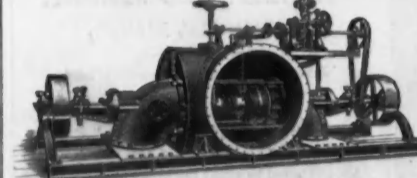


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