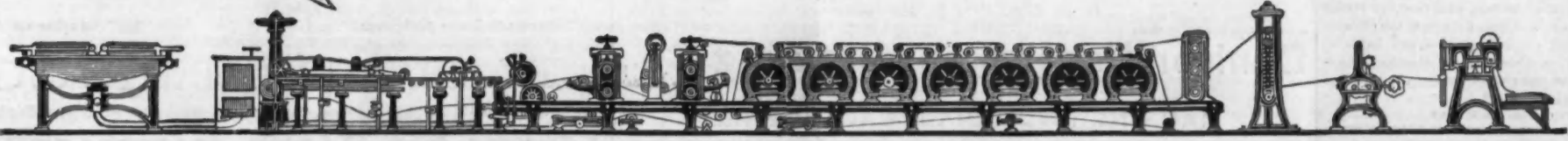


THE PAPER TRADE JOURNAL.



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

VOLUME XII.—NO. 41.

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WHOLE NUMBER 493.

Trade Topics.

Machine for Winding Paper.

The drawings present the design of a new machine for winding paper into rolls in an even and uniform manner as it is delivered from the drying-rooms. The machine consists of the combination, with a number of guide-rollers and tension-rods, of a large revolving drum which receives direct motion from the driving-shaft, and which moves the paper forward, in connection with a gravity-roller that presses the paper against the drum. The paper passes from the feed-drum over an intermediate guide-roller to the winding-up roller, to which also direct motion is imparted from the driving-shaft, and on which the paper is tightly wound by means of a pressure-roller.

Figure 1 represents a vertical longitudinal section of the machine. Figs. 2 and 3 are respectively a rear and a front elevation of the same.

A represents the supporting-frame. At the upper end of which, supported in suitable bearings is the driving-shaft B, from which direct motion is imparted by a belt-and-pulley transmission to a drum, C, and by a second transmission to a winding-up roller, D, the shafts of which are supported in bearings at the lower part of the frame. The paper is moved forward by the drum and passed over a number of guide-rollers, *a a' a'' a'''*, and smooth intermediate tension-rods, *b b' b''*, that are supported at the upper part of the frame. The upper guide-roller, *a*, as well as the tension-rod *b'*, is provided with laterally-adjustable disks *d d'*, which are set to the width of the paper and serve to guide the same properly over the guide-rollers. From the guide-roller *a'*, the paper is conducted over a gravity-roller, E, of solid iron or steel, that presses the paper on the circumference of the drum. The gravity-roller turns in adjustable bearings *e* of brackets *e'* of the frame and is set more or less close to the drum, according to the thickness of the paper. The paper then passes around the drum and over a guide-roller, *a''*, at the opposite side of the drum, and from the roller *a''* to the winding-up roller, which is secured detachably to its shaft by means of laterally-adjustable conical screw-nuts *f f'*. On removing the shaft of the winding-up roller from its bearings, the roller and the paper wound upon thereon can be readily removed from the shaft by unscrewing the conical nuts *f f'*. The paper is wound uniformly on the winding-up roller by a pressure-roller, D', that turns in the bearings of the levers D'', which are pivoted to the uprights of the frame, as shown in Fig. 1, the pressure-roller serving to secure the tight winding up of the paper.

The essential advantage of this paper-winding machine consists in the fact that the drum receives motion independently from the winding-up roller, so as to produce jointly with the gravity-roller the forward drawing of the paper whereby the winding-up roller is relieved from any strain. As the winding-up roller receives its motion directly from the driving-shaft, the winding up of the paper takes place independently from the pulling of the paper, so that a more even winding, without any folds or unevenness in the paper, is the result.

Grinding Caustic Soda.

The difficulty of preparing granulated caustic soda for the market, occasioned by the rapid deliquescence of the soda upon exposure to the atmosphere, has led to the adoption of a process of grinding it hot or in heated apparatus, or in a highly heated atmosphere. The use of heat in connection with such process is, however, expensive and otherwise undesirable; and a method has been devised to simplify the process of grinding or comminuting caustic soda at the ordinary temperature by counteracting and restraining the tendency of the soda to deliquesce during its necessary exposure to the atmosphere. This is effected by adding to the caustic soda dry soda-ash or carbonate of soda, which will absorb the moisture attracted by the caustic soda and restrain its deliquescence.

The mass of caustic soda or caustic alkali is broken up in the ordinary way, and as it comes from the breaker a small quantity of dry soda-ash, or carbonate of soda of good color and high test is thrown over the broken mass. This mixture of caustic soda or caustic alkali and soda-ash, or carbonate of soda, is then fed through a mill preferably of the kind known as a "disintegrator," which comminutes or reduces it, and the ground mixture is then boiled in the usual manner. The quantity of the soda-ash or carbonate of soda requisite for the purpose will not exceed from one to two per cent. of the mass of caustic soda or caustic alkali, and it has been

found that this quantity is sufficient to effectually counteract and restrain the deliquescence of the caustic soda during the grinding and boiling stages of the process, while it is not, in any degree, practically detrimental to the product.

The Position of Jute.

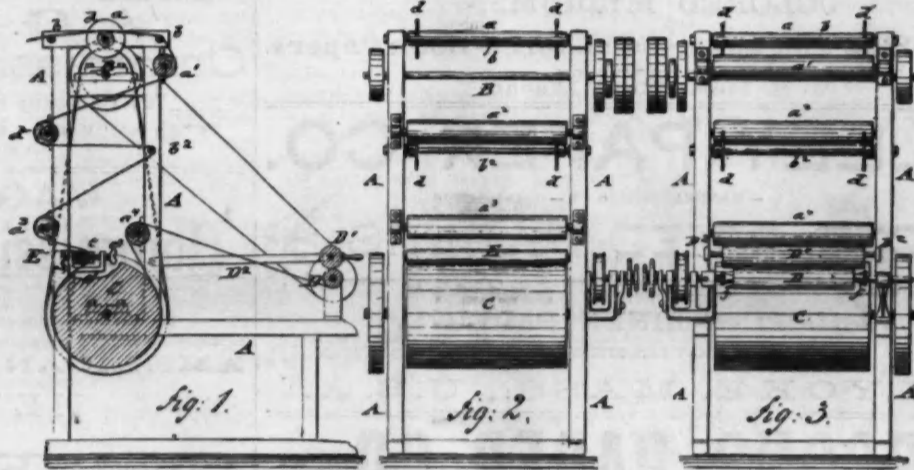
The appended review of the position of jute is taken from the Calcutta correspondence of the Dundee Advertiser of September 28.

Apparently we are on the eve of a great reaction in value of jute as compared with last season. Our friends will remember that already in April-May last reports from this side indicated that the crop was very backward, and incoming supplies of new jute likely to be one month to six weeks later than usual. These advices have been treated with indifference, because the supplies at home and shipments afloat of the abundant crop of last season appeared to spinners to be sufficient security against any sudden rise in value. Supplies of old crop rather suddenly began to fall off in May last, though with

300,000 bales, we arrive at a total of 500,000 bales brought forward in excess of last year. In view of these facts, it is not difficult to understand the reserve shown by home consumers to follow the advancing tide in value of this staple. At the same time, when the supply of an article of such large consumption is limited to one quarter only, it is as well to look a little ahead. Now, the estimated consumption of jute in Europe is put down at 150,000 bales a month, or for the season 1,800,000 bales. The available visible supply in Europe at the commencement of the season has been put down at 500,000 bales, and it is estimated that the probable amount of this season's crop available for shipment to Europe will not be more than 1,300,000 bales, making a total supply of 1,700,000 bales, against a demand of 1,800,000 bales. This, of course, would indicate an absolute deficit before any further crop can mature and be brought to the home markets; but long before this is realized the rise in prices will have either had the effect of checking the consumption or drawing extra supplies from the ordinarily kept reserves in India. In fact, a very

connection with jute freights. The question of measuring jute bales has frequently caused much irritation between shipowners' agents and jute shippers in this market, and the Calcutta Chamber of Commerce, or at least a section of it, has resolved to carry out a system of sworn measurers to avoid the difficulty. Shipowners' agents have agreed to charge the cost of such sworn measurers' establishment to the ship. No doubt the attempt will be made fairly and well; but I doubt very much if British shipowners will be altogether pleased with this arrangement, which throws an additional burden upon them without any apparent advantages. I am inclined to think that it will lead to many compromises, according to the state of the local freight markets, and that eventually the shipowners will throw this expense upon shippers in Calcutta, in fact upon the cost of jute.

Looking back ten years and longer, most of the jute was packed in 300-lb. bales, pressed by screws worked by capstans; but since that period a rapid introduction of powerful hydraulic presses has reduced the bulk of 400 lbs. into the



MACHINE FOR WINDING PAPER.

the opening of the rivers in July and August there have been better imports consequent upon the advance in value. Still, however, the total quantity available for export has fallen short of previous expectation. Since the commencement of the new season (August 1), early parcels of new jute in small quantities have made their appearance, but the quality is generally short and stunted in growth; and, in spite of almost daily advancing prices, the actual imports into the Calcutta market are less than half of the previous season. Taking, therefore, into account the steady demand for local consumption by the mills here, it is not surprising that native balers are reluctant to make forward contracts, save at prices at which shippers do not see their way to put through business. For good native first marks, such as M within double triangle II, Bulloh, OMG within double triangle, there are buyers at 25 rs. per bale; but sellers will not meet the market freely, because loose jute is daily rising in the markets in the interior. The crop accounts from the Mofussil still estimates the out-turn from the Dacca and Naraingunge districts at about half of a good crop, and the same estimate reaches us from the northern districts, which was previously reported as doing comparatively well. From Serajgunge and Mymensingh we expected at least a five-eighths to three-fourth crop, but latterly their advices have become less favorable. The Daisee crop of jute is reported almost a complete failure; Dowrah good in quality but moderate in supply. There appears to be an opinion that by December-January the shipping season this year will come to an abrupt close.

Summarizing these various statements makes it pretty clear that the actual shipments this season will fall far short of last year, and it is predicted with some certainty that they will not exceed one-half to five-eighths of the quantity shipped last season. The increased number of looms in and near Calcutta will increase the local demand, and the mills here in the first instance will intercept supplies, so that it is quite on the cards that European buyers holding themselves aloof now may eventually be driven to obtain their requirements at a cost which will enhance itself in proportion to their delay. It will, perhaps, be more easily demonstrated if we adopt figures to show the probable result, and, starting with the statistics given by last mail's advices from Europe, find the visible supply—i. e., the stocks in London and Liverpool and shipments afloat—to be in round numbers in excess of the same period last year—August 1, 300,000 bales; and if we allow for a further excess of stock in spinners' hands, say

keen competition for the raw material will have been established in Calcutta between the local mills and the home buyers.

Before we proceed to argue upon this point, let us refer to a statement placed at our disposal by a friend interested in the local trade, which seems to corroborate our estimates, though arrived at in a more circumstantial manner.

CROP 1883-84.	
	Bales.
Shipments of jute to Europe from Calcutta and Chittagong, August, 1883, to July, 1884.	2,300,000
Shipments to Europe—Rejections and cuttings—Europe and America, August, 1883, to July, 1884.	500,000
Estimated Indian consumption, mills and native demand.	1,000,000
Estimated stock of old crop remaining in the country.	100,000
(Say four million bales). Total.	3,900,000
CROP 1882-83.	
Estimated crop of this season, according to district reports, speak of $\frac{1}{2}$ to $\frac{3}{4}$. No doubt last year was much beyond an ordinary crop, but taking the above as a basis, the crop would vary from 2,000,000 to 2,800,000 bales, say.	2,400,000
Add old stock carried forward.	100,000
Visible European supply on August 1.	500,000
Total supply.	3,000,000
Local requirements in India for mills and native demand, allowing for increase in mill power.	1,100,000
Cuttings and rejections for America.	400,000
Balance available for Europe.	1,500,000
Total.	3,000,000

There is no doubt that our local mills are better supplied with jute than they were last year. The half-yearly accounts of seven of our mills show their stocks of jute to be valued at about 500,000 rupees more than for the same time last year. But we believe that the great proportion of their stocks is in the better sorts of jute, to enable them to work up early arrivals of Dowrah and Daisee. The latter is, however, somewhat of a disappointment; and of the former only a limited quantity can be used fresh and newly cut, owing to the inherent gummy substance; and the probability is, therefore, that stocks will be used up somewhat faster than has been reckoned upon, especially when with a dull market for bags an attempt is made to keep up high dividends. We are thus confirmed in our opinion that from about October, when most of the mills will be eager buyers, we shall see a steady rise in value, as competition will be much more keen than at present.

For the moment prices for jute are still below the average of the last five years by a couple of pounds at home and two to three rupees here; though freights are comparatively easy and likely to remain so. And speaking of the freight market leads me to refer to another subject of some importance to shipowners in

same measurement, thereby effecting a distinct saving of freight, or, in other words, the means of laying down jute in the distant European markets at a considerable reduction of cost. The uniformity of these hydraulic-pressed bales in a great measure compensated the shipowner, and the alteration in the build of ships enabled them to carry a larger cargo. I am inclined to believe that the complaints of shipowners are somewhat exaggerated, and owners are prone to believe that a ship should carry more than she often does; and the blame for the discrepancy between their ideas and the actual cargo has been laid at the door of the ship-agents, who, to exonerate themselves, throw the blame on dishonest measurements at the press-houses—a state of things which, if true, it was well within the power of the agents and captains to ascertain and check. The discrepancy is probably in a great measure due to the eagerness to dispatch the ships, and thus save port charges, resulting in the goods being indifferently stowed on arrival alongside. A great many firms in Calcutta are connected with press-houses, and a still greater number of individuals are interested as shareholders in these concerns; conflicting interests can, therefore, only result in making jute stand in dearer to the home spinner. However, there is some relief in view, and may be not so far distant, by reopening and buoying the river Mutlah as an alternative route to Calcutta, with cheaper port charges and less expense in shipping than the present tedious and expensive cargo boat transmission from the press-house to the ship. The government, as well as the railway companies, are getting alive to keen competition rates, in order to reduce the intermediate charges of bulky produce, by bringing railway stations in more direct contact with some of the larger press concerns. It is positively asserted that the railway will carry bales from the press-houses outside Calcutta, thirty miles by rail to Port Canning, alongside the ship in the river Mutlah, at half the cost of the present charge by cargo boats within the limits of this port, not to speak of the more rapid mode of loading and handling the jute from railway trucks on a jetty into a ship. It is in this direction that shipowners and jute spinners should move for the sake of economy to cheapen the cost of this article in the home markets.

A ton (2,000 lbs.) of anthracite coal, market sizes, occupies about 37 $\frac{1}{2}$ cubic feet, and will just fill a cubical box whose sides are 3 feet 4 $\frac{1}{2}$ inches. A ton (2,000 lbs.) of bituminous coal, market sizes, occupies about 41 cubic feet, just filling a cubical box whose sides are 3 feet 5 $\frac{1}{2}$ inches.

Boiler Explosions.

BY ROBERT WILSON, C. E.

(Continued.)

When one or more portions of a boiler have been separated from the rest, and have been lifted and set in motion by the pressure, it is easy to conceive how the quantity of steam behind given off from a large body of water at a high temperature can propel them to a great distance. The manner in which large masses of plate are completely flattened out shows that the disruptive force has been exerted in all directions, and not merely in one line to which the first rush of steam and water has taken place, as has been assumed by some writers on this subject.

If a cylindrical shell plate gives way by rending through a line of rivet holes, or along a line of grooving or external corrosion, it will greatly depend upon its mode of connection with the adjoining belts of plates whether the rent will extend further than one plate. In the first place, if the rent should occur at a longitudinal seam, either through the rivet holes or at the edge of the overlapping plate, in a boiler where the riveting extends in a continuous line from end to end, it will probably pass right along through several plates, although they may be strong compared with the plate where the fracture commenced. Should, however, the weak line stop short at the edges of the plate, as when the longitudinal seams break joint, on giving way, the pressure tending to flatten the plate out will cause the rupture to pass through a line of transverse rivet holes or tear off the rivet heads, if the ruptured plate be outside the other plates at the ring seam; but should the overlap of the fractured plate be inside the other plate, the flattening out will be resisted, and the longitudinal fracture will probably extend to the next plate, still retaining a longitudinal direction or striking off in a diagonal direction, according to the position of the line of least resistance, which will be varied with the manner in which the plate opens out.

Referring to the first of the two cases just considered, such a plate opening out near the crown of a horizontal boiler, or in any part of a locomotive or vertical boiler where the steam and water have plenty of room to escape, will probably only cause damage by the issuing contents, but if the rent occur where the escaping steam and water come in immediate contact with a heavy inert mass, as when the plates rend inside a flue, the probable consequence will be that the confined steam will prolong the transverse fractures until the boiler is separated into two or more pieces, and project, one or all, to some distance.

Transverse seam rips, which occur most frequently in externally fired boilers, have already been treated of under the head of "Wear and Tear." When these rents occur on the bottom, during the working of the boiler, and the weight of the shell and its contents is very great, the recoil frequently raises one end, when the boiler separates, and the lightest or freest portion is projected endways to a distance.

The absence of longitudinal stays or ties in most externally fired boilers increases the facility of the ends to take leave of each other when once the shell is divided. Should the weight of the boiler and contents be small compared with the pressure, the recoil will probably project the whole boiler aloft, when the expansion of the steam will further separate it, and the pieces will fall in different places. If the seam rip be confined to a short length, the pressure may be gradually released without lifting the boiler from its seat at all.

These seam rips on the bottom are sometimes caused by the sudden contraction of the plates on filling the boiler with cold water while the bottom is still hot after emptying. When not detected before the boiler is set to work again, the rent may be gently enlarged as the pressure rises, and allow the contents to escape gradually without lifting the boiler. Cases have occurred where these seam rips, produced by too sudden cooling, have been of such a size as to allow the water to escape from the boiler as quickly as it entered on attempting to refill.

When a horizontal flue tube collapses entirely, without fracturing to any great extent, the pressure is usually relieved by the steam escaping through the started seams and small fractures. If such a collapse be sudden, there may be a severe concussion of the air, but no violent explosion, the boiler shell remaining unremoved. But should the tube fracture considerably without parting in two as it collapses, the effects may be very serious from the rush of hot water and steam. When the rush is toward the confined back end, the boiler may be projected forward by the recoil; and, on the other hand, if the contents escape must readily from the front

end, the boiler may not be moved from its seat, but the rush of hot water will be liable to cause all the disasters of an explosion, especially when the boiler is in a confined situation. If the tube on collapsing be broken in two, and its efficacy as a longitudinal stay be destroyed, one or both ends of the boiler may be blown out along with the tube and part of the shell attached, or broken off, where the ends are not well stayed to shell.

In locomotive boilers a collapse of the fire-box top plate or yielding of the crown plate in furnace tube vertical boilers, and fracture round the furnace bottom plate, by which the connection with shell becomes severed, are liable to lead to violent explosion, as the reaction consequent upon the downward rush of the contents will carry the boiler aloft.

(To be continued.)

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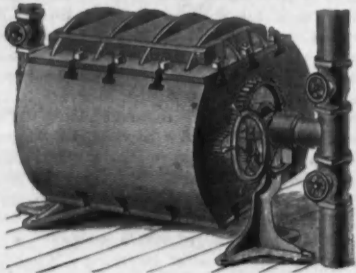
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Correspondence.

Boston Brevities.

[FROM OUR REGULAR CORRESPONDENT.]

Boston, October 10, 1883.

For reliable information concerning the paper trade, one should compile his notes at Holyoke, but your correspondent from that manufacturing centre, in your last week's issue, so thoroughly covered the subject that I am content to give the views of the city trade.

The rain of last week was not only welcome by the mill men, but gave the city dealers a little confidence also. The long drought had begun to produce some little anxiety, for although prices had not been to any extent advanced, the supply was growing less every day and higher prices were certain.

All large dealers had loaded up with heavy stocks and they have been able so far to fill all orders. The only advance noted has been in special ordered sizes and weights, which being out of stock, depended upon the mills, and owing to their irregularity of running, on account of the scarcity of water, the filling of orders was doubtful. In fact, many of the dealers hesitated about taking a quick order under these circumstances. Some of the mills are reported to have been running only on half time, and the daily output was nearly 100 tons short of the mills' capacity.

A large dealer with whom I chatted upon the subject gave the mill men credit for being long-headed, and suggested that a short supply meant higher prices—a consummation devoutly wished for by manufacturers. I thought he was very near right in his surmise, when I afterward chanced to meet a paper maker who was on a flying visit to the city, and whose only complaint was that prices were too low. Some mills are credited even now with asking an advance on former rates, as no big stock is on hand. What the future develops will be noted, but one thing is certain—more rain or less paper.

The advance of 10 per cent. on envelopes has occasioned no alarm among dealers, as most of them put in a heavy stock at the low figures so long prevailing. With the closing of the opposition manufactory at Worcester, envelope makers began to breathe easier and to take counsel of one another. Low prices were the result of cutting each other's rates, and now they have decided to advance prices to a figure that will admit of a profit. This is a movement that should cause no ill feelings for the maker, must prosper, as well as the dealers.

James Logan and George H. Lowe, the gentlemen who started the opposition envelope factory at Worcester some nine months ago, did not make such a bad venture as some people at the time supposed. These gentlemen seem fully satisfied with the results, and knowing ones don't seem to think that they lost any money on the plant, while each returns to his former house, getting an interest in future business.

Chas. L. Chapin, of Chapin & Gould, paper makers, of Russell, spent yesterday in this city. Nothing definite concerning the subject of paper could be learned from the gentleman. To my statement that buyers were not complaining of prices, Mr. Chapin remarked: "Why should they; it is the manufacturers who ought to complain."

The members of the North Carolina Press Association, who are on a visit to the city as guests of the American Exposition, were most hospitably entertained last night at Young's Hotel by the Boston Press Club. At 6:30 the party was seated at the festive board, and not till midnight did the "feast of reason and flow of soul" terminate. All of Boston's prominent journalists were present; many of our city and State officials were among the guests, as were also some of lesser importance, among which number may be classed your humble correspondent. Many of these gentlemen had met before—some twenty years ago—and the many warm recollections tendered to each other during that national frolic were rehearsed last night for the benefit of "rising journalists." The visitors leave Boston to-day, en route for their several homes in North Carolina, and carry with them evidences of Boston's appreciation of true valor.

Holyoke Notes.

[FROM OUR REGULAR CORRESPONDENT.]

Holyoke, Mass., October 11, 1883.

The wheels are flying and everything is spinning at the paper mills this week. With plenty of water and lots of orders to fill, the machines are all rattling off the paper as fast as Holyoke machines (which are not slow) ever did, except in those mills which have taken advantage of the dull season to make extensive repairs. The Parsons and Whiting mills are not yet running full, but the latter will soon be adding the usual or more than the usual amount of paper to the city's product. By plenty of water this week I do not mean that all danger of a continuation of the drought is over. The river has kept up since last week's rain, but no water has gone to waste; if it rises in the night above the top of the dam, the flash-broads hold it back. This week has so far been dry, and, as there is no reserve to fall back on, a few days more without rain will send the water down again. With the Connecticut rolling down a full stream, and the smaller rivers around us all running plentifully, the paper makers of Western Massachusetts would do their share in filling the market with paper once more, and then look out for another dull spring. Why do they not all make extraordinary efforts to push American paper in foreign markets? That seems to be the only way out of the difficulty caused by too many mills. Every year, yes, every month, adds to the producing capacity of the paper mills, such is the rapidity with which they seize upon every improvement and make every possible addition

in equipment. The country does not grow fast enough to consume the increasing quantity of paper that is made, and either a foreign outlet must be found or we shall have frequent seasons of depression.

In last week's JOURNAL "Dandy," appears to be a little at sea about the new rag cutter in operation in this city. It is a mistake to speak of it as a hidden machine, for I know every one is allowed to see it. The Holyoke paper mills are always open to visitors, whether in the trade or not, as thousands can testify, and no different policy is pursued in regard to this machine. I can't think of any practical way in which "Dandy" can see it without coming to Holyoke, unless he waits till the machine is introduced in some mill nearer him. I cannot tell why the inventor doesn't have drawings of the machine published, but I have an idea he is too busy to think of it. If "Dandy" cannot find any patent, I can assure him, from what I know paper makers say about the cutter, that it would pay him to make a hundred of the machines right away. No one can hinder him if he "cannot find a patent." "Dandy" thinks that it is rough on the rag women. That is what we always hear on the invention of every labor-saving machine, and yet, in the end, every such piece of machinery makes more work, and the world is better employed to-day than ever, in spite of all our machinery. On his way to Holyoke, "Dandy" can stop at Springfield and learn all about the Taylor cutter.

Another labor-saving machine, which promises much, is J. C. Kneeland's paper feeder for ruling machines, &c. A working model, large enough to take sheets up to 24x36, has been in operation in this vicinity several weeks, during which time it has not missed a sheet nor taken up more than one at a speed of from 60 to 50 sheets a minute. It has been examined by a good many of the Holyoke paper makers and others, and the verdict seems to be flattering. "Joe" is the inventor of the layboy on the Fourdrinier machine, an ingenious and most useful contrivance.

The Supreme Court of the United States has this week decided the case of Henry D. Cone against the Whiting Paper Company and the Morgan Envelope Company, which has been so long open. The decision is the same as in the lower courts, against the plaintiff, leaving him full costs to pay. The Whiting Company got up a cheaper way of making corrugated paper years ago, and Cone claimed that his rights were infringed upon, but there have never been many doubts about the merits of the case.

A. E. Smith, who left the Winona Paper Mill to play ball with the victorious Boston, thinks he has had enough of that fun and has engaged to take charge of B. F. Hestford's news paper mill at Bridgeport. He refused an offer of \$2,000 to play with the Detroit's next season.

Paper makers will endorse the following: "Don't conduct correspondence on postal-cards. A brief business message on a postal-card is not out of the way, but a private communication on an open card is almost insulting to your correspondent. It is questionable whether a note on a postal-card is entitled to the courtesy of a response."—Don't.

The Metropolitan Daily Press.

X.

The New York evening papers, with two or three exceptions, are journals of comparatively recent origin. Subsequently to 1865, several evening papers were started, notably the *Gazette*, the *Mail*, the *Globe*, the *Republic*, the *Free Press*, the *Telegram*, the *Leader*, the *Graphic*, the *Commonwealth* and the *Evening Times*. The *Telegram* and the *Graphic* only remain. The *News*, the *Post*, the *Express* (now consolidated with the *Mail*), and the *Commercial Advertiser* are the oldest evening papers in the city. The evening (English) press is at present composed of the *Post*, the *Graphic*, the *Telegram*, the *News*, the *Commercial Advertiser* and the *Mail-Express*.

THE MAIL-EXPRESS.

In alluding to the history of the *Mail-Express*, it will be necessary to speak of the history of the journals whose individuality were swallowed up by that paper.

The *Express* was started by James and Erastus Brooks on June 20, 1836, as a Whig paper. The *Express* was somewhat remarkable for its politics, its numerous editions and its editorials

which seemed hurriedly written and had a sort of homely vigor. It issued for a long while in the earlier part of its career both morning and evening editions, but the morning edition was subsequently suspended, when it became exclusively an evening paper. A few years before its consolidation with the *Mail* it drifted into the hands of John Kelly, the well-known leader of the Tammany Hall Society. The *Evening Mail* was a pleasant tea-table paper, edited by Jonas M. Bundy. It was rather independent in politics. A short time before the consolidation of the two papers the *Mail* was purchased by Cyrus W. Field, who a year or ago bought the *Express*. The *Mail-Express* is at present owned by him, and Major Bundy, who was attached to the *Mail* in its early history, is the editor of the new paper.

THE POST.

The *Post* was first issued on November 16, 1801. It was a Federal paper, and such men as Alexander Hamilton and John Jay aided in its establishment. Indeed, it was considered an organ of Hamilton. It was edited by William Coleman, a Massachusetts journalist. John Bigelow purchased an interest in the *Post* in 1848, and added largely to its prosperity. In 1826 William Cullen Bryant, who became distinguished as a poet, began to write for the *Post*, and afterward became its editor and proprietor. Mr. Bryant's death occurred a few years ago. The paper is now published by a company of stockholders, and Carl Schurz, formerly a member of the United States Senate and late Secretary of the Interior, and a distinguished political writer and orator, is its chief editor.

THE COMMERCIAL ADVERTISER.

The *Commercial Advertiser* is the oldest daily newspaper in the metropolis. It was started in 1794 by Zachariah Lewis. In 1816 its circulation had reached 1,200. It is devoted mostly to commercial matters, but also makes considerable pretensions as a newspaper. It is a sheet similar to the *Journal of Commerce*, with the exception that it publishes more news than that paper. Lately, its editor and proprietor has been Hugh J. Hastings, one of the old-time journalists. He became connected with the paper in 1868. It was then under the direction of the late Thurlow Weed, who, being ill, soon after retired, when Mr. Hastings secured a controlling interest, took the helm, and made it a lively sheet. Its circulation wonderfully increased under his management, and the paper became a first-class paying property. It is stated on good authority that Mr. Hastings not long ago refused \$500,000 for his interest in it.

The *Advertiser* recently lost its distinguished editor by death. The future editorial and business management of the paper has not been announced.

The daily circulation of the *Commercial Advertiser* probably does not exceed 30,000.

Mortgages, Etc.

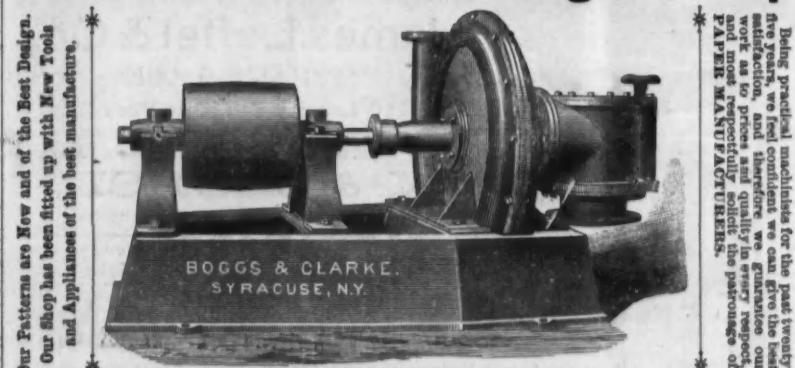
[In the appended list R. signifies a renewal of a pre-existing mortgage; E. S., bill of sale; and Real, a mortgage on real estate.]

Mortgagor.	NEW YORK CITY.	Amount.
C. W. Adam (R.)	\$667
Ferguson & Shine	630
Schmidt & Co. (R.)	6,789
Emil Steffens (R.)	3,631
L. S. Streep	900
H. A. Thomas	7,000
EASTERN STATES.		
Frederick H. Davis, Boston, Mass.	3,000
Joahua Wilson, et ux., Boston, Mass.	510
P. J. Lawler, Boston, Mass.	65
MIDDLE STATES.		
Chas. A. Jacobson, Brooklyn, N. Y.	5,000
John Singel, Syracuse, N. Y. (Real)	3,000
C. E. Johnson (C. E. Johnson & Co.), Philadelphia, Pa.	1,000
WESTERN STATES.		
Geo. M. Glasco, Tuscola, Ill. (Real)	500
Biedinger & Diem, Cincinnati, Ohio (Real)	5,750
E. N. Jenkins, Denver, Col.	413
Cady, Barstow & Co., Chicago, Ill.	700
John Gross, Ottawa, Ill.	1,345
H. B. Corwin, Peru, Ill.	1,000
J. C. Morgan, Council Bluffs, Ia.	561
J. C. Morgan, Council Bluffs, Ia.	545
Geo. W. Pattison, Detroit, Mich. (R.)	100
Joseph A. Kreidler, Cleveland, Ohio	85
W. B. Chapman, Portland, Ore. (B. S.)	4,000
SOUTHERN STATES.		
L. D. Burch, Kansas City, Mo.	173
W. B. Riches, St. Louis, Mo.	380

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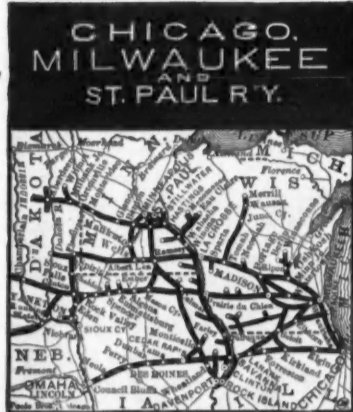
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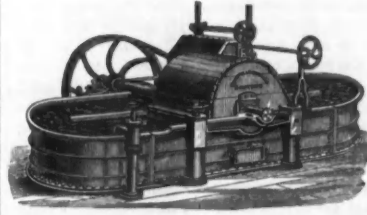
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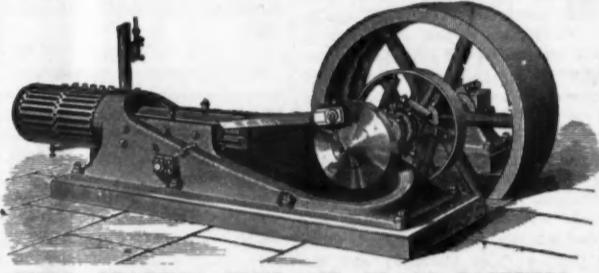
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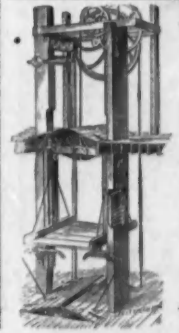
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ANNANDALE SCREEN PLATE CO., Manufacturers and Repairers of Screen Plates, Paterson, N. J.

Solicitors of U. S. and Foreign Patents.

CROSBY & GREGORY, 34 School st., Boston, Mass.

Straw Boards.

PINKHAM, T., Agent for Androsoggin Pulp Co.'s White Box Boards and Ashland Leather Board, 34 Friend and 52 Elm streets, Boston, Mass.

Straw Boards and Straw Wrapping.

TUCKER, E. SONS, Straw Boards, Paper Twines, Paper-Box Mach'y, 100 Trumbull st., Hartford, Ct.

FOREIGN HOUSES.

Rags and Paper Stock.

WALKER, J. E., Dealer in Paper Stock, Woolen Rags and Scrap Metals, 30 and 34 Foundling st., Montreal.

IMPORTATIONS OF PAPER STOCK, PAPER, BOOKS, CHEMICALS, &c.

IMPORTS of Paper and Paper Materials, Books, &c., at the Port of New York, for the week ended October 5, 1883. Quantity given in packages when not otherwise specified.

Table with 2 columns: Item Name and Value. Includes Aniline Colors, Alum, Aluminum Cakes, Bleaching Powders, Soda Ash, Soda, Soda, Caustic, Soda, Sal, Ultramarine, Books, Newspapers, Engravings, Ink, Lead Pencils, Paper, Steel Pens, Stationery, Slate Pencils, Clay, Jute Butts, Jute Rejects and Cuttings, Paper Hangings, Paper Stock, Terra Alba, Waste.

OUT OF TOWN HOUSES.

Architects.

TOWER, D. H. & A. B., Paper and Pulp Mill Designs a specialty. Surveys and Plans made for Mill Sites, Dams and Canals. Holyoke, Mass.

Binders' Boards.

BARBER, J. & J. S., Paper Stock and Binders' Boards, 621 and 623 Commerce st., Philadelphia, Pa.

Book Binders' and Paper Box Makers' Materials.

SNIDER & HOOLE, 101 and 103 Walnut st., Cincinnati, O., and Chicago, Ill.

Grinding Stones for Wood Pulp.

OHIO GRINDSTONE CO., 127 Superior st., Cleveland, Ohio.

Cuts for Printers of Wrapping Paper, Flour Sacks, Etc.

ZESSE, A. & Co., 155 & 157 Dearborn st., Chicago, Ill.

Dandy Roll Manufacturers.

BUCHANAN, BOLT & CO., Patent Seamless Wove and Laid Dandy Rolls. Holyoke, Mass.

Engravers on Wood.

RUSSELL, A. C., 7 Pemberton Square, Boston, Mass.

Paper Cutters.

HOWARD IRON WORKS, Buffalo, N. Y.

Paper Makers' Chemicals and Colors.

BLANCHARD, J. HENRY, Chemicals, Clays, Rosins, 101 Milk st., Boston, Mass.

Paper Manufacturers.

JERSEY CITY PAPER CO., White and Colored Tissue & Manila Wrapping, 311 Wayne st., Jersey City, N. J.

LAKE GEORGE PULP AND PAPER CO., Mfrs. of News and Book Paper; also, Wet and Dry Wood Pulp. Ticonderoga, N. Y.

SCOTT PAPER CO. LIMITED, 27 N. 6th st., Philadelphia. Flour Sack, Building & other Manila Papers.

Paper Making Machinery.

EMORY, P. P., & CO., Mfg. of Water Filter Lock Valve, Springfield, Mass.

HOLYOKE STEAM BOILER WORKS, Manufacturer of Steam Boilers (B. F. MULLIN), Holyoke, Mass.

SMITH, WINCHESTER & CO., South Windham, Ct.

SPENCER, JOHN S., Chilled Rolls, Super and Machine Calenders a specialty. Housatonic, Mass.

THE SIBLEY MACHINE CO., Norwich, Conn.

Rags, Paper and Paper Stock.

BRIGHT, ROBT. C., Woolen and Cotton Rags, Metals and Paper Stock, 65 Long Wharf, New Haven, Conn.

BULKLEY & CO. (Late with J. G. Ditman & Co.), 132 North Front Street, Philadelphia.

BUTLER, THOMAS, Cotton and Woolen Rags, Iron and Metals. 249 Causeway st., Boston, Mass.

ELLIOT, A. G. & CO., Paper and Paper Stock, 727 Chestnut and 736 Jayne sts., Philadelphia.

FOLLANSBEE, TYLER & CO., 124 and 125 Quincy st., Chicago, Ill. Refer to J. W. Butler Paper Co.

GARVAN, P., Paper & Paper Stock, Hartford, Conn.

GILBERT, WM., & CO., Paper and Woolen Mfrs.' Materials, 11 and 13 Market st., Chicago, Ill.

GRAHAM PAPER CO., Paper Warehouse and Stock Dealers, 217 and 219 No. Main st., St. Louis, Mo.

HARRIS, M., & BROS., 408 & 405 Fifth ave., Chicago, Ill. Branch Houses: Dubuque, Ia.; Burlington, Ia.

HUBLEY & CO., Rags and Paper Stock, Worcester, Mass.

LANEY, JAMES, & CO., Dealer in Paper and Paper Stock, Cotton and Woolen Rags, Rochester, N. Y.

LOEWENTHAL, B. BROS. & CO., Chicago, Ill.

MASSASOIT MFG. CO., Gunny and Shivey Bagging and Cotton Mill Sweepings. Fall River, Mass.

MAYO, A. N., & CO., Successors to Dickinson & Mayo, Rags and Paper Stock. Springfield, Mass.

MCCARDLE & HART, 194 to 195 Jane and 141 to 143 King sts., New York, and Newburg, N. Y.

MCKEON, P. & J., Dealers in Woolen & Cotton Rags, &c., 258 Fourth st., Brooklyn, E. D.

MILLET, GEO. W., Straw and Manila Papers, Paper Bags and Flour Sacks, 507 N. 2d st., Phila., Pa.

PEARL, HENRY W., Paper and Paper Stock, Springfield, Mass.

RICHMOND & CO., F. H., Paper and Paper Stock Warehouse, Cotton Waste Dealers, Providence, R. I.

RING, M. A., & SONS, 263 Atlantic ave. and 20 Purchase st., Boston, and 130 No. Front st., Phila.

SHAY, WM., Dealer in Bagging and New Paper Stock only. New Cuttings a specialty. New Hamburg, N. Y.

SIMMONS, JOHN, Wholesale Dealer in Paper and Rags, 20 and 22 Decatur st., Philadelphia.

SNIDER'S, LOUIS, SONS, Manufacturers and Wholesale Paper Dealers, 131 Walnut st., Cincinnati, O.

WHEELER, THOS. H., Cotton and Woolen Rags, New Haven, Conn.

EXPORTS of Paper, Books, &c., from the Port of New York to Foreign Ports for the Week Ended Oct. 9, 1883, with Aggregates and Values.

Table with 2 columns: Item Name and Value. Includes Books, cases, to Hamburg, 1; to Liverpool, 34; to Hull, 20; to London, 8; to British Guiana, 1; to Glasgow, 7; to Nova Scotia, 2; to China, 1; to New Zealand, 14; to Newfoundland, 2; to Havre, 3; to Cuba, 1; to Brazil, 2; to Venezuela, 1; to United States of Colombia, 7; to Central America, 2; to Japan, 5; to Mexico, 6; to Argentine Republic, 4; to Liberia, 6.

AGGREGATES AND VALUES.

Paper, reams, 15,920 \$3,320

Paper, pkgs., 1,941 4,667

Paper, cases, 199 5,590

Books, cases, 148 14,157

Rosin, bbls., 5,820 15,311

Stationery, cases, 149 6,483

Totals, 25,099 \$49,550

TOTAL EXPORTS.

General Merchandise for the week ended October 9, 1883. \$6,529,430

Paper, &c., for the year ended May 27, 1873, 2,829,492

Paper, &c., for the year ended May 26, 1874, 1,755,277

Paper, &c., for the year ended May 25, 1875, 2,227,222

Paper, &c., for the year ended May 23, 1876, 1,654,284

Paper, &c., for the year ended May 20, 1877, 1,790,659

Paper, &c., for the year ended May 28, 1878, 1,575,563

Paper, &c., for the year ended May 27, 1879, 1,289,753

Paper, &c., for the year ended May 26, 1880, 2,018,540

Paper, &c., for the year ended May 25, 1881, 1,920,068

Paper, &c., for the year ended May 24, 1882, 2,482,212

Paper, &c., for the year ended May 23, 1883, 2,585,122

Paper, &c., for quarter ended Aug. 31, 1883, 624,355

Paper, &c., for the week ended Sept. 4, 1883, 61,831

Paper, &c., for the week ended Sept. 11, 1883, 41,755

Paper, &c., for the week ended Sept. 18, 1883, 55,219

Paper, &c., for the week ended Sept. 25, 1883, 74,571

Paper, &c., for the week ended Oct. 2, 1883, 60,954

NEW YORK IMPORTS.

FROM OCTOBER 3 TO OCTOBER 10, 1883.

Paper Stock.

J. W. Mason & Co., Jersey City, Bristol, 543 bs. manillas.

Belausaran & Flores, F. Cliento, Cadix, 70 bs. rags.

Bulkley, Dutton & Co., Thingvall, Copenhagen, 126 bs. old papers.

Ferkins, Goodwin & Co., by same, 300 bs. rags.

Horwitz & Neustadt, by same, 30 bs. rags.

Lewy Brothers, by same, 150 bs. rags.

Funch, Edye & Co., by same, 33 bs. rags.

Fest & Sengstak, Orpheus, Hamburg, 128 bs. rags.

S. Webber Parker & Co., Furnessia, Liverpool, 120 bs. rags, 125 bs. manillas.

Eugene Sullivan, City of Richmond, Liverpool, 113 bs. old papers.

John L. Taylor, Spain, Liverpool, 46 bs. manillas.

Ferkins, Goodwin & Co., by same, 219 bs. manillas.

TOTAL IMPORTS.

General Merchandise, for the week ended October 5, 1883. \$6,726,303

Paper, Paper Stock, &c.—

For the year ended May 23, 1873, 15,074,922

For the year ended May 21, 1875, 12,150,855

For the year ended May 20, 1876, 13,229,291

For the year ended May 28, 1877, 11,228,426

For the year ended May 25, 1878, 9,627,694

For the year ended May 24, 1879, 10,346,413

For the year ended May 23, 1880, 9,561,091

For the year ended May 21, 1881, 13,549,575

For the year ended May 27, 1882, 14,375,508

For the year ended May 26, 1883, 13,555,212

For the year ended May 25, 1883, 14,926,125

For quarter ended Aug. 31, 1883, 3,520,345

For the week ended Aug. 31, 1883, 247,221

For the week ended Sept. 7, 1883, 196,800

For the week ended Sept. 14, 1883, 224,030

For the week ended Sept. 21, 1883, 287,972

For the week ended Sept. 28, 1883, 300,012

IMPORTS of Rags and other Paper Stock at the Port of New York, since Jan. 11, 1883, from the following Ports, showing quantities from each Port:

Table with 4 columns: Port, Rags, Old Paper, Manila Paper. Includes Alexandria, Amsterdam, Antwerp, Aspinwall, Bordeaux, Bremen, Bremerhaven, Bristol, Cadix, Calcutta, Cardiff, Catania, Copenhagen, Danzig, Dundee, Genoa, Glasgow, Hamburg, Havre, Hio, Hull, Königsberg, Leghorn, Limerick, Liverpool, London, Malta, Marcellis, Messina, Naples, Newcastle, Pernambuco, Pilius, Porto Cabello, Rio Janeiro, Rotterdam, Santa Cruz, Seville, Shields, Stettin, Swansea, Trapani, Trieste, Tyne Docks, West Hartlepool, Yokohama.

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PAPER, to Amsterdam, 10 pkgs.; to Hamburg, 68 ca.; to Copenhagen, 5 ca.; to Liverpool, 13 ca.; to Hull, 17 pkgs.; to London, 18 ca.; to British Guiana, 41 ca.; to British West Indies, 5,980 rns., 91 pkgs.; to Cuba, 12,850 rns., 6 ca., 19 pkgs.; to Uruguay, 1; to Porto Rico, 1,000 pkgs.; to Brazil, 50 rns., 10 pkgs.; 1 ca.; to United States of Colombia, 3 ca., 57 pkgs.; to Mexico, 7 pkgs., 1 ca.; to Argentine Republic, 7 ca.; to Chili, 30 ca.

STATIONERY, cases, to Bremen, 1; to Liverpool, 35; to London, 5; to Glasgow, 1; to British West Indies, 1; to New Zealand, 20; to Havre, 1; to Cuba, 4; to Brazil, 9; to United States of Colombia, 30; to Japan, 1; to China, 7; to Chili, 26.

AGGREGATES AND VALUES.

Paper, reams, 15,920 \$3,320

Paper, pkgs., 1,941 4,667

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Lewy Brothers, by same, 150 bs. rags.

Funch, Edye & Co., by same, 33 bs. rags.

Fest & Sengstak, Orpheus, Hamburg, 128 bs. rags.

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Eugene Sullivan, City of Richmond, Liverpool, 113 bs. old papers.

John L. Taylor, Spain, Liverpool, 46 bs. manillas.

Ferkins, Goodwin & Co., by same, 219 bs. manillas.

W. H. Parsons & Co., Tower Hill, London, 70 ba. old papers.

W. Irving Clark, by same, 89 ba. old papers.

R. H. Overton, by same, 350 ba. old papers.

Train, Smith & Co., Winston, Newcastle, 111 ba. rags, 61 ba. manillas.

Perkins, Goodwin & Co., Elgin, Plymouth, 145 ba. manillas.

Lewy Brothers, Romano, Hull, 302 ba. rags.

Lewy Brothers, Snekkotte, Stettin, 601 ba. rags.

Paper.

A. Ireland

The Paper Trade Journal.

DEVOTED EXCLUSIVELY TO THE INTERESTS OF

The American Paper Trade.

Weekly, \$4.00 per Annum.

Single Copies, 10 Cents.

NEW YORK: SATURDAY, OCT. 13, 1888.

Subscription and postage for Great Britain, per annum..... £1
 Subscription and postage for France, per annum..... 25 francs
 Subscription and postage for Germany, per annum..... 24 reichsmark
 Foreign subscribers may address our New York office.

Communications on matters of interest to the trade are earnestly solicited from all quarters, and if used will be liberally paid for. Items of news and facts of all kinds in relation to the state of the mills, &c., will be gladly received.

All communications must be addressed to

HOWARD LOCKWOOD,

Publisher and Proprietor,

No. 74 Duane Street, N. Y.

BRANCH OFFICES.

Western Office: 8 Lakeside Building, CHICAGO, ILL.

Philadelphia Office: J. VIGNOT, General Manager, 130 South 4th St.

Eastern Office: JOSEPH HAMMITT, General Manager, 48 FEDERAL ST., BOSTON, MASS.

Southern Office: F. G. HANCOCK, General Manager, CORNER BROAD AND ALABAMA STS., ATLANTA, GA.

THE United States consul at Monterey, Mexico, is directing attention to the value of that city as a location for industrial and commercial enterprises, says that American capital is being contributed toward the development of such interests. He gives an illustration of what has been done in one instance, and says that it "will also answer for a paper mill, fibre factory," &c. The raw material is mostly on the spot and the Mexican tariff affords ample protection to the manufacturer. Here is a chance for somebody.

A CORRESPONDENT presents some reflections upon the export trade in paper which we commend to the attention of our readers. His suggestion that the subject should be considered and discussed publicly through THE JOURNAL will, we hope, result in calling forth an expression of views from the trade. There are many who have devoted thought to this matter, but have either been modest in presenting their ideas or neglectful of committing them to paper. We hope to hear more from the trade upon this point.

THE most interesting contribution to the history of the suction-box that has yet appeared in the columns of THE JOURNAL is presented in this issue. Our correspondent, "Harper," has evidently gone *con amore* into the investigation of his subject, developing a research which will be likely to put his opponents to their wits to combat. The question seems to be answered, despite the later claims to the distinction of inventing the suction-box. Have our other correspondents anything to say, or do they yield the ground which "Harper" has traversed with so much patience and persistency?

THE work of perfecting the organization of the American Paper Manufacturers' Association is going on quietly but effectively. Secretary Crocker, who has displayed the active, energetic spirit expected of him, is doing good service in exciting and retaining the interest of the trade in the Association. The mill-owners continue to forward their assessments, and last week the largest yet paid was handed over to Mr. Crocker. The amount was \$86.20. Paper makers who have delayed sending in assessments of very much smaller amounts ought to be encouraged by this example, and comply with the request that ten cents per inch width of machine should be paid in for the purpose of meeting the necessary expenditures for conducting work which is to benefit the whole trade. Those who have omitted to forward their assessment had better do it at once, lest this suggestion should escape their mind and they lapse into forgetfulness.

THE difficulty of obtaining statistics of the trade of Portugal has helped to retard our commerce with that country. Our Consul-General at Lisbon has, however, lately supplied some estimates, and from

these we gather that this country is supplying Portugal with about six million dollars' worth of goods per annum out of a total import of nearly \$40,000,000 worth, the paper import of Portugal from the United States figuring to the insignificant sum of \$850. Great Britain supplies the greater part of Portugal's import requirements. Small though the Portuguese market may seem to be, it is of sufficient importance to command our attention. Trade is not built up by scrambling for the big loaves, but the small and unconsidered crumbs of commerce carefully gathered and absorbed, are the more valuable. It has been one of the features of British success, that no chance for establishing and developing trade connections, however small or seemingly insignificant, has been left out of calculation or untried. In seeking to extend our own markets, we should bear this in mind and remember that a garden-patch will sometimes prove as profitable as a plantation.

CAUTION is the prevailing feeling in all trading circles. One of the latest phases of the business situation is the refusal of a number of the banks to discount notes offered to them by brokers in such securities. The fatal facility with which merchants have been able to get accommodation has led many to put their promises to pay into the hands of bill brokers for a "shave," even when they could not really say that they needed the money, and the proceeds of their notes have too often gone into enterprises from which neither profit nor credit has been derived. But now the banks are beginning to realize that not only are their profits from such sources uncertain, but that their securities are precarious, and they are compelled as a measure of safety to scrutinize very closely the backing of parties by whom accommodation is sought. This is not an unexpected change of position, for it has been impending. The business community must adopt itself to the changed circumstances; a very conservative policy must be undertaken and followed and we must all get rid of the notion that fortunes are to be made in a hurry. A return to safe and old principles of business is a necessity, and the various evils which THE JOURNAL has pointed out as sapping the roots of trade and destroying its vigor must be met and overcome. It is reported that the bill brokers are very nervous over the situation. They ought to be more than that. The nerve should be taken all out of them, and they put to healthy work for a healthy living. Merchants and manufacturers alike must turn in and help to restore life to trade. They can only do so by reforming its abuses.

Water-Marks.

BY DANDY.

It is curious how things run in streaks. When we have cyclones, there is not one but several; railway accidents run in groups; marine disasters occur in succession. After a while, everything quiets down, and we are left to await the next sensation.

I forgot to cite epidemics of disease; at one time small-pox, then malarial fevers, diphtheria, and all of the other ills to which suffering humanity is subject, and which seemingly in an experimental way come along to test folks and see where they can be caught the easiest.

Perhaps some one will wonder why I have struck this streak. It is only because in running through my files of THE JOURNAL to see whether it had ever caught on to a certain device, I was struck by the similarity of the changes in different topics discussed or suggested in its columns. In one place there was a run on the question of sizing; in another on the cylinder machine, which cropped out again last year, and now of late the talk about the suction-box, followed up by the excitement as to who devised the means of creating a vacuum in the box by means of a steam jet.

THE JOURNAL has helped to carry out the method by printing, within the last few months, illustrations and descriptions of several devices for extracting the water from the pulp passing over the suction-box by means of a vacuum effected by the use of a steam jet. The several different "ejectors" all embody the same principle, or perhaps I should more properly say, the same idea.

Mr. A. says that Mr. B.'s ejector will not do the work as efficiently as his own or as it ought to be done, and vice versa. Mr. C. claims the first suggestion of the application of the ejector to the suction-box and offers another form of ejector warranted to do the work. The paper maker stands by and wants to know all about the "row" and is ready to take up with any-

thing that will save expense and facilitate his work.

Now, where will it all end? Possibly no patent will be found good, even if the different devices are effective. This remains to be seen. So many "Richmonds" are "in the field" that they may perchance kill each other off, but perhaps they had better pause. I know that they will all want to know why I say this, and for this reason I submit to the editor of THE JOURNAL the drawings and specifications of a patent issued out of the Patent Office between 1860 and 1870 which has a bearing on this subject.

The claim of the patent which I refer to is for "extracting the water or moisture, to a greater or less extent, from the pulp on the wire cloth or felt apron, on its way to the pressing-rollers, by the removal of atmospheric pressure, as described, or in any equivalent manner." Another claim is for an arrangement of adjustable slides on the boxes, whereby the aperture in the top of the box is made to correspond with the width of the paper.

Now, it is necessary to see what is the method of removing "atmospheric pressure" as described or its equivalent. Referring to the specification, I find that the invention consists in forming by steam, water or other fluid a vacuum, &c. The apparatus for effecting this removal is a jet of steam, which being introduced to the exhaust pipe (no need of going into particulars), drives everything before it and creates sufficient vacuum to excite suction. It seems to me that this antedates James Harper's method of making a vacuum.

I leave the issue now to the care and consideration of all interested, and should THE JOURNAL see fit to present the drawings and description which I have put in its possession, it is at perfect liberty to do so.

Coming back to the revolving suction-box, I observe that a writer in a late issue of one of your British contemporaries takes up "C.'s" statement that the first record of a "suction couch-roll" was in 1867. He says, "I find that a patent was taken out on November 10, 1849, nearly twenty years prior to 'C.'s' date, by Charles Ed. Amos and Moses Clark, in which, among other alleged improvements occurs the following:—'Employing in place of the upper couch-roll, a hollow roll perforated on its surface, and having a suction-box within the inside acted upon by an air-pump, so as to draw off the water from the upper side of the paper, by which the color of the paper where Smalt's ultramarine, or other colors are used, is kept of an equal tint throughout.' This, I think, disposes of the erroneous statement referred to."

One of your correspondents says that the machine which Dickinson invented is now called the "Yankee" machine in Great Britain. No, you don't, young man! You can't play that on the public. It isn't Dickinson's machine. Dickinson may have devised the cylinder, but he didn't put it where it would do the most good. Ames submerged it; made it a "Yankee" machine; sent it back to England, where it was adopted. That's the how!

I think that the young Scotchman who went over to look at that peculiar machine at South Hadley is all out. He does not know the Harper machine, which is probably what he has seen in the United Kingdom. The Harper machine was devised in this country, and when sent over to England was called the "Yankee Machine." Isn't this about the size of it, "Pen?" You have seen the Pearl City machine and can tell whether if your protégé had seen the "Harper" in Scotland he might not be likely to assume a similarity between it and the other.

A few personal incidents may not be out of order. I am told that the testimonial to Col. D. P. Crocker has taken the form of an immense colonel's shoulder strap with an eagle—which is the insignia of the rank—in silver. Now that the Colonel has changed his affection for Governor Butler and returned to his first love in politics, this emblem will supplant the huge wooden spoon that used to hang above his desk, and may be understood to represent the affection of his friends.

A prominent firm of paper-stock dealers in this city is reported to have recently sent out to each of its customers a box containing fifty cigars. Had not economy been the thief of time, I have no doubt that the box would have contained one hundred. The question whether the customers were or were not smokers did not seem to enter into the calculation.

Several of the recipients of the cigars, I am informed, returned them at once. Thought they were smuggled! (If they were not they ought to have been.) If I may express an opinion of the lot based on the samples which I tried, and connect it with the remarks of those who did not experiment, I am inclined to believe that those who did not return the "Fumars" wished that they had done so.

A prominent Holyoke paper maker has been expressing a sardonic sort of gratification that the printers and publishers are at last obliged to wear out some shoe leather. He attributes the recent failures in the leather trade to the fact that the market was full of paper, and he thinks that now the cloud under which the leather trade has been may lighten. I am afraid that that manufacturer has not counted the expenditure of leather involved in visiting the printers and publishers to invite them to buy paper, not to mention the reinforcement to the seats of breeches, rendered necessary by wriggling around on the anxious seats of trade. It's "allee sames," however.

Communications.

[Communications are solicited from everyone who has anything of value or interest to impart. Items of news, trade gossip, and personal information, will be gladly received. Correspondents are requested to write only on one side of the paper. No responsibility for the opinions of correspondents attaches to this paper. Communications must be sent to reach this office by Wednesday night or Thursday morning of each week, to insure insertion.]

That "Corded" Roll.

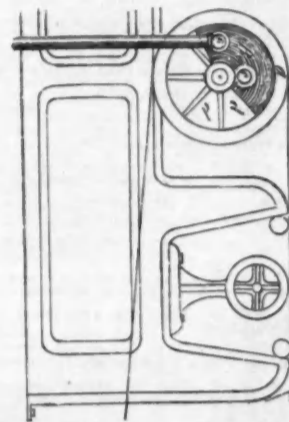
To the Editor of The Journal:

I am sorry to inform your correspondent, "Pen," that he is somewhat mistaken in his idea about the corded press roll. The driers formed a part of the machine as far back as I can remember, and when the wet reels, which were placed between the first and second press, were taken out, it, of course, left an opening or gap in the machine which was partly filled with a board containing several knives, over which the paper was drawn. There can be no doubt that this corded press roll is the dandy roll mentioned in the Early patent. CROSSMYLOOF.

The Revolving Suction-Box.

To the Editor of The Journal:

I inclose a drawing of my revolving suction-box. The cylinder *a* is 30 inches in diameter and takes the place of the under couch, driving the wire, register-valve *B*, suction-pipe *c*, and compartment *d*, running up to the face of



the cylinder. The register-valve can be adjusted to any part of the cylinder. A 30-inch cylinder gives 30 inches space for suction; a 4-foot cylinder would give all that would be required to dry the paper for the steam-dryer. I hope this will suit all of the other "suckers" and critics. B. B.

Some Dispute.

To the Editor of The Journal:

If Geo. Hill invented the suction-box in 1854, it seems strange that he should be tending machine in the Moffat paper mill at Airdrie for John Craig in the year 1847, and that the machine had no suction-box. Notwithstanding that Mr. Hill informs us that before he made the discovery, machines could only be run at from ten to twenty-five feet per minute, if your correspondent is a constant reader of THE JOURNAL, he might have seen in a late number that machines were running at sixty feet per minute without the suction-box in the year 1842, and the Greenfield Paper Mill Company, Hollywell, North Wales, was running its machine on book paper for the London market without a suction-box in the year 1851.

Mr. Hill says that Barthead paper mill was running in 1850. John Watson, who from last accounts, was keeping a rag store in Burlington, N. J., could tell a different story. Again, Mr. Hill says that Milholm machine did not start until 1846. The machine was running many years prior to 1846, with George Smith as machine-tender. The last time I saw Mr. Smith was in 1851, and he was then tending machine in the Ivanhoe paper mill at Paterson, N. J. I know that Mr. Hill put up some good substantial cylinder machines in Scotland, for I saw one of them myself at Airdrie. You bet! GOOSEBERRY.

The Export Trade.

BOSTON, October 9, 1888.

To the Editor of The Journal:

I have noticed with interest your frequent editorials urging the importance of the paper export trade; and have often thought that a few communications upon this topic would be of much more practical benefit than the protracted discussion of the origin of the suction-box. I do not mean to decry the discussion on this useful invention; but if the vexed question is ever decided, it will not advance the price of paper a particle, nor will it dispose of the surplus product, and these two questions seem now to be the most important and pressing problems before our paper manufacturers.

It is only repeating what you have already said to say that to advance prices, the supply must be more in accord with the demand, and that the remedy lies in exportation; yet, on the other hand, prices must not advance too much, or exportation will be prevented. With an export trade fairly established, these matters should adjust themselves.

I know that a committee has this matter of export under advisement, and that it is a difficult subject is sufficiently proved by the committee not yet being in a position to report upon it; but while waiting for its report, it would do no harm, I think, for some of your readers who have had experience in exporting, to make suggestions for the general good.

The arduous labors of Mr. Woolworth, as portrayed in his interesting statement at the last annual meeting of the Paper Manufacturers' Association, have demonstrated the ability of our manufacturers to compete successfully with those of other countries; and even if the prices

realized are not so very remunerative, a positive benefit accrues in the better tone of the home market.

Although several manufacturers are now exporting more or less of their product, I think that the development of the export trade will be rather slow if left to such individual effort. To do the business properly it is, of course, necessary to be prepared to offer or accept orders for many different kinds of paper, all of which kinds cannot well be made by one manufacturer; and therefore the business must be done, I think, through a commission house, to whom the manufacturers could make such concessions in price and terms as would be requisite to make the traffic profitable to all concerned. If these concessions brought the prices below those current in the home market, proper safeguards could be taken to prevent the paper being put upon the market surreptitiously. If necessary, and with proper support, the commission house could perhaps be an export house solely, doing no domestic business. The method of selling the goods abroad would be for the export house to decide, whether by resident agent or otherwise.

My communication is already too lengthy, yet considerable more could be said without exhausting the subject. I have been patiently waiting for the export committee's report, and not seeing it have been tempted to present one view of the case, in the hope that (if published in your paper) it might draw out the views of others, and thus result in a better knowledge of what is wanted. SHAWMUT.

The History of the Suction-Box Reviewed.

To the Editor of The Journal:

I have read all that has been said in THE JOURNAL about the suction-box, and I have been very much amused at the assumption of knowledge not backed up by its actual possession. In a former communication I brought forward John Wilks' patent of 1830, which was from four to six years earlier than any that had been mentioned at that time. Since then George and John Dickinson's patents have been brought forth, antedating that of Wilks; but nothing very definite has been said as to their merits or claims, so I propose in this communication to give your readers a synopsis of the specifications and claims of a few who have their names recorded as English patentees.

And whether right or wrong the ancient rules, It will not do to call our fathers fools.

I find first, John Dickinson, dating January 19, 1809, No. 3,191. This was known as a cylinder machine. This cylinder was made of sheet-brass, perforated much in the same manner as the covers of suction-boxes of to-day, but the holes were countersunk, "until the line of division was no wider than a hair." This cylinder was covered with wire-cloth and internally it was made very smooth having only two spiders, which formed the ends; the hubs were bored out to fit a stationary hollow shaft on which the cylinder revolved. This stationary shaft was the means by which the stationary suction-box or trough was sustained at any angle to the interior of the cylinder; the water and air from the suction passing through the same hollow shaft, "and for this purpose the box or trough is fixed in the inside of the cylinder and made to fit tight all round its upper edge; the pipe is connected with a pair of double-acting pumps placed in a cistern of water, so that when those pumps are put in motion the air inclosed between the trough and cylinder is immediately drawn out, and consequently the pressure of the atmosphere takes place upon the surface of the cylinder, which is covered with pulp, and thereby rendered nearly impervious to the air. The immediate effect produced is the squeezing out the water and laying the pulp down in a compact state on the surface of the cylinder, so that the paper cannot be disturbed by the pressure of the said rollers." In 1826, Mr. Casson applied this principle to the Fourdrinier by putting this box or trough below the surface of the web of wire-cloth.

The next is Leger Didot, May 26, 1812, No. 2,568. This was a machine to make paper on molds such as had been done by hand, the molds being fastened close together on endless chains, the molds passing over a box that had air-pumps attached. This inventor does not seem to attach much importance to this part, but merely mentions the fact.

The next is George Dickinson, February 21, 1838, No. 5,617, and the next was John Wilks, April 28, 1830, No. 5,934. Both of these suction-boxes were revolving and the principles of both were the same, with a slight difference in the formation of the revolving shell, and they were placed and operated in the same place and manner as the one illustrated and specified in THE JOURNAL of September 10, 1881. Wilks' claim reads thus: "And the expedient by which the said effect is produced is the making of a partial vacuum on the lower side of the said web of wove wire, while the wet sheet of paper lies on the upper side thereof, so as to cause the weight of the atmospheric air to press the water from the paper and through the wire."

The next is James Brown, November 7, 1836, No. 7,098. This is the one that several of your correspondents have claimed to be the first of any utility, and in order to give his claim a fair chance I will have to give a lengthy extract from his specification, which is as follows:

"My invention of a certain improvement on machines or apparatus for making paper, has for its object a better and more perfect application of a vacuum under the endless wire-cloth or web of paper-making machines for the purpose of more effectually drawing the water from the paper pulp as it passes from the pulp vat to the couching roll or to that part where the sheet of partially drained or dried pulp is taken up from the web to be pressed or squeezed by rollers to expunge the remaining portion of water in order that the said sheet of partially dried pulp may be in a better state for the rolling or pressing operation, and also the tex-

ture of the paper improved. And I would here remark that I am aware a vacuum has been heretofore applied to various paper making machines, but in all instances the box or chamber in which the vacuum is formed and over which the endless web passes, carrying the paper pulp, has been invariably covered with some perforated kind of lid or cover intervening between the interior of the box and the under side of the endless wire-web or cloth, and impeding the effective operation of the vacuum; whereas, my present improvement applies more particularly to the horizontal or Fourdrinier paper-making machine, and consists in applying the vacuum in a box or chamber under such horizontal wire-cloth or web without any cylinder, and more particularly without any perforated covering or lid intervening between the said box or chamber and the under-side of the said wire-web, the wire-cloth passing over the otherwise open box with the paper pulp, when it is equally and at all parts affected by the vacuum, without its operation being interrupted by any perforated lid or cover or other intervening substances. And, in conclusion, I would remark that I do not mean or intend to claim, as my invention, the application of a vacuum to all kinds of paper machines; but I do claim as my invention the application of the same to the horizontal web or wire-cloth of a Fourdrinier machine in the vacuum herein described, that is to say, without the intervention of any cylinder or any other thing intervening between the open space of the box or chamber in which the vacuum is produced and the endless web or wire-cloth which carries the paper pulp. At the same time, I would remark that proper arrangements must be made to support the wire-web, if thought necessary."

Now, in reviewing the whole matter, we find John Dickinson the first of whom we have any record. George Dickinson and John Wilks' devices are the same in principle as John Dickinson's, but differently applied. James Brown's patent is nothing more or less, than John Dickinson's stationary box or trough removed from the revolving shell, and placed under the horizontal web or wire-cloth divested of the perforated lid or cover, and we find in James Brown's last remark, "That proper arrangement must be made to support the wire if thought necessary," how it is that not more than one in a hundred of the suction-boxes of to-day but have a perforated cover, and necessarily so. I give it as my opinion that John Dickinson's principle of the revolving shell, with several of them applied to the Fourdrinier web or wire-cloth, under and over the sheet of pulp, will be the paper machine of the manufacturer, delivering the web of paper direct from the wire to the drying cylinders, sans couch-rolls, sans press-rolls, and sans felts.

Now, a few words in regard to the many devices that have made their appearance to produce an exhaust for suction-boxes. I find embodied in James Brown's patent of 1836, the plan of using steam as an agent. He, I think, was the first to use steam. There are a great many patents now, for using steam and it would take a very powerful microscope to see the difference in the many patents granted to accomplish the same end or purpose. Then, we have had high columns of water and long-legged siphons; but the one that takes the lead is Henry A. Barber's patent device of July 3, 1883, lately described and illustrated in THE JOURNAL. It was my good fortune to step into a mill where one was at work, and when the manager kindly called my attention to it and explained its working, I was astonished on listening to the hurricane that was passing through the air-pipe. It suggested great possibilities. This device recommends itself for its efficiency and its inexpensive method of operation.

I notice the criticism on my diagram of Wilks' dandy by "O. H." "Of all the canes which are canted in this canting world—though the canes of hypocrites may be the worst—the cane of criticism is the most tormenting!"

He asks for Wilks' claim. Here it is: "The uses of my said roller, or the effect to be produced by it when made in the manner hereinbefore described, are not only to press out a portion of the water from and give to the said sheet of paper a greater degree of consistency, but it may occasionally be employed to give to the said sheet of paper somewhat the appearance of having been made upon a mold such as is well known to paper makers by the appellation of a laid mold."

I think that "O. H." was very much indebted to his imagination when he stated that Robert Didot obtained a patent upon the paper machine for making laid and wove paper, and infers that it was by the use of a dandy-roll. In the first place, there is no such name on the patent records connected with paper making or paper machinery; and in the next place, there was no patent granted in that year for any such process. But I think that I can tell you what he has reference to. Leger Didot had a patent granted to him on May 22, 1817, in which the process of making laid and wove papers was embodied. This machine had the appearance of what is now known as the Harper, and the paper was couched therefrom much in the same manner as by the said Harper in the process of making laid paper. There were a number of molds fastened close together on endless chains, and the process of making wove was accomplished by substituting an endless web of wire-cloth in the place of the mold and chains.

"O. H." asks how young was I when caught. Just at the age 'twixt boy and youth. When thought is speech and speech is truth. HARPER.

Failures. The sheriff has taken possession of the plant of George B. Fraser, publisher, Morris, Man., and the same will be sold at auction.

Changes, Removals and New Firms.

Henry J. Stone, publisher News, Sanford, Me., has sold out. Merrill & Morse, printers, Auburn, Me., have sold out to W. S. Morse. L. & W. H. Waddell, publishers of the Chronicle, Charlottesville, Va., have sold out. Dietrich & Weihe, booksellers and stationers, Milwaukee, Wis., have dissolved partnership. Lewis Wright & Son, booksellers and stationers, Holyoke, Mass., have sold out to J. D. Gill. N. Ure & Co., booksellers and stationers, Toronto, Ont., have sold out to B. H. Rathwell. The firm of Rogers & Co., printers, Memphis, Tenn., has been succeeded by W. Spot Smith & Co. Rucks & Alden, publishers of the Delta Review, Greenville, Mis., have discontinued business.

Charles A. Daniels has been admitted to partnership by H. C. Gray, publisher of the Maiden Mirror, Malden, Mass. The style of the firm of Bentley & Gerwig, manufacturers of twines, &c., New Brighton, Pa., is now Bentley & Gerwig (Limited). The Pennsylvania Engraving Company, Philadelphia, Pa., composed of Washington & Caspian, has been dissolved. Paschal G. Caspian continues the business.

A dissolution has taken place in the firm of D. O. Wallace & Co., booksellers and stationers, Littleton, N. H. D. O. Wallace continues the business under the same style. Buck & Lindner, lithographers, New York city, have entered into a limited partnership, with special capital of \$10,000. The partnership is limited to September 19, 1885. Christy, Shepard & Walcott, manufacturers of paper hangings, New York city, advertise a limited partnership, formed August 1, with a special capital of \$135,000, the partnership to be limited to June 30, 1884.

Frederick MacCrellish & Co., publishers of the Alta, San Francisco, Cal., have sold out. Kerr & Chittenden, manufacturers of paper collars, Galt, Ont., have dissolved partnership. Rose & Miley, publishers of the Times, Benton Harbor, Mich., have sold out to J. P. Thresher. John A. Shiver, publisher of the Clipper, Warrenton, Ga., has sold out to Davis & Patillo.

J. J. Harrington, publisher of the Pacific Life, San Francisco, Cal., has sold out to D. L. Levy. Bowman & Hirst, printers, Charlotte, N. C., have dissolved partnership. John Hirst continues the business.

Furber & Wallace, publishers of the Republic, Littleton, N. H., have dissolved partnership. George C. Furber continues the business. Frank E. Beach has been admitted to partnership with J. M. Emerson, proprietor of the Naugatuck Valley Sentinel, Naugatuck, Conn.

Tuttle Brothers, card printers, North Haven, Conn., have admitted F. C. Bradley to partnership and will do business under the same style. The firm of Garton, Blewett & Co., booksellers, stationers, &c., Detroit, Mich., has dissolved. Garton, Berry & Co. succeed to the business.

Mary Russell, stationer, San Marcos, Tex., has admitted Bettie Ellison to partnership, and the style of the firm has been changed to Russell & Ellison. Holt & Frisby, dealers in wall-paper, &c., Louisville, Ky., have dissolved partnership. A new firm has been formed, under the style of Tracy, Holt & Co.

Fires.

The A. H. Hart Company, manufacturer of twines, &c., New York city, has been damaged by fire. The establishment of Robert Bishop, dealer in paper stock, Boston, Mass., has been damaged by fire. Insured. A fire on Sunday morning in the village of Passumpsic, Vt., destroyed the Passumpsic Pulp Company's mill. Loss not stated.

A disastrous fire occurred at two o'clock on Tuesday morning in the four-story brown-stone front building at No. 34 Courtland street. The basement and first three floors of the building were occupied by E. Wells Sackett & Rankin, stationers, printers and lithographers, and the fourth floor by Robert Foster, a manufacturer of blank-books and ruled paper. The entire loss is estimated at about \$55,000, which is probably covered by the insurance. The building was completely gutted above the second story. The stock and machinery of Robert Foster in the fourth story was a total loss. They were valued at \$12,000, and were only partly covered by insurance. The firm of Sackett & Rankin is the heaviest loser, the damage to its stock by fire and water being estimated at between \$30,000 and \$40,000. Mr. Rankin said that there was an insurance of about \$50,000 on their stock, which was divided among several companies, principally the London and Liverpool and Globe, Lancashire and other English companies. The building, which is the property of the Union Theological Seminary, is damaged about \$10,000. It is fully insured. The cause of the fire is not known.

In Town.

James Harper, Westville, Conn.; Colonel Barrett, Athens, Ga.; Thomas Duncan, Pequonock, Conn.; H. E. Rogers, Mr. Case, South Manchester, Conn.; W. McCready, E. R. Soliday, Lambertville, N. J.; George W. Wheelwright, Boston, Mass.; Charles Crocker, Fitchburg, Mass.; G. W. Baker, Bradford, Vt.

A man working in the pulp mill at Turner's Falls, Mass., had a hand nearly ground off on a grindstone the other day.

Personals.

William Biggs, bookseller and stationer, Oxford, N. C., is dead.

George Schlegel, of the firm of George Schlegel & Son, lithographers, New York city, is dead.

J. H. Hutchinson, formerly publisher of the Transcript, Franklin Falls, N. H., died a few days ago.

Catharine Moore, of the firm of C. Moore & Co., manufacturers of twines, &c., Philadelphia, Pa., is dead.

Jeremiah Sturges is again on the sick list, having had to leave his business one day this week and go to his home. His indisposition is no way serious this time.

W. F. Hawkins, who was reported last week as seriously ill, was only temporarily so, as he recovered sufficiently a day or two afterward to enable him to be out and attend to business.

Among the members of the trade visiting Philadelphia during the past week were D. Alexander, Lee, Mass.; A. R. Blacklock and E. J. Bond, Baltimore, Md.; C. H. Mullen, Mt. Holy Springs, N. J. Edward Goodwin, Jr., of Perkins, Goodwin & Co., sailed, with his wife, on the Gallia on Wednesday, for Europe. He will be absent for about three months. This is Mr. Goodwin's first trip abroad, and he will combine pleasure with business.

Charles T. Crocker, of Fitchburg, Mass., was in the city this week, accompanied by his son and brother-in-law. Mr. Crocker is a young man to be a grandfather. This gentleman when about twenty years of age was a clerk for Vernon Brothers & Co.

SPECIAL NOTICES.

[Insertions under this heading will be charged 10 cents a line. Payment invariably in advance.]

MAURICE O'MEARA. Packer of Rags and Paper Stock, 277 WATER STREET, NEW YORK.

EUGENE SULLIVAN. Packer of Rags and Paper Stock, 356 & 358, WATER STREET, NEW YORK.

THOS. BUTLER & CO. Rags, Paper Stock, Old Metals, Rubber, 249-255 CAUSEWAY ST., BOSTON, MASS.

Market Review.

OFFICE OF THE PAPER TRADE JOURNAL, FRIDAY, OCTOBER 12, 1884.

THE MONEY MARKET.—The money market is amply supplied with loanable funds, but confidence has been so disturbed by an abuse of credits in the way of accommodation paper, dating of bills ahead and collusive preferences in assignments that the banks and discount houses are using much more than ordinary discrimination in the matter of discounts.

The stock market continues unsettled, and the course of prices as baffling as ever. Government bonds are about steady, while railway mortgages are irregular.

Foreign exchange was rather easier until about the close when bankers' short bills became firmer on an increased inquiry. Continental bills are a shade easier. We quote: Bankers' sterling, 60 days, actual, \$4.81 1/2 @ 4.82; Bankers' sterling, sight, actual, 4.84 1/2 @ 4.85; Cable transfers, 4.85 1/2 @ 4.86; Prime commercial sterling, long, 4.81 @ 4.81 1/2; Documentary sterling, 60 days, 4.80 1/2 @ 4.81; Paris, bankers', 60 days, 5.28 1/2 @ 5.29 1/2; Paris, bankers', sight, 5.29 1/2 @ 5.31 1/2; Antwerp, commercial, 60 days, 5.25 1/2 @ 5.27 1/2; Swiss, bankers', 60 days, 5.28 1/2 @ 5.29 1/2; Swiss, bankers', sight, 5.19 1/2 @ 5.20; Reichsmarks (4), bankers', 60 days, 94 1/2 @ 94 3/4; Reichsmarks (4), sight, 94 1/2 @ 95; Guilders, bankers', 60 days, 40 1/2 @ 40; Guilders, bankers', sight, 40 1/2 @ 40 1/4.

THE PAPER TRADE.—Business with the city trade has progressed very fairly during the past week, and may be said to be undergoing a steady and gradual improvement, the impetus given to it by the placing of orders at the mills and with dealers during the drought being maintained. Prices, too, retain all of the firmness of previous reports, notwithstanding that the production is increased considerably. The drought must not be considered as entirely at an end, because, singular as it may seem, some manufacturers have been troubled more during the past week than at any time this season. There has not been sufficient rainfall to give full relief, the water soaking into the ground and not running off.

JUTE BUTTS.—The market has become a little more quiet. The sales reported during the week comprise 2,000 bales at 27-32c. time, about 1,500 bales at 21-16c. and 500 bales selected quality at 2 1/2c. cash. Holders ask 2 1/2c. and upward, and buyers offer 2 1/2c. The native holidays have prevented any business in Calcutta and prices are, to a great extent, nominal in consequence of this interruption to the usual course of business. About 500 bales of Bagging Butts have been sold at 2 1/2c., and this quality is held at 2 1/2c. and upward. At the meeting of the Bagging manufacturers here on Monday and Tuesday, an agreement was made to still farther control production and almost every mill will close up for an undetermined period.

WOOD PULP.—There is a steady, fair demand, which is met by manufacturers quoting about former prices, viz.: Poplar, 1 1/2c., and Spruce, 2 1/2c., according to quality and shipping point.

WOOD FIBRE.—The market for this article remains about the same as reported a week ago, and if at all changed, there has been a little better inquiry, prices, however, ruling steady. We still quote 4 1/2c. for Bleached, and 3 1/2c. for Unbleached.

FOREIGN RAGS AND PAPER STOCK.—The general features of this market have under-

gone no change since our last review, with the single exception that the imports as compared with the heavy receipts for several weeks past have fallen off very materially, as will be seen by our totals under. We hear of a number of parcels of both Linens and Cottons having been closed out this week, and some of them of fair size, but the prices were so low in almost every instance that it has been found impossible to get them with any degree of exactness. Among the number we may mention 125 bales S. P. F. F. Linens at 4 1/2c., and 25 tons extra fine Blue Cottons at 3c. The arrivals during the past week aggregate 3,120 bales and bags, embracing 1,214 bales Rags, 740 bales Old Papers, and 1,165 bales Manillas.

DOMESTIC RAGS.—The movement in a moderate way continues fair. Although manufacturers are buying a little more freely, dealers and packers are not able as yet to get any better prices. The demand has been so light during the continuance of the drought, and stocks accumulated to such an extent, that now that the mills are consuming more largely, the trade looks for somewhat better prices very shortly. Among the sales reported were 100 bales No. 1 City Whites at 4 1/2c., 150 bales No. 2 do. at 3 1/2c., and 125 bales Seconds at 1 1/2c.

BAGGING &c.—Gunny Bagging has been firmly held on the basis of last week's prices, the further allowance in Jute Butts not seeming to have imparted any greater strength to Bagging. Prime No. 1 Manchester is still offering at 1 1/2c. 2 1/2c. and No. 2 do. at 1 1/2c. Manilla Rope is steady at 3 1/2c. for Domestic and 3 1/2c. for English. We note among other sales 50 tons No. 1 Manchester Bagging at 1 1/2c., 25 tons Bur-laps Gunny at 1 1/2c., 35 tons Domestic Manilla Rope at 3 1/2c., 25 tons Jute Rope at 2.30c. and 15 tons Flax Tow at 1 1/2c.

OLD PAPERS.—This class of paper stock has shown more activity this week than for a long time past, although dealers find it very difficult to secure an advance in prices as the supply continues large of almost all grades. Shavings and Manillas attract the most attention, while Book Stock, Folded News, Straw and Binders' Clippings are very much neglected, and prices nominal. We quote: No. 1 Manillas at 2 1/2c., No. 2 do. at 1 1/2c.; Folded News, 1 1/2c.; Hard White Shavings at 4c.; Solid Printed Book Stock at 2 1/2c.; and Soft White Shavings at 3 1/2c. Ledger Stock at 3 1/2c.; Mixed Shavings, 3 1/2c.; Light Book Stock, 1 1/2c.; Commons, 50c.; Straw Board Clippings, 50c.; Bogus Manillas, 90c. @ \$1, and Binders' Clippings, \$1.

STRAW.—Straw is quiet but firm for about all grades. We quote in New York: No. 1 Rye at 50c.; Short Rye, 35c.; and Oat at 30c.

ROSINS.—There is very little doing in any description of rosins, and so far as reported sales are not beyond small lots. The market is a little unsettled and rather favors buyers. We quote yard lots, cartage included, viz.: C Strained, \$1.75; D Good Strained at \$1.85; E at \$2; F Good No. 2 at \$2.10; G Low No. 1 at \$2.30; H No. 1 at \$2.40; I Good No. 1 at \$2.60; K Low Pale at \$2.75; M Pale at \$3.00 1/2; N Extra Pale at \$3.25 @ \$3.50 and WG at \$3.75 @ \$4.25.

CHEMICALS.—Although consumers generally are rather reluctant to operate freely at present prices, their requirements are such that frequent purchasing is found necessary. Bleaching Powder is cabled firm from abroad at 29 1/2c. @ 29 1/2c., and here the feeling is in sympathy, \$2.35 to \$2.50 being asked as to brand and quantity. Caustic Soda, 70 per cent., continues in demand and scarce, some holders asking \$3.50, although a fraction less would buy. Sal Soda is firmer. Soda Ash is steady. Sales are said to have been made here as follows: 250 cks. Bleaching Powders at 2.35 @ 2.50c., to arrive and on the spot as to brand and quantity; 300 tons Soda Ash at \$1.60; 300 drums Caustic Soda, 70 per cent., at 3 1/2c.; 50 tons English Sal Soda at \$1.17 1/2; 400 barrels Lump Alum, at 2c.; 300 barrels Ground do. at 2 1/2c.; 650 barrels Pearl do. at 2 1/2c.; 900 barrels Natrona Porous Alum at 2 1/2c.; 100 tons Aluminous Cake at \$1.45; 30 cases German Ultramarine at 2c.; 30 cks. Antichlorine at 2 1/2c.; 15 cks. Yellow Prussiate of Potash at 2 1/2c.; 20 cks. Bichromate do. at 1 1/2c.; 20 cks. Brown Sugar of Lead at 6 1/2c.; 150 bbls. Corn Starch at 4c.; 50 bbls. Potato do. at 5 1/2c.; and 150 bbls. Venetian red at 1.56 1/2c.

CHINA CLAY.—There has been a little more inquiry for English, principally for future delivery, for which sales have been made on the basis of \$15 for prime. The offering of prime on the spot continues large, for which \$16 is asked. We hear of sales of 50 tons at \$16 @ \$17.50; 30 tons at \$15; 35 tons prime to arrive at \$15, and 60 tons extra grade at \$16.50. We continue to quote prime at \$16 @ \$16.50, medium at \$15 @ \$15.50, and common at \$13.50 @ \$14. Southern continues in fair demand at \$11.50 @ \$12, but sellers experience considerable difficulty in keeping up with their contracts, because the shipments from the sources of supplies are restricted for various reasons.

COAL.—Anthracite trade as a whole is in very good shape; the local troubles are being smoothed over and the western and interior trade is in good shape. Seward's Coal Trade Journal says: "It is not probable that the managers are going to let prices slide off, at this season of the year, and the jobbers seem to hold this opinion, for instead of rushing to sell, they are quietly waiting for the excitement to pass away. At this writing no stoppage has been ordered, but we judge from the tone of the reports we get that one may be had to take effect next week for three days, and a fortnight later the same if necessary. There was some excitement in the local jobbing trade on Thursday and Friday last. The Delaware and Hudson Canal Company found they were not getting orders for October delivery in the proportion desired to move their receipts and advised their customers that rates for the present would be

the August list. They had a good trade during September at the list price, but it was evident others were not getting the list, and customers were leaving them. There is no agreement as to the selling price, and their action was perfectly legitimate. It seems to have made quite a stir, although the net prices are not below current sales for some time. Bituminous is running along in the old groove; there is no lack of coal and prices as a rule are low." Philadelphia and Reading Company at Fort Richmond, N. J., quotes Lump at \$4.50; Broken, \$4.60; Egg, \$4.05 @ \$5; Stove, \$4.50 @ \$5.25, and Chestnut, \$4.15 @ \$4.90. Lackawanna at Weehawken is quoted: Lump, \$3.90; Egg, \$4.30; Stove, \$4.70, and Chestnut, \$4.80.

PRICES CURRENT.

NEW YORK MARKET.

Dealer's Selling Prices.

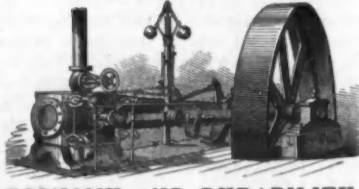
Table listing various paper products and their prices, including Ledger and Record, Flat Caps, News, Paper, and various types of paper stock.

BOSTON MARKET.

Table listing various chemical products and their prices, including Alum, Bleaching Powder, Caustic Soda, and other industrial chemicals.

Advertisements.

CORLISS ENGINE BUILDERS.



ECONOMY AND DURABILITY. BOILER MAKERS, Rotary Boilers, Wood Digesters, WOOD CHIPPERS, Wood Pulp Machinery. ROBT. WETHERILL & CO., Chester, Pa.

Important to Paper Trade.

KEYSTONE CLAY CO.,

White China Clay, (NOT MINERAL PULP).

Thoroughly Washed and Floated. GOOD COLOR! NO GRIT! LITTLE MOISTURE! Satisfactory Results where Used.

Office, 4934 Main St., Germantown, Phila. ASK FOR SAMPLE.

WANTED-A SITUATION BY A MARRIED man, a good, competent Engineer, in a Paper Mill on any kind of paper. Address J. ENGINEER, P. O. Lock Box 52, Holyoke, Mass.

WANTED-EXPERIENCE FOREMAN in a book mill; very healthy location; free house. Must be fully competent and able to give good finish to paper. Address with reference and wages expected. "FINE FINISH," E. P. C., Paper Trade Journal Office.

WANTED-A PAPER STOCK SALESMAN; one that has some knowledge of both foreign and domestic branches preferred; state where and how long in the business, age, salary, qualification, etc. Address EMPLOYER, Paper Trade Journal.

FOR SALE-ONE 62-INCH CYLINDER Machine, consisting of double screens of ten plates, 12 inches by 30 inches; Stuff and Fan Pumps; Press of oak wood and three iron rolls, 14 inches diameter; ten Dryers, 36 inches diameter by 62 inches face; Reels; Winder attached to a Cutter Frame; all Shafting, Pulleys, &c. (no Calenders). This Machine was recently built by us for making and drying wood pulp; has been used only six months, and we are to replace it by a 60-inch Harper Improved Fourdrinier. Can be delivered in about two months. Also, five Chilled Calender Rolls, 18 inches by 70 inches, good as new; one Rice, Barton & Fales Stop Cutter, 42 inches wide, with Slitters, &c., all in good order. Address BOSTON MACHINE MFG. CO., Granite Street (cor. First St.), South Boston, Mass.

FOR SALE-WILL BE SOLD CHEAP IF WITHIN thirty days. One 18 1/2 x 4 feet Rotary Bleach. Has had very little use and is in good condition. Now using tub bleaches. Address Box 1900, Boston, Mass.

FOR SALE-A 44-INCH STRAW BOARD Machine, with 3 Forming Cylinders, 17 Dryers, Calender and Cutter. Will be sold cheap. For particulars address THE BLACK & CLAWSON CO., Hamilton, Ohio.

WANTED TO PURCHASE OR LEASE PAPER MILL, Accessible to Philadelphia or New York market. Address M. J., Philadelphia office Paper Trade Journal.

FOR SALE. Three Rag Engines, 800 lbs., with rolls 36 in. long, 30 in. diameter; one Rag Engine, 670 lbs. with rolls 44 in. long, 35 in. diameter; one Rag Engine, 600 lbs., with iron rolls, 44 in. long, 35 in. diameter; one Cylinder Washer with each engine; Luffel Wheel, 56 in., run against the sun. SMITH PAPER CO., Lee, Mass.

WANTED TO LEASE. A SMALL WRAPPING MILL. Address WRAPPING, Paper Trade Journal office.

ENGINES AND PUMPS FOR SALE. One horizontal Corliss engine, 30x48 inches; one do. do., 24x30 inches; one horizontal Putnam engine, 11x 20 inches; one horizontal Babcock & Wilcox engine, 12x30 inches. Three Fales & Jencks rotary pumps. A set of machinists' tools. D. B. CRICKSHANK, 245 Dyer Street, Providence, R. I.

PARTNER WANTED. With from \$10,000 to \$30,000, to join advertiser in the manufacture of Card Boards, Glazed Papers and Playing-Cards in Canada. Advertiser can furnish proof of having cleared for others in same branch for several years from 30 to 34 per cent. net gain on their capital where others previously could not succeed; is a good bookkeeper and correspondent; knows how to run all the machines required for the business, how to mix the colors, and has good connections for buying. One who could attend to selling the products preferred. Address A. B., Paper Trade Journal Office.

FOR SALE-VALUABLE PAPER MILLS, And other buildings and land, situate on the line of and close to the Delaware, Lackawana and Western Railroad, at Saugott, Oneida County, N. Y. The mills are built of stone, expressly for Paper Mills. There is also an unoccupied site, between the two mills, which can be brought into use by a low dam at comparatively small expense, with water-fall of about 19 feet. One of the mills has a fall of about 15 feet, and the other of about 25 feet. A map of the premises can be seen with Mr. David Phillips, at the store of J. Hayward & Co., 174 Fulton Street, New York. Mr. Phillips is well acquainted with the mills. Reference may also be made to Mr. Charles J. Cave, 164 Fulton Street, New York. This property is worthy of the attention of persons or a company wishing to make paper or extend their business. Address E. A. GRAHAM, Utica, N. Y.

HORIZONTAL ENGINES

IN STOCK AND FOR SALE. 10 x 20, price on cars..... \$600.00 12 x 24, price on cars..... 800.00 14 x 30, price on cars..... 1300.00 BOSTON MACHINE MFG. CO., Granite Street, cor. First Street, South Boston, Mass.

FOR SALE.

At Nashville, Tenn., a No. 1 GOOD WRAPPING MILL, now in operation. We will sell low, and on easy terms. W. S. WHITEMAN, Jr., or FRANK L. BLUME, Nashville, Tenn.

A VALUABLE WATER-POWER

FOR SALE, OR WILL RENT FOR A TERM OF YEARS.

A desirable site and location for a Paper or Straw Board Mill, situated in the flourishing village of Seneca Falls, N. Y. Water supply from the Seneca River, outlet of Seneca Lake. Part of capital furnished, if required, for either Paper or Straw Board Mill. For further particulars, address RUMSEY & CO. LIMITED, Seneca Falls, N. Y.

FOR SALE.

One 63-inch Fourdrinier Machine, in good order, new running; will be ready for delivery October 1; with steam pump, shaft, shafting, and everything complete; taken out to be replaced by a larger machine. One 38-inch Holyoke Trimming Press, used but a few months; good as new; just the thing for folded papers. One Woodruff and Beach Steam Engine, size 18 x 48; slightly damaged by fire; can be put in good condition at very little expense; Bulkley condenser attached; this will be sold at a bargain. One special 44-inch Luffel Wheel; good as new; has been run only three years; in perfect running order. Three Rag Engines; one roll, 40 inches diameter, 38 inch bars, spindle 10 feet long; one roll, 41 inches diameter, 40 inch bars, spindle 12 1/2 feet long; one roll, 40 inches diameter, 41 inch bars, spindle 12 feet long. These Engines are damaged somewhat by fire, but the iron work is in fair order; they have all been run less than three years; all well copped, and copper in good condition now; will be sold at a bargain. HURLBUT PAPER CO., South Lee, Mass.

FOR SALE.

A Paper Mill for Making Manilla and Colored Papers. For further particulars, address P. J. P., office Paper Trade Journal.

FOR SALE.

Two Stacks Chilled Rolls, manufactured by J. Morton Pools, in first-class condition; eleven rolls each, 64 inch face. For further particulars apply to DENISON PAPER MFG. CO., Mechanic Falls, Me.

FOR SALE, AT HALF PRICE OR LESS.

One Engine Roll, complete, 48 in. long by 44 in. diameter; one Stack Calender Rolls, 72 in. face; five Rolls 7 in., and two Rolls 12 in.; two Copper Couch Rolls, 72 in. face, 14 in. diameter; one McDermid Pulp Reclaimer; one Pulley, 12 in. face, 60 in. diameter, made in halves; one Shaft, 3 in. diameter, 10 ft. long; one pair Couplings for shaft; one Edison Electric Pen, and Printing Press. Address SPRINGFIELD PAPER CO., Rainbow, Ct.

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FOR SALE-CHEAP.

A lot of new Machinists Tools, Lathes, Planers, Upright Drills, Shaping Machines, &c.; also, one Wright Engine, 12 x 24 in., one Corliss Engine, 5 x 20 in.; one 50 horse-power Beam Corliss, 100 feet new 3-inch Shafting Hangers, cheap; Pumps, Heaters, Boilers, &c., new and second-hand. PROVIDENCE MACHINERY AGENCY, 211 to 219 Eddy St., Providence, R. I.

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One Drying Cylinder, 36 x 60 in., good as new. Also, One Pair Couch Rolls, 12 in. diameter, 56 in. long. Can be put in good working order with little expense. EAST HARTFORD MFG. CO., Burnside, Conn.

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SECOND-HAND PAPER MACHINERY. One 62-inch Fourdrinier Machine, Six Beating Engines. Rolls, 28 x 30 inches. PARSONS PAPER CO., Holyoke, Mass.

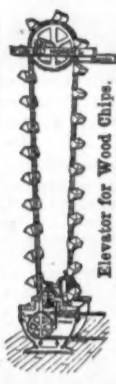
INCREASE YOUR PRODUCT.

68-INCH FOURDRINIER MACHINE, FOR IMMEDIATE DELIVERY. One Beating Engine, Iron Roll, 36 x 34 in. One Beating Engine, Wood Roll, 34 x 28 in. Two Rotary Dusters. One Iron Frame Rag Cutter. One Hydraulic Press, plates, 49 x 37 in. Geared Screw Press, plates, 40 x 30 in. Four Copper Dryers, 60 x 28 in.; no Frames. Drop-Flue Boiler, 24 ft. x 66 in.; 60 Horse-Power. Houston Wheel, 25 in.; good as new. Cushman Double Scroll Wheel, 30 in. Littlefield Pump, two cylinders, 4 x 1 1/2 in. Rice & Barton Screen Plates and Frame; six plates cut 60, 12 x 42 in. Douglas Hydraulic Ram, No. 6. Hatch Cutter, 60 in., for Dry Paper. Paper Calender, two Rolls, 34 inches. Engine Lathes, 6 1/2-ft. bed, 16-in. swing. Drill Lathes, 6-ft. bed, 19-in. swing. Blower, iron case, 22 in. diam., 5 lb. discharge. Twenty Pulleys, for Flat Belts and Wire Rope. PLATNER & PORTER MFG. CO., Unionville, Conn.

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Improved Appliances for Elevating and Conveying Rag, Straw, Manilla and Wood Pulp.

BALED AND CUT STRAW. DETACHABLE LINK BELTING

Is extensively used for driving Paper Mill Machinery; it is unaffected by heat or dampness, and its motion is positive.

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Made to Order of Brass, Phosphor Bronze or Copper.

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Cylinder 30 x 42. Also, celebrated Eclipse Boilers for same. Will be sold cheap, on account of no further use. For further particulars, address or apply to R. McDOWELL, Lambertville, New Jersey.

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TICONDEROGA, N. Y. Chemical & Mechanical Wood Pulp.

DAILY CAPACITY OF MILLS: 6 Tons Chemical Wood Pulp, dry in rolls, 4 " Mechanical " " dry weight.

With good wood and the pure water of Lake George, we claim to make an article of wood-fiber for Paper Makers' use unequalled by any in the market. Samples and Prices by mail, when requested.

When People are Traveling Comfort and Safety are the

TWO PRINCIPAL OBJECTS IN LIFE!

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"The Erie is by far the smoothest road I ever traveled on, either in this country or in Europe; and I consider it the perfection of railroad traveling. With the clean, light and airy coaches, polite attendance, freedom from dust, noise and jar, we reached Chicago hardly realizing what a long journey we had performed. And then such a breakfast as we had the morning after leaving New York, at Hornellsville, is certainly deserving 'honorable mention.' Such a table as they have there, with a full half an hour to enjoy it, is enough of itself to attract passengers."-Ex. U. S. Minister, E. B. Washburne.

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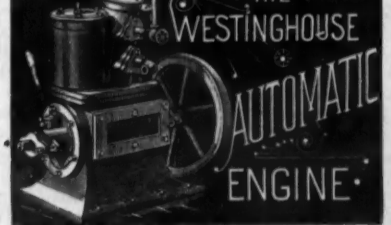
No better evidence than the above need be wanted that both of these objects are secured to the traveler who purchases his ticket over the

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Automatic Engines, 30 to 300 Horse Power. Throttling Engines, 4 to 100 Horse Power. Over 450 Engines and 10,000 Horse Power now in use.

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Wood or Straw Pulp, McNeil's Patent Magazine Heating Boiler. Heavy Sheet and Boiler Iron Work for PAPER MILLS a specialty.

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THE BEST AND CHEAPEST. UPWARDS OF TWO HUNDRED IN USE.

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AMERICAN COTTON
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Manufactured by
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Hollingsworth Street, Baltimore, Md.

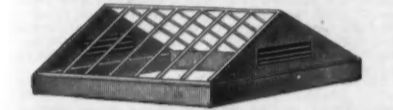
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Used in all the principal paper mills of Great Britain.

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For Paper Mills, Factories, Houses, Halls, &c.
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In galvanized iron and copper. A powerful and rapid exhaust Ventilator. Working models mailed on receipt of 20 cents.



Ventilating Metallic Skylights,
Neat, Light, Fire-proof and Durable.
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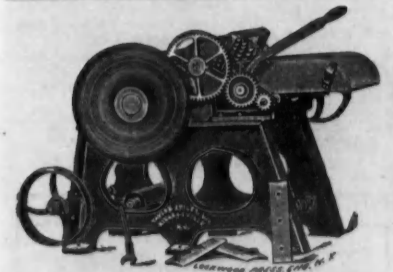
Drainers, Stuff Chests, Broken Tubs, Straw Kettles, Boiling and Sizing Tubs, Water Tanks, &c.,
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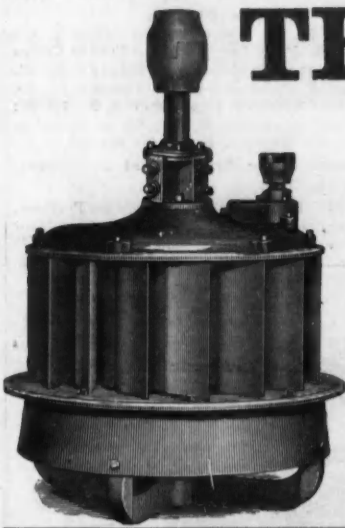


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TRIMMING, RAG CUTTER, STRAW CUTTER
—AND—
Machine Knives of Every Description,
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**GIANT
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(THREE SIZES)
They are the most durable, have greater capacity, take less power, and are the cheapest cutters in the market. Estimates and full description furnished on application. Manufacturers of the Angle Bed Plates, Roll Bars (steel laid or all steel), Trimming Knives and Paper Mill Knives of every description.
TAYLOR, STILES & CO.,
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THE VICTOR TURBINE.

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

On view at Permanent Exhibition of Mill Machinery, 36 Broadway, New York.

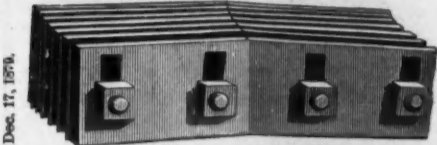
Possesses more than Double the Capacity of other Water Wheels of same diameter, and has produced the Best Results on Record, as shown in the following tests at Holyoke Testing Flume:

SIZE WHEEL.	HEAD IN FEET.	HORSE-POWER.	PER CENT. OF USEFUL EFFECT.
15-inch	15.06	30.17	.8532
17 1/2-inch	17.96	36.25	.8590
20-inch	18.21	49.00	.8532
25-inch	17.90	68.63	.8594
30-inch	11.65	62.54	.8676

With proportionately High Efficiency at Port-Gate.

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, and of the Best Material. We also continue to manufacture and sell at very low prices, the

ECLIPSE DOUBLE TURBINE,
So long and favorably known. State your requirements, and send for Catalogue to the
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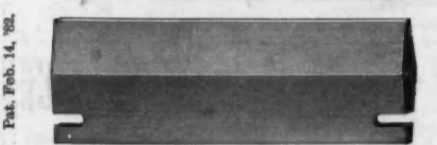
**Jordan and Paper Pulp
ENGINES,**
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JORDAN ENGINES REFILLED.

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DOUBLE BEVEL CRUCIBLE STEEL ROLL BAR.

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Rubber Belting, Steam Packing,

ALL KINDS OF HOSE AND TUBING,
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SPECIALTIES: GIANT (Patent Stitched) BELTING, and SEAMLESS STANDARD BELTING;
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DECKLE STRAPS, made Seamless, and PRINTERS' BLANKETS.

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SOMETHING NEW!
The Simplest, Strongest, Most Durable, Economical
and Lightest-Running

STRAW CUTTER
For Paper and Pulp Mills ever Invented.

Cut and description will appear shortly, meanwhile, those desiring New Cutters, or any one who is interested, will please address the manufacturers, who will forward references and testimonials from those who are using them. Address

THE BELL CITY MANUFACTURING CO.,
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MILLWRIGHT ARCHITECT,
Manufacturer of Rag Engines, Cylinder Washers,
Rag Cutters, Dusters & Vats for Paper Mills.

ALSO AGENT FOR HEALD & SISCO'S CENTRIFUGAL PUMPS.

THE ROTARY HYDRAULIC GOVERNOR

Secures Perfection of Speed of Water-Wheels. The only Governor that can satisfactorily control heavy changes of labor.
SCIENTIFIC in principle, accurate in construction and application, perfection never before approached in results. Each change of labor ACCURATELY WEIGHED and an EQUAL AMOUNT of power instantly changed. Power and labor equal, speed must remain uniform, otherwise not. This secured only by instantaneous and rapid action of the gate. Will carry the gate as far in one second as any other regulator can in one minute, and not "run by." Perfect control of Web Calender and Pulp Grinding Wheels, earning their cost many times each year. Equally efficient on Engines and Machine Wheels—seventeen in use in Holyoke. Efficient, simple, reliable, durable. Warranty unlimited. **GILLESPIE GOVERNOR CO.,** Works, 49 Purchase St., BOSTON.
JOHN S. ROGERS, Treasurer and General Manager.

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MANUFACTURERS OF
PAPER MACHINERY

— OF EVERY DESCRIPTION. —
Rolls Reground by the J. Morton Poole Co.'s Process.
Estimates on building or refitting Paper Mills cheerfully furnished.

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MANUFACTURER OF



Fourdrinier and Cylinder Wires,
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THE EXHAUST VENTILATOR FAN

IS PARTICULARLY ADAPTED TO THE
Removal of Steam, Moisture and Heat from Machine
and Bleach Rooms in Paper Mills.

It is in successful operation in the following places: Paper Mill of Messrs. Averill, Russell & Carpenter, Minneapolis. Paper Mill of Messrs. Warner, Newman & Warner, Minneapolis. Paper Mill of Minneapolis Straw Board Co., Minneapolis. Atlas Paper Co., Appleton, Wis. Lockport Paper Co., Lockport, Ill. Cedar Falls Paper Co., Cedar Falls, Iowa. Cleveland Paper Co., Cleveland, O. Geo. H. Friend & Son, West Carrollton, O. South Bend Paper Co., South Bend, Ind. Mead Paper Co., Dayton, O., and many other places.

Send us diagram of your mill and dimensions, specifying where steam is generated, and we will make estimate and guarantee the removal of steam in winter and heat in summer.
EXHAUST VENTILATOR COMPANY,
111 Monroe St., Chicago, Ill.
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Agents for New York, New Jersey and New England States, 45 Fulton Street, New York.



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MILLWRIGHT WORK A SPECIALTY.

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Work in general.

The "Duc" Elevator Bucket.
ALWAYS FIRST PREMIUM IN COMPETITIVE TRIALS.
EXTRA STRONG AND VERY DURABLE.

No Corners to Catch. No Seams to Burst. 50,000 on hand. Telegraphic orders filled.
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Sole Manufacturer, BROOKLYN, N. Y.

WATER WHEEL GOVERNOR. ELEVATORS

SPECIALLY DESIGNED FOR
Paper and Pulp Mills,
WITH AUTOMATIC HATCHES.
Send for Descriptions.
— MANUFACTURED BY —
COHOES IRON FOUNDRY AND MACHINE CO., Cohoes, N. Y.



Snow's Latest Improved.

Used by the largest Mills.

EASTWOOD WIRE MFG. CO.,
Belleville, New Jersey,
MANUFACTURERS OF

FOURDRINIER WIRES,

WITH PATENT SAFETY EDGE.
Brass, Copper and Iron Wire Cloth
OF EVERY DESCRIPTION.
SEND FOR SAMPLES AND PRICES.

THE "SALEM" ELEVATOR BUCKET.

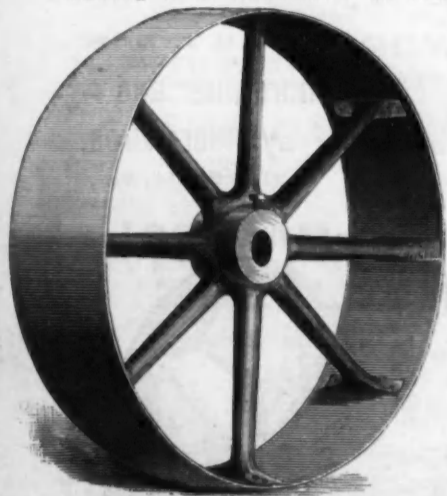
SHOVEL EDGE.
Seamless, Rounded Corners,
CURVED HEEL.
RUNS EASY,
STRONG AND DURABLE,
EMPTIES CLEAN.
W. J. CLARK & CO.
Sole Manufacturers,
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New York Office and Salesroom,
9 CLIFF STREET.



Wrought Rim Pulley.

Herewith is given an illustration of the Medart Patent Wrought Rim Pulley manufactured by McMurray & Stoughton, Hartford, Conn. This pulley is offered to buyers as a "perfect" pulley free from the defects often found in cast pulleys. It is said to combine the minimum weight with maximum strength, and its advantages are set forth as follows:

"It is stronger and more durable because of the absence of shrinkage strains, to which cast pulleys are liable and which necessarily weaken them. The arms in this pulley are straight and cast with the hub in one piece without a rim. The increased number of arms places them in the most advantageous position to take the strain. The smaller sizes have six, the medium eight, and the larger ten or twelve arms. The rim, owing to the nature of its material, is much stronger than the cast rim. There is a great reduction of momentum and centrifugal force. It is lighter than cast-iron pulleys and it can with safety be run at much higher speeds, admitting of the transmission of the same



WROUGHT RIM WHOLE PULLEY.

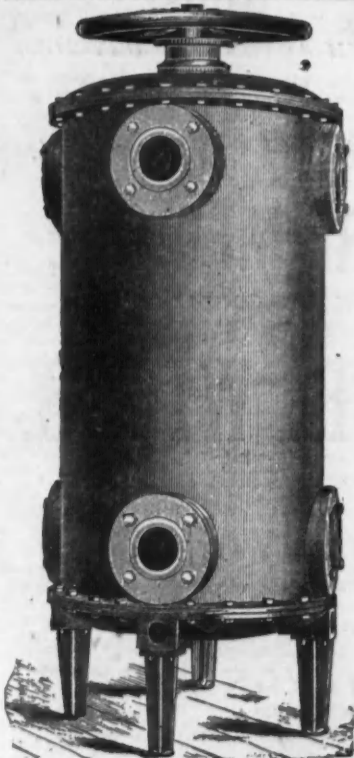
power with much lighter shafting, hangers, belts, &c. It is balanced for all speed without the necessity of adding extra weights, owing to the fact that the rim is uniform in thickness and width, and that every part is exactly equi-distant from the centre. The spider is first ground concentrically with the axis of the pulley, after which the rim is attached and also ground from the same centre. The centre of gravity of a completed pulley made by this process is made to coincide more absolutely with its geometrical centre than has heretofore been possible under any of the old methods of manufacture. It saves belting. The ordinary wear of belting is largely due to slipping upon the rough and porous face of the cast pulley. The wrought-iron face being denser than the cast, and ground smooth, greatly lessens the wear. This smoothness has the further advantage that the belt adheres more closely to the pulley rim, and furnishes greater tractive power. It is proved in the manufacture, as the grinding process tests the strength much more severely than any belt-strain that can ever come upon it."

The rim is cold rolled, either crowning or straight, and the pulley can be had whole or split, tight or loose, with single, double or triple sets of arms.

General Notes.

The Keystone Clay Company is getting orders for its product from mills in different States, and it is said that its clay is giving great satisfaction. The company invite inspection and test of its clay.

Jamison's steam injector is identical in principle with the ejector, the terms being interchangeable according to the method of applying the apparatus. This injector is in use in several paper mills for producing the vacuum in the suction-boxes of the machines.



Patented in the United States July 19, 1881; also in England, France, Germany, Belgium and Canada.

Manufacturing News.

EASTERN STATES.

The Clark Machine Company, Turner's Falls, Mass., has just placed one of its largest-sized fire pumps in the Albion Paper Company's Mill at Holyoke, with friction gearing to run it. The pumps will throw 1,000 gallons of water per minute.

The directors of the Springdale Paper Company, Westfield, Mass., have voted to at once

put a larger engine into their mill to increase its capacity to three tons per day, as the present output of two tons does not keep up with their orders.

MIDDLE STATES.

A new paper mill is said to be under way at Wilkesbarre, Pa.

SOUTHERN STATES.

Wm. H. Hoffman & Sons' Paper Mills, Baltimore, Md., are setting a tubular boiler with the Jarvis patent furnace at their Rockdale Mill. They will use screenings for fuel.

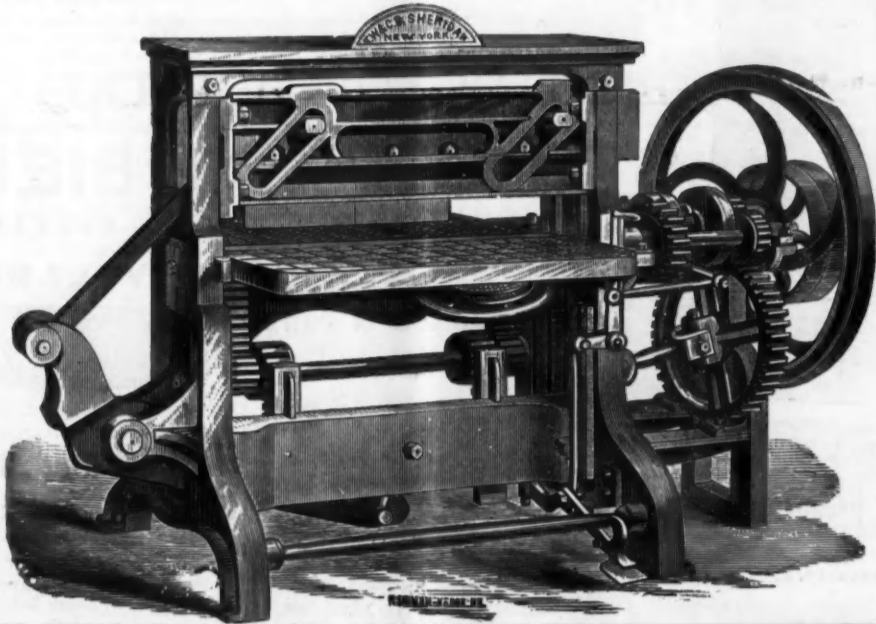
New Patents.

No. 292,166. Paper-Bag Machine.—Thomas Coates and Joseph J. Bissicks, Bristol, County of Bristol, England. Patented in England February 25, 1879, No. 759; in France, August 23, 1879, No. 120,793; in Belgium, August 23, 1879, No. 49,122, and in Germany, November 22, 1879, No. 10,749.

No. 283,309. Paper Box.—Richard R. Colburn, Ansonia, Conn.

No. 283,322. Preparing Paper for Copying Purposes.—Morgan W. Brown, Brooklyn, N. Y., assignor to Washington Quinlan, same place.

SHERIDAN'S AUTO.



SHERIDAN'S AUTO.

THIS is the only Self-Clamping Cutter in which the knife is operated from above, and in which the pressure of the Clamp upon the paper is always greater than the resistance against the knife, without the aid of Springs, Weights, or Friction of any kind, POSITIVELY AUTOMATIC. Send for Price List; also of our Hand-Clamp Cutter, "THE SHERIDAN," the old reliable.

T. W. & C. B. SHERIDAN, 25 Center St., New York.

Advertisement for Novelty Belt Hook Co. featuring illustrations of belt hooks and pulleys. Text includes: HARTFORD, Conn. NOVELTY BELT HOOK CO. Manufacturers HARTFORD, Conn. Potter's Patent BELT HOOKS STATE ST. No 219

AN EJECTOR WICKERSHAM & HUSTON,

OF WILMINGTON, DELAWARE,

And manufactured by them, expressly for Suction Boxes on Fourdrinier Paper Machines, has proven itself to be the most complete and sure device for the purpose ever used. Price for each Instrument or Box, fifty dollars (\$50).

The Superintendent of the Jessup & Moore Paper Company's Augustine Mills writes concerning this Ejector as follows: Messrs. WICKERSHAM & HUSTON: GENTLEMEN—Referring to your Ejectors for suction-boxes, would say we have in use the first one made for this purpose, and have since fitted up all our machines with them, considering them superior to anything we have ever tried. W. C. HAMILTON & SONS write: "We have seven of your Ejectors in as many suction-boxes, and can say nothing but praise. In every way we consider them superior to a pump or any other device."

Circulars, with directions, sent upon application to WICKERSHAM & HUSTON, Wilmington, Del.

THE MOORE Filtering Machine.

EXTREME HEIGHT, 5 FT. 6 IN. DIAMETER, 32 IN. SUPPLY PIPE, 6 IN. OUTLET, 6 IN.

The Moore Filtering Machine is in use in our mill, gives entire satisfaction, and I can recommend it as a practical device for use in Paper Mills, or where large quantities of filtered water are required.

This is to certify that we are using one of the Moore Filtering Machines—using it all through the time when the water was the worst, giving us ample water for two engines—and I can safely say that it is the best filter for paper mill use, where a large quantity of water is wanted, than anything I have ever seen or tried yet, and can recommend it to anyone wanting filtered water.

D. P. WILLIAMS, Superintendent Holyoke Paper Co.

THE ONLY FILTER

in which the principle of "control" has been perfected. Which exteriorly indicates the condition of the filtering material in it, and the precise position of the working parts. That will give large results with a low head of water. That can always be cleansed without removing the filtering material.

It will operate freely without cleansing for a longer time than any other Filter. It is superior in its construction operation, and in the quality and quantity of the filtrate furnished, to any other device yet invented.

PUBLIC COMPARATIVE TEST INVITED (IN HOLYOKE) WITH ANY OTHER FILTER.

For information relating to the construction and operation of this machine, address

G. H. MOORE, Norwich, Conn.

F. A. BUCHHEIT, Supt. G. K. SCHNEIDER, Prop'r.

CHICAGO STEAM BOILER WORKS,

ROTARY BLENDERS and Castings.



Water, Lard and Oil Tanks and Sheet-Iron Work, 66, 68, 70, 72 Michigan St., CHICAGO.

I. B. & W.

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THE GREAT THROUGH ROUTE

Between the EAST, WEST, NORTH and SOUTH. This Great Through Route is now completed and in full operation, RUNNING THROUGH PASSENGER TRAINS DAILY as follows: Three solid trains each way between Columbus Indianapolis and Peoria; two trains each way between Columbus, Indianapolis and Decatur; two trains each way between Sandusky, Indiana, Peoria and Decatur; two trains each way between Sandusky, Dayton and Cincinnati; three trains each way between Sandusky, Springfield and Columbus; four trains each way between Columbus, Springfield, Dayton and Cincinnati; two trains each way between Columbus, Springfield, Indianapolis and Chicago—with Sleeping and Reclining Chairs on Night Trains, and elegant Parlor and Modern Day Coaches on Day Trains.

Its track is laid with HEAVY STEEL RAILS, thoroughly ballasted, with easy grades and few curves. Traversing as it does the heart of the three great States of Ohio, Indiana and Illinois, uniting in close business relationship the capital cities of the first and second, with the second city of the third, and passing through a large number of the most important cities and towns in each, and with all its central location makes it the Shortest and Most Desirable Route between the East and West. THROUGH TICKETS and BAGGAGE CHECKS to all principal points, NORTH, SOUTH, EAST and WEST, can be obtained at any ticket office of the I. B. & W. R'y; also via this Route at all railroad offices throughout the country. Rates always as low as the lowest.

Don't purchase tickets to any point without first consulting the Agents of the I. B. & W. R'y. Particular advantages offered to Western Emigrants. LARD and TOURIST TICKETS to all points reached by any line.

Advertisement for The Great Burlington Route. Features a map and text: THE GREAT BURLINGTON ROUTE. CHICAGO BURLINGTON & QUINCY R.R.

PRINCIPAL LINE

The SHORTEST, QUICKEST and BEST line to St. Joseph, points in Iowa, Nebraska, Missouri, Kansas, New Mexico, Arizona, Montana and Texas.

CHICAGO

This Route has no superior for Albert Lea, Minneapolis and St. Paul. Universally recognized as being the Great best equipped Through Car Line in the World for all classes of travel.

KANSAS CITY

All connections made In Union Depots.

Through Tickets via this Celebrated Line for sale at all offices in the U. S. and Canada. Try it, and you will find traveling a luxury, instead of a discomfort.

Information about Rates of Fare, Sleeping Cars, etc. cheerfully given by T. J. POTTER, PERCEVAL LOWELL, Ad. Vias Pres't & Gen'l Manager, Gen. Pass. Agt., Chicago, Ill. Chicago, Ill.

Advertisement for Craig's Hydraulic Governor. Features an illustration of the governor and text: CRAIG'S HYDRAULIC GOVERNOR FOR STEAM ENGINES. The Most Perfect Governor Known. RUNS IN OIL. Guaranteed to accurately regulate all classes of Engines. Illustrated and Descriptive Catalogue sent on application. Correspondence solicited. W. H. CRAIG & CO., Sole Manufacturers, LAWRENCE, MASS.

Advertisement for E. T. Barnum Wire & Iron Works. Features an illustration of wire cloth and text: The E. T. Barnum Wire & Iron Works, MANUFACTURERS OF IRON, STEEL, COPPER, BRASS, WIRE CLOTH. For Paper and Flouring Mills, Breweries and Mining. BEST STEEL TEMPERED WIRE CLOTH, for BOLLING PURPOSES, Wire Offices and Counter Balancing, Wrought Iron Fences, Wire Signs, Stable Fixtures, Weather Vanes, Roof Cresting, &c. WIRE AND IRON WORK OF EVERY DESCRIPTION. Write for Catalogue, stating your wants, and we will make you out a list. Mention this paper. Detroit, Mich.

ALWAYS GIVES THE UTMOST SATISFACTION.

MAIN BELTING COMPANY,

MANUFACTURERS OF
THE LEVIATHAN COTTON BELTING,
 Unsurpassed for Strength, Durability and
 Cheapness.
 Made to any Length, Width and Strength.
MAIN DRIVING BELTS,
 Guaranteed to Run Straight, Even Throughout.
 No Cross Joints, Unaffected by Damp, Clings well
 to the Pulley, Has no Equal; in fact, is THE BELT.
MAIN BELTING COMPANY,
 S. W. cor. Ninth and Reed Sts., Philadelphia,
 and 248 East Randolph St., Chicago.

F. GRAY, President. H. C. NELLIS, Vice-President.
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PIQUA WOOLEN MILLS.
THE F. GRAY CO.,

MANUFACTURERS OF
**FOURDRINIER and CYLINDER
 FELTS,**

FELTS Press Felts and Jackets
 for all kinds of
 Paper.
FELTS
 Special attention is invited to
 our FOURDRINIER FELTS for
 FAST RUNNING ON NEWS,
 which are unsurpassed.
 ALSO, TO OUR

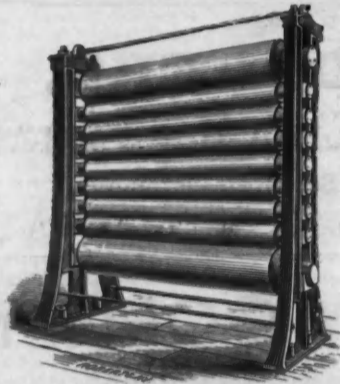
"EUREKA FELT,"

For Fast Running on Cylinder Machines,
 which we have perfected within the last few months,
 and which is rapidly gaining favor with Paper Makers
 wherever it is used.
EXTRA HEAVY CANVAS DRYER FELTS,
 all widths, cut to any length, at Manufacturers' Prices.
WE WARRANT EVERY FELT to work well,
 and if it does not, it can be returned.
 We also manufacture Blankets, Flannels, Stocking
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 Also, an Extra Heavy 6-4 Scarlet and White
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 to shrink. All the above we offer to Paper Makers
 at the Lowest Wholesale Prices, in quantities to suit.
 Very respectfully,

THE F. GRAY CO., Piqua, Ohio.

THE J. MORTON POOLE CO.,

Wilmington, Delaware.



MANUFACTURE

Chilled Rolls

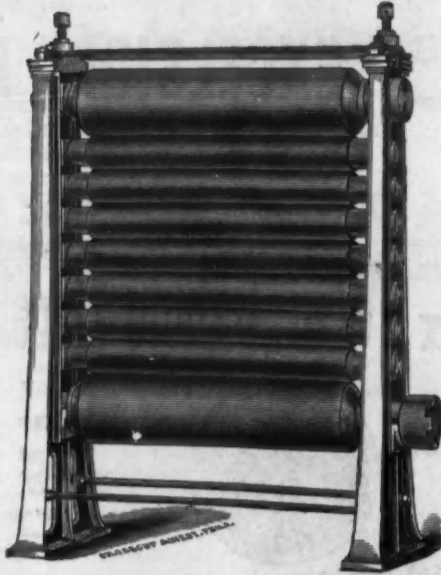
GROUND BY THEIR PATENT PROCESS.
PRESSES for Baling PAPER, RAGS, &c.



Send for Circulars, Price List, Terms, &c., to
 the Sole Manufacturer, **JAMES N. BALSTON &
 SON** (Successors to Ingersoll & Balston.)
 Greenpoint, Kings Co., N. Y.

LOBDELL CAR WHEEL COMPANY,
 WILMINGTON, DEL.

The Oldest and Most Extensive Manufacturers of Chilled Car Wheels in this or any other Country.



EXTRACT OF AWARD ON CHILLED ROLLS.

The undersigned having examined the product herein described respectfully recommends the same to the United States Centennial Commission for award, for the following reasons, viz :
 This exhibit contains a stack of calendring rolls intended to be part of a complete paper machine. These rolls are of cast-iron, chilled at the surface in casting, and thereby made hard, like tempered steel. They are separately ground according to a highly improved plan, and are so true that, when placed together, they bear upon each other throughout their entire length. This exhibit has the exceptional merit that the rolls are not only GROUND true but CAST by the exhibitor.

(Signed) **JAMES M. WILCOX,**
 Signature of the Judge.

ALSO MANUFACTURERS OF

CHILLED ROLLS

For Paper Machines, Rubber, Brass, Copper, Rolling Mills, &c.

The vast quantity of iron used daily in the business of this establishment permits the very best selection for the composition of CHILLED ROLLS. The long experience of Mr. Geo. G. Lobdell in making chilled castings, and who personally directs the selection, enables them to make

CHILLED ROLLS UNEQUALED IN QUALITY AND GROUND AS PERFECTLY AS ANY OTHERS.
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GEO. S. BARTON, Pres. and Treas.

LEWIS C. STONE, Manager.

RICE, BARTON & FALES MACHINE AND IRON CO.
 (At Old Stand of Rice, Barton & Co.)
WORCESTER, MASS..

—MANUFACTURERS OF—

PAPER MACHINERY

OF EVERY DESIRABLE VARIETY.

Iron and Brass Castings, Chilled Iron and Paper Calender Rolls, Rag Engines, Rag Cutters, Steam Pressure Regulators, &c.

HYDRAULIC PRESSES, FROM 5 TO 14 INCH PISTON.

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PAPER MACHINERY,

Consisting of Fourdrinier and Cylinder Machines, Washing and Beating Engines, Air-Drying Machinery for Drying Sized Papers.

SOLE MANUFACTURERS of the Jordan Patent Beating Engine, which has no rival for clearing the stock of fine papers. Chilled Iron and Paper Roll Super Calenders, Plate Calenders, Chilled Stack Calenders, Rag Cutters, Hand and Power Cutting Presses and Stop Cutters; the Hatch Patent Stop Cutter, the only Cutter that can be regulated to cut between water marks of writing papers. Screens, Brass and Nickel Plated, the latter warranted to wear twice as long as brass. Bed Plates, Roll Bars, Fan and Plunger Pumps. Also, Gun Metal Covered Rolls, for Size and Press Rolls; Stevenson Water Wheels, Shafting and Mill Gearing generally.

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Aniline Colors, Carmine, Pulp Colors, Eagle Brand Ultramarines, N. C. F. Concentrated Alum.

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WITH HARRIS' PATENT IMPROVEMENTS.

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Merrill & Houston Iron Works,
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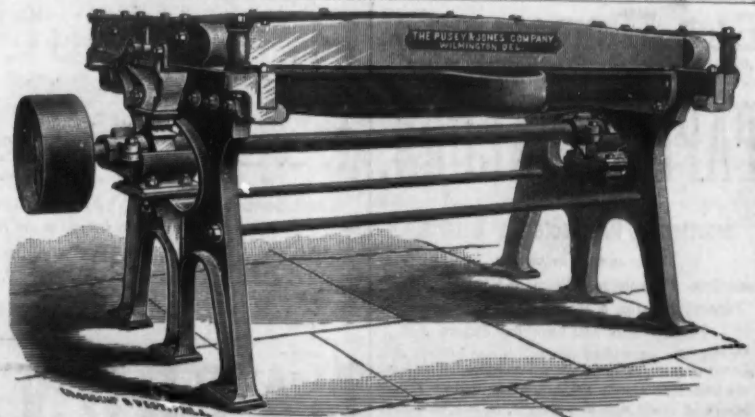
Manufacturers of CYLINDER AND FOURDRINIER

PAPER MACHINES,

Beater Engines, Rag Cutters, Paper Cutters, Pumps, Shafting, Pulleys, Hangers, &c.

CHILLED ROLLS GUARANTEED EQUAL TO ANY MADE.

Plans and Estimates furnished, and special attention given to the execution of contracts for the entire machinery necessary to make any kind of Paper, set up, ready to run. Calenders and Press Rolls reground by special machinery. The attention of Water-power Users desiring the highest efficiency is especially directed to the **HOUSTON TURBINE WATER WHEEL.**



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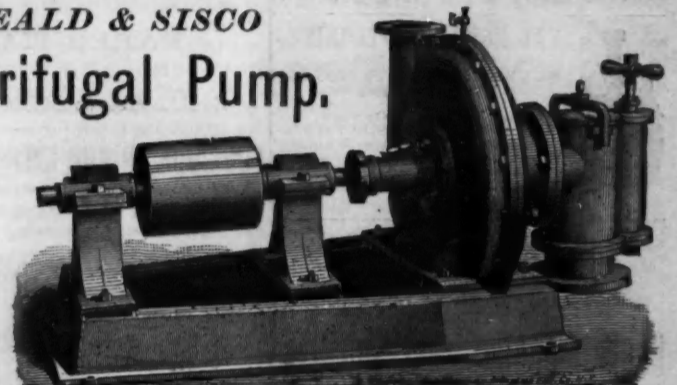
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GOULD'S PATENT SCREENS, EXPANDING PULLEYS, RAG ENGINES, ROTARY BOILERS, DIGESTERS, STEAM ENGINES, BOILERS, SHAFTING.

THE OLD RELIABLE.

HEALD & SISCO

Centrifugal Pump.



Specially adapted to the needs of Paper Makers.

A greater number of these Pumps in use than of all other Centrifugal Pumps combined.

CAUTION!—The term "OLD RELIABLE," as applied to pumps, was adopted by us sixteen years ago. Be not deceived by other manufacturers who appropriate our time-honored motto.

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IS THE MOST PRACTICAL AND DURABLE WHEEL MADE, AND IS THE BEST PARTIAL GATE WHEEL ON THE MARKET.

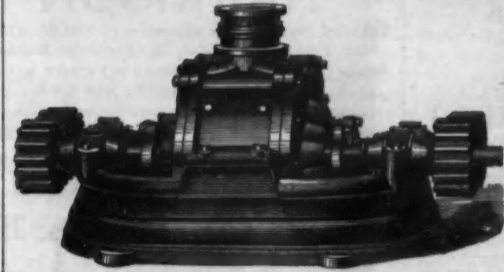
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SEND FOR NEW ILLUSTRATED WHEEL BOOK.

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TWIN Rotary Pumps

FOR Fire and Supply Purposes.

They need only to be seen and examined to convince and satisfy. The improvements are obvious and vital; just what the people have been looking for. Send for Catalogue.

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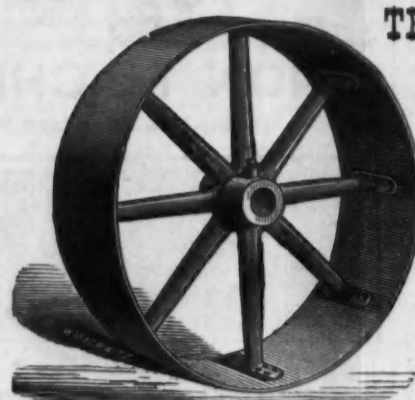
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THE LIGHTEST,
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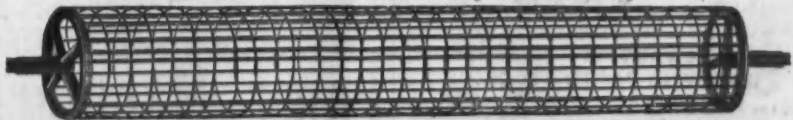
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 Most Durable Pulley in the World.

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 Price Lists on application.



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Manufacturers of FOURDRINIER WIRES, Improved Wove and Laid DANDY ROLLS, Patented Seamless Wove DANDY ROLL COVERS, &c., &c.
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FILTERING STONES

Or Perforated Drainer Bottoms,
IN USE IN THE LEADING PAPER MILLS.

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SAMUEL SNELL, Holyoke, Mass.

THE NONE-SUCH TURBINE.
The Latest and Best.
THE ROTARY PUMP IMPROVED.
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One More Step Onward.
MILL GEARING & SHAPING.
Twenty years' experience. We guarantee satisfaction. Tell us your wants, and we will give the information.
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EXTRA HEAVY CANVAS DRYERS FOR FELTS.

Wood Pulp,
WET or DRY,

Delivered in any part of the country, in quantities to suit

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Established 1831.

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Manufacturer of
PAPER and SPECIAL MACHINERY,
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Paper Machines made from New and Improved Patterns.
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HAMBURG PACKINGS,
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FOREIGN RAGS,
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SOLE AGENTS FOR OVER TWENTY YEARS FOR THE SALE OF
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Extra Heavy Canvas for Dryers.

NATRONA POROUS ALUM,

FOR PAPER MAKERS' USE.

FREE FROM IRON AND FROM EXCESS OF ACID.

Two pounds of it will size as much Paper as three and one-fourth pounds of Lump or Ground Alum, and is 12 per cent. stronger in alumina than any other Alum offered.

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—THE WELL KNOWN MANUFACTURERS OF—

FOURDRINIER AND CYLINDER WET FELTS, PRESS FELTS AND JACKETS,

Pronounced by many equal to the best Foreign Felts, at a much lower price.

EXTRA HEAVY CANVAS FOR DRYERS.



FOUR MILLS
ON THE HUDSON RIVER.

Daily Product:

PAPER, . . . 12 Tons.

PULP, . . . 30 "

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EXTRA CONCENTRATED PEARL ALUM FOR PAPER MAKERS' USE.

The Richest in Sulphate of Alumina, and 20 per cent. Stronger than the Strongest Alum in the Market.
2 lbs. Pearl Alum will do as much sizing as 3 1/2 lbs. Potash or Ammonia Alum.

CONTAINS NO FREE ACID.

See following from Prof. S. DANA HAYES, Massachusetts State Chemist.
Messrs. HARRISON BROS. & Co. Boston, February 15th, 1879.
Gentlemen:—I have analyzed a sample of "EXTRA CONCENTRATED PEARL ALUM," received from you, with the following results: I find that it contains no free acid, and that there is present 64.11 per cent. of anhydrous sulphate of alumina, which dissolves readily in water. This "Alum" is, therefore, remarkably rich in available sulphate of alumina, and excellent in quality.
Respectfully,
(Signed,) S. DANA HAYES, State Assayer, Massachusetts.

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Manufacturers of Extra Concentrated PEARL ALUM, Lump and Ground Alum, ALUMINOUS CAKE, Oil of Vitriol, White Lead, Colors for Paper Makers and Painters, Sugar of Lead and other Chemicals.
Offices: 35th STREET & GRAY'S FERRY ROAD and 103 SO. FRONT STREET, Philadelphia,
117 FULTON STREET, New York. Agents at Boston, E. & F. KING & CO.

—ESTABLISHED 1853.—

J. W. LYON & CO.,
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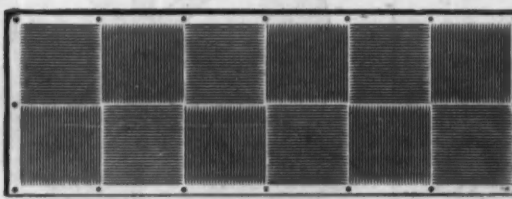
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FOREIGN AND DOMESTIC PAPER STOCK AND WOOLEN RAGS OF ALL DESCRIPTIONS.

—Cash paid for all kinds of WOOLEN RAGS and PAPER STOCK in large or small lots.

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PATENT SCREEN PLATE.

SCREEN PLATES

A SPECIALTY

Fourdrinier and Cylinder Paper Machines, Rag Engines and Cutters, Dusters, Cylinder Washers, Patent Bleach Tube, Press Rolls, Couch Rolls, Chilled Calenders, Breast Rolls, Tube Rolls, Suction Boxes, Suction Plates, Pumps, Screen Plates, Shafting, Gearing, etc.

S. WEBBER PARKER & CO.

Successors to BUTTERWORTH & SMALLEY,

5 & 7 Beekman Street, New York,

—IMPORTERS OF AND DEALERS IN ALL KINDS OF—

Paper Manufacturers' Supplies.

—FELTINGS.—

Sole Agents for SAMUEL PORRIT & SON'S FELTINGS.

BULKLEY, DUNTON & CO.,

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"EXCELSIOR" FELTS PIECE FELTING and JACKETING.

For Economy, Durability and Good Results they are Unequaled. Long Established and Well Known. A Trial is Solicited from Manufacturers not already Using them.

EXTRA HEAVY CANVAS DRYERS.

Satisfaction Guaranteed. Send for Price List.

Wm. Cable Excelsior Wire Mfg. Co.



No. 43 Fulton Street,

NEW YORK

Manufacturers of

Superior Fourdrinier Wires,
Cylinder Wires,
Brass, Copper and Iron Wire
Cloth of every description,

Brass, Copper and Iron Wire,
Dandy Rolls,
Cylinder Molds,
Best Quality of Wire Rope.

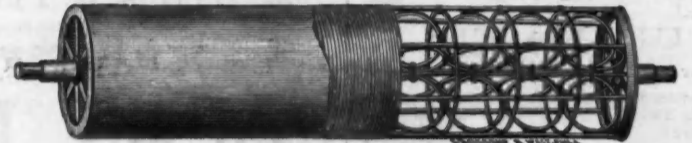
Write for Price List.

SELLERS & CO.,

Keystone Wire Works, 1539 Race St., Philadelphia.

SOLE MANUFACTURERS OF

Whitehead's Patent Dandy Roll.



ALSO MANUFACTURE

FOURDRINIER and CYLINDER WIRES

CYLINDERS AND DANDY ROLLS MADE AND REPAIRED.

Lettering and Designing on Dandy Rolls executed Neatly and Promptly.
DEALERS IN ALL KINDS OF PAPER MILL SUPPLIES.

IMPORTANT TO PAPER MANUFACTURERS!

We have now running at our works one of

POOLE'S PATENT ROLL GRINDERS,

and are prepared to grind Old Rolls, soft as well as chilled.

Manufacturers can rely upon having their rolls ground perfectly, and at a material saving of freight, by applying to

THE TOWNSEND FURNACE AND MACHINE SHOP,

RUFUS K. TOWNSEND, Proprietor,

ALBANY, N. Y.

ESTABLISHED 1826.

LEWY BROTHERS,

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