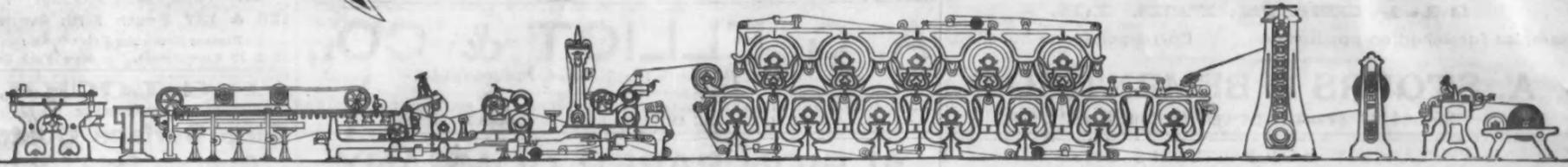


# THE PAPER TRADE JOURNAL.

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

VOLUME XXIII.—NO. 9.

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## Trade Topics.

### Power of One Partner to Bind the Firm.

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

It is a consequence of a commercial partnership that each acting partner is the general agent of the firm; that is, has an implied authority to act for the firm in all matters within the scope of the business transacted by it. In all that the firm has undertaken to do, or usually does, an acting partner is identified with the company; and secret agreements, restrictive of his power, do not affect third persons who deal with him fairly and in good faith, without a knowledge of them. This authority in a single partner is not an inseparable legal consequence of an interest in the partnership, but is an actual agency implied from the supposed assent of the other members; an express notice, therefore, from one member of a firm, communicated to third persons, that he will not be bound by the acts or by a particular act of another partner, puts a stop to the implied authority of that partner to bind the firm.

In a general commercial partnership the implied agency of an acting partner extends to all contracts, executed or executory, within the range of its ordinary business. One partner may draw, accept and indorse notes and bills of exchange in the name and for the use of the firm, and a note or bill executed by one partner in the name of the firm is *prima facie* evidence that it was executed rightfully and for partnership purposes, and, if not so executed, it lies upon the other party to impeach it by showing that it was given for an object beyond the scope of the authority of a partner.

One partner may borrow money in the name and on the credit of the firm by note, bill or otherwise, and all will be liable, although the money when obtained may be appropriated to the use of the partner borrowing it, if there was nothing at the time of the loan to create a suspicion of fraud. One partner may purchase goods for the firm within the scope of the partnership business, pay debts of the firm, receive payment in money or commodities in discharge of debts due to the firm and generally do all acts ordinarily done by the firm.

The firm will also be liable civilly for fraudulent representations made by one partner in a matter within the scope of the partnership business, as on a sale of partnership property. An agency of a commercial nature given to a firm by its partnership name may be executed by one in the name of the firm, but where a power is given to its members individually it cannot be so executed. Each partner has complete control over the partnership effects and power of selling or assigning them for partnership purposes; this extends equally to the assignment of choses in action, and to a sale or assignment of whole partnership stock by one contract for money or for payment of debts, and to a mortgage of the whole stock. A partner may of course also sell his own share or interest in the partnership, although this will be in fact a dissolution of the firm.

On the question whether one partner has a right to make a general assignment to a trustee for the payment of the debts of the firm, the cases appear to be in some conflict, but on the whole perhaps they may be reconciled with one another. They may be arranged in two classes, those which hold the general principle that one partner possesses no such power, and those which decide that one partner, in the absence of the other, acting in good faith for the benefit of the concern, is reasonably to be considered as vested with such authority.

The rule that one partner cannot by his implied authority as general agent of the partnership bind the firm by a sealed instrument applies only where the firm is sought to be charged and not where the ob-

ject is to discharge a debt due to it. One partner may therefore release under seal. This indeed he may do by virtue of his joint interest in the debt of the firm, without reference to authority, express or implied, from the other, and one partner may also give authority under seal to an attorney to release. The general principle that a partner cannot enter into agreements under seal has received this further important qualification, that where a seal is not essential to the nature of the contract and will not change or vary the liability the addition of a seal will not vitiate it, and that where an act is done which one partner may do without deed it is not less effectual that it is done by deed.

A deed executed by one partner, under circumstances not to be binding upon the other, is yet the deed of the one who executes it; a bond given by one in the firm name for a partnership debt extinguishes the partnership liability. One partner has not power to confess judgment or authorize confession of judgment against the firm, where no writ has been issued against both; but if a judgment be entered under such circumstances it will not be set aside on the application of the partner who confessed the judgment or gave the authority, nor will it be set aside altogether, on motion of the other partner, but either his name will be struck out and the judgment corrected so as to bind the other only, or execution will be ordered not to be served on the person or property of that partner, but only the other's separate estate, or his interest in the partnership property, will be sold, the judgment being binding only on the one who authorized it.

As a partnership is formed for the common benefit of all the partners, and as every transaction ought legally to be on joint account, and not for the exclusive benefit of one member of the company, one partner cannot apply the partnership funds or securities to the payment of his own private debt, unless by consent of the other partners. A partner, also, has no power, by any species of arrangement, to bind the firm to pay his private debts; but if a note or bill, although fraudulently put into circulation for the individual debt of a partner, comes into the hands of a holder for value without notice, in his hands the instrument is binding upon the firm; but not if the holder has notice, actual or implied. When a person has notice that a debt is the individual debt of a partner, he has notice that it is a subject in which the partner has no more authority to dispose of partnership property than he has to dispose of the property of third persons; and title is a matter in which every one who receives property is bound to inquire for himself.

### Driving Wheel Accidents.

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

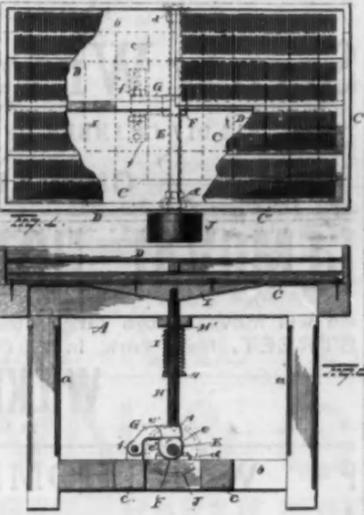
By W. H. WESTON.

In regard to the breaking of large fly wheels during the last few years, the prevailing impression seems to be that the breaking was caused in most instances by the engines racing uncontrolled by the governor. On careful consideration of the subject it appears evident that this is not the cause in most instances.

First: To consider the thing from elements entirely outside of the engine. There seldom, if ever, is any proof or reason to think that the speed of the shafting and machinery of a mill was suddenly increased to twice or thrice its ordinary amount at the time of any of these accidents, and in most cases the speed of an engine would have to be increased to two, three or more times its set amount before a safe factor limit in the tension of the metal will be reached or over-run. In regard to the speeding up of machinery, it is hardly probable that the operatives all through a mill would stand by their machines and have them run at two or three times their proper number of revolutions

and not notice that there was anything unusual going on, yet this has been commonly reported from the machine rooms of mills and the generating plants of electric stations, where there has been a wheel broken at the engine.

Engines are almost invariably so speeded that the pressures caused by the centrifugal force in the driving wheels are far within the breaking loads of the metal, and therefore the speeds would have to be increased so much before the tensile strength of the iron would be exceeded that it is hardly probable that accidents are caused by run-aways which are not perceived at points outside of the engine room. Of course it might be possible occasionally that a governor would fail to work and properly control an engine; but in such a case the high speed would invariably be noticed, and the mechanism of the governor would usually



PAPER PULP STRAINER.

show what part gave way and prevented its operation. The fact that the governors are usually found to be all right, except it may be where they have been broken at some part by the flying pieces of the broken wheel, &c., is another proof that there has been no excessive speeding of the engines.

In order to prove that the breaking tensile strength of the iron in balance wheels is not approached in practice, the centrifugal force and resultant strain on the metal can be very easily and correctly found, and this will show that in good castings if there are no cracks or flaws, a large factor of safety is always allowed in driving wheels as usually run. The expression for centrifugal force is  $\frac{W V^2}{g R}$  in which

W = Weight.  
V = Velocity, feet per second.  
g = Acceleration of gravity.  
R = Radius of gyration in feet;

g may be taken as 32.17, which is the accelerative effect of gravity at latitude 45.

As an example take a driving wheel which is 24 feet in diameter, running at 100 revolutions per minute. This is in excess of the usual speed, which is about 70 to 75 turns; but granting that the revolutions of the wheel are 33 per cent. more than are usually given, it can be shown that the strain in the metal of the rim from centrifugal force is far within safe limits as regards the tensile strength of sound iron. In order to bring the computation to the square inch as used for a unit of measure a rim of the wheel of 1 square inch section will be taken, this giving the strain on every inch of area of the whole rim section.

A section of 1 square inch and 24 feet outside diameter gives in round numbers 900 cubic inches in the whole circumference, and 900 = 0.26 the weight of 1 cubic inch of iron = 234, which is the weight of the whole circle of iron. Then as the centrifugal force is divided by a diametral line, that on one side equaling that on the other, the whole

weight, or 234, is divided by 2, which gives 117 pounds as the weight W in the formula. Next the velocity of the centre of the rim section is at 100 revolutions per minute 125 feet per second = V of formula, which gives

$$\frac{117 \times 125^2}{32.17 \times 12} = 4736 +.$$

This is the total centrifugal force or pressure on radial lines on one side of a diametral line; consequently to obtain the pressure on a direction at 90° with the diameter the circumferential pressure must be divided by 1.5708, which represents the ratio between a semicircumference and a diameter. This gives the pressure tending to pull the two halves of the wheel apart at the area of the rim section; thus

$$\frac{4736}{1.5708} = 3015 +.$$

which is the total tension which the centrifugal force is causing, and is to be divided by 2, because it is resisted by an area of 1 square inch at each end of the line of diameter. This gives

$$\frac{3015}{2} = 1507$$

which is the actual strain, within a few pounds, that the centrifugal force at 100 revolutions per minute is producing in each square inch of cross section of the 24 foot wheel rim. It makes no difference how many square inches, or how few, there are in the section of the rim, the strain on each one is 1,500 pounds for the diameter and speed of the example above taken. In this way the strain caused in any diameter and speed of a driving wheel or in a pulley can be easily found.

Now in regard to the strength of cast iron to resist the tension upon it. Taking the 24 foot wheel at 100 revolutions the strain is found to be 1,500 pounds, and the tensile strength of cast iron runs from 15,000 to 20,000 pounds per square inch. Taking the strength of common iron in driving wheels as 18,000 pounds, it is shown that the strain of 1,500 pounds per square inch in the wheel is very far below the breaking load of ordinary good iron and gives a factor of safety for this example of 12. Thus it can readily be seen that the speed of a driving wheel would have to be increased far above its normal rate before the strain from centrifugal force could reach the limit of tensile strength of good sound iron.

In most engines having 24 foot wheels the revolutions are somewhere in the vicinity of 70. This gives a rim velocity of from 80 to 90 feet per second, and in the example which has been taken above the rim velocity was figured at 125 feet per second, thus showing that in ordinary practice the factor of safety in the rim strain is still greater, consequently the cause of breaking of driving wheels must be usually something outside of an excessive increase in speed.

Now to come to the constructive details of these wheels. Probably there are no driving wheels run which have strains of centrifugal force developed in their solid sections anywhere near the breaking limit of good iron, and the flying to pieces when it occurs is caused by flaws in the castings, or by improper connections of built up wheels.

Oftentimes wheels are not sufficiently ribbed at the flanges, and the bolts cut away so much of the metal that this part of the wheel has only a fraction of the strength of the solid section. Bolts may sometimes work loose or break, and unless there are an extra number used the liability is to let the section apart, and any arrangement to obviate this danger is of advantage. Links or keys, as connecting elements, have serious points of failure, in that they are very seldom properly or snugly fitted in place, and when their seats or bearing surfaces are uneven and rough—as they usually are, from the nature of the thing—the strains are not taken on good supports and the liability is to work loose or break off under the load.

Probably the best method of securing the sections of a rim is by an ample number of bolts of the best quality of metal and forging, placed in heavy well ribbed flanges. The strength of these joints should be made as near to that of the solid sections as possible; that is, neither above nor below it. The strength of the spokes in driving wheels should receive more careful attention in constructive details. It is very likely that in many accidents the spokes give way before the rim does. The strain on these is not very excessive in number of pounds of load, but its intermittent nature creates a marked influence on the strength of the iron in the spokes, the load at the outer end of each arm being equal to the maximum piston load, divided by the number of spokes, and this varies to nothing at the ends of the piston stroke.

When a spoke gives way there is nothing to support and keep the rim of the wheel in its circular shape, consequently there is a tendency in the latter to yield to the uneven strain upon it. It seems evident that in general practice the spokes of driving wheels should be made of better section and larger area. There certainly seems to be a chance to make an improvement in the form of the section of spokes, so as to give them a much greater amount of strength with a given amount of metal area.

### Pulp Strainer.

An illustration is given of an improvement in appliances for screening paper stock.

The object of this invention is to provide simple and efficient means for subdividing the upward blasts of the diaphragm, whereby two or more quick and sudden blasts are driven through the screen plates, thereby lifting the stock and giving an ample clearance to the plate.

Figure 1 is a plan view, portions of the screen plates being broken away. Fig. 2 is a longitudinal sectional view.

A represents a frame supported by standards, a, which latter are connected together in proximity to their lower ends, by means of bars, b, and the bars b are connected between their ends by means of cross bars, c.

To the top of the frame A, a flexible diaphragm, C, is secured, and above this diaphragm the plate or screen supporting frame C' is located and adapted to receive the screens or plates D, as shown in Figs. 1 and 2.

Mounted in suitable bearings d on the bars b is a shaft, E. Secured to the shaft E, preferably midway between its ends, is a cam, F, constructed so as to have two abrupt cam shoulders e, e', and a comparatively long cam face e"—the cam shoulder e preferably being nearer to the shaft E than the cam shoulder e'. A shoe, G, is pivotally supported at one end in suitable brackets, f, located on one of the cross bars c and at its other end rests upon the cam F. The free end of the shoe G is provided with a recess, f', for the accommodation of a vertical follower rod, H. The follower rod H passes loosely through a cross rod, H', secured to the under side of the frame A and at its upper end is connected with a block or plate, I—which latter is secured to the rubber diaphragm C, preferably in its centre. A spring, I', encircles the follower rod H, bearing at one end against the cross bar H' and at its other end against a pin, g, projecting from the follower rod, the spring being thus adapted to cause the diaphragm to return to its normal position when the device is in operation. The shaft E is provided with a pulley, J, for the reception of a strap from any convenient source of power. From this construction and arrangement of parts it will be seen that when the shaft E is rotated the cam F thereon will cause a vibration of the diaphragm C, through the medium of the devices described, and that, owing to the peculiar formation of the cam the diaphragm will be given two quick upward movements or vibrations and one full and comparatively long downward movement or vibration.

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**Western New York.**

[FROM OUR REGULAR CORRESPONDENT.]

NIAGARA FALLS, N. Y., March 1, 1894.

A sensation has been caused in this part of the State by the arrest of Jesse Peterson, the president of the Indurated Fibre Company, of Lockport, at East Stroudsburg, Pa., at the instance of the officers of an indurated fibre company there, and which is a rival of the Lockport company. This concern has been infringing on the patents of the Peterson's company. The charge against the president of the Lockport company was trespass, and was no doubt trumped up in retaliation to cause Mr. Peterson some trouble. Friends went his bail and he returned home safely.

The Shelby Paper Mills, at Shelby Centre, Orleans County, were destroyed by fire on February 23. The mills constituted the principal industry of the village. They were owned by Mrs. L. D. Gifford and Isaac Sohn, and were leased and operated by Patrick Forestelle. The fire started from an overheated stove in the office, and in half an hour the entire plant was consumed and a mass of ruins. The loss is placed at \$17,500, of which \$10,000 is on the building, \$5,000 on machinery and \$2,500 on stock. The insurance was \$7,500 on the building. Forestelle succeeded Otterson & Single, who formerly operated the mill. There were three 500 pound engines, one 68 inch double cylinder machine, with steam and water power. The capacity was 4,000 pounds of manilla paper every twenty-four hours.

W. E. T.

**Northern New York.**

[FROM OUR REGULAR CORRESPONDENT.]

WATERTOWN, N. Y., March 1, 1894.

The sensation of the week at this point was the finding of two valuable rings containing precious stones in a lot of old rags at the Knowlton Brothers Paper Company's mill. The finder was Bridget O'Neil, an employee, who was sorting over the rags when the sun streaming in at the window caused a certain glimmering and sparkling among them. She investigated and found a ring containing a cluster of fifteen diamonds in an old fashioned setting; close to it also lay another ring containing

a diamond, a garnet and a turquoise. Miss O'Neil thought the rings of little value and placed them in her pocket, and sold them finally for \$8. One of the employees of the mill took them to a jeweler, who pronounced the one with fifteen stones to be worth \$150 and the other small one \$15. The setting is solid gold, although out of date. The rings probably fell out of a pocket of an old dress collected by rag men in their rounds, and had possibly been there for years before being discovered. Every one in the paper mills hereabouts is watching the rags very diligently.

There are two bills in the State Legislature regulating the power facilities generated from the Beaver and Black rivers. They are of interest to the paper and pulp manufacturers along these streams. The first provides that Beaver River shall be a public highway for the passage of logs and timber down the same. The other is an amendment to the law entitled "An act to restore to the owners of water power in Black River the water diverted by the State for canal purposes." It provides that when the dam in the Black River shall be reconstructed, raised, enlarged and completed, the superintendent of public works shall appoint a person to take charge of the gates and regulate the discharge of water from the pond as the rules and regulations may direct. Such a person shall be paid \$4 a day by the State, and will also have charge of the State dams in the Beaver and Moose rivers and their tributaries. There has long been trouble here, and one dam on which the State spent considerable money, was washed out because of its poor construction. However, had timely warning been given the dam could have been saved and water kept in reserve for power purposes when it is scarce.

Water power privileges in and about Gouverneur bring a pretty good figure. The latest as well as the largest transfer in some time there was that of the McAllister water power, which went to the International Pulp Company. It is stated that the consideration was \$10,000. This is a pretty good price. The power is situated just above the village of Hailsboro, a mile and a half from Gouverneur. It has always been accounted a valuable power, but the price paid must give Mr. McAllister a neat profit on his property. Another valuable power is the Olds property, situated at Smith's Mills, 5 miles from Gouverneur, and negotiations

are said to be pending between parties. One desires it for a pulp mill and the other for a woolen mill.

Carr Moody, an employee of the Watertown Paper Company, while tending the paper machine one night last week had his fingers caught in the rolls and badly crushed. Part of them had to be amputated.

W. E. T.

**Chicago.**

[FROM OUR REGULAR CORRESPONDENT.]

WESTERN OFFICE PAPER TRADE JOURNAL, }  
56 and 58 La Salle Street, }  
CHICAGO, February 26, 1894. }

"The contrast in business this month with that of January is striking. The way things opened out at the beginning of the year and continued during the first month seemed very auspicious for trade for the future months, but through some cause, which is perplexing even the shrewdest paper men to account for, business has dropped flat. Since last August there has been nothing like it. Prices are nowhere. The most optimistic paper manufacturer in the West expressed himself a day or two ago as completely discouraged at the outlook." This in substance is the situation in Chicago as related to me to-day by one of the conservative paper jobbers of the West.

The John Morris Company stationery plant, including the entire stock and good will, was purchased by P. F. Pettibone & Co. a week ago to-day. The John Morris Company was formed principally by creditors of Culver, Page, Hoyne & Co., one of the old stationery houses of Chicago, which failed a few years ago. The combined plants are valued at about \$300,000. P. F. Pettibone & Co. were recently incorporated, and the company is officered as follows: President, P. F. Pettibone; vice-president, R. S. Pettibone; secretary, John S. Ryan; treasurer, D. B. Waite.

The firm will be known as P. F. Pettibone & Co., Incorporated. The new company has already secured a spacious building on the West side, 44 to 50 South Desplaines street, between Madison and Monroe streets, in the midst of the manufacturing centre of the great West Side, where the Morris establishment will be transplanted.

The offices and headquarters of the company will remain at 46 to 50 Jackson street. The building now occupied by the plant which has just changed hands belongs to the Southworth Paper Company, of Holyoke,

which acquired it in lieu of a claim against Culver, Page, Hoyne & Co. at the time of their failure. It is located in the very heart of the business centre of Chicago, and consequently commands a high rental.

As P. F. Pettibone & Co.'s old store is near the same location it was deemed an advantage to have the other house in a different business district, especially as the saving in rent is quite an item. The new building is 80x150 feet in dimensions and six stories and basement high. P. F. Pettibone's initiation into business was with Culver Page, Hoyne & Co., just after he graduated from college in 1862. He remained with this house for nineteen years, leaving it to become a partner in the firm of Brown, Pettibone & Kelly, the predecessor of P. F. Pettibone & Co.

A few days ago I had the pleasure of making a thorough inspection of the magnificent paper mill of the Wabash Paper Company, at Wabash, Ind. In some of its features this mill surpasses any I have heretofore visited. The engine room and the boiler house especially would serve as models for the finest manufacturing plants in the world. The numerous foreigners who visited this plant last summer when taking in the World's Fair, were astounded when they gazed at these departments of this mill and saw how easily force was generated to operate such an immense plant.

The boiler house is isolated from the main buildings and is 50x80 feet in dimension, with an imposing brickstack 150 feet high. It is equipped with five Babcock-Wilcox boilers of 250 horse power each, and one Stirling of 300 horse power, aggregating 1,550 horse power. These boilers are so arranged that one or any number or all can be utilized or not, as desired. The forces of nature through artificial channels furnish the fuel from the bowels of the earth into the fire box without human aid, and one man, who can sit back in an easy chair and read or meditate by the hour, remains on guard as a precaution against accidents. This fuel, as it comes to the boiler house, has a pressure of from 200 to 300 pounds to the square inch, which has to be reduced by a mechanical device or regulator to 5 pounds before entering the fire box.

An engineer from England was so wonderfully affected and amazed at the ease with which power was generated at this plant that he made a second visit to

the place. He said that no description of it would have convinced him that the forces of nature could be so simply harnessed to aid the production of wealth, and even Americans, if they would reflect a little, could not visit this power house without marvelling more or less. The query should force itself on everyone, with such wonderful helps to the production of those things which contribute to man's comfort, why the struggle for existence seems to grow harder and harder.

The engine house is located some distance from the boiler house, between the machine rooms. It covers an area of 60x70 feet, and is equipped with eleven steam engines, one of which is a Hamilton-Corliss compound condensing of 1,000 horse power. The plant is equipped with an automatic Knowles Duplex pump with a capacity of 1,200 gallons of water from the river each minute, and an E. P. Allis Company pump with a capacity of 1,500 gallons a minute, which is supplied by a fine, soft water from wells. As the engines are all conveniently arranged in one room they are always under the supervision of the engineer. The main belt is 64 inches in width.

The mill has two machine rooms, each 45x200 feet in dimensions. One is equipped with a four cylinder machine 118 inches wide, and the other with a 118 inch Fourdrinier. The cylinder machine is used for strawboard and the Fourdrinier for making manillas and straw wrapping.

The cylinder machine has forty dryers and the Fourdrinier fifteen. The beater room has fourteen beaters, one Marshall, four Umpherston and six Jordan engines. There are in all eight rotaries.

The entire plant is most substantially built of red brick, with high ceilings and ample space between buildings to make every room as light as possible. The main building of the plant, which is in front, is 48x450 feet and is used for offices, storage of finished product, finishing, coating and shipping.

The straw rotary building is 38x100 feet in dimensions and has five rotaries. The boiled straw building is 50x68 feet; the jute rotary building is 45x65 feet; the boiled stock building 45x50 feet; the cutting building 22x90 feet, with an extension 18x30 feet; the beater room is 76x138 feet, with an extension 30x50 feet; the building for receiving straw is 30x95 feet in dimensions. There are two warehouses isolated from the

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main buildings, one 50x150 feet and one 60x200 feet in size. A repair shop 30x100 feet, an oil house 30x30 feet and a stable 60x125 feet in dimensions are located at convenient points. As a precaution sufficient straw is kept stored away the year round to operate the mills for several months.

The company has forty head of stock, and does all of its own baling and hauling of straw. Fifty acres of good farming land lying between the mill and the Wabash River, owned by the company are held in reserve. About a year ago a department of the mill was equipped for coating paper, but just about the time it was ready for operation the panic struck the country, and it was deemed best to suspend operations in this line until business returned to a normal condition.

A printing department equipped with five Cottrell presses is kept in constant operation printing the style of firms, &c., of the purchasers of the product.

This mill was erected some five or six years ago by the Diamond Match Company, which about a year and a half ago sold it to the Wabash Paper Company. The company is officered as follows: D. McCallay, president; J. A. Hill, secretary, and A. W. Hill, superintendent. The Hill brothers are both thoroughly practical paper men, having been reared in the business from their boyhood days.

J. A. Hill is a resident of Chicago and attends to marketing the product.

A. W. Hill, the superintendent, held the same position with the Diamond Match Company, and it was he who planned and supervised the construction of the plant. One of the most desirable features in the construction of the buildings of this plant is that the basement floor is above the level of the ground, making the lower floors light, dry and cheerful. This feature should commend itself to those contemplating building new mills.

The Wabash Paper Company has a magnificent suite of offices on the fifth floor of the Monadnock building, facing out onto the Chicago Post Office building, with a fine view up Dearborn street.

The Calumet Paper Company has taken offices in the Association building on La Salle street. The insurance companies have admitted a total loss and have taken the damaged stock. The Calumet will probably realize \$85,000 to \$90,000 in cash from the fire. By free use of the telegraph and the warehouse stock the company had little difficulty in promptly filling orders.

L. S. D.

**Miami Valley.**

[FROM OUR REGULAR CORRESPONDENT.]

DAYTON, Ohio, March 1, 1894.

Business has assumed a steady gait, and while no sensational time is anticipated it is not thought that the Miami Valley trotter will be distanced in the contest. Neither Confidence nor Activity, the drivers, seems to strive for pole position. As a matter of fact business is not bad, and the outlook grows more encouraging as the weeks fly by. Dealers and manufacturers hope for a busy spring trade, and it is fervently petitioned that an unlooked for commercial wind will

not blast their hopes. Some of the brethren are inclined to believe that a house built on sand cannot stand.

Politically, paper manufacturers are resting on their oars. Questions of national interest have been relegated to a second position to give place to arguments more local in their character. The Congressional vacancy in the third Ohio district, wherein are located most of the paper mills in Ohio, is causing talk unlimited. Inasmuch as several wealthy paper manufacturers were supposed to be available candidates for consideration before the conventions, the trade have interested themselves deeply. However, these men have withdrawn on account of business interests which cannot be sacrificed, and the field is practically open to other competitors. This election has attracted national attention. At present political nabobs are as much at sea concerning the identity of the late Hon. Geo. W. Houk's successor as the voter who takes only passing notice of the conflict.

Charles F. Gunckel, the irrepressible, has again bobbed up on the surface of the water, hailed a passing steamer and at once made himself captain of the crew. The following is a verbatim copy of a letter sent out during the past week to certain of the unsecured creditors of the Gunckel Banking Company and may partly be self-explanatory:

DEAR SIR—At a meeting of the unsecured creditors it was deemed to be for the best interests of all that I assist the Trustee in matters pertaining to the bank, and therefore executed a power of attorney, a copy of which I inclose. If agreeable please sign and send same to Thomas Bishop, Esq. Respectfully, C. F. GUNCKEL.

The inclosed document here follows:

The undersigned creditors of the Gunckel Banking Company, in the sum set opposite our respective names, believing that C. F. Gunckel can render valuable aid to the trustee of said bank in converting its assets into money or make legal disposition of same, do hereby appoint C. F. Gunckel our attorney, and in our names and stead to represent us as aforesaid in all matters appertaining to said bank whatsoever. The authority herein given shall continue for a period of six months from February 17, 1894. (Sign here.)

Not long ago Trustee Sam'l W. Margerum advertised the sale of a number of shares of stock in various concerns in which Mr. Gunckel is interested, on the recommendation of a majority of the Gunckel creditors, who wanted the stock owned by the ex-banker and financier converted into money to assist in the payment of their claims. In all there were five shares of stock in the Middletown Electric Light Company; nine shares in the Middletown Gas Company; fifty shares in the M. & C. railroad, and 234 shares in the Middletown Paper Company to be sold. Promptly at the hour of the sale Mr. Gunckel appeared and presented Mr. Margerum a petition signed by sixteen of his creditors asking for an indefinite postponement of the sale. Accordingly the sale was declared off. Mr. Margerum is said to have learned that the heirs of the Crane estate did not authorize their signatures, but as the petition did the work this did not affect the desired result.

A few days later Mr. Gunckel was ordered to appear before the Probate Court of Butler County on a citation which demanded that he should submit to an examination under oath on all matters relating to the

disposal of his property, his trade dealings and accounts, and on all debts due or claimed by him, as well as a full statement of his estate. On account of Mr. Gunckel's non-appearance on the day set apart the examination was postponed until the latter part of last week. The examination came off, but no order has as yet been issued by the court.

When asked whether he possessed property at the date of assignment, Mr. Gunckel replied in the negative, he having transferred it the day previous to Hon. L. B. Gunckel, an attorney of Dayton, to secure a mortgage for \$4,100. Questioned concerning the consideration for the release of his wife's dower interest in all the property, Mr. Gunckel replied that "the consideration was that she should release the said dower interest in \$250,000 of real estate."

"What became of your furniture at Lake Chautauqua?" was asked.

"When I sold the house I sold the furniture with it."

"Was the sale made in writing?"

"Yes, sir."

"Did the assignee know of it before the assignment was made?"

"Yes, sir."

"How much money did you have when the bank assigned?"

"Less than \$5."

"Did you have any notes?"

"Yes, sir."

"Did you turn them over to the assignee?"

"No, sir. I also had an account with a party which I considered good, but it is not yet settled and is likely to result in a law-

suit. I cannot place any value upon it."

"How much stock have you in the Gunckel bank?"

"Eleven thousand dollars."

"What did you do with it?"

"I transferred it before the failure for collateral."

"How much stock have you in the Middletown Paper Company?"

"Twenty thousand dollars. I have some in my possession; how much I do not know."

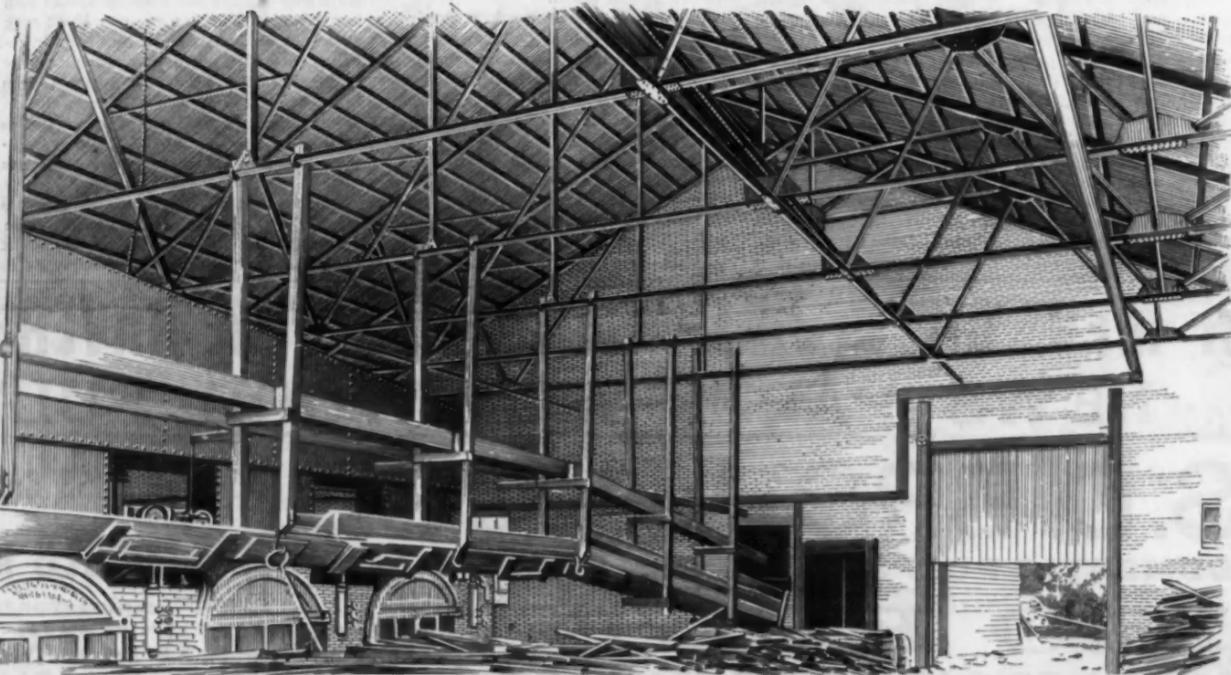
Thus continued the colloquy, nothing of a startling nature being divulged. It was learned that his personal property has been transferred to various members of the Gunckel family. The testimony in the hearing was transcribed by the court stenographer.

It is easily noted that there is a determination to stir up the affairs of Mr. Gunckel. The action of nearly three-fourths of the unsecured creditors of the Gunckel Banking Company in giving Mr. Gunckel power of attorney to represent them in all matters pertaining to the bank, and thus assisting the trustee in settling the affairs, has created a favorable change in public sentiment, and further developments in the complicated mix-up will be awaited with interest. Evidently Mr. Gunckel has restored confidence.

W. S. White, of Franklin, has accepted a position as bookkeeper at the new W. W. White paper mills, this city.

The will of the late Joseph L. Weston, the veteran paper manufacturer, has been admitted to probate, John W. Green, of Chicago, and his son, Weston Green, who are the principal beneficiaries under the testa-

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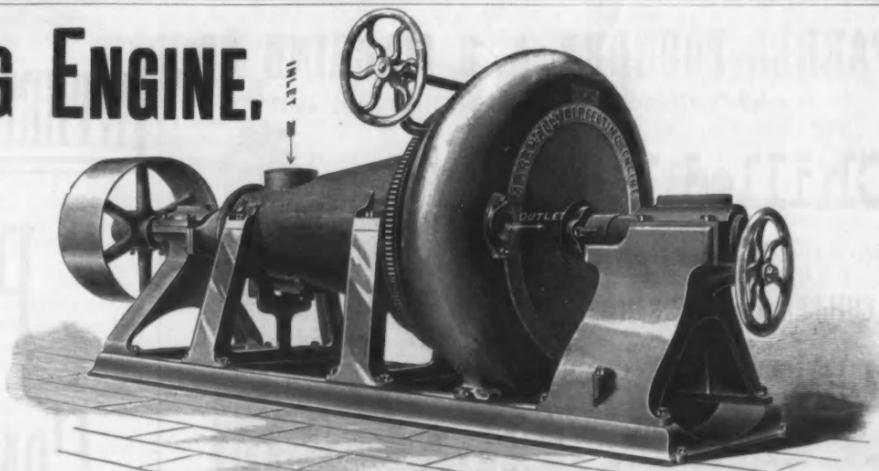
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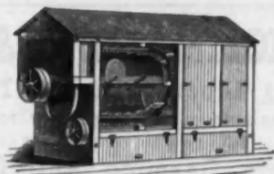
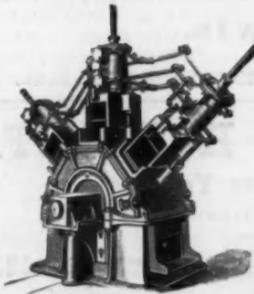
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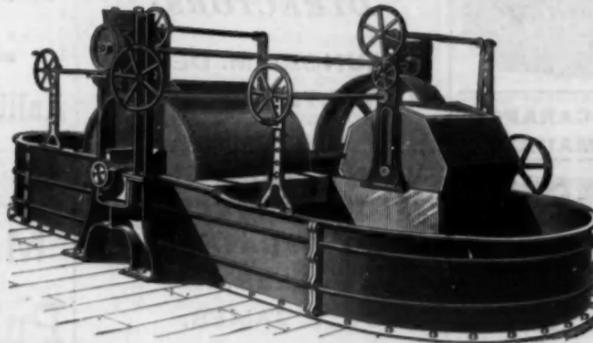
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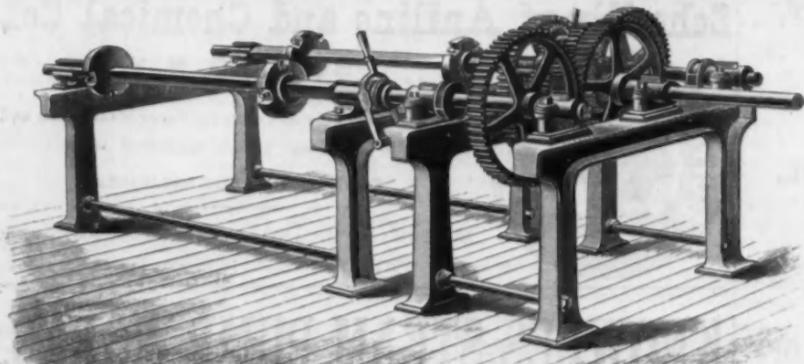
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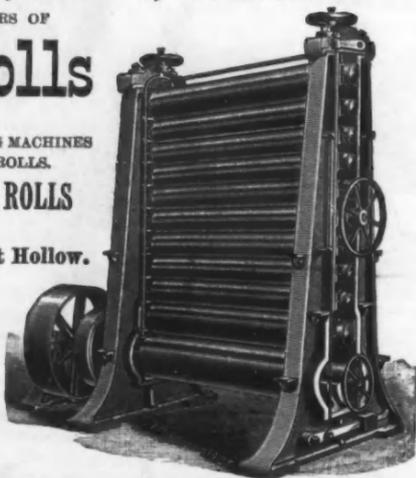
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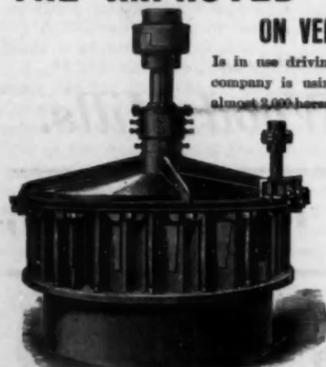
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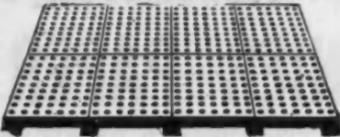
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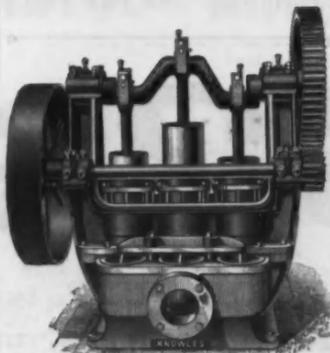
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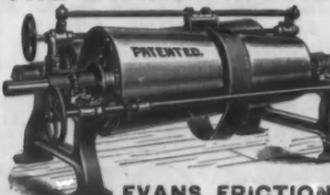
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ment, have been qualified as executors and trustees, and are not required to give bond. The will donates liberally to charitable organizations.

G. N. Bierce, of the firm of Stilwell & Bierce, was elected chairman of the meeting of the Y. M. C. associations of Ohio at Youngstown at their recent meeting. Mr. Bierce maintains a deep interest in the welfare of the local institution and has occupied prominent positions among the Ohio and inter-State associations for several years.

The fact that the directors of the Carter-Crume Company met at Niagara Falls, N. Y., and declared a semi-annual dividend of 4 per cent. on the preferred stock is gratifying to the Daytonians directly interested. A handsome surplus was left over to be applied to the common stock at the end of the year.

In the case of W. H. Todhunter, trustee of the Middletown Paper Company, v. the First National Bank of Cincinnati, the Merchants' National Bank of Middletown, Paul J. Sorg, John Aver and the Middletown Hydraulic Company, the latter company has filed an answer and cross petition denying the allegations of plaintiff and claiming \$800 due for water rent. In the event of a sale the company demands to be paid first out of the proceeds.

The Citizens' National Bank has sued the Middletown and Madison Street Railroad Company and the Guncel Banking Company for \$500 on a promissory note, with interest at 6 per cent. from February 5, 1894.

L. N. Weston, of the Weston Paper and Manufacturing Company, who has been ill for some time, is again out, and is now traveling in the South and Southwest.

The Weston Paper Company's mill at Greenfield, Ind., started the past week, and is now running on a full supply of orders—something unusual just now in straw paper circles. Samples of strawboard and straw wrapping paper from this mill were shown to your correspondent, and it can conscientiously be said that they were A No. 1. The mill begins its operations propitiously, and with active men at the head, will make a success of the venture.

The stockholders of this concern held a meeting this week at Greenfield, and elected the following named officers: T. A. Phillips, president; John K. McIntire, vice-president; E. B. Weston, secretary and treasurer; T. A. Phillips, J. K. McIntire, Chas. P. Althoff, Dr. P. N. Adams and Ed. B. Weston, board of directors. The newly elected officers did not skip the opportunity for congratulating each other over the magnificent equipment of their new plant.

The unexpected death of the wife of Henry J. Snider, the well-known paper manufacturer, at Cincinnati, a few days ago was a shock to Mr. Snider's many friends. He has the sympathy of the entire trade in his days of affliction.

Thos. F. Walsh, of the Walsh Paper Company, Cuyahoga Falls, Ohio, was a caller in the valley this week.

John W. Aull, the hustling junior member of the Aull Brothers Paper Company, this city, visited Indiana this week in the interest of the company, and reports a good trade.

The Weston Paper and Manufacturing Company, of Dayton, has just shipped a carload of roll paper and cutters to Sydney, New South Wales. This company has perfected the arrangements for making a display in the Antwerp Exposition, having secured space in the United States Building as well as in the general hall. Although this plan has been considered for a long while by the company, it was only recently that definite arrangements were completed.

T. A. Phillips, president of the Weston Paper Company and vice-president of the Weston Paper and Manufacturing Company, as well as treasurer of the Western Strawboard Company, came up from Jacksonville this week, paying Dayton a flying visit.

C. A. Jackson, of the Monroe Manufacturing Company, Monroe, Mich., was in the city the past week. While here he met Frank Grubbs, of Cody & Grubbs, paper brokers, Chicago, and accompanied E. B. Weston to Greenfield, Ind. M. V.

**Holyoke.**

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, MASS., March 1, 1894.

To apply an aphorism, trade is "getting no better fast." As a rule manufacturers say that their orders are confined mainly to case lots and with these they are enabled to keep the machines running fairly well. One very seldom hears of carload orders nowadays. When the usual trade conditions prevail the manufacturers load up with orders during February for the spring trade, but these orders have not come to hand this year, consequently the outlook is not as bright as it might be.

The manufacturers say that the spurt in business which came soon after the first of the year has not been maintained. Of course some are better off than others as

regards business in sight, but no one is beginning to do the business that he was doing one short year ago. One manufacturer went so far as to say to the writer yesterday that he did not expect to see business much better before fall. This is rather a gloomy view of the situation, and it is to be hoped that the manufacturer is wrong.

A South Hadley Falls man, J. R. Murphy, an employee of the Hampshire Paper Company, recently invented and has applied for a patent on a device for cutting paper in such a way that the watermark will be preserved in each sheet of paper. It is an electrical attachment used in connection with the dandy roll. It consists of a small shaft connected with the dandy, on which are three cams. These cams operate a gear which is reversible, and to it is attached a screw shaft which governs the cutter. The cams work independently, but are controlled by an electric battery. The circuit can be opened or closed at will. The inventor claims that the paper is cut so evenly by means of his device that the sheets will not vary in size one thirty-second of an inch. The watermark will thus remain in each sheet, which will be quite an improvement over the present method of cutting the sheets. Mr. Murphy says that his appliance is not fully perfected yet, but he has firm faith in its ultimate success.

William Whiting, of the Whiting Paper Company, was the first man in this city to use the long distance telephone for a business conversation with Chicago. His son, S. R. Whiting, who is on a business trip, called up his father here, and the conversation lasted five minutes. For this service a charge of \$9.50 was made. This system will not be resorted to very frequently by business men on such terms as this.

The Graphic Publishing Company, of Springfield, which was wiped out by the fire which occurred in that city not long ago, is to be reorganized under the old name. The capital stock will be \$6,000, and the publication of the bright little illustrated weekly will be resumed shortly. The present plan is to buy the plant of Rafter, Ripley & Co., job printers, and to push the business under the management of Dwight Brothers, the original owners of the Graphic.

The pulp mill at Wendell Depot operated by the Farley Paper Company was burned Tuesday night, involving a loss on the building, stock and machinery of \$16,000; partially insured. The mill had more stock on hand than usual, which increased the loss. The cause of the fire has not been fully determined.

The Hampshire Paper Company, at South Hadley Falls, has made this return of its condition: Fixed capital, \$200,000; capital paid in, \$200,000. Assets, buildings, \$50,000; land and water power, \$3,000; additional buildings, \$11,475; machinery, \$40,000; cash and debts receivable, \$64,900; manufactures and merchandise, \$65,652; total, \$235,027. Liabilities, capital stock, \$200,000; debts, \$6,000; profit and loss and reserve for depreciation, \$29,027; total, \$235,027.

The small pox at South Holyoke has not increased any since last week, and it is being closely watched. The Board of Health has caused the children in the public and parochial schools and in the mills in that section of the city to be vaccinated. Some of the French people have been very careless as regards exposure. H.

**Fox River Valley.**

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, WIS., February 26, 1894.

Trade in general is by no means good, and most manufacturers are feeling quite unhappy at the outlook. Most of the mills continue to run about as they have for six months past, on a light basis, but the prospect for the future looks more dark than bright. In recognition of these facts some of the manufacturers at the beginning of the year and before were anxious to reduce wages very generally, as they found they were not able, paying labor at the old prices, to meet the competition of goods made elsewhere under reduced scales. The sanguine ones advised "holding on" and "going slow," and so the decrease was postponed until lately.

Within a week or ten days, however, a very general cutting has been done at all the mills. Night men and the most skilled operators have not been molested, but lower grades of labor have been cut from 8 to 10 per cent. It had to be done some time, and the manufacturers think they are entitled to considerable credit for postponing the time as long as they have. The Manufacturing Investment Company has taken no part in the counsels and has not been governed by the actions of the others. "Piece work" is the rule of this plant, the pay of the men depending upon the number of pounds of sulphite which are made daily. F. W. Taylor, the former general manager of the company, claimed to be the originator of the plan of paying higher wages

when the output exceeded a certain excellent standard, and lower wages when it fell below a certain average standard. The men naturally strove to get the higher rate. This rule was in finding the piece work rate to drive the men as hard as possible for a certain time and then average the piece rate so as to give them about three-quarters the wages. The result invariably was that the men earned more money at the piece work rate than they had before. It furnished something for ambition to work upon.

Waldemar Thilmann, who originally brought the Mitscherlich sulphite patents to this country and disposed of them, is about to return to his home in Germany, having been spending a couple of weeks with his brother Oscar in Kaukauna. Mr. Thilmann's visit to this country this time was in the interest of a paper link belt, the patents of which he has sold to New York parties. He says smilingly that he got out of the sulphite business just in time. "It was in 1890," said Mr. Thilmann "that I disposed of all my sulphite interests. Fibre was selling then for from 4 to 5 1/2 cents, and look at it now!"—with a little shrug. "When I was at Alpena," he continued, "I experimented with all sorts of wood, both hard and soft, to determine their qualifications for fibre. I didn't want a digesterful of each kind, so I made a lead basket to hold the experimental cooking and put it into the digester with the regular spruce cooking. That cannot be done with the quick cooking, blow-off digesters. I tried hemlock, pine, cedar, tamarack, maple, beech and other woods. The maple and hard woods generally made a beautiful, white fibre, but too short and deficient in strength. None of the soft woods were equal to spruce, although hemlock came the nearest to it."

The Manufacturing Investment Company has of late been experimenting with the lead basket as described by Mr. Thilmann. N. H. Brokaw, of the Kaukauna Fibre Company, is more convinced than ever that hemlock is to be the coming timber for making fibre for the cheaper grades of paper where color does not cut a figure of great importance. He is having a good demand for his hemlock fibre, which makes a very soft and strong paper.

The Thilmann Pulp and Paper Company, of Kaukauna, is having a great run on the paper specialties which it is now making almost exclusively, such as cover paper, colored manilla, tissue, block pattern paper and decorated covers, tissues and lining papers, all of which have hitherto been imported. The decorated "Mikado" paper, made on its new machine, cannot be produced fast enough to supply the demand, a large proportion of which comes from the East.

Another case of smallpox in this vicinity was reported last week, the victim being a girl named Koop, working in the rag room of the Howard Paper Company's mill at Menasha. Every precaution was instantly taken to isolate the case, and no danger of its spreading is apprehended.

The Pulp Wood Supply Company is putting the railroads to extremities to furnish cars for bringing pulp wood to this valley. This is the busiest season for delivering the year's supply of timber, and many trainloads come in daily. An important change is to be made by the Supply Company in receiving lake shipments of wood. A tremendous boom will be built at Long Tail Point on Green Bay, and railroad tracks and a trestle work extending 700 feet into the lake are being constructed at a cost of nearly \$50,000. All wood coming by water will go into the boom, and be thence loaded on cars for this valley. The Supply Company has contracted to furnish 5,000 carloads annually for several years, to pay the railway company for its expenditures.

The Plover Paper Company's new mill, located on the Wisconsin River, will probably be making paper in the course of a week. Rag sorting has been commenced. The following officers have been chosen: President, G. A. Whiting; vice-president, F. E. Bosworth; secretary, C. A. Babcock; treasurer, C. E. Edwards.

The contract for preparing plans and superintending the construction of the new mill of the Wolf River Paper and Fibre Company has been awarded to C. B. Pride, of this city.

The Centralia Pulp and Water Power Company, on the Wisconsin River, has lately put in three Mills pulp grinders to replace several old ones of different manufacture.

Jos. Sherburne was caught in a belt which he was shifting at the mill of the Manufacturing Investment Company one day last week, and the bones and blood vessels of one leg were so terribly broken and ruptured that the limb was amputated the day following.

The Marinette and Menominee Paper Company expects to start its mills this week, which have of late been undergoing extensive repairs.

The paper machines in the Vulcan and

Tioga mills of the Kimberly & Clark Company are being repaired and put in thoroughly good order.

W. M. Gilbert is visiting in Washington, D. C. The Gilbert Paper Company is putting some additional hot air pipes in its Menasha mill.

Charles E. Martel, of Chicago, was in town last week.

Mr. and Mrs. F. C. Shattuck, of Neenah, entertained a large company of friends last Wednesday evening at their new residence.

Silas Wright, of New York, did business in this valley last week, remaining several days.

S. G. Poucher, of Chicago, called on customers in the trade in this valley recently.

J. R. Sergeant, of New York, is in town. F. W. Orbison has lately returned from Chicago. FOX RIVER.

**Boston.**

[FROM OUR REGULAR CORRESPONDENT.]

EASTERN OFFICE PAPER TRADE JOURNAL, 67 FEDERAL STREET, BOSTON, MARCH 1, 1894.

Concerning the paper business of this market there little of special interest to be reported.

Some business is doing right along from week to week, but the volume of trade is far from being up to what it ought to be at this season of the year.

Each additional factory started up and some few of the New England industries having become producers again during the past month adds a little to the demand for paper of some kind, but the increased trade from that source is yet rather limited.

In surface coated paper business is exceptionally good, and the several New England concerns which are engaged in this particular line are running their factories overtime to fill orders. The large demand for surface coated paper is because of the many different art picture books of the World's Fair, pictorial views of travels, &c., issued for "coupon" newspapers. In every city in the country the daily papers are filled with coupons which, together with an extra consideration in cash, entitle the holders to something, and so long as the prizes offered call for a large distribution of paper of one kind or another no word of complaint ought to issue from those engaged in the paper business.

In January last Bigelow & Taylor removed to new quarters, taking a store at No. 48 South street, and are now fairly well settled for business, although, as Mr. Bigelow remarked, "There is only half a trade doing in anything." The firm has recently added a line of Mexican and cotton hammocks to its stock of papers and twines. Mr. Bigelow himself has been sick for some weeks, but he is now out again and able to put in full time at the store.

Stanton Day, of the Moosehead Pulp and Paper Company, has recovered from his long spell of illness and is now in working trim again, but he shows the effects of his recent confinement to some extent in color.

J. E. Peckham, No. 42 Lincoln street, has sold his stock of paper to Stone & Forsyth and will in future confine himself more closely to shoe shanks, a line of business in which he has been long engaged. Such paper business in the shoe trade, however, as he can handle he will continue to look after and Stone & Forsyth will fill the orders.

T. D. Chaffee, formerly with the E. Tucker's Sons Company, of Hartford, Conn., has become connected with Stone & Forsyth as traveling salesman.

The executive committee of the Boston Paper Trade Association met to-day at the office of Train, Smith & Co. to arrange for the next meeting, which will be the "annual," and it will be held at the Brunswick on the evening of Wednesday, March 21. The attraction of the evening will be announced next week.

Among the list of names published some few weeks ago as members of a "Raymond" excursion to California was that of the Hon. Rodney Wallace, of Fitchburg, Mass., but it seems that Mr. Wallace did not join the party owing to illness at the time, and so has been keeping quiet at Fitchburg instead of journeying overland to the Pacific Coast as many of his friends had been led to believe.

C. H. Mortimer, representing the Diamond Mills Paper Company, of New York, was in town during the week. Mr. Mortimer was the originator of the once popular "Mikado" papers, and it is said that he is now running a new patented child's bib as a side line.

Other recent trade visitors reported were Daniel F. Emery, Jr., W. W. Brown and C. R. Milliken, of Portland, Me.; Garret Schenck, of Rumford Falls, Me.; F. C. Whitehouse, of Brunswick, Me.; H. G. Bixby and Oscar Hartwell, of Nashua, N. H.; T. L. Barnes, of Plantsville, Conn.; Mr. Coy, of Windsor Locks, Conn.; W. M. Kimball, of Mittineaque, Mass.; O. H. Briggs, of South Hadley Falls, Mass.; E. C. Rogers, Samuel Rust, W. D. Judd and Mr. Hayward, of Holyoke, Mass.; D. W. Glenn and

G. B. Holbrook, of Springfield, Mass.; Charles Barton and Mr. Williams, of Worcester, Mass.; Fred Temple, of East Pepperell, Mass.; James R. Bailey and Chas. Mayo, of Lawrence, Mass.; Jos. Philbrick, of North Dighton, Mass.; F. D. Phelan, of Newburgh, N. Y.; Frank Grubb, of Chicago; I. R. Ellston and Fred. Bertuch, of New York; Henry Richards, of Gardiner, Me.

A member of the Boston trade was in receipt this week of a very attractive letter from New York offering a handsome line of paper at greatly reduced prices. The paper offered was said to be so perfect in fibre and so perfectly printed from original steel plates that the Treasury Department at Washington had already redeemed some of the bills at their face value. Now, there is no one in the Boston paper trade "green" enough to carry that line of "goods" even on consignment.

The Standard Stave and Cooperage Company has been doing considerable work of late for paper and pulp mills, and it is doubtful if any other concern engaged in the manufacture of tanks, vats, &c., is in position to turn out better work. At present the company has ten men at the pulp mill of J. & J. Rogers & Co., Ausable Forks, N. Y., setting up nine large tanks, each of them 12 feet in diameter and 6 feet high. Nine absorbing tanks of the same size are being placed in the mill of the Katahdin Pulp and Paper Company at Lincoln, Me. For the Howland Falls Pulp Company quite a number of tanks are being built: one tank, 11 feet in diameter and 9 feet high; two storage vats, 17 feet in diameter and 10 feet high; two tanks, 15 feet in diameter and 11 feet high; three absorbing tanks, 12 feet in diameter and 6 feet high, and three large cooling tanks, 18 feet in diameter and 12 feet high. These cooling tanks are of such peculiar construction that a description of them would require a diagram for explanation, their interiors being divided into three compartments, one above the other, by thick floors, while the top and bottom, which project beyond the sides of the tanks, are held in place by long connecting rods. All of these tanks are made of selected hard pine, 5 inches thick, and the workmanship is of the very best. In fact the quality of material and superior workmanship are the factors which give leading prominence to the products to the Standard Stave and Cooperage Company.

The building Nos. 72 and 74 Pearl street was visited by fire a few days ago, and several firms akin to the paper trade suffered more or less damage.

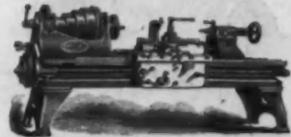
P. F. Collier, publisher, was damaged to the extent of \$15,000, but fully insured.

The stock of the Coburn Stationery Company was damaged, and the loss is estimated at \$10,000; insured.

Fred Estes, bookbinder, sustained quite a loss, which is covered by insurance.

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HENRY E. PRATT, President of American Copying Paper Co., Mills at Windsor Locks, Conn.  
THOMAS S. SAFFORD, Treasurer of West Jersey Paper Manufacturing Co., Mills at Camden, N. J.  
GEORGE H. DOUGLASS, late Supt. Union White Lead Co., Brooklyn, N. Y.

**Pulp Strainer.**

The pulp strainer illustrated herewith consists essentially of a chamber for receiving the pulp mixed with a desirable amount of liquid, and provided with a perforated plate through which pulp of the desired fineness readily passes, separate receiving chambers beneath the former chamber for the reception of the strained pulp and liquid passed through the perforated plate of the upper receiving chamber and provided with movable diaphragms at their base and with suitable depressed outlet passages at their adjacent edges, plungers movable beneath the diaphragms for drawing the pulp through the perforated base of the upper receiving chamber, and forcing from the perforations the pulp which is sufficiently coarse to clog the perforations of the plate, and actuators for operating the plungers with a variable movement.

Figure 1 is a top plan view of the strainer, a portion of the perforated plates of the upper chamber being removed, and a portion of the wall of the chamber being sectioned for the purpose of further illustrating the detail construction of the strainer; Fig. 2 is a longitudinal, vertical sectional view, taken on line 2-2, Fig. 1; Fig. 3 is a cross sectional view, taken on line 3-3, Fig. 1; Fig. 4 is a detail sectional view, taken on line 4-4; and Fig. 5 is an enlarged elevation of the cam for operating the reciprocating plunger.

The frame A and its standards B are of desirable form, size and construction, the standards being preferably tied together by bars *b b*. The upper portion A, of the frame is hinged at *a* at its rear extremity, and is secured in position by hinged bolts *a'* for permitting the other chamber to be swung backward when the machine is cleaned, repaired, &c. The pulp mixed with a desirable amount of liquid is discharged by suitable conduits C into the receiving chamber D, provided at its base with the perforated plate *D'*, which consists preferably of a series of sections *d*, having their adjacent extremities supported on crossbars *d'*. Beneath the chamber D are the receiving chambers E, into which pass the finer particles of pulp and the liquid discharged into the chamber D. These chambers E are separated by suitable partitions *e*, alternating with the crossbars *d'*, and adapted to bear against a corresponding partition *e'*, it being understood that a suitable packing *e''* is preferably placed between the partitions for preventing the passing from one chamber to the other.

F represents the yielding diaphragm at

the base of the chambers E, having its edges adapted to be secured to the bars *a' a'* of the frame A, and consisting preferably of a piece of rubber belting or similar material capable of continued use and great flexibility.

At the adjacent edges of the chambers E,

the same to move downwardly by the force of spring L the gravity of the superimposed pulp and water and pressure of the air thereupon, and the metallic plate *i* for supporting the wooden plate *i'*. Projecting from the plunger I is its rod *I'*, which is guided through suitable bearings J and J',

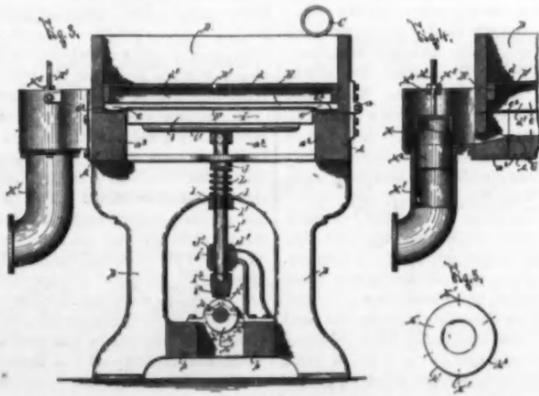
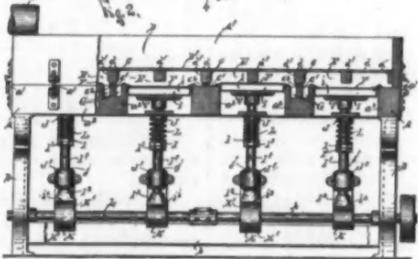
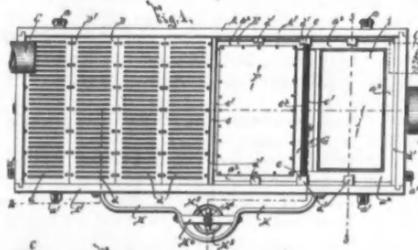
actuator or cam K. This cam is rigidly secured to a shaft, *k*, journaled in the standards B, and is so shaped that the length of the face *k'*, of its extension *K'*, is less than that of the other or return face *k''*, and as its length is less circumferentially its pitch must be steeper, and hence its throw greater and quicker. Therefore this cam will cause the plunger to rise quickly, but to descend slowly.

As preferably constructed, the cam is provided with oppositely arranged extensions *K'*, whereby one revolution thereof reciprocates the plunger twice. This construction of actuator or cam is an important feature, as it greatly adds to the desirability of the machine by augmenting its capacity in lengthening the time during which the pulp passes through the strainer plate, and increasing its efficiency in increasing the force with which the plunger ejects the coarser pulp from the perforations of the strainer plate. The spring L, previously

mentioned as aiding in the depression of the plunger by forcing the head *I'* upon the plunger rod firmly against the cam K, encircles the upper end of the plunger rod, and is interposed between the upper bearing J and a movable shoulder or nut, *l*, on the plunger rod. The tension of this spring L is readily varied by depressing or raising the nut *l*, which may be more firmly held in position by means of a check nut, *l'*.

The outlet conduit H is provided with a suitable discharge pipe, *H'*, opening from the central portion of its base through which the strained pulp is conducted to any desired locality.

Movable in the upper extremity of the pipe *H'* is a sleeve, *H''*, for regulating the height of the material within the outlet conduit, and in order to adjust this sleeve it is provided with an upwardly extending rod, *H'''*, passed through a suitable support, *H'''*, and provided with an adjusting nut, *H''''*.



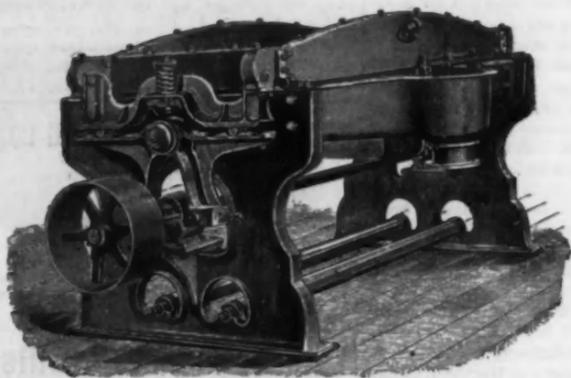
PULP STRAINER.

and between the adjacent edges of the diaphragms F, are the depressed outlet passages G, through which the separated pulp passes to a main outlet conduit, H, best seen at Figs. 1 and 4.

Beneath the diaphragms F are plungers I, consisting of a wooden plate *i*, adapted to force the diaphragm upwardly and permit

the lower one and, if desired, the upper one being provided with a removable bushing, *j*.

At the lower extremity of the plunger rod, beneath the bearing J, is the lower head *I'*, having a removable wearing plate, *i''*, of bronze or other suitable material, adapted to rest upon the periphery of an



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19 WHITEHALL STREET, NEW YORK. OFFICES: 160 STATE STREET, BOSTON. —Illustrated Catalogue upon Application.—

Imports and Exports.

IMPORTS AT NEW YORK.

FOR THE WEEK ENDED FEBRUARY 23, 1894.

Table with columns: An. Colors, Alum, Bl. Powders, Soda Ash, Soda, Cau., Soda, Sal., Soda, Hypo., Ultramarine, Books, Newspapers, Engravings, Ink, Lead Pencils, Paper, Steel Pens, Stationery, Slate Pencils, Clay, J'te B'ts, P. Hangings, P'p'r Stock, Terra Alba, Waste, Wood Pulp. Includes totals for the week and general merchandise.

Imports General Merchandise for the week ended February 23, 1894. \$4,792,973

IMPORTS OF PAPER STOCK AT NEW YORK.

FROM JANUARY 31 TO FEBRUARY 23, 1894.

Table with columns: Whence Imported, Rags, Old Papers, Chemical Fibre, Ground Wood, Manila Stock. Lists ports like Antwerp, Aspinwall, Bremen, Bristol, Calcutta, Dundee, Fiume, Genoa, Glasgow, Gothenburg, Hamburg, Higo, Hull, Leith, Liverpool, London, Nassau, Newcastle, Rotterdam, Stettin.

NEW YORK IMPORTS.

FROM FEBRUARY 21 TO FEBRUARY 23, 1894.

Paper Stock. Jesup & Moore Paper Company, Chicago, Antwerp, 50 tons chemical fibre. H. Bauer, Weimar, Bremen, 21 ba. manillas. James Pirnie, Norwegian, Glasgow, 58 ba. paper. James Pirnie, Martello, Hull, 279 ba. bagging. Train, Smith & Co., Amsterdam, Rotterdam, 139 ba. rags. Horace Dutton & Co., Norge, Stettin, 105 ba. rags. F. Salomon & Co., by same, 210 ba. bagging. P. Bertuch & Co., by same, 155 tons chemical fibre. Paper. Henry Lindenmeyr & Sons, Russia, Hamburg, 12 ca., 20 ba. A. V. Benoit, by same, 14 ba. W. Heuermann, by same, 10 ba. H. S. Leclercq, by same, 23 ca. L. De Jonge & Co., by same, 4 ca. E. C. Lloyd, Norwegian, Glasgow, 21 ca. hangings. R. F. Downing & Co., Noordland, Antwerp, 22 ca. Kupfer Brothers, by same, 6 ca. J. Campbell & Co., by same, 5 ca. G. W. Sheldon & Co., by same, 34 ca. L. C. Wagner & Co., by same, 3 ca. Favor, Ruhl & Co., Mississippi, London, 4 ca. Dennison Manufacturing Company, Aller, Bremen, 1 ca. W. Demuth, Germanic, Liverpool, 15 ca. B. Lawrence Stationery Company, by same, 2 ca. Nevius & Haviland, by same, 5 ca. hangings. American Tobacco Company, by same, 26 ca. Eckmeyer & Co., Wiemar, Bremen, 8 ca. Dinglestedt & Co., Amsterdam, Rotterdam, 72 ca. Eimer & Aménd, by same, 29 ca. G. W. Sheldon & Co., by same, 7 ca. H. S. Leclercq, by same, 8 ca. Meriden Britannia Company, Cebic, Liverpool, 3 ba. Dennison Manufacturing Company, Aurania; Liverpool, 7 ba., 23 ca.

Special List of Imports of Paper Stock at the Port of New York for the month ended February 23, 1894.

Table with columns: Importers, Rags, Old Papers, Chemical Fibre, Ground Wood, Manila Stock. Lists various importers like Atterbury Brothers, Bauer, H., Bertuch, F., & Co., Castle & Gottheil, Darmstadt & Scott, Dutton, H., & Co., Glenn, J., Hamilton, Geo., Hatton, E., & Co., Herbat Brothers, Jessup & Moore, Paper Co., Kagemann & Co., Lewy Brothers, Libmann, J., & Co., Lyon, J. H., & Co., Mason, J. W., & Co., Miller, G. W., & Co., Overton, R. H., & Son, Perkins, Goodwin & Co., Pirnie, James, Ralli Brothers, Rau, G., Salomon, F., & Co., Smith, C. F., Sumner, C. P., & Co., Train, Smith & Co., Watson & Co.

IMPORTS of Rags and other Paper Stock at the Port of New York for the month ended February 23, 1894, from the following named Ports, showing Quantities from each Port.

Table with columns: Whence Imported, Rags, Old Papers, Chemical Fibre, Ground Wood, Manila Stock. Lists ports like Antwerp, Bremen, Bristol, Calcutta, Dundee, Fiume, Glasgow, Hamburg, Higo, Hull, Leith, Liverpool, London, Rotterdam, Stettin.

BOSTON IMPORTS.

FROM FEBRUARY 22 TO FEBRUARY 23, 1894, INCLUSIVE.

Paper, &c. Wm. Guild & Co., Pavia, Liverpool, 4 ba. periodicals. Dennison Manufacturing Company, by same, 28 ca. papers. M. A. Dennet, by same, 1 ca. paper hangings. Irving & Cason, by same, 2 ca. paper hanging. W. A. Noseworthy, by same, 23 ca. paper. Wm. Guild & Co., Sachem, Liverpool, 5 ba. periodicals. W. A. Noseworthy, Durham City, London, 5 ba. paper. L. D. Lothrop, Bostonian, Liverpool, 15 ca. papers. Paper Stock. R. H. Overton & Son, Angloman, Liverpool, 398 ba. manillas. True & McClelland, by same, 132 ba. waste paper. C. A. Cheney, Sachem, Liverpool, 18 ba. manillas. R. H. Overton & Son, by same, 203 ba. manillas. C. A. Cheney, Roman, Liverpool, 24 ba. rags. R. H. Overton & Son, by same, 252 ba. manillas. Horace Dutton & Co., by same, 7 ba. waste paper. C. A. Cheney, Durham City, London, 130 ba. waste paper. Horace Dutton & Co., by same, 96 ba. waste paper, 337 coils manillas. True & McClelland, by same, 190 coils manillas. True & McClelland, Bostonian, Liverpool, 35 ba. manillas. Horace Dutton & Co., by same, 149 coils manillas. J. C. Parsons & Co., by same, 28 ba. manillas. Wood Fibre. C. D. Brown & Co., Galileo, Hull, 150 ba. Wm. Russell & Son, by same, 400 ba. E. Hatton & Co., by same, 408 ba. Fred Bertuch & Co., by same, 650 ba. Sizing. C. A. Cheney, Angloman, Liverpool, 21 bags. C. A. Cheney, Sachem, Liverpool, 214 bags. C. A. Cheney, Roman, Liverpool, 102 bags. J. W. McClintock, Pavia, Liverpool, 213 bags. Jute Butts. Order, J. D. Everett, Calcutta, 13,288 ba. Bleaching Powder. J. L. & D. S. Riker, Angloman, Liverpool, 255 cks. J. L. & D. S. Riker, Sachem, Liverpool, 170 cks. J. L. & D. S. Riker, Roman, Liverpool, 185 cks. Fuerst Brothers, Galileo, Hull, 120 cks. J. L. & D. S. Riker, Lancastrian, Liverpool, 222 cks. J. L. & D. S. Riker, Bostonian, Liverpool, 424 cks. Caustic Soda. James Lee & Co., Angloman, Liverpool, 50 drums. Soda Ash. Warren & Co., Angloman, Liverpool, 200 bags.

Wing & Evans, Pavia, Liverpool, 22 cks., 800 bags. Bowman, Thompson & Co., by same, 500 bags. Warren & Co., Roman, Liverpool, 39 cks., 300 bags. Wing & Evans, Lancastrian, Liverpool, 64 cks. Linder & Meyer, by same, 30 cks. J. L. & D. S. Riker, Bostonian, Liverpool, 880 bags. Wing & Evans, by same, 128 cks., 300 bags. Linder & Meyer, by same, 30 cks. Soda Crystals. Wing & Evans, Pavia, Liverpool, 140 bbls. Warren & Co., Angloman, Liverpool, 140 bbls. Warren & Co., Sachem, Liverpool, 140 bbls. Warren & Co., Roman, Liverpool, 140 bbls. Wing & Evans, Bostonian, Liverpool, 140 bbls. Crude Sulphur. Linder & Meyer, Bostonian, Liverpool, 2,002 bags. Linder & Meyer, Lancastrian, Liverpool, 2,002 bags. Pulp Stones. Lombard & Co., Galileo, Hull, 57 stones.

EXPORTS of Paper, &c., from New York for the Week Ended February 27, 1894.

BOOKS, cases, to London, 3; Liverpool, 6; British Australasia, 11; Bremen, 2; Central America, 2; Cuba, 8; New Zealand, 1; Bayreuth, 1; Chili, 7; Glasgow, 1; Japan, 1; Manchester, 1; Newfoundland, 2. PAPER, to Cuba, 1,923 pkgs.; British West Indies, 382 pkgs.; British Australasia, 408 pkgs.; Liverpool, 50 pkgs.; Hayti, 1 pkg.; Colombia, 63 pkgs.; London, 280 pkgs.; San Domingo, 5 pkgs.; Brasil, 405 ca.; Ecuador, 5 pkgs.; Mexico, 119 pkgs.; Argentine Republic, 26 pkgs.; British East Indies, 2 ca.; Chili, 13 pkgs.; Central America, 1 ca.; Danish West Indies, 100 pkgs., 100 rns.; French West Indies, 1 pkg.; Peru, 37 pkgs.; Gibraltar, 3cs.; Hamburg, 6 ca.; Venezuela, 3 pkgs.; Porto Rico, 294 pkgs. STATIONERY, cases, to Cuba, 13; Colombia, 9; Venezuela, 3; London, 37; Mexico, 53; British West Indies, 7; Gibraltar, 13; Central America, 9; Hayti, 7; Liverpool, 2; Peru, 1; Argentine Republic, 1; Bristol, 1; Brasil, 6; Chili, 4; Danish West Indies, 7; Ecuador, 1; Gibraltar, 3; Porto Rico, 7; San Domingo, 2.

CARDBOARD, cases, to Colombia, 1. CARDS, cases, to Brussels, 1. WALL PAPER, cases, to Chili, 10.

AGGREGATES AND VALUES. Table with columns: Paper, reams, Paper, pkgs., Paper, cases, Books, cases, Stationery, cases, Rosin, bbls., Totals. Values in \$.

Exports General Merchandise for the week ended February 23, 1894. \$4,473,292

Warren Webster & Co., office works at Camden, N. J., and Chicago office at No. 2 Canal street, report among the many orders received for their "Webster Vacuum" feed water heaters and purifiers, one from the Pullman Palace Car Co., Pullman, Ill., for three more heaters and purifiers, aggregating over 5,000 horse power, to equip its entire works; also for the Williams vacuum system of steam heating, so as to utilize their waste exhaust steam, without back pressure upon the engines, for heating purposes. Past orders formerly received from this company amounted to 2,700 horse power and were installed in its plant at Pullman, Ill., during the past four years. These times of small margins are compelling a close scrutiny as to the methods in manufacturing concerns in order to secure greatest economy in the use of steam. Warren Webster & Co. claim to have the best methods for correcting feed water for boilers, and for utilizing exhaust steam for heating purposes, without back pressure upon engines, giving the best results upon all points of economy. They built their works at Camden, N. J., last year, and are now beginning an extension of 60x65 feet in their wrought iron department. Examinations and estimates are made by them free of charge.

TRAIN, SMITH & CO., IMPORTERS OF AND DEALERS IN ALL DESCRIPTIONS OF Paper Makers' Supplies, 24 FEDERAL STREET, BOSTON. BRANCH OFFICES: 36 BEEKMAN STREET, NEW YORK. 21 ST. MARY AXE, E. C., LONDON. EDMUND ST. CHAMBERS, LIVERPOOL.

WM. J. CORBETT & CO., Successors to BARLOW & CO., WHOLESALE DEALERS IN AND PACKERS OF Woolen Rags and Paper Makers' Supplies, 237 and 239 SOUTH STREET, and 66 and 68 UTICA STREET, THE OLD STAND. BOSTON, MASS. WOOLEN RAGS GRADED IN COLORS AND QUALITY.

ESTABLISHED 1855. DARMSTADT & SCOTT, IMPORTERS AND PACKERS OF PAPER STOCK. Offices: 257 Front Street. Packing House: 312 Water Street, New York. SPECIAL ATTENTION CALLED TO OUR OWN PACKING.

F. BREDT & CO., No. 194 Fulton Street, SOLE AGENTS FOR New York City, U. S. & A. JOSEPH PORRITT & SONS' ENGLISH FELTINGS. ALSO IMPORTERS AND DEALERS IN MARINE BLUE (Aniline) for News Paper Mills, Jacketing, Roll Cloth, Double Extra Canvas, Ultramarine Blue.

PHILLIPS MILLS & CO., IRONGATE WHARVES, PADDINGTON, LONDON. Paper Stock Packers. White Post Shavings, Blue and White Writings, Soft White Shavings, Pamphlet Shavings, Books and Pamphlet (free from wood), Ledgers, Heavy Letters, Light Letters. STOCK IS CHEAP. CABLE ADDRESS: PADANGLO, LONDON.

GRIFFIN & LITTLE, PAPER MILL CHEMISTS, Office and Laboratory: 103 Milk Street, Boston. EXPERTS IN THE SULPHITE PROCESS AND ALL CHEMICAL MATTERS PERTAINING TO THE MANUFACTURE OF PULP AND PAPER.

TRUE & McCLELLAND, (LATE E. A. TRUE & CO.) PACKERS AND IMPORTERS OF Paper Stock and Wastes, OFFICE: 64 FEDERAL STREET, BOSTON. Foreign Packing Branches: 19 Corporation St., Manchester; 97 Park St., Liverpool.

CASTLE & GOTTHEIL, IMPORTERS OF Sulphite and Soda Pulps, LINEN AND COTTON RAGS, JUTE STOCKS, SIZING, &c. 140 NASSAU STREET. NEW YORK.

A. WERTHEIM & CO., Hamburg, Germany, EXPORTERS OF ALL GRADES OF SULPHITE AND SODA PULPS. SIGMUND GOLDMAN, Agent for the United States and Canada, BENNETT BUILDING, 99 NASSAU STREET, NEW YORK.

# The Paper Trade Journal.

DEVOTED EXCLUSIVELY TO  
THE INTERESTS OF

## The American Paper Trade.

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Boston Office—A. L. DELESDERNIER, General Manager, 27 FEDERAL STREET, BOSTON, MASS.

NEW YORK: SATURDAY, MARCH 2, 1894.

PERHAPS one of the notable incidents of the day in its relation to the pulp making industry of this country is the arrival of a European merchant who proposes to investigate the reasons why American ground wood pulp can be sold abroad in competition with the foreign product. If conditions favor, agencies for American pulp mills will be negotiated, and the field of export will be thereby widened.

New paper mills and paper making projects continue to be reported. It would scarcely be supposed that at this time people would be anxious to invest in manufacturing enterprises of any kind, preferring to await the slow course of legislation and determine the chances for success on the results of Congressional action. Yet there are new mills to be built; some mills have been enlarged and otherwise improved, while yet others are undergoing renovation. The paper trade displays remarkable solidity.

A NEW screen is the subject of illustration and description on the first page of this issue of THE PAPER TRADE JOURNAL. The purpose of the inventors is to provide simple and effective means for lifting the stock from and giving clearance to the plates by subdividing the upward blast of the diaphragm, so that two or more quick and sudden blasts are brought into operation. Another strainer is described on page 200. This is a machine which has already found its place and has been successfully introduced, although we believe that its details have not previously been illustrated. In this strainer there is an increased capacity in lengthening the time during which the pulp passes through the strainer plate and increased efficiency in ejecting the coarser particles from the interstices of the plate.

SATISFACTORY as it is to know that the United States is financially and commercially great, it is very pleasing to have the testimony of rivals to this effect. The London Times, which recently, in discussing American finances, compliments us upon our strength and then says: "There are good grounds for believing that there has been a large export of securities besides a loss of gold. The excessive expenditures thus indicated explain the difficulty in which the nation now finds itself. Doubtless many follies have been committed, but the embarrassment is rather that of an unduly ambitious business man than that of a spendthrift. The remedy, summed up in a word, is economy. Until the exports increase the Americans must be content to diminish their imports. They have had some bad luck

to aggravate their own mistakes—for instance, the Baring collapse. Meantime our own revival of trade is not likely to be very pronounced until the Americans begin to weather the storm. It may be assumed that we have seen the worst of both sides." This declaration of dependence upon the United States is an admission which will surprise many, and perhaps none more than the British themselves. If British trade is so ancillary to the prosperous conditions of business in the United States it is something which heretofore Great Britain has been chary of admitting, and which serves to indicate that America is becoming the central point of the world's commerce.

SILVER continues to be the subject of interest in both houses of Congress, and propositions still come to the surface to increase its circulation. One of these propositions is contained in a bill recently introduced in the House and reported favorably by a sub-committee of the Committee on Banking and Currency. This bill provides that all circulating notes of national banking associations and all United States legal tender notes and all other notes and certificates of the United States, payable on demand and circulating as currency, shall not be exempt from taxation under the authority of any State or Territory, provided that any such taxation shall be exercised in the same manner and at the same rate that any such State or Territory shall tax other money within its jurisdiction. It is alleged that if this bill should become a law it will prevent fraud in the evasion of taxes. Nearly all of the money constituting the bank reserves is said to be returned as greenbacks, thus escaping taxation. The bill may be good. It is one of those things which should be studied by business men.

THE Interstate Commerce law is probably the most abused enactment now on the statute book. It was framed for the purpose of harmonizing the differences between carriers and shippers, and especially for the protection of the latter against unjust discriminations of those railroad companies and combinations which prior to the passage of the act could oppress the shippers to any extent they pleased. Amendments have been added to the law from time to time, and all things considered shippers and carriers have received fair consideration at the hands of the Board of Commissioners. The law is, however, vulnerable in at least one important particular, as was proved by a recent decision of Judge Crosscup, of the United States Court, at Chicago. This jurist decided, in a case where an attempt was made to show that unlawful discriminations in freight rates had been made, that the agents of the various transportation companies were justified in refusing to answer any inquiries intended to elicit information as to cuts in rates made by companies which they represented. The refusal of these witnesses to testify was on the ground that by the fifth amendment to the Constitution no man can be compelled to incriminate himself. Of course it may be possible to prove the infraction of the Interstate Commerce law by other evidence than that of the parties or agents of the parties engaged in its violation, but it materially interferes with and retards the execution of the act when these persons are permitted to successfully plead *particeps criminis*, and that therefore they are privileged from giving testimony in the matter. This decision may have an important effect upon the future action of the Board of Commissioners inasmuch as the trouble which is experienced in securing information of discriminations will be considerably increased. There will, in fact, be more room for collusion between the carrying companies and large shippers and it will open the door wider than ever for those international compacts between some of the United States railroad companies and the foreign steamship lines by which the domestic shippers who send goods from the seaport to inland points are made to pay a heavier rate than that charged on ocean freight shipped to the same place. In case, therefore, this decision stands, what can prevent secret bargains and deals between carriers? Does not this decision rob the Interstate Commerce law of much of its value?

### PAPER STOCK IMPORTS.

The imports of rags and other paper making fibres—jute butts excepted—at the port of New York during the month ended February 28, as reported, amounted to 9,360 bales and 496 tons, the difference in quantities compared with the corresponding month of 1893 being a decrease in rags of 11,098 bales, in old papers a decrease of 2,058 bales, and in manilla stocks a decrease of 5,721 bales. There was no wood pulp imported during February, and of chemical fibre 820 tons less than the January imports were brought in. The appended tabulation shows the quantities of paper making materials of the kinds mentioned which were reported as having been imported during the month of February for the last five years:

	1894.	1893.	1892.	1891.	1890.
Rags.....bales.	1,990	13,088	12,459	11,399	14,140
Old Papers.....	652	2,710	171	1,098	1,502
Manilla Stocks..	6,718	12,439	22,344	14,142	7,020
Wood Pulp, tons.	.....	.....	.....	1,185	.....
Wood Fibre.....	496	961	902	2,541	4,509

The arrivals from the different ports were as follows: Antwerp, 50 tons chemical fibre, 543 bales of manillas; Bremen, 227 bales manillas; Bristol, 284 bales manillas; Calcutta, 128 bales manillas; Dundee, 167 bales manillas; Fiume, 50 tons chemical fibre; Glasgow, 58 bales old papers; Hamburg, 52 bales rags, 76 bales old papers, 55 tons chemical fibre, 182 bales manillas; Hiogo, 1,321 bales rags; Hull, 316 bales rags, 151 tons chemical fibre, 1,208 bales manillas; Leith, 106 bales old papers; Liverpool, 148 bales old papers, 906 bales manillas; London, 57 bales rags, 191 bales old papers, 991 bales manillas; Newcastle, 73 bales old papers, 532 bales manillas; Rotterdam, 139 bales rags, 35 tons chemical fibre, 1,340 bales manillas, and Stettin, 105 bales rags, 155 tons chemical fibre, 210 bales manillas.

### Watermarks.

By DANDY.

The enterprise and accuracy of the ordinary newspaper is simply wonderful when it comes to talk about trade matters. For instance, there is an Up East paper which says that a certain firm in its vicinity has a large order for "loft dried blotting paper."

I have heard "laid" blotting paper asked for, but "loft dried" is a spick, span new term.

The next will probably be some fellow inquiring for "plated" blotting.

In olden days people whose trade was war, and who did not want to be shot by the other fellows, wore neatly fitting suits of metal armor and pranced around as veritable "tin soldiers." Nowadays people don't wear metal underclothing; but a convict "over in Jersey" who attempted an escape padded his clothing with paper so as to make himself bullet proof. He found the armor useful.

There are some papers which will stop anything that comes in contact with them. In fact some of them even stop themselves, after vainly trying to stop the advances of the sheriff.

Talking about the sheriff, he is certainly a "Jack-of-all-trades." He can turn his hand to anything, and, as a rule, he is successful.

A paper manufacturer who is entirely trustworthy in his statements says that he has just contracted with a pulp man to supply him with unbleached sulphite at less than 2 cents a pound delivered.

Now, it used to be said that sulphite could be made and sold at 1½ cents without the maker losing money, and it looks very much as though someone was going to demonstrate the proposition. If the stories of a good many pulp makers are to be believed it cannot be done successfully.

It is said that in the near future there is a possibility, nay, a probability, that a large paper mill will be built near enough to New York to enable the owner to haul his stock out in the morning and send it back in the form of paper on the evening of the same day. That certainly will be convenient, but the unanswered conundrum up to date is, Will it be profitable?

Chicago lately received an Egyptian mummy. An exchange remarks that this makes the population 2,000,001. How unkind!

### Communications.

#### Wanted—An Outlet.

CASCADE LOCKS, Ore., February 18, 1894.  
Editor of The Paper Trade Journal:

I take the liberty of asking for some information. I have a small ground wood pulp plant and have found ready sale for my output until recently; but now about all of the paper mills accessible to me are making their own pulp. This leaves me in a bad fix, as I am not in shape and the location is not favorable for putting in a paper mill.

Is there not something into which I can convert my pulp and which will sell on the market without requiring much or expensive machinery? I have heard of pails, tubs, &c., made of pulp. Can you tell me how they are made, or give any other suggestion or advice, which will be thankfully received?

My means are limited, and I shall be very glad to find some inexpensive process by which I can convert my pulp into something for the consumer.

M. B. KELLEY.

[Ans.—To describe the various processes or the plant for converting pulp into articles of use would take more time and space than we can give here. Perhaps some of the manufacturers of machinery will supply the needed suggestion.—Ed.]

### Trade Talks.

Paul H. Panckow, of the firm of Paul Panckow, Berlin, Germany—I came to New York on the Augusta Victoria, arriving here on Tuesday. My firm imports ground wood, and I am over here now to make arrangements to handle the product of American mills. We have been importing Swedish ground wood, and are yet, but American prices are very attractive, and I hope to do some business. We have had a very dry season in Germany, and there has been a larger call for imported ground wood, but this was succeeded by rainy weather, which enables our own mills to supply the wants of the consumer, so that some importations have not been profitable. American ground wood has been used in Germany, and has given good results. It, however, ought to be shipped dry, and not moist as some of it has been.

W. A. Bingham of W. A. Bingham & Co. There is nothing going on in our branch of trade to interest your readers that I am aware of. Business is fair, prices are very low, with prospects that cannot be called discouraging, but which would be much better if the merchants of the country knew precisely what would be the outcome of legislation at Washington. Confidence can never be secured or maintained if uncertainty exists. I deprecate this tariff tinkering as much as anybody, but this country can stand the Wilson bill or any other provided we could be let alone for a definite period. When you shake confidence you destroy enterprise, and the people of the country are beginning to be afraid of this incessant interference with the trade and commerce of the nation. The fact is, there are many legislators, so called, who know nothing about the real needs of the business men, and are practically incapable of understanding what the various sections require. I believe, however, that we are now at rock bottom, and if a change does come, it will be for the better. The paper trade itself appears to be in good shape—better in fact than many trades, for it has the merit of steadiness and is free from that violent fluctuation and speculation, which oftentimes proves more of a curse than a blessing.

### Changes, Removals and New Firms.

J. E. Phillips, publisher, Crested Butte, Col., has sold out.

C. Coy, publisher of the Examiner, Kaslo, B. C., has sold out.

M. E. Spence, dealer in wall paper, &c., Denver, Col., has sold out.

Shingle & Perry, publishers, Cheyenne, Wyo., have dissolved partnership.

Klinck & Jansen, printers, &c., Elmira, Ont., have dissolved partnership.

Mann & Hastings succeed Smyth & Co., booksellers and stationers, Troy, N. Y.

The Evening Gazette Company, Boston, Mass., has reduced its capital to \$30,000.

Machen & Moore, stationers, and Reeves, Ernest & Co., stationers, Toledo, Ohio, have been succeeded by the Reeves-Doan & Machen-Moore Company, incorporated.

J. C. Smith, B. G. Smith and R. D. Ingram have formed a co-partnership under the firm style of Smith, Ingram & Co. They have taken the Mentzel mill at Ellicott City, Md., and will run it on rope paper. J. C. Smith is the general manager of the Susquehanna Water Power and Paper Company, and will buy the stock for the new concern, while the paper will be sold by R. D. Ingram, the New York agent of the

Susquehanna Water Power and Paper Company, whose offices are in the Potter Building. The mill was started up on Thursday.

Stone & Barringer have engaged in the book and stationery business at Charlotte, N. C.

D. B. Hatch & Co., printers, Galveston, Tex., have been succeeded by Hatch & Delano.

Brogan & Knight, stationers and printers, New York, have been succeeded by William H. Knight.

The Dilts Machine Works, Fulton, N. Y., succeed the late Frank Dilts, whose son, Frank B. Dilts, is at the head of the new organization.

Beaumont & Purdom, printers and publishers, Fort Worth, Tex., have been succeeded by the Paul J. Beaumont Printing Company.

David L. Haas, Napa, Cal., has bought the book and stationery store of F. A. Taylor, San José, Cal., for his son, M. M. Haas, who will conduct the business.

The Waste Paper Press Company, of Buffalo, has been incorporated. Capital, \$3,000, and directors, G. Reed Wilson, W. S. Servis, David Tucker, Buffalo, and others.

The Lakeside Paper Company, of Chicago, Ill., has been incorporated with an authorized capital of \$400,000. The incorporators are C. C. Powell, Chas. H. Barmen and N. F. Hodson.

### Failures.

The sheriff has sold out the effects of William and Edward Nolte, paper box makers, 101 Bank street, New York.

The creditors of Winkley, Dresser & Co., Boston, Mass., have received a dividend of 37½ per cent. on their claims.

The Field & Gibb Stationery Company, stationer, Lawrence, Kan., is settling with its creditors at 30 cents on the dollar, cash.

R. Brayley, dealer in paper, twines &c., Toronto, Ont., has made an assignment. Liabilities \$3,000, assets \$4,000.

A motion for the appointment of a receiver for the Bird Paper Company, Hoboken, N. J., has been made. The liabilities of the firm are said to be \$18,000, and assets \$8,000.

The receivership for Cook & Smith, manufacturers of folding paper boxes, at No. 25 Park place, New York, and at Waverly, N. J., has been extended so as to cover the claims of the following named creditors: D. S. Walton & Co., E. Delafield Smith, Cable Flax Mills, George West and Robertson & Cantine. James C. Murray has been appointed receiver.

James J. Nealis has been appointed receiver in supplementary proceedings for Julius Schwerin, dealer in wall paper, formerly at No. 33 Columbia street, New York, and No. 116 Fulton street, Brooklyn, in the suit of the Long Island Wall Paper Company. Mr. Schwerin was closed up in July last by the National Wall Paper Company, which was a creditor for about \$10,000. Since then business has been carried on by his wife at No. 325 East Fifty-ninth street, this city, and No. 114 Fulton street, Brooklyn, Mr. Schwerin being employed by her.

Robert Harmer Smith, Joseph R. and Robert B. Smith, comprising the firm of R. Harmer Smith & Sons, printers and electrotypers at No. 28 Spring street, New York, made an assignment on February 26 to Wm. P. Pickett, of Brooklyn, giving a preference to John Polhemus for \$160. The business was established thirty-five years ago as Smith & McDougall; the latter died in 1884 and Mr. Smith admitted his two sons in 1887. Their plant was formerly valued at \$35,000, but has greatly depreciated, and a year ago was estimated worth about \$10,000. Business has been very dull for a year past and expenses have been considerable.

The statement of Phil. Hirschfield, stationer, Los Angeles, Cal., shows liabilities of \$41,317.39, and assets of \$27,366.50; upon these are incumbrances of \$15,198.11, including attachments amounting to \$13,073.11. There are also homesteads, which with furniture and clothing are valued at \$2,000, which are all exempt from the execution. The principal creditors outside of California are the Plimpton Manufacturing Company, \$2,747.98; Graham Paper Company \$4,211.07; Kaukauna Paper Company, \$618.85; Combined Locks Paper Company, \$613.13; Linton Brothers & Co., \$270.62; Globe Company, \$104.61; Dennison Manufacturing Company, \$160.57; Richmond Paper Manufacturing Company, \$112.80; Carter, Rice & Co., \$804.17; Sheffield Manufacturing Company, \$378.72; Richard Best, \$149.36; Whiting Paper Company, \$272.65; National Paper Company, \$125.96; Albany Manufacturing Company, \$137.24; Adolf Kastor & Co., \$395.75; Lane Tissue Paper Company, \$305.98; Eagle Pencil Company, \$295.52; Levy & Co., \$401.43. The largest California creditors are Farmers and Merchants' Bank, \$3,021; J. G. Downey, \$645; San

Francisco Toy Company, \$1,748.20; S. Nordlinger, \$4,400; S. Hellman, \$1,010.92; H. C. Weiner, \$1,017.50; Payot, Upham & Co., \$1,686.66; H. S. Crocker & Co., \$1,380.55; Harrison & Dickson, \$1,562.50; W. H. Bremer, \$1,006.50; A. G. Hubbard, \$1,515; Union Savings Bank, \$1,020; T. Rinaldo, \$3,160; José Mascarell, \$1,445; Hass, Baruch & Co., \$3,116; L. Michels, \$1,530. A meeting of creditors is called for March 21.

The schedules of George B. Hanford, New York, who recently failed, were filed this week and showed liabilities \$42,168.42; nominal assets, \$41,025.57, and actual assets nothing. The creditors, the amount of claims and the security for the same are as follows: Flint & Co., \$9,600, 96 shares Ticonderoga Machine Company; William A. Flint, N. Y., \$1,000, 100 shares Peabody Trading Company; Salem National Bank, Salem, N. Y., \$5,000, 50 shares Ticonderoga Pulp and Paper Company; North Granville National Bank, North Granville, N. Y., \$5,000, 50 shares Ticonderoga Pulp and Paper Company; Glens Falls National Bank, Glens Falls, N. Y., \$9,517.38, 100 shares Ticonderoga Pulp and Paper Company and judgment; Frank A. Wright, New York, \$2,500, unsecured; Miss E. M. Chapman, \$2,000, 20 shares Ticonderoga Pulp and Paper Company; Miss E. M. Chapman, \$1,000, 25 shares Ticonderoga Machine Company; Mrs. S. F. Ainsworth, Dedham, Mass., \$1,000, 10 shares Ticonderoga Pulp and Paper Company; Rev. H. C. Nichols, Minneapolis, Minn., \$1,100, 10 shares Ticonderoga Pulp and Paper Company; M. C. Drake, Englewood, Ill., \$1,900, 25 shares Ticonderoga Machine Company; Denver City National Bank, Denver, Col., \$800, 15 shares South Galveston Land Company; Hammond, Bush & Co., Orwell, Vt., \$2,251.04, unsecured. The assets consist of 240 shares Ticonderoga Pulp and Paper Company, 146 shares Ticonderoga Machine Company, 100 shares Peabody Trading Company, and 15 shares South Galveston Land Company, all hypothecated for more than their value, so that they are of no value to the assignor. There is also a claim of \$125.57 against C. E. Bush, Orwell, Vt., which is valueless, because he has failed. Mr. Hanford formerly represented the Ticonderoga Pulp and Paper Company, of which he was a director. He was also a director of the Ticonderoga Machine Company.

Fires.

Frederick G. Willard, printer, Utica, N. Y., has met with a loss by fire. H. A. Blenkinson, bookseller and stationer, Hastings, Neb., has had a loss by fire. The Shelby Mills, Shelby, N. Y., were burned on February 23. Loss \$17,500; insured for \$7,500. The Squaacook Mill, Townsend Harbor, Mass., was damaged by fire recently. The loss was chiefly on stock. A fire at the mill of the Botsford Paper Mill Company, Kalamazoo, Mich., on February 22 caused a loss of \$3,000. On Wednesday the establishment of Henry Thrush, packer of paper stock, 307 Water street, was burned out. Damage to stock, \$3,000; insurance, \$4,900. The building is owned by James Hennesey, who was formerly engaged in the paper stock business in this city. The pulp mill at Wendell Depot, Mass., was burned February 26. The building was owned by the Orange Electric Light Company and was run by the Farley Paper Company in connection with its paper mill at Farley. The Farley Paper Company's loss on stock and machinery is about \$8,000. A fire occurred in the four story brick building Nos. 70, 72 and 74 Pearl street, Boston, Mass., occupied by C. M. Landers, newspaper mailing office; Chas. J. Underwood, Jr., publisher of the Engineering Record and Sanitary Engineer; Fred. Bates & Co., book and pamphlet publishers; Fred. Eels & Co., bookbinders, and others. The fire was confined to the upper floor, occupied by Eels & Co., whose loss by fire is total. The remainder of the building was flooded with water, and the losses will be heavy, although it is difficult to estimate the damage with exactness. The total loss will probably not fall short of \$100,000, and may exceed that figure.

Accidents.

William Durkee had his fingers smashed in the calenders of the new machine at Thomson's Mills, N. Y., on February 19. On February 27 Peter Schrader, employed at Balfour's paper mill, Philadelphia, Pa., was badly scalded by the bursting of a steam pipe. Patrick McGuirl, employed in the mill of Crocker, Burbank & Co., Fitchburg, Mass., was instantly killed on February 19 while cleaning machinery. James Smith, a Hungarian lad about nineteen, was killed on February 18 in one of the Fall Mountain Paper Company's mills

at Bellows Falls, Vt. He was sent to throw off a belt and got on the wrong side of it and was caught in it and his body terribly mangled.

James Donovan, employed as a steam fitter at the new paper mill at Thomson's Mills, N. Y., had his left hand badly scalded by escaping steam on February 16.

Mortgages, Etc.

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

Table with columns: Mortgagor, Amount, and State. Includes entries for Eastern States (Harry G. Collins, Boston, Mass., \$180), Western States (Nonpareil Printing and Publishing Company, Council Bluffs, Ia., 800; I. O. Middaugh (Times) Plainville, Kan., (Real), 400; Darling & Douglass, Detroit, Mich., 1,090; Suez Publishing Company, Okesdale, Wash., (B. S.), 1,090; Oshkosh Trade and Labor Council, Oshkosh, Wis., 800), Southern States (Jennie Ewing, St. Louis, Mo., 500; C. E. Hunter, New Enid, Ok., 150), and Liens Discharged (A. L. Graves, St. Paul, Minn., 140).

In Town.

G. C. Sherman and A. D. Remington, Watertown, N. Y.; F. W. Spicer, Dexter, N. Y.; Garret Schenck, Rumford Falls, Me.; J. N. Mohr, Philadelphia, Pa.; F. Gilbert, Troy, N. Y.; T. L. Stevens, North Hoosick, N. Y.; Colonel Fairchild, Boston, Mass.; G. W. Knowlton, Watertown, N. Y.; C. H. Hastings, Rochester, N. Y.; C. H. Dobilinski, Lambertville, N. J.; E. C. Dixon, Roaring Spring, Pa.

Obituary.

NORMAN L. MUNRO. Norman L. Munro, publisher, died at his apartments in the Hoffman House, New York, on Saturday night following an operation for appendicitis. His funeral was held on Tuesday, and was very largely attended. Norman L. Munro was born in Millbrook, Pictou County, Nova Scotia, fifty-one years ago. He was the son of a Nova Scotia farmer, and when he came to New York, in 1864, he possessed only a few hundred dollars, a rugged constitution and an untiring perseverance. His first work in the city was in a publishing house, where he was employed as a clerk. He was bright and keen witted, and in a few years had mastered the details of the business.

By practicing the strictest economy he amassed a sum of money sufficient to start himself in the publishing business on a small scale. His first business venture was in 1873, when he started The Family Story Paper. It was in September, during the financial panic, but in spite of it Mr. Munro set to work in the narrow, cramped building, 169 William street, and from there sent out the first edition of his paper. The paper was an unpretentious sheet, but it was not long before it began to attract attention, and in less than two years the business grew so that it was moved to 28 and 30 Beekman street. This building was burned in 1876, and it was on this occasion that the energy which brought Mr. Munro from poverty to prosperity was called into play.

Several other publications had been started by Mr. Munro, and at the time of the fire the editions were ready for distribution by the news companies. The papers were nearly all destroyed. Mr. Munro at once went to work to get out a second edition. Some of the papers had been saved, and with the aid of what compositors he could find at the time he had a new edition ready for the news companies on time.

After the fire the business was removed to the building in Vandewater street, which was erected by Mr. Munro. In 1893 the upper part of this building was destroyed by fire, the damage being about \$80,000. Mr. Munro's business grew steadily until it was one of the largest publishing houses in the city. The circulation of The Family Story Paper, it is estimated, is about 300,000 a week.

Mr. Munro was greatly interested in steam yachting and owned some of the fastest boats ever built.

Mrs. HENRY JUSTUS SNIDER.

This estimable woman, the wife of Henry J. Snider, president and treasurer of the Louis Snider's Sons Company, paper manufacturer and dealer at Hamilton and Cincinnati, Ohio, died on February 22, at her home in Cincinnati. Her funeral took place at Albany, N. Y., the following Sunday.

Mrs. Snider's maiden name was Caroline Bosworth Russ. She was the eldest daughter of Eloise and the late Charles E. Russ. On January 17, 1883, her marriage to Henry J. Snider was recorded as one of

the notable social events of New York's capital. Removing to Cincinnati, she soon became a great favorite among a large circle of friends. Her benevolence was constant and unostentatious, and she gave freely of her means in every worthy cause. Her death will bring deep sorrow to many who were recipients of her liberal bounty. In the spring of 1893 Mrs. Snider was critically ill, but latterly it was believed that she was nearing complete recovery. She is survived by her husband and one son, Henry J. Snider, Jr. Her nature was sunny, and to natural graces of person and intellect were added a charming sweetness of disposition.

William H. Goodrich, who was business manager of the Hartford Courant until December, 1891, fell dead on the evening of February 24, while entering a drug store on Main street, Hartford. He was in early years a printer, and was connected with the Courant for forty-one years, making his way from the case to the management. At his death he was treasurer of the Hartford Light and Power Company, and director of the Case, Lockwood & Brainard Company. He was sixty-four years old. He leaves two sons and two daughters.

The death of Felix Sheets is reported as having taken place on February 16, at his residence near Mount Solon, in Augusta County, Virginia. Mr. Sheets was seventy-eight years of age, and had been blind for several years. At one time he owned and operated the paper mills at Mount Solon, long ago disused.

J. Arthur Nelson, a paper box manufacturer at Brockton, Mass., died on Thursday, 22d ult., aged fifty-three years. He was born in England, but came to the United States during his boyhood. Mr. Nelson started the making of paper boxes in 1879, his partner being E. M. Low. There was a dissolution of the firm in 1882, each member of it continuing the box business separately. Mr. Nelson was a heavy loser by fire in 1890. Then he purchased a foundry building, which he converted to meet the requirements of his vocation. He was also agent for a Boston paper house. A wife survives him.

Robert Johnston, stationer, Weston, Ont., is dead.

G. F. Gurnett, publisher of the Chronicle, Ingersoll, Ont., is dead.

L. W. Cole, publisher of the Weekly Mirror, Albion, Mich., is dead.

Market Review.

OFFICE OF THE PAPER TRADE JOURNAL, FRIDAY, MARCH 3, 1894.

THE MONEY MARKET.—There was more business doing in the stock market and nearly all the moving shares closed at lower figures. Many institutions are unable to employ their funds on call, and the average on such transactions is not above 1 per cent., with an occasional loan a shade lower. Time loans show a slight increase in demand. Quotations for short terms, such as thirty, sixty and ninety days, are 2@2½ per cent.; for four and six months, 3@3½ per cent.; and for longer terms, 4@4½ per cent., all on mixed lines of active stocks and bonds. Commercial paper is dull, with good lines in excellent request. Rates are 3½@3¾ per cent. for best indorsed receivables, 4@4½ per cent. for best single names running four months, and 5@6 per cent. for other paper. Some of the banks, however, report purchases of best paper in the last few days as low as 3 per cent. Foreign exchange was dull and a shade easier. Posted rates were \$4.87½ for sixty days and \$4.86¼ for sight. Government bonds were firm, closing as follows: 4s, registered, 112½@113¼ ex-interest; do. coupon, 113¼@114½; new 5s, registered, 117¼@117½; do. coupon, 117½@117¾; 2s, '96; currency 6s, 1895, 102; '96, 104; '97, 107; '98, 110; '99, 113¼.

THE PAPER TRADE.—As the year grows older trade probably grows larger, and yet the rate of increase is so gradual that it does not cheer the hearts of makers and dealers to any large extent. However there is an improvement. Mills are turning out a larger product, and the movement in the city is better. Prices, however, are not encouraging. They show no tendency to stiffen up, and in most lines they are easy. The recent advance in all jute manillas is sustained, and papers are selling at the new figures.

JUTE BUTTS.—The market is quiet. Paper quality butts are offered ex-ship at 1¼c.

WOOD PULP.—The market is quiet, although some contracts for home trade have been made on the basis of 90@95c. f. o. b., at pulp mill.

WOOD FIBRE.—There is a fair movement in domestic grades of chemical fibre, and foreign makes are in better movement. Domestic Soda is quoted at 8@8½c. for Bleached. Domestic Sulphite is quoted at 2½@3c., as to quality, for Unbleached, and 3½@4c. for Bleached. Foreign grades are quoted as follows: Unbleached Pine, soda process, 2.60@2.75c.; Bleached, same process, 3½@3.90c.; Unbleached, sulphite process, 2.60@3.10c.; Bleached, do., 4@4½c.; Bleached Straw Pulp, 4@4½c. Imports this week aggregated 280 tons, being 50 tons from Antwerp, 75 tons from Hull and 155 tons from Stettin.

FOREIGN RAGS AND PAPER STOCK.—The foreign rag market continues to be dull and uninteresting, consumers keeping purchases well within actual wants. Imports aggregated 2,313 bales and 280 tons, being 244 bs. rags, 234 bs. papers, 280 tons chemical fibre and 1,845 bs. manillas. Ports of shipment and quantities are as follows: Antwerp, 50 tons chemical fibre; Bremen, 21 bs. manillas; Glasgow, 38 bs. papers; Hull, 75 tons chemical fibre, 525 bs. manillas; London, 93 bs. papers, 557 bs. manillas; Newcastle, 73 bs. papers, 532 bs. manillas; Rotterdam, 189 bs. rags; Stettin, 105 bs. rags, 155 tons chemical fibre and 210 bs. manillas.

DOMESTIC RAGS.—Domestic rags are quiet. City Whites hold their prices fairly well, with 3½c., the general quotation. White No. 2's are selling from 1c. up according to quality.

BAGGING, &c.—The call for Gunny bagging is very light and quotations remain at 1.15c., although some importers are asking several points more. Manilla imports for the week aggregated 1,845 bales, being 21 bs. from Bremen, 525 bs. from Hull, 537 bs. from London, 533 bs. from Newcastle, and 210 bs. from Stettin.

OLD PAPERS.—The market is quiet. We quote: No. 1 Hard White Shavings, 2½c.; No. 1 Soft White do., strictly free from wood, 2¼@2½c.; Soft White do., ordinary, 2@2½c.; Old Ledgers, 2½c.; Solid Printed Books, 1¼c.; Mixed Shavings, No. 1, 1.30@1.25c.; Mixed Shavings, No. 2, ¾@1c.; Extra No. 1 Manillas, 1¼@1.30c.; No. 1 Manillas, ordinary, 1c.; No. 3 Manillas, 85@90c.; Light Book Stock, ¾@1c.; Folded News, 45@50c.; Mixed Papers, 50@55c.; Commons, 45@50c.; Bogus Manillas, 65@70c.; Straw Clippings, 60@65c.; Binders' do., 55c.

STRAW.—The market is about steady. We quote: No. 1 Long Rye at 60@65c.; No. 2 Long Rye at 55@60c.; Short Rye at 45@55c.; Oat at 50@55c.; Wheat at 40@45c.

ROSINS.—Rosins are dull and nominal. We quote: Common to Good Strained, \$1.32½@1.35; E, \$1.40@1.42½; F, \$1.65; G, \$1.85; H, \$2.15; I, \$2.45@2.50; K, \$2.85 @2.90; M, \$3.10; N, \$3.25; W. G., \$3.80.

CHEMICALS.—The market for paper-makers' chemicals continues dull. Advices from Liverpool speak of that market as follows: "There is still a brisk market for all products of the alkali trade, and all the works are very fully engaged with orders. In bleaching powder the pressure owing to recent stoppage of works has been overcome and the price has receded to its old level of £7 10s. net, f. o. r., maker's works—contracts under 1894 being still possible at £7 5s. net. Soda ash is perhaps the least satisfactory article from makers' point of view, as the large output now of the several ammonia soda works is ample to cover all demands, and price of 58 per cent. alkali is ruling at £3 12s. 6d. bags and £3 17s. 6d. casks, f. o. r., makers' works. Other grades of soda ash, Leblanc make, sell in limited quantity at 1-1-6 per degree, f. o. b., refined ash 1½d. Soda crystals continue flat. Caustic soda unchanged. Current prices are: f. o. b. Tyne, 77 per cent. £11 per ton; f. o. b. Liverpool, 74 per cent. £10 5s.; 70 per cent. £9 5s.; 60 per cent. £8 5s.; cream, 60 per cent., £8 per ton, 10-ton lots and upwards. The price of bicarbonate of soda is maintained by makers' agreement at £6 12s. 6d. kegs f. o. b. For chlorate of potash makers' spot quotation is 8d. per pound, but there are resellers at 7¼@7½d. Bleaching powder is in limited supply on spot, and prices are firm. Domestic makers of soda have reduced their prices and are quoting 70@75c. f. o. b., less usual discount for cash. Stocks of caustic soda are well in hand and values are very regular. Alkali is unchanged. During the week there have been sales, 100 cks. Bleach at 2.40c.; 25 tons Soda Ash at 1.50c.; 100 tons, 58 per cent. Alkali, at 1.12½c.; 50 drums Caustic Soda at 2.80c.

CHINA CLAY.—No new features have developed in this market, the distribution continuing of light jobbing character, with prices steadily maintained as previously reported. Stocks of all grades are in ample supply, being more than sufficient for the present meagre requirements of consumption.

TWINES.—There is a moderate trade in progress. We quote: Cordage—Ma-

nilla Rope, half inch, 12¼c.; Sisal Rope, half inch, 11¼c.; New Zealand Rope, half inch, 6¼c.; Jute Rope, half inch, 6c.; Sisal Hay Rope, 6¼c.; Sisal Lath Yarn, fine, 9¼c., and medium, 9¼c.; Jute Lines, 6¼c.; Jute Ready, 6c.; New Zealand Hay Rope, 6¼@7¼c.; New Zealand Lath Yarn, fine, 9¼c.; medium, 8¾c. Twines—Hemp, 4½ and 6 B Russia, 12c.; 4½ and 6 A American, 12c.; 4½ and 6 D Jute, 9½c.; 4½ and 6 L Jute, 9c.; Hemp Ball, 18 B C, 17c.; 18 C, 15c.; Russian Hemp Hay Rope, 9c.

COAL.—The cold weather and the restriction of production at the collieries has brought the supply of Anthracite closer to the demand. There is very little new in the Bituminous trade, for the season of large contracts has not yet opened, and while producers are getting their affairs in shape so as to be able to make lower prices by reducing the cost of mining, the buyer is not disposed to meet the views of operators.

EDWIN BUTTERWORTH & CO., MANCHESTER ENGLAND. BAGGERS OF ALL KINDS OF Paper Stock, Cotton Waste and Buffalo Sizing, Wood Pulp, Moist and Air Dry Pulp, Soda and Ground Pulp. 83 GUNNY BAGGING, &c. OFFICE IN NEW YORK: Vanderbilt Building, No. 132 Nassau Street, JAMES FINNIE & A. S. DEMAREST [Managers.]

WATERBURY Felts and Jackets, MANUFACTURED BY H. WATERBURY & SONS CO. ORISKANY, N. Y. Adapted to every grade of paper, from the finest to the coarsest. The Largest Manufacturers of Paper Makers' Felts in the World. Our wet machine or pulp felts are unequalled for durability. For WRITING and a felt equal LEDGER PAPERS to anything imported.

PRICES CURRENT. NEW YORK MARKET.

Table of Paper Market prices. Columns include Paper Market, Dealers' Selling Prices, and various grades of paper and chemicals. Includes items like Ledger and Record, Flat Caps, Paper Stock, Rosins, Chemicals, and various grades of paper.

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Twenty-five words or less, one dollar each insertion. Over twenty-five words, four cents a word each insertion, up to eighty words. Cash should accompany order.

Over eighty words, or displayed advertising, will be charged for by the inch, according to our regular schedule of rates.

Answers can come in our care and will be promptly forwarded without extra charge.

**WANTED—POSITION AS SIZE MAKER,** washerman or steam boiler tender; best of references given. Address WILLIAM McRAE, 600 Park avenue, Brooklyn, N. Y.

**WANTED—SITUATION AS SUPERINTENDENT** or foreman in book, news or manilla mill; thoroughly versed in manipulation and coloring of stock; good references. PRACTICAL, care Journal.

**WANTED—EXPERIENCED MAN TO TAKE** an interest in and the superintendency of a new straw paper mill in a Western State. Address X., care Journal.

**WANTED—A SUPERINTENDENT TO TAKE** charge of sulphite mill; must be thoroughly familiar with all branches of the business; applicants to furnish references. Address WESTERN, care of Paper Trade Journal.

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**SITUATIONS WANTED BY FIRST-CLASS** superintendents, machine tenders and engineers; worked on all grades of paper; both slow and fast running machines; can furnish best references if required. Apply to EAGLE LODGE No. 1, Brotherhood of Paper Makers, Box 672, Holyoke, Mass.

**WANTED—FOURDRINIER PART OF MACHINE** or Fourdrinier machine complete, second-hand; state condition, price and terms. Address A. B., care of Paper Trade Journal.

**FOR SALE—42 INCH BUNDLE CUTTER, RAG** cutter, cone paper cutter; five iron dryers, 36 x 68 inches; two chilled rolls, 12 x 68 inches. DILL'S MACHINE WORKS, Fulton, N. Y.

**FOR SALE CHEAP—THE WHITEMAN PULP** and paper mill at Danville, N. Y., fireproof; water and steam power and electric light; two railroads. For prices, terms and out of building address H. B. HATHAWAY, Rochester, N. Y.

**FOR SALE—A SECOND-HAND COPY OF HOF-**mann's Treatise on Paper Making in good condition for sale cheap. For further particulars address URGENT, care Paper Trade Journal.

**A FINE OPPORTUNITY TO GO INTO BUSINESS.**

To a company that understand the coating business an offer will be made to furnish a fully equipped plant, ample room with plenty of power. Well situated for future business. Will either lease plant or take an interest in the business. Parties answering advertisement must be in position to furnish all necessary capital to buy stock and carry accounts. Address A. B. C., care of Journal Office.

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One 84 inch Fourdrinier part to paper machine complete, with Gould screen.  
 One 74 inch Fourdrinier machine complete, Gould screen; gun metal press rolls, 15x75 inches; eight iron dryers, 36x72 inches; stack of nine chilled rolls, 72 inch face; upright reel and cone pulley cutter; Bess slitters.  
 One Gould screen, eight plates, 10x26 inches.  
 One Gould screen, eight plates, 12x40 inches.  
 One Barber's suction.  
 One 70 inch machine complete, Gould screen, Fourdrinier wire, 70x28 inches; first and second presses; eight iron dryers, 36x72 inches; stack five chilled rolls, four 12 inches, one 12x84 inches face; upright reel, slitter and winder.  
 Two new 1,000 pound Holyoke Machine Co. beaters, wood tube.  
 One 1,200 pound iron tub beater.  
 Six beating engines, 36 inch roll, iron tube.  
 One 1,200 pound Horne patent engine, new.  
 One rotary, 7x20, double riveted, 3-16 inch shell.  
 Three Scott & Roberts hydraulic pulp grinders.  
 Three Jordan engines.  
 Four rag cutters and duster.  
 Two iron dryers, 28x72 inches.  
 Send for catalogue of machinery, steam engines and boilers.  
 1,000 foot shafting, 2 to 6 inches diameter; 500 feet belting, 5 to 48 inches wide.  
 Parties wanting tools, stock or machinery used in a paper or pulp mill can find it here at a bargain.  
 F. H. DAVIS & CO., Exchange B'd'g, Boston, Mass.

**NOTICE.**

My attention having been called to the fact that certain parties are infringing certain Letters Patent granted to me, to wit: No. 212,986, dated March 4, 1879, covering a new form of carpet lining, and No. 288,698, dated December 21, 1883, covering the method of and apparatus for making the same, this is to notify all such persons, whether manufacturers or dealers, that any infringement of either of said patents will be prosecuted to the full extent of the law.  
 MORES NEWTON, Patentee.



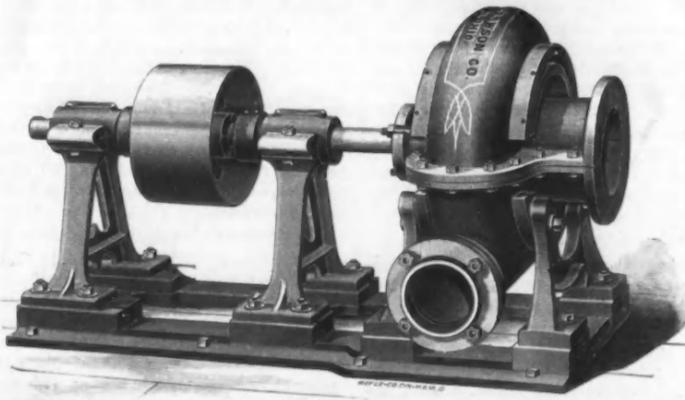
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Is Simple in Construction, Reliable, and Close-working.

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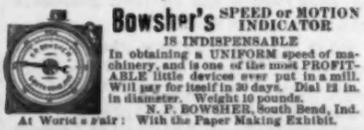
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**MEDAL AWARDED AT WORLD'S FAIR FOR OUR SEAMLESS DRYER.**

**FOR SALE—A HINDER'S BOARD MILL, TWO** engines, two machines, 80 horse Corliss engine, all complete, with six acres of land, half of a mile from depot. Address or call on W. S. & I. H. WADE, Milburn, N. J.

**FOR SALE.**

Fourdrinier Machine. New and Modern; wire, 92 inches wide, 45 feet long; forty 2 1/2 inch table rolls, three brass suction boxes; gun metal and rubber press rolls; thirteen dryers, 48 x 88; nine stack calendars, reels, cutter; Manning winder; cone pulley driving train.  
**THE BLACK & CLAWSON CO.,** Hamilton, Ohio.

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**Bowsher's SPEED OR MOTION INDICATOR** IS INDISPENSABLE in obtaining a UNIFORM speed of machinery, and is one of the most PROFITABLE little devices ever put in a mill. Will pay for itself in 30 days. Dial 12 in. in diameter. Weight 10 pounds.  
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 At World's Fair: With the Paper Making Exhibit.

**SPECIAL NOTICE.**

**Hofmann's Treatise ON Paper Making.**

IN 1878—twenty years ago—Carl Hofmann first published his **TREATISE ON PAPER MAKING.** He was then, and for some years had been, a practical paper maker in America. His experience in the trade abroad, as well as in this country, and his technical education and knowledge enabled him to be specially adapted for the work; hence "Hofmann's Treatise on Paper Making" took high rank at the start, and soon became a standard work on the subject throughout the world. It was published in English, German and French, and had wide sale in all three languages.

As years passed it became the standard work, and for the past decade copies have sold at large prices, often as high as \$30 each, and occasionally for more money. The original book consisted of 429 pages, 8 1/2 by 11 inches in size.

Mr. Hofmann returned to Germany more than eighteen years ago and settled in Berlin. He established *The Papier Zeitung*, and in due course, about seven years ago, began to write his second and latest Treatise. Thus far he has printed and published probably 1,200 pages in German, and in parts of forty-eight pages, including cover, profusely illustrated by wood cuts. When finished the book will consist of about 1,600 pages (pages size same as in first book), illustrated by 1,500 wood cuts.

We have contracted to translate and publish the work in English in twenty parts, of about eighty pages each, at intervals of not less than sixty days, and at a cost of one dollar cash, in advance, for each and every part. When the enterprise is completed the twenty parts will sell, unbound, for twenty dollars. The binding will be extra. Subscribers can themselves have the parts bound, or have us bind them at extra expense; but it should be noted that no money will be saved by waiting until THE TREATISE is completed and bound.

We shall announce within some weeks when "PART ONE" will be ready for delivery.

Orders can be placed now, or later if preferred; and subscribers can send one dollar or six dollars, which latter would pay for six parts during a year.

We cannot accept any order that is not accompanied by the cash.

Every manufacturer of paper or pulp, every superintendent of a mill, every machine tender, every man whose life-work consists in making or selling paper in the United States, Canada, and all over the world, except Great Britain and the Continent of Europe, should send us his subscription. We will furnish each part postpaid. We will print and ship the English Edition for the European market, but cannot accept orders therefrom.

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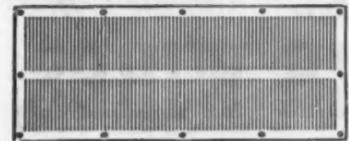
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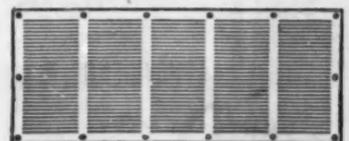
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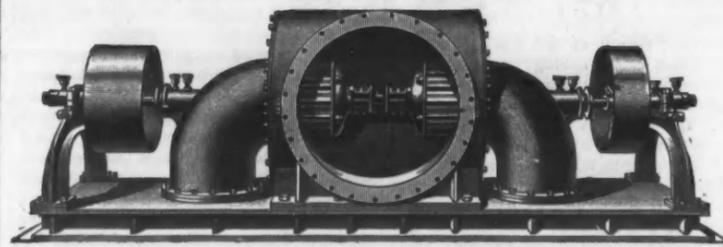
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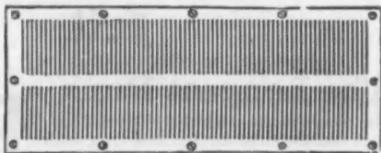
THE above engraving represents a pair of 12 inch VICTOR TURBINES arranged on a horizontal shaft, with Cast Iron Flume, Draft Tubes, End Bearings for Shaft, and Driving Pulleys complete, all mounted upon a substantial cast iron bed plate. The entire arrangement is very complete and strictly first class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

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	SIZE	HEAD IN FEET.	HORSE POWER.	PER CENT. OF USEFUL EFFECT.
15 inch.	18.06	30.17	.5023	
17 1/2 inch.	17.98	33.35	.5030	
20 inch.	18.21	40.00	.5552	
25 inch.	17.90	66.62	.5054	
30 inch.	11.65	52.54	.5075	
35 inch.	17.29	133.19	.5497	
40 inch.	18.49	145.93	.5253	
48 inch.	13.51	179.29	.5202	

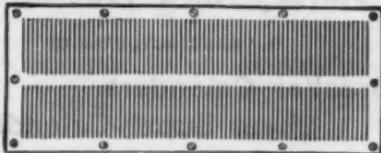
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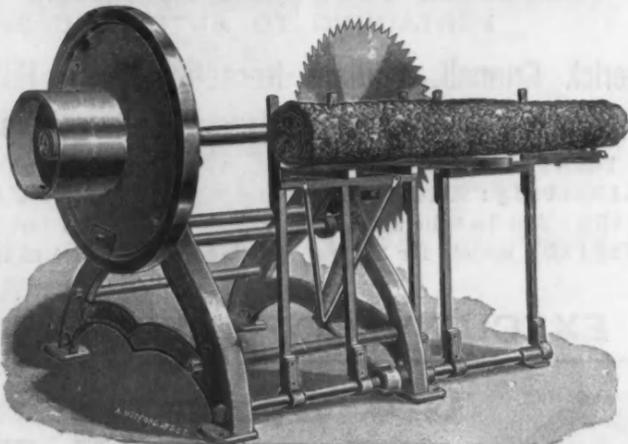


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Do you thoroughly gauge your Screen Plates to see if they are accurately cut? Why use imperfect plates when you can procure the best by sending your orders for new or old work to the APPLETON SCREEN PLATE COMPANY who are at the front as screen plate makers and repairers, using nothing but the best of brass and bronze in their plates and making accuracy of work their motto.  
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## Manufacturing News.

### EASTERN STATES.

The Uncas Paper Company, Thamesville, Conn., is putting in revolving washers in its beating engines, and making some other changes in its plant. It expects to run its mill to full capacity ere long.

H. H. Corbin & Son are about to start a paper box factory at Plantsville, Conn.

The Anchor Mills Paper Company, Windsor Locks, Conn., started up its mill last week.

### MIDDLE STATES.

The paper mill at Uhlerville, N. J., is all ready for business as soon as it can get water. The repairing of a culvert in the canal has deprived it of water all winter. When the repairs are through and the water is turned in the mill will start up.

The Seneca Falls (N. Y.) Paper Mill is now in the hands of William Dunn and was expected to start up on full time during the past week.

The Shempumick Valley Mill, Mellenville, N. Y., is soon to be started up under new management and with new machinery.

The Ticonderoga Machine Company, Ticonderoga, N. Y., lately received orders as follows: Four screens to the Umbagog Pulp Company, Livermore Falls, Me.; three screens to the Riordon Paper Mills, Merrittton, Ont., Canada, and one Barker to the Livermore Falls Pulp Company, Livermore Falls, Me.

The Loyalhanna Mill, Latrobe, Pa., which had been shut down for a month, started up on February 20.

Allen Brothers, Sandy Hill, N. Y., who have been running their mill on half time, have started it on full time.

Suit has been instituted against the estate of the late Charles Lennig, Philadelphia, by a number of judgment creditors of the Fonda Lake and Port Leyden Paper Company, which is in the hands of a receiver. The plaintiffs are the Bagley and Sewell Company, Watertown, N. Y., and others which recovered judgments against the company. These companies have filed a bill in equity in which it is stated that Mr. Lennig at one time owned the stock of the Fonda Lake Paper Company, managing it as if it was his own private business, and before more than half the stock of that company had been paid in and when its debts exceeded its assets by \$50,000 a new company was formed under its present name February 18, 1891, about a month after Mr. Lennig's death. The equity bill alleges that the old company transferred to the new one all of its property excepting its cash and claims, the new company transferring to the old 10,000 shares of its stock, and assuming its debts to the amount of \$124,243.27, Nicholas and John B. Lennig controlling the whole proceeding. The stock was divided between them, the Lennig estate, which had 5,325 shares, and other small stockholders. The trustees or directors voluntarily contracted an indebtedness against the Fonda Lake and Port Leyden Paper Company of \$150,000. This was \$50,000 in excess of the nominal capital stock, which made the directors liable, and \$100,000 in excess of the paid in capital stock, which was represented by 0. The defendant, Nicholas Lennig, secured a judgment in the New York Supreme Court against the new company in December, 1891, for \$17,055.41, and with John B. Lennig as executors of Charles Lennig's estate, got another judgment for \$45,485.44, one a lien against the real estate, and the other a lien under which much personal property was seized. At that very time, the bill alleges, the executors were trustees and stockholders of the company and knew it was insolvent, but, with the connivance of other trustees, got the judgments in order to secure a preference over other creditors for themselves and the estate. Then, it is further alleged, they mortgaged all of the real estate of the Fonda Lake and Port Leyden Paper Company to the State Trust Company, of New York, purporting to secure 200 \$500 bonds, which were issued by the company without consideration and were intended again as a preference in favor of the Lennig estate and the trustees. This securing of preferences took place after the company had failed to discharge many of its obligations and when the Lennigs knew that the company was insolvent. Such are the allegations of the bill, and the court is asked to apply the remedy.

F. E. Robinson, Carthage, N. Y., has put in his pulp mill two 8-plate Gotham screens, to be run on ground wood. These screens were built by the Brownville Iron Works, Brownville, N. Y.

### WESTERN STATES.

A rag sorter at the No. 2 mill of the Michigan Wood Pulp Company, Niles, Mich., found a diamond in the stock.

The case of the Puget Pulp and Paper Company vs. the Willamette Pulp and

Paper Company has been on trial in the United States Circuit Court at Portland, Ore. The plaintiff sued to recover \$3,500 due for 50 tons of wood pulp sold to defendant. The stuff was shipped by the plaintiff to Seattle and was placed on a dock to await the arrival of the steamer. In trying to make a landing which had been weakened by the teredo the Wilmington knocked the wharf down, and the pulp fell into the sea and was lost. The suit is to settle which company owned the pulp when it was lost.

The Nekoosa Paper Company, Centralia, Wis., has contracted for \$10,000 worth of new machinery.

Surveyors working for the Chicago and Northwestern Railway Company have been running a line from a point on that railroad 5 miles north of Fort Howard east to the Shore line of the Green Bay Railroad, and trestle work 700 feet into the bay will be constructed, the cost being about \$30,000. The Pulp Wood Supply Company, of Appleton, will have an extensive plant there for handling pulp wood. The entire supply to be used in the Fox River Valley, brought by water from Canada, will be transported by this route. When the plant is in readiness 5,000 to 6,000 carloads will be brought through each season.

The Stratford Paper Mills, near Delaware, Ohio, which have been idle for two years, are to be started up.

It is reported that another paper mill, in which O. H. Ingram and David Davis are to be interested, will be built at Eau Claire, Wis.

Negotiations are going on for a site for a paper mill near Waukesha, Wis.

The plans for the paper mill of the Wolf River Paper and Fibre Company, Shawano, Wis., have been started, and contracts for machinery will soon be given out. Building material is being brought to site.

The paper machine and supercalenders in addition to the Shattuck & Babcock Mill at De Pere, Wis., have been set up and will be started about March 15.

The manufacturers of wrapping paper in California have formed a combination.

The Dundee Paper Mill, Dundee, Mich., has been started up, after lying idle for several weeks.

### CANADA.

The Canada Paper Company proposes to put in an electric light plant to cost \$40,000, and to build a pulp mill at a cost of \$60,000, at Windsor Mills, Que., provided the town will build a suitable dam across the River Francis, at that point.

### General Notes.

Atterbury Brothers are enlarging their offices in the Morse Building, in order to provide more room for their paper department.

T. J. Marshall & Co., London, England, have forwarded their annual calendar, in which all of the design, with lettering, is watermarked. This firm is famous for its dandy rolls and watermarking.

The "Paper Trade Directory of Great Britain for 1894," published by W. F. Catchside, London, has been received. As usual, this is a well made up, handy guide, containing much useful information besides the usual mill directory.

The household goods of A. E. Smith, late New York agent for the Glen Paper Company, at Rahway, N. J., have been attached by the sheriff on claims of Margaret E. Miller, Charles E. Heald and Edwin M. Squier, which aggregate \$2,300.

Acknowledgments are due to Marchant Singer & Co., London, for a copy of their "Directory of Paper Makers of the United Kingdom" for the current year. This well known publication maintains its position as a useful trade medium.

The report that P. Gordon & Son, paper stock dealers, New London, Conn., had gone out of business, as reported in the local papers, is denied by them in a card to the public, in which they state their purpose of removing their place of business only.

The annual report of the engineer of the St. Thomas, Ont., water works gives a description of the filter plant put in by the New York Filter Company. It declares the system of filtration efficient and successful. The company will send a copy of the report on request.

During the coming week the Crocker Manufacturing Company, Holyoke, Mass., will make its specialties in silver gray, canary, yellow, light green, salmon, blue granite, primrose, Quaker drab, cherry and fawn. Send for sample book of this company's new line of elite cover papers.

Jesse Peterson, president and general manager of the United Indurated Fibre Company, of Lockport, N. Y., was arrested on February 21 in Stroudsburg, Pa., charged with larceny by Usal Hull, president of the Keystone Fibre Company, of East Stroudsburg. A hearing of the case was postponed until April 10.

## Practical Hints and Helps Around the Mill.

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

By J. F. C.

In illustration of the keen competition which exists among paper manufacturers, a dealer in and manufacturer of paper machinery told me an apt story the other day. He said: "A young man called on me one day within a year, and said that he had bought such and such a mill (in New England) and had it running all right; but the driving gears and wheel were nearly worn out and liable to break down at any time and cause a stoppage and consequent loss should he be obliged to have them

made after the breakdown. He therefore wanted the desired gears, &c., made at once and shipped to him as soon as possible, so that he could make the change with the least possible loss of time."

The man of machinery knew the mill, and was acquainted with the terms of the sale and the financial standing of the buyer—a young man of push and ability and steady habits withal. So he said: "All right! I'll have the parts you want got out right away, and send you the bill, and when I receive a check for the same the goods will be shipped to you." The young man looked aghast at this, and said: "Well, now, isn't that pretty rough? Can't you give me thirty, at least, or sixty days' time? Besides, I might not use the goods until longer than that."

Now the dealer was not a harsh man, nor did he want to take an unfair advantage; but he had much to look after and had to look sharp to protect himself. He explained this to the paper maker, and said: "I don't wish to discourage you, but I want to say to you that I know many paper makers who have the best and most improved machinery, skilled workmen, fine and substantial buildings and ample capital to work with, and who find it hard to make a new dollar out of an old one. Therefore, with an old mill, old fashioned machinery and inadequate capital it is only a question of time when you will go under. But," he said, "I will send the machinery to the freight depot at your place and leave it there until you need it, when you can pay for and take it." This he did, and received

## THE "Hamilton" Felt.

"Best and Most Economical Made."

### The Longest Runs

are always made with the "Hamilton." Once accustomed to its use, you will buy no other. Prices as low as inferior makes are sold at.

In ordering mention kind of stock used, quality of paper made and speed of machine.

Shuler & Benninghofen, Hamilton, O.

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CLEVELAND, OHIO,

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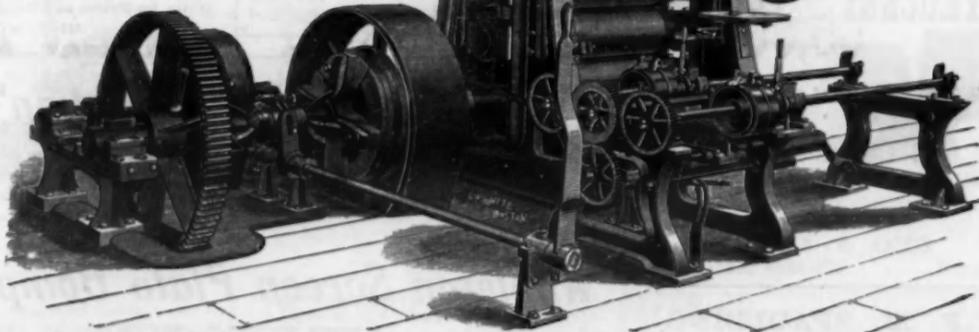
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HYDRAULIC Presses and Pumps.  
Chilled Iron Rolls,  
Cotton Rolls,  
Paper Rolls.  
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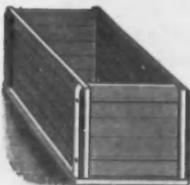
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PHILADELPHIA, PA.

his money all right. He forgot the circumstance, until traveling on the cars one day he espied the young paper maker. "Well," he said, "how's business." "Oh, I'm out of it; failed up. I thought you were pretty hard on me, but I have found out you were right, after all."

Thus it goes and the old mill and superannuated machinery have no more show than the old car horse has with the electric car, and the sooner it is sold and melted over into a modern idea the better for its owner.

Cracking of the edges of the rolls on the winder is a very common and costly occurrence. It is caused sometimes by the paper being dried too hard and crisp, by too tight a tension on the large reel or by the uneven thickness of the paper, the wire frame being slightly out of level. The strain of the winding comes on the weakest part and this being the edge of the sheet in winding it readily cracks, especially when very dry, when it may crack in several places on one reel.

That the crispy dryness of paper is a predisposing cause of cracking is evidenced from the fact that it hardly, if ever, cracks after having been steamed or subjected to a water finish on the calenders. The slight dampening which it receives in either case imparts to it a stretch which simply allows the fibres to expand, where it would otherwise have cracked or torn if hard and dry. The usual remedy when the edges were cracking was to hammer them with anything handy, or press a flat board on the edge until the cracks disappeared; in this way a prodigious amount of paper was wasted, when it might have easily been saved by a little forethought, care and labor.

As good and effective a method as any I have seen is the employment of a system of boards prepared for the purpose. Procure twice as many boards as there are rolls used on the winder; have them of the requisite length to reach from the floor to

the roll; let them be of 1 1/2 or 2 inch pine, 6 inches wide and with a brass or copper plate 6x6 inches on the face of the end which comes in contact with the paper on the same end longitudinally; bore two or three three-quarter or 1 inch holes 5 inches deep, and fill them with melted lead; then screw two short spikes, protruding about one-quarter of an inch, one on each side of the end resting on the floor, to prevent slipping; place these boards in position when the winder is started and there will be no trouble from cracks on the edge. Some, where the shaft is higher than ordinary, or having two shafts, one above the other, hang the boards, or rather hinge on the frame and let them hang down, the lower end resting on the paper; for this they fasten a rod across the top of the winder frame in any convenient way, and on this fasten the boards by a set screw on the hinge. The hinge should be about 3 or 4 inches in length from the joint to the point of contact with the suspending rod, so that the boards when turned up out of use will rest on the back part of the hinge, or the boards can be hinged on the rod only, but with a set screw to adjust them to any width, and when turned up can be fastened by a set screw in one end of the rod.

Personals.

Frank Squier, of Perkins, Goodwin & Co., is named as one of the two executors of the estate of Norman L. Munro.

Theodore Conrow, of Conrow Brothers, arrived home this week from a trip to California.

K. B. Fullerton, of the Manufacturers' Paper Company, is back from his trip to California.

Jas. Henderson, master mechanic for the Chelsea Paper Manufacturing Company, Greenville, Conn., severed his connection with that company on February 21 after a term of service of about thirty-five years.

Vegetable Parchment.

Sulphuric acid is the cheapest agent in use for parchmentizing sheets of vegetable matter, and operates rapidly upon the cellulose, but is liable to convert the same into pulp if it acts too long upon the cellulose, and it cannot be removed by evaporation, and cannot be washed wholly from a thick mass of the material without great difficulty. Chloride of zinc, although more expensive, is therefore commonly used in forming thick masses of parchmented material, which are generally known as "vulcanized fibre," but this agent, as well as sulphuric acid, injures the fibre if it remains permanently in contact therewith, and must therefore be removed or neutralized. Such removal, which may be done by a bath of suitable reagent, is relatively slow in its operation, and the use of chloride of zinc therefore involves a slow and relatively expensive process.

A means of utilizing the rapid action of sulphuric acid in parchmentizing the vegetable matter, and of avoiding the expense and slow operation of the chloride of zinc in the formation of thick bodies of the material, has been patented. In the use of chloride of zinc, the parchmentizing of the vegetable sheets and the cementing of them together is performed simultaneously; but in this process there are two steps, first, parchmentizing the sheets separately by the use of sulphuric acid, and second, softening their surfaces and cementing them firmly together by the use of a solvent which contains no injurious agent, and the liquid in which evaporates readily from the mass. An ammoniacal solution of cupric oxide is such a solvent, and other ammoniacal solutions which perform the same functions may also be used. The evaporation of aqua ammonia leaves the cupric oxide in the mass of parchmented material, but such agent is entirely neutral in relation to the parchment, except when associated with the am-

monia, and its presence causes no injury to the product. By the use of such a solvent a mass of parchmented material may be built up of any desired thickness, and the solvent wholly expelled with comparative rapidity; as the ammonia and the water combined with the same are wholly volatile, and are easily discharged from the product by mere exposure to the atmosphere.

This process therefore consists essentially in first parchmentizing the vegetable fibre by a suitable agent, as sulphuric acid, washing such agent from the fibre and drying the same, and then cementing a mass of such parchmented fibre together by the means of a suitable ammoniacal solution. By the use of such agents, the process is performed with great cheapness and rapidity, and objects of any desired shape and dimensions may be produced; as the product is somewhat pervious to water, and the water and ammonia may thus be perfectly discharged from the same.

In forming layers or flat masses single sheets of paper of suitable quality are parchmented with sulphuric acid, and then thoroughly washed and dried, which wholly removes the acid. The sheets require drying before the application of the copper solution, as the water if left in the sheets would dilute the solution, and prevent its action in the desired degree as a

solvent. Sheets of the vegetable parchment, in suitable number to form a mass of the required thickness, are then treated with the ammoniacal solution of cupric oxide for a suitable length of time to dissolve their surfaces, say half a minute, and are then pressed together with a very moderate pressure, sufficient to bring the surfaces uniformly into contact. The surfaces of these separate sheets are rendered so adhesive by this solution that the mass becomes completely consolidated in four or five minutes, and the product may then be dried in the atmosphere, which for sheets under half an inch in thickness can be accomplished in from one to three days.

To form objects of irregular shape, parchment paper, or the waste pieces of the sheets made as above described, are reduced to small grains, and immersed in the ammoniacal solution for a suitable length of time, and are then pressed into a mold of the required form. In any case, the greater part of the solution is expressed from the mass of parchmented material, and may be preserved and used over and over if its strength be maintained by the addition of ammonia gas.

It will be understood that it is essential to dry the material, whatever its form, after it is parchmented, before it is subjected to the solution for cementing the material together.



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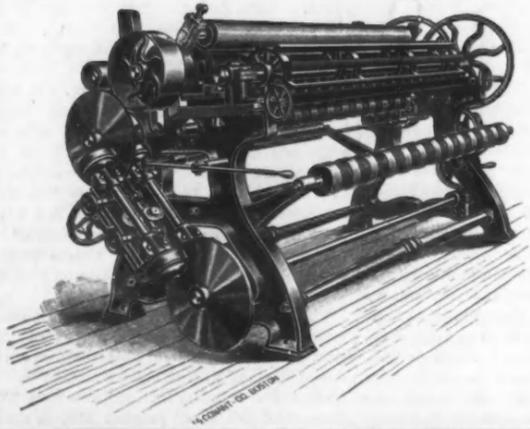
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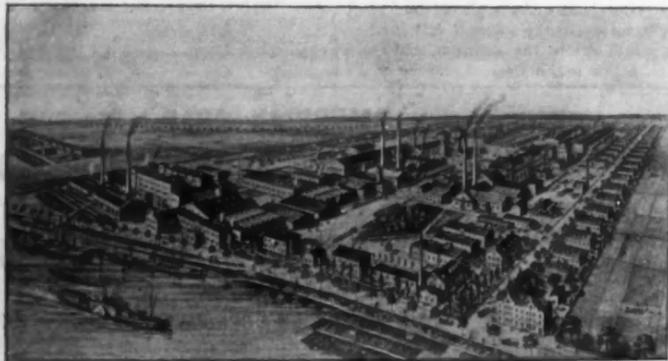
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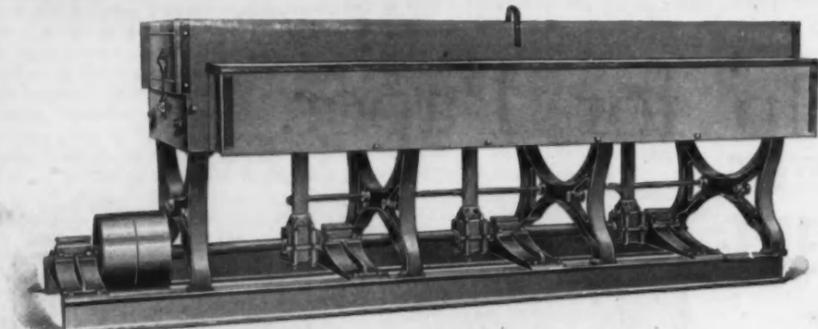
ing Co., South Hadley Falls, 1; Rice, Barton & Fales, Worcester, 3, two orders; Eaton, Dikeman & Co., Lee, 1; Bacon Paper Co., Lawrence, 1.  
**VERMONT**—Fall Mountain Paper Co., Bellows Falls, 3 orders; Wyman, Flint & Sona, Bellows Falls, 2; National Metal Edge Box Co., Readsboro, 1.  
**NEW HAMPSHIRE**—Glen Manufacturing Co., Berlin Falls, 2; Sugar River Paper Co., Claremont, 1; Wilder & Co., Ashland, 1.  
**MAINE**—Umbagog Pulp Co., Livermore Falls, 2; Bangor Paper Co., Orono, 4; Jay Paper Co., Jay, 1; Rumford Falls Paper Co., Rumford Falls, 20; Hollingsworth & Whitney, Gardiner, 1.  
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**VIRGINIA**—Columbia Paper Co., Buena Vista, 2.  
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CHAPTER II.—Fibres. Cellulose in its relations to the plant; the vegetable cell; the cell wall; changes which occur in the cell wall; lignin or impregnating matter; its chemical properties; characteristic markings of the cell wall in different fibres; characteristic cells other than fibres in different pulps. Classification of fibres: 1. Seed hairs; cotton, chemical and physical character of fibres, dimensions, analysis; 2. Bark fibres, as linen, jute, hemp, manilla, rhea, ramie, agave, sisal, adansonias, etc.; occurrence in plant, separation of filaments; character, size, distinguishing features of filaments and ultimate fibres, analyses and chemical properties. 3. Fibres and other cells from whole stems and leaves, as straw, esparto, bamboo; measurements and characteristics of fibres, yields, analyses; characteristic cells found with fibres. 4. Wood fibres; growth of wood; cambium layer; spring and autumn wood; sap and heart wood; resins; bark and knots; analyses of woods; specific gravities; ash; fuel values; occurrence and character of all woods used for pulp making.

CHAPTER III.—Processes for Isolating Cellulose. Bag boiling; special treatments for various fibres, as jute, straw, esparto; review of miscellaneous processes for treating wood; the water process, aqua regia, etc.; the soda process, history; preparation of liquors, boiling, washing, recovery, sources of loss; analyses of chemicals and liquors; the sulphite process, history; general principles; the different systems; liquor apparatus; preparation and analyses of liquors; digesters; linings; boiling; subsequent treatment of pulp; waste liquors; recovery. The sulphide and sulphate processes.

CHAPTER IV.—Bleaching. General principles; bleaching agents; bleaching powder; deterioration; analyses; preparation of bleach liquors; use in chests, engines, drainers; hot bleaching; acid bleaching; use of alum; chlorination and oxidation of fibre; washing stock; antichlor; loss in bleaching; ozone bleach; hydrogen peroxide; permanganate; sulphurous acid; special processes for various fibres.

CHAPTER V.—Sizing and Loading. Rosin; preparation of size; free alkali; free rosin; alum; analyses of alums; free acid; basic alums; sizing paper; rosin; alumina; moss; casein; wax; starch; animal sizing; preparation and use; drying; loading; analyses of clays, argillite, pearl hardening, etc.; use; retention; ash; combined water; effect of alum and starch.

CHAPTER VI.—Coloring. Mineral colors; vegetable and animal colors; synthetic colors; chemical properties; effect of alum and traces of bleach or alkali in different colors; distinguishing tests; effect of different waters.

CHAPTER VII.—Water and Water Supply. Character and analyses of different waters; ground waters; surface waters; river water; artesian well water; hard and soft waters; boiler scale; effect of water on size and colors; various systems of filtration; use of alum; softening water; self purification of streams; natural filtration; effect of storage; vegetation in ponds; crenothrix; consumption of bleach by waters.

CHAPTER VIII.—Chemical Analysis. Descriptions of apparatus and methods for testing the purity and strength of all paper-making chemicals, colors, etc.; common impurities and adulterants given; full description of methods of analysis for sulphite and soda liquors, bleach solution, alums, etc.

CHAPTER IX.—Paper Testing. Full account of the latest German methods for testing and classifying papers; determination of ash; kind of sizing; amount of sizing; free acid and chlorides; strength; proportion of ground wood; kind and condition of fibres.

CHAPTER X.—Electro-Chemistry, with reference to bleaching, manufacturing of pulp, manufacturing of chlorine and soda.

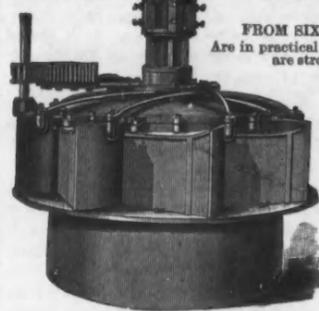
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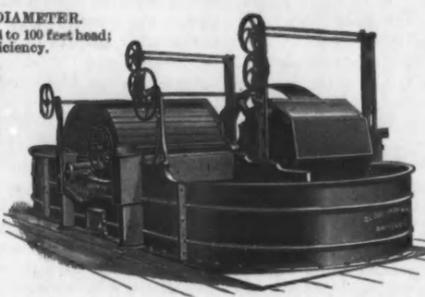
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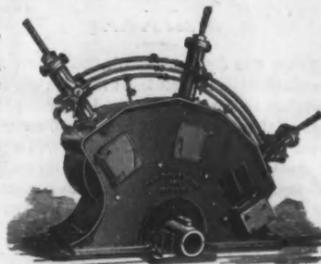
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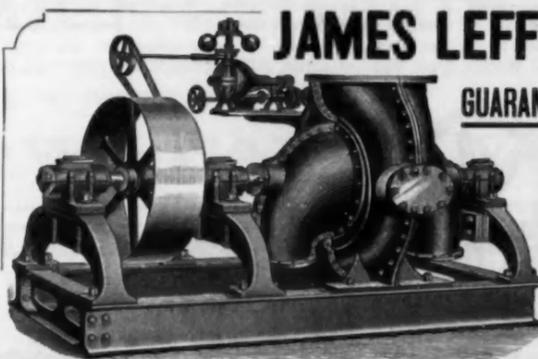
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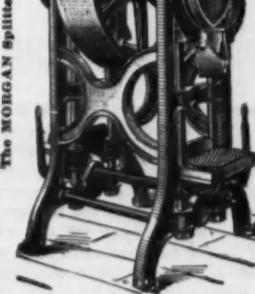
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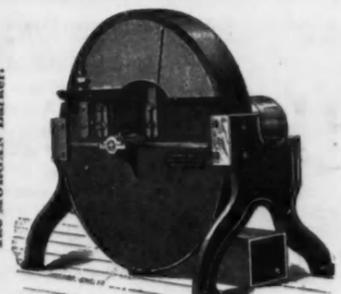
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Advertisement for J.H. & D. Lake Co. featuring pulleys and machinery.

HOBBSVILLE, N. Y., Dec. 11, 1893. J. H. & D. LAKE Co., Massillon, Ohio: Gentlemen—The uneven, jerky power required to operate one of our wire machines has severely tested the power and durability of your Clutch Pulleys, and after using quite a number of them for two years we can simply say "Perfection." Yours truly, TRUSS AND CABLE PENCE CO. Dictated by GEO. P. RISHEL.

TORRINGTON, Conn., Dec. 13, 1893. J. H. & D. LAKE Co., Massillon, Ohio: Gentlemen—In reply to yours of 12th, we would say we have been using your Clutches for the past two years and we find them very satisfactory. They have never caused us the least trouble. Yours truly, THE HENDEY MACHINE CO., H. J. HENDEY, Pres.

CLEVELAND, Ohio, Dec. 19, 1893. Messrs. J. H. & D. LAKE, Massillon, Ohio: Gentlemen—Your favor of the 18th inst. is at hand. We have none of your Clutches in operation, but we bought them and sold them to other parties and have had no report of them, so suppose that they have always been satisfactory. Very truly yours, THE BROWN HOISTING AND CONVEYING MACHINE CO., E. T. SCOVILL, Sec'y.

LOUISVILLE, Ky., Dec. 13, 1893. J. H. & D. LAKE Co., Massillon, Ohio: Gentlemen—It will no doubt be of interest to you to learn that your Patent Screw Lever and also your Multiband Friction Clutch Pulleys and Cut-off Couplings which we have placed are giving entire satisfaction. Out of the twenty-eight or thirty which we already have in use in different factories, we have yet to record one instance wherein there has been any complaint made. We have in the last ten years used and placed one or more of nearly all makes of Friction Clutches, and we are satisfied that these are the best Friction Clutches now in existence. Yours very truly, W. E. CALDWELL CO., MILLER.

WILMINGTON, Del., Dec. 21, 1893. J. H. & D. LAKE Co., Massillon, Ohio: Gentlemen—Your letter of December 18, 1893, concerning the merits of your Patent Screw Lever and Multiband Friction Clutch Pulleys is at hand. We have used them for some time and are well satisfied with the work which they perform. They have given no trouble whatever and we can cordially recommend them to anyone needing Friction Clutch Pulleys. Very truly yours, THE WILMINGTON DENTAL MFG. CO., PER S. J. WILLEY, Vice-Pres.

NEW YORK, Dec. 19, 1893. J. H. & D. LAKE Co., Massillon, Ohio: Gentlemen—Your inquiry of the 15th inst. relative to Clutch at hand. We have had one of your Screw Lever Clutches in operation for about one year, transmitting from 50 to 60 H. P. under conditions that are not favorable to the Clutch. Its operation has been satisfactory, in proof of which we have recently sent you an order for another. Very truly yours, H. W. JOHNS MFG. CO., PER STONE.

CINCINNATI, Ohio, Dec. 15, 1893. J. H. & D. LAKE Co., Massillon, Ohio: Dear Sirs—We take great pleasure in saying that we have placed in the last two years not less than twenty-five of your Patent Screw Lever Friction Clutch Pulleys, Clutch Couplings and Clutches for sprocket and gear wheels of various sizes, and not in one single instance have they given us the least trouble or annoyance. We have used any number of different Friction Clutches in the last ten years, and had learned to regard hub friction as something that would answer for light power, but where heavy power was required they were found wanting. However, since taking hold of your Clutches we have not used any other unless compelled to by specifications made by others. In some cases we obtained consent to apply the Lake, but only under specific guarantees, and in not a single case have we had occasion to replace one or had even a complaint. The adjustment is so simple that the most inexperienced are capable of making it without any danger of throwing them out of balance or slipping unequally, a difficulty so frequently encountered with others. Please hurry forward the orders you now have. Yours truly, THE FRANCIS FRITSCH MFG. CO., JOHN G. FRITSCH, Pres.

PHILADELPHIA, Dec. 26, 1893. J. H. & D. LAKE Co., Massillon, Ohio: Gentlemen—We purchased from you last March (1893) four of your 12 inch Patent Screw Lever and Multiband Friction Clutch Pulleys, for a very particular and severe place, as they were to run at a very high rate of speed. We were somewhat skeptical at first as to what they would do on so high a speed, as they were to reverse constantly. We are thoroughly satisfied with them and they have been in constant use ever since and have greatly surpassed our expectations, and would be pleased to recommend them to anyone whom you may refer to us. Yours truly, HUNTER MFG. CO., J. E. LANGDON, Manager.

Advertisement for J.H. & D. Lake Co. featuring pulleys and machinery.

CINCINNATI, Ohio, Dec. 15, 1893. J. H. & D. LAKE Co., Massillon, Ohio: Gentlemen—We have had several of your Clutches in operation for about a year. We consider them excellent; we have had no trouble at all with them and find them easily adjusted. Wishing you every success, we are, Very respectfully, THE LODGE & SHIPLEY MACHINE TOOL CO., MURRAY SHIPLEY, Jr., Vice-Pres. and Sec'y.

PHILADELPHIA, Dec. 26, 1893. J. H. & D. LAKE Co., Massillon, Ohio: Gentlemen—We purchased from you last March (1893) four of your 12 inch Patent Screw Lever and Multiband Friction Clutch Pulleys, for a very particular and severe place, as they were to run at a very high rate of speed. We were somewhat skeptical at first as to what they would do on so high a speed, as they were to reverse constantly. We are thoroughly satisfied with them and they have been in constant use ever since and have greatly surpassed our expectations, and would be pleased to recommend them to anyone whom you may refer to us. Yours truly, HUNTER MFG. CO., J. E. LANGDON, Manager.

Advertisement for J.H. & D. Lake Co. featuring pulleys and machinery.

**Putting in a Paper Mill Electric Plant.**

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

By JAMES F. HOBART.

Second Paper.

After the dynamo is placed upon its foundation use a spirit level to see that the shafting is perfectly true. If one end is higher than the other the machine will never run satisfactorily. The belt will work off upon one side or the other of its pulley and the dynamo will bear against one of the collars placed at either end of the shaft.

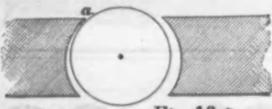


Fig. 13.

After making sure that the machine is level, see that the armature runs perfectly free and is located exactly centrally between the field magnets. Fig. 13 gives a view of a defective arrangement. The armature is not central between the pole pieces and almost touches at *a*.

Sometimes the armature rubs a trifle, the insulation wears off the wires, and pretty soon the pole piece makes a contact between two or three coils of armature winding. A flash of electricity generally accompanies such an occurrence, and the coils which are thus short circuited are liable to be burned out. There are two or three causes for such contact between the armature and pole pieces. One reason may be in the construction of the machine, the boxes not having been bolted accurately in place.

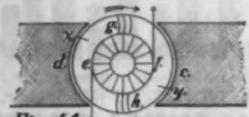


Fig. 14.

Another cause may be in the pull of the belt, which wears out the soft metal lining of one of the boxes and pulls the armature out of place. Another cause may be the lack of oil; a bearing gets dry, begins to heat, and soon commences to cut the soft metal lining. Perhaps this substance may be melted out and entirely gone. In either case the boxes should be repaired so that the shaft will lie perfectly true and the armature run free between the pole pieces and central thereto.

The armature shaft should be carefully lined up so that each end thereof is equally distant from the shaft which is to drive the dynamo. If the shaft wears either box out of place the dynamo will not run true. It will work off upon one side or the other of either the dynamo pulley or the pulley on the shaft. Sometimes it happens during a night's run that one edge of the belt becomes stretched and the belt works off on one side of the pulley. This matter may be temporarily

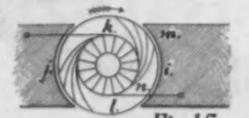


Fig. 15.

cured by putting some rosin and oil melted together upon a narrow piece of felt or thick cloth. Then carefully run the cloth under the belt around the dynamo pulley, letting it wind itself upon the centre of the pulley. This forms a high part in the middle of the pulley or wherever the cloth is wound on, and if care is taken to let it wind a little toward that edge of the pulley upon which it is desired to lead the belt, that necessary piece of machinery will be coaxed into its rightful position.

Such makeshifts should only be for temporary use; take the earliest opportunity to line up the shafting, level it up if necessary and make the belt run true. Next study out the commutator connections



Fig. 16.

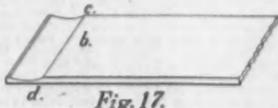


Fig. 17.

of the armature and find out where the brushes should stand. Fig. 14 will help determine this point. The field magnet pole pieces *c* and *d* are located as shown in the engraving, and if the armature winding is connected exactly radial, as shown by *g* and *h*, then the point of contact of each brush should be exactly opposite the centre of the pole pieces, as at *e* and *f*. The reason

is this: The strongest place of induction is exactly between the centres of the pole pieces; therefore the highest voltage exists in the armature when any particular wire is passing the centre of *c* and *d* pole pieces, hence the location of brushes at that point to take off the voltage generated.

If the armature is connected tangentially, as shown at *m*, Fig. 15, then the brushes must be twisted around the position shown by *k* *l*, *i* and *j* represent pole pieces as before, and *k* *l* the brushes, the only difference being that as the commutator connections are tangential instead of radial, the brushes must be moved around upon the commutator to conform with the style of winding. In practice, however, the brushes would not be located exactly opposite *c* and *d*, Fig. 14, as owing to a certain peculiarity of magnetism and electricity the centre of intensity does not come exactly in the centre of the pole pieces; in other words, with the armature *e* *f*, Fig. 14, radiating in the direction of the arrow the magnetism which flows across from pole piece *c* to pole piece *d* is carried ahead several degrees in the direc-



Fig. 18.



Fig. 19.

tion in which the armature is radiating. Therefore instead of the centre being at *c* *d* *e* *f*, it really occurs at *x* and *y*, and the brushes must be moved around until these points are reached. This angular advancement of the brushes is called lead; it is not exactly like the lead of a steam engine, but it may be compared therewith and amounts practically to the same thing.

Different kinds of dynamos use different kinds of brushes, but whatever variety is used they should be kept clean and in good condition. If thick brushes are used, made up of many layers of thin copper, they should be put into a clamp and filed away to the required shape, so as to exactly fit the curvature of the commutator. If a single thickness of copper is used, which bears at a distance from one end, as shown at *a* in Fig. 16, then there is no necessity for trimming or filing, unless the brush has been used and is worn, as shown at *b*, Fig. 17. In this case the brush should be clipped off with a pair of shears at *c* *d* and set forward in the brush holder until it occupies the desired position. If a thick brush is used, as shown in Fig. 18, the end *a*, which bears against the commutator, must be dressed up to a certain angle. For this purpose the clamp shown in Fig. 19 will be necessary. Put the brush in the slot *c*, screw down the thumb screw *d* until the brush is tightly held; then with a file take off the end of the brush until it is even with the faces *e* and *f*.

The clamp is made of steel, and the faces *e* and *f* are hardened so that they will not be disturbed by the file. By means of this tool the brushes may always be kept in first-class condition. Several extra brushes should be on hand so that if through sparking or any other cause a brush gets out of shape it may be removed and another brush put in without having to stop and file it up.

There is one more variety of brush in the

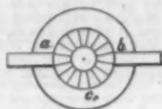


Fig. 20.

market, called the "Carbon brush," and it stands radial to the commutator, instead of tangential, as do those shown by Figs. 18 and 19.

The radial brush, Fig. 20, is the latest and best in the brush line; *a* and *b* represent the brushes, and show the manner in which they bear upon the commutator *c*. The brushes are held against the commutator by springs, and the pressure can be adjusted thereby to give just the strength of contact required; these brushes need little if any filing or dressing; they are made of a material similar to that used for arc light carbons, and can be used until they become too short to fill the brush holder.

As carbon brushes bear radially, they permit the armature to run in either direction, a fine thing for motors. About the only attention that these brushes require is to see that no copper or other foreign particles lodge on the face of the brush and cause it to cut the commutator.

Oiling commutators and the brushes

should never be permitted, for this reason: Carbon is a fine conductor of electricity, and when oil is used it is carbonized by the electric current, and soon forms a sort of bridge between the commutator segments, so that the current jumps across from one to the other, instead of going out through the brushes and the wiring, and doing useful work in the lamps and motors in the line.

When this happens one or more coils of the armature are said to be short circuited, and the cloth covering on the wire often becomes burned, letting the current go across from one wire to another, instead of around the coils as it should. The coils which are short circuited and have the covering burned off are said to be "burned out." Sometimes it is necessary to overhaul the whole armature in order to replace one or two coils, and, in some instances, all of the coils have to be removed and new wire substituted.

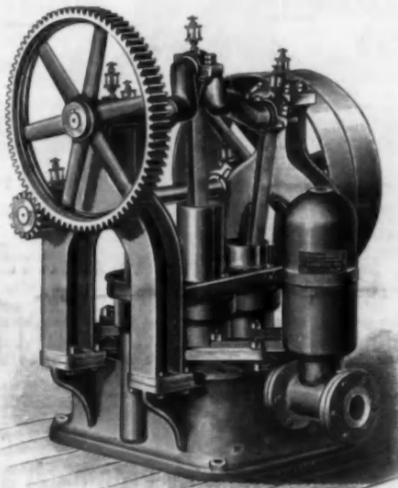
As the carbonizing of oil is liable to cause such distress that lubricant should never be used. It is better to use vaseline on the commutator. Put a little on a rag, let the rag press against the bars for a second or two, then wipe off the bulk of the vaseline, thus leaving only a very thin film of lubricant on the commutator bars.

Such a thin film will not stand long; it soon wears off, and has to be renewed; hence the necessity of applying the vaseline rag at frequent intervals. There is another danger menacing dynamos, which will be discussed in the next paper.

(To be continued.)

**Triplex Power Pump.**

An illustration is given of a triplex power pump manufactured by the Baldwinville Centrifugal Pump Works, Irvin Van



VAN WIE TRIPLEX POWER PUMP.

Wie, proprietor, 715 to 723 West Fayette street, Syracuse, N. Y. Another illustration will be found in an advertisement elsewhere, to which the reader is invited to refer.

This pump is specially adapted to paper making uses as a stuff pump and a suction pump, for draining dryers and heating coils, as a tank pump and for maintaining hydraulic pressure on wood pulp grinders; it is also particularly adapted to use as a boiler feed pump.

This pump has three independent cylinders, with suction valves on one side and discharge valves on the opposite, all in one base. At the end of the pump to carry the shafts is securely bolted a heavy standard, to which are fitted the journal boxes for carrying the shafts. The shaft has three cranks set at an angle of 120°. The plungers are hollow trunk pattern, fitting the cylinders through which they work, and at the upper end of cylinders are long stuffing boxes, which are easily accessible with an ordinary wrench. The crank is operated by the large spur gear, which engages a small pinion, which receives its power from large pulleys. The style of valve used depends upon the work which the pump is required to do. The pump is especially designed with a view of having all parts easily accessible without the use of any special appliances or special wrenches.

The valve areas are large; the valves have low lift, and there is consequently less wear upon the valves and valve seats. The water chamber and barrels of the pump are all in one casting, there are no packed joints between the valve chambers and the pump proper, and it is said that there are fewer joints to look after than in any other style of triplex pump. As to construction, the pump is built of the very best material, the crank shafts are of cast steel, the gears are best machine cut gears. The plungers are of bronze, and the stuffing boxes and cylinders are lined with bronze if desired. The pump can be connected with engines or motors and driven by gearing as well as by belt. The manufacturer has on hand com-

pleted patterns for sizes ranging from 4x4, with capacity of five-eighths of a gallon per revolution, to 8x10, with a capacity of 6 1/2 gallons per revolution. The pump produces a smooth, even and continuous flow of water and is economical to run. It is tested against a working pressure of 200 pounds before it leaves the works.

**Relation of Flue Temperature to Boiler Economy.**

There are certain classes of boilers which, through deficiency or inefficiency of heating surface, send to the chimney a large amount of waste heat. No one would question that heat which is unused in the boiler and passes off to the chimney detracts from that which is utilized in generating steam. It may, however, be claimed that with the particular design and construction which is followed in an individual case the waste heat does not count against it as in other boilers, but that the resulting economy is unimpaired. Of course, if a high flue temperature is accompanied by a corresponding increase in the temperature of the furnace, the relative loss due to the heat of the chimney may be no greater than in the case where the flue temperature is low and the furnace temperature also low. This fact furnishes ground perhaps for a claim that high temperature of the flue is not an unalloyed disadvantage. These arguments, however, lose all the force which they might possess when it is found that almost invariably, we might say without a single exception where authentic trials are made, boilers which discharge a high degree of heat into the flue give an evaporative result below the standard of good practice, whatever may be claimed regarding the design or action of the furnace, the perfection of

**Two Whistles—or Three?**

The train is on the track; but for some cause the conductor has signaled for brakes. The crew are at their posts; there's steam in the boiler; there's fuel in the tender, and as far as can be seen ahead the track is clear. What will the conductor do, go ahead or back? Which shall it be, two whistles—or three?

The commercial world to-day furnishes many a resemblance to this illustration. The business is established; the investment made; experienced help at hand; the product introduced; the stock ample; yet the business is standing still on the open track. What will the proprietor do? Will he go ahead or go back? Two whistles—or three?

As to the train, this may be said: the catcher is on its front end. To stand still is to run out of fuel, to be run into, or be passed by others on the road. In short, every dollar invested in the whole system has been spent with the idea of going ahead.

Is not all this correspondingly true of the business? "Go" is what it is, and what it is for. To go with as little effort as possible, but to Go! Go!! Go!!!

When the track is slippery, the grade great, the load heavy, the good engineer uses sand. When like conditions confront the business man, the sand of newspaper advertising will often help him out of the difficulty.

This is no fancy. We have seen it. We are seeing it. Consider it carefully.—N. W. Ayer & Son, Philadelphia.

**The New Postal Card.**

Since the introduction of postal cards as a means of communication in this country six postal card contracts have been made. The first was let to the Morgan Envelope Company, Springfield, Mass., the second to the American Photo-Type Company, which had also the contract for printing the stamps on checks for the internal revenue service. The manager of this company, James Duthie, was an artist of unusual ability and skill. This postal card contract was sublet to Woolworth & Graham, whose connection with the contractors came through supplying paper. The third contract was let to Woolworth & Graham, of New York; the fourth to Woolworth & Graham, the fifth to Al. Daggett, the sixth to Woolworth & Graham.

The first contract price was \$1.40 per thousand, the second 69 cents, the third 56 cents, the fourth 47 cents, the fifth 35 cents and the sixth 33 cents. The estimated required quantity for the first year was 150,000,000. The present required quantity per year is 500,000,000.

Until the Daggett contract was let the postal cards had all been made of one size. Postmaster General Wanamaker changed it to three sizes. The small "Dude" card of purplish tint was designed specially for ladies' use, and of which it was estimated that 100,000,000 per year would be required; but for which the demand has been less than 30,000,000. The next size, "Medium," with estimated demand of 200,000,000; the third size, "Large," 100,000,000 per year. It took just two years to make the contractor supply the large card. This was natural, because it cost him more. When the latter was offered for sale, every woman asking for a postal card, and having three different sizes to choose from at the same price each, to the general disappointment of the contractor and astonishment of the Postmaster General, invariably took the largest card for the money. The sale of the latter card steadily increased, until it reached more than 80 per cent. of the entire issue.

Postmaster General Bissell did not like the generous variety of style and taste of his merchant predecessor, and confined his specifications to a single size, measuring 3 1/2 x 5 1/2 inches, and now this new card is on sale at the various post offices of the country. The Wanamaker sizes are now offered only to the extent of the stock on hand.

It is interesting incidental reading to note that about fourteen years ago when the Government issued an international postal card selling at two cents, and mailable to all postal union countries, the public did not "catch on." George Tyner, who was the postal card agent, urged the Government to have the contractor make 15,000,000; but 7,000,000 only were ordered, 1,000,000 of which were sent to the New York Post Office; more than one-half of the entire issue of 7,000,000 is still on hand unsold after fourteen years' sale.

During the operations of the Daggett contract, a "reply" card was issued. Great things were expected of this, but out of an issue of 12,000,000 very few have been sold.

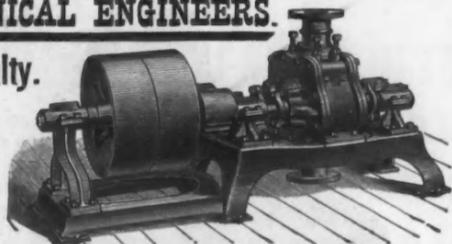
It looks as if the present card will be popular. The design is very handsome, and it is printed on a very fine quality of paper.

**WANTED—TO LEASE, WITH PRIVILEGE** of buying, paper mill in good order, with cylinder machine not less than 34 inches. Address J. E. S. Ashland, Hanover County, Va.

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Paper Mill Plans a Specialty.



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ALSO MANUFACTURERS OF

Improved Patent Rag Engines, Dusters, Elevators, Etc.

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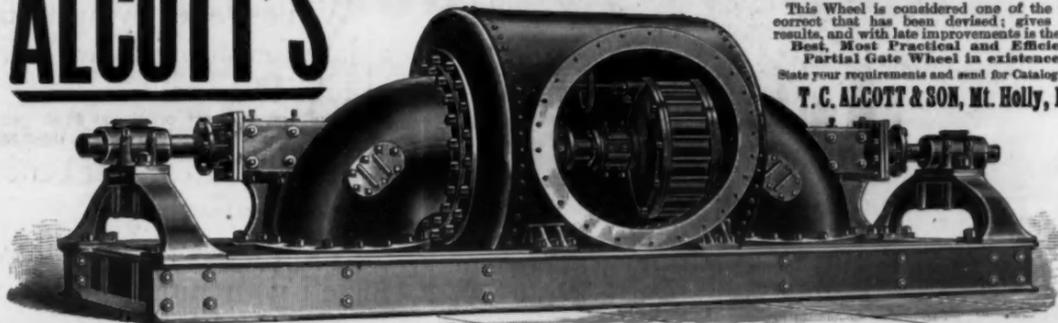
C. W. OSGOOD, Proprietor,

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# "ALCOTT'S HIGH DUTY TURBINE."

This Wheel is considered one of the most correct that has been devised; gives high results, and with late improvements is the Best, Most Practical and Efficient Partial Gate Wheel in existence.

State your requirements and send for Catalogue to T. C. ALCOTT & SON, Mt. Holly, N. J.

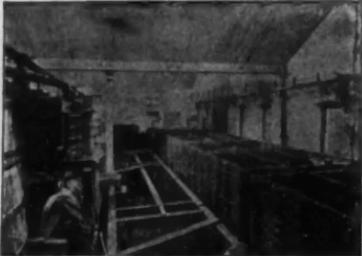


NEWHALL MACHINE ROOM ROOF At W. C. Hamilton & Sons, Riverside Paper Mills, WIL. PENN F. O., PA.

GEORGE M. NEWHALL ENGINEERING CO., LIMITED, Paper and Pulp Mill Engineers AND ARCHITECTS.

136 South Fourth Street,

PHILADELPHIA, PA.

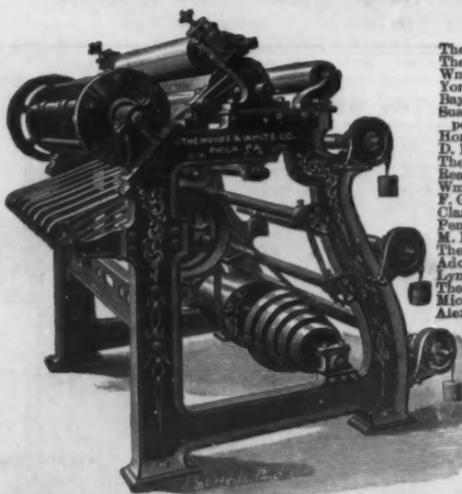


NEWHALL STUFF CHESTS At W. C. Hamilton & Sons, Riverside Paper Mills, WIL. PENN F. O., PA.

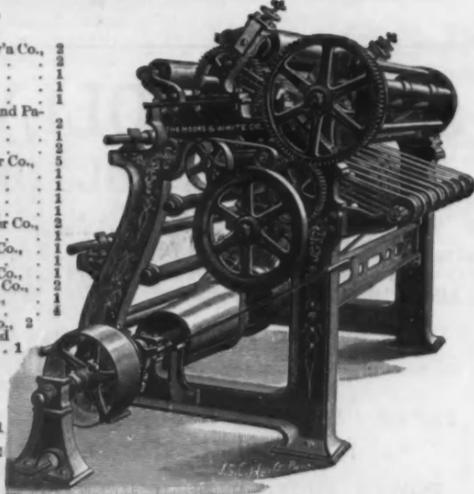
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CONTINUOUS FEED.

Cuts Perfectly Even and Square. Easily Changed from Sheets to Rolls. Built in All Sizes and Fully Guaranteed.



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  - D. M. Bare & Co.,
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  - Pennsylvania Pulp and Paper Co.,
  - M. Dalton,
  - The Morrison & Cass Paper Co.,
  - Adolph Segal,
  - Lynchburg Pulp and Paper Co.,
  - The Buena Vista Paper Mfg. Co.,
  - Michigan Sulphate Pulp Co.,
  - Alexander Balfour & Sons,
  - Wanqueton River Paper Co.,
  - Willamette Pulp and Paper Co.,
  - The Morrison & Cass Paper Co.,
  - The Andrew L. Fennessy Co.,
  - The Antietam Paper Co.,
  - The West Virginia Paper Co.,



# THE MOORE & WHITE CO., Philadelphia, Pa.

PAPER MILL MACHINERY. Friction Clutches. Cut-off Couplings.

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Elevators, Conveyors, Manila Rope Power Transmission Machinery, Ewart Detachable Link Belting Dodge Chain, Howe Chain, &c.

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(CHICAGO: LINK BELT MACHINERY CO.)

**The Lunken**  
RENEWABLE SEAT  
GATE VALVE.

A VALVE WHOSE SEAT & DISK ARE RENEWABLE WITHOUT DISCONNECTING FROM PIPES.  
A VALVE WHOSE DISK IS BALANCED, THUS OPERATING EASILY, REGARDLESS OF HIGH PRESSURE.  
A VALVE SUCH AS ALL USERS HAVE THOUGHT A NECESSITY.

COMPACT, DURABLE, LOW-PRICED.  
WRITE FOR COMPLETE ILLUSTRATED CIRCULAR & PRICES. FOR SALE BY LEADING DEALERS EVERYWHERE.

THE LUNKENHEIMER CO., Cincinnati, O. U.S.A.

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Especially adapted to resist the action of SULPHITE SOLUTIONS in PULP MACHINERY.

COMPOSITION SHELLS | Phosphor Bronze, Brass, Babbitt Metals.

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ROTARY GLOBE BLEACHING BOILERS  
For Rags, Rope, Tow, Straw and other Paper Materials.

Boilers and Heavy Sheet and Boiler Iron Work for Paper Mills a Specialty.

Respectfully refer you to

PROBIA STRAW BOARD CO., Peoria, Ill.	MONROE STEINLEND, Kokomo, Ind.
MONTREAL PAPER CO., Montreal, Canada.	W. K. SHELL, Tiffin, Ohio.
AMERICAN STRAW BOARD CO., Lockport, Ill.	AMERICAN STRAW BOARD CO., Barboursville, Ohio.
AMERICAN PULP AND PAPER CO., Tiffin, Ohio.	O. C. BARBER, Akron, Ohio.
CROWN PAPER CO., San Francisco, Cal.	H. F. HITCHCOCK, "
VINCENNES PAPER CO., Vincennes, Ind.	A. P. BALDWIN, "
ELEHART COMBINATION BOARD CO., Elkhart, Ind.	J. F. STEINLEND, "
ANDRAN PAPER MILLS, Andran, N. Y.	D. E. HILL, "
S. D. ROSENBAUM, San Francisco, Cal.	A. L. CONGER, "
	AMERICAN STRAW BOARD CO., Quincy, Ill.

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### American Dictionary of Printing and Bookmaking.

THE LATEST AND GREATEST WORK ON PRINTING AND ALLIED TRADES.

INDISPENSABLE TO PRINTERS, NEWSPAPER AND BOOK PUBLISHERS, BOOKBINDERS, LIBRARIES, &c.

#### PREFACE TO THE WORK:

This book is an attempt to show both the present and past conditions of the printers' and bookmakers' arts, with other matters related thereto, in a form convenient for reference. It contains a greater quantity of interesting and valuable matter upon the subjects than any preceding work, of whatever kind or nature. Each topic has been fully and thoughtfully elucidated.

Several dictionaries of printing antedate this. Those of Savage, Ringwalt and Southward in English, and Waldow in German, are all valuable; but, as in the history of English lexicography the later books had an advantage over the earlier, both as to plan and in matter, so this work has been able to profit by their strong points and avoid their defects. There is now a continual succession of writers upon typography, some dealing with its practical aspects and others with its historical and antiquarian relations. Much is now contributed to the trade press. More than 100 volumes of such newspapers have been read, and their valuable articles have been summarized for this dictionary. Together with these, a multitude of minor pamphlets, trade announcements and other publications have been consulted.

Among the authorities which have been particularly valuable, and which are not mentioned above, have been Hansard's "Typographia," Reed's "Old English Letter Foundries," Timperley's "Encyclopaedia," North's "Report," Hudson's "History of Journalism," Southward's "Typographia," De Vinne's "Invention of Printing," De Vinne's "Price List," Thomas's "History of Printing," Faulmann's "Buchdruckerkunst," Jacobi's "Vocabulary," Greswell's "Parisian Press" and Earhart's "Color Printer." In addition, the unequalled collection of the Typothetae of New York has been continually consulted. Zehnsdorf's treatise upon bookbinding has been freely used. On the whole, little has been found in German, French and Italian books which is valuable to American readers, except historically.

A large number of the articles treat of questions which relate to the master printer only. Hansard is the only writer who has discussed prices or cost, the methods of economy, or the finances of printing and publishing. Printing is not only an art: it is a manufacture; and he who succeeds in it only as an artist, but does not know how to buy his supplies as cheaply as the market will warrant, to sell his outturn at a price beyond that of production, and to keep his accounts clearly and correctly, will soon cease to produce good work, and will then sink to a very low level or fall into the hands of his creditors. Herein will be found the first statement, in other than an ephemeral form, of what principles should guide the employing printer, and how he may know that he has been conducting his business on true lines. The remorseless competition of the present day demands that he who succeeds shall be a good commercial man; that he shall watch over his expenses; produce his work so that it shall be pleasing to the eye, and collect his bills with promptness. Much on this subject will be found.

The apprentice and the journeyman have not been neglected.

Each of the simple operations is described, with the reasons for doing the work in the manner set forth; some, as for instance, Making Ready, are given with a fullness never before attempted. Under the heads Type, Typefounding, Electrotyping and Bookbinding, many subsidiary arts are described at length. Under International Typographical Union, New York, and Trades Union, a more extended account is given of workmen's societies among printers than is elsewhere to be found. A history of the Typothetae is also given.

The vocabulary relating to the arts is fuller than has heretofore been given. Attempts have been made to collect such words ever since the time of Moxon, now a little over two centuries ago, but they have not all yet been brought together. New terms are continually being created, and these with those of four other languages have also been incorporated. The Spanish words concerning typography have been compiled by James Cooper; those in French are taken from Crapelet, Didot and Daupley-Gouverneur; the Italian are from the work of Pozzoli, and German technical phrases are drawn from Bachmann, Waldow and Franke. In no respect have ordinary bi-lingual dictionaries been more unsatisfactory than in the explanation of technical terms.

Much space has been given to historical and biographical matter. Beginning with the invention of the art, the changes and

improvements in each line down to the present day have been told. Part of this is given under countries and cities; part under machines or new processes; but a very large part under biographical notices. The latter have been illustrated wherever practicable. The biographies of those who have lived or are now living in the United States are particularly numerous. They include the officers of the Typothetae and the presidents of the International Union, besides the most prominent inventors, type-founders and printing-machine makers, with a multitude of others who have attained distinction in some one of the arts. Not one has been inserted for personal reasons.

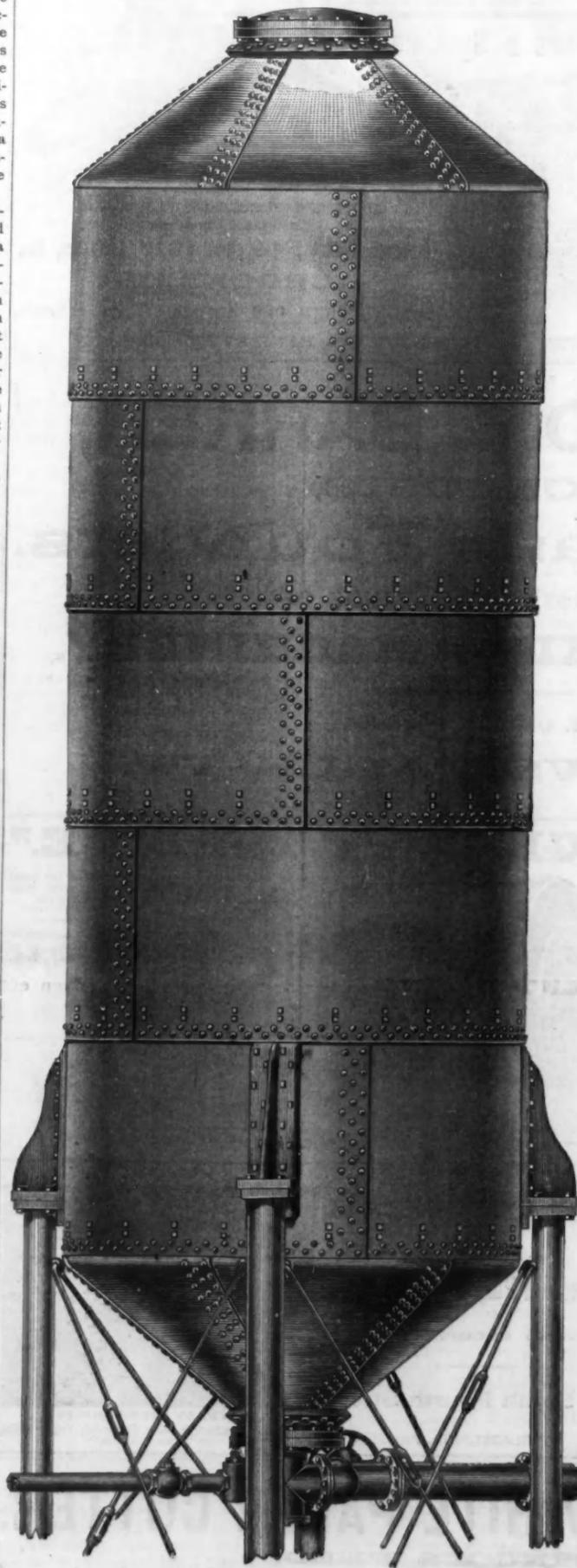
When the plan of this dictionary was submitted by W. W. Pasko to the late Howard Lockwood it was revolved in his mind for a long time. This was his custom. He decided no important question in haste. Nothing was said for years, but when the firm finally decided to enter upon its publication it was warmly taken up. An agreement was made with Mr. Pasko to prepare the work and carry it to completion within four years. Mr. Lockwood scrutinized all of the proofs, and entered into all details with great interest. When, in October, 1892, it reached the letter L he was urged to allow a sketch of himself to be prepared and used. He shrunk from this, with the modesty inherent in his nature, but finally consented. A brief notice was made ready and given to him, that it might be revised as to dates and names. He did not return it. Presently all the type in the font was set up, leaving a gap under "Lo." Work ceased. Thus it stood when his sudden death came. The bit of copy which had not been returned was never found; the article about him now in the book was afterwards written, and the wheels moved again.

Much obligation must be expressed to Theodore Low De Vinne, the great printer, for his kindly assistance, his indication of authorities, his decision of knotty questions, his loan of illustrations, and his permission to borrow freely from his two principal books, the "Invention of Printing" and the "Printers' Price-List." Obligations are also due to James A. Colvin, managing editor of the Lockwood Press, for revision of manuscript; to James Cooper, who contributed the valuable articles on Portugal, Portuguese language, Spanish language and Spanish Printing—and, in addition, rendered much service in reading the proofs of the entire book; to James H. Ferguson, who gave much assistance in the article on Electrotyping; to the late David Bruce, who contributed valuable information relating to type founding and to early New York and Philadelphia printers; to J. Stearns Cushing, of Boston; to John F. Earhart, of Cincinnati; to James W. Pratt and John Polhemus, of New York, for full and explicit information upon doubtful points, and to William Pinkney Hamilton, the managing partner of the publishers, for the care, interest and enterprise with which he has carried out the original ideas of the firm. The mechanical part of the work shows care and accuracy, and is in the highest degree creditable to those who produced it.

"The American Dictionary of Printing and Bookmaking" is a royal octavo of about 600 pages, half bound in the most substantial manner; price, \$12 cash, delivered, without discount to anybody under any circumstances, hence it will not be sold largely through jobbers. No copy will be given away. Newspaper publishers and libraries will therefore be required to pay the price named. Orders will be filled in rotation as received. Address, Howard Lockwood & Co., New York.

The trial of the case of Mrs. John Bidolph Martin (Victoria Woodhull) against the trustees of the British Museum, the plaintiff charging the trustees with exposing upon the shelves of their library books containing statements libelling her character, was concluded on Wednesday. The jury brought in a verdict awarding Mrs. Martin £1 damages, but the court reserved judgment pending argument by counsel upon points arising from the jury's answers.

Herman Frank has applied to the Supreme Court for the appointment of a receiver for Hodge, Schopf & Mayer, lithographers, No. 112 Fulton street, New York, and doing business as the American Label Company, on account of disagreement among the partners, and the order to show cause was set down for March 5. Mr. Frank represented Frank Schopf, and obtained a temporary injunction restraining the other partners from disposing of or interfering with the copartnership property. Mr. Schopf claimed that Mr. Hodge has run the business to suit himself, that he refused to allow any balance sheet of the accounts of the firm to be made, and for some months past has refused to allow Mr. Schopf to see the bank deposit book. The partnership was formed in July 1890. Mr. Frank states that the firm is perfectly solvent; that the assets are \$16,000 exclusive of good will, which is of great value, and liabilities, \$10,000.



## Both Feet In the Trough.

It looks piggish, but it seems to win.

Suppose to be philanthropic we should divide orders with competitors.

We may open a general philanthropy business one of these days.

Fact is, we're made of too "fine a clay" for this sordid and groveling act of lucre scraping.

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Do you know why you are not able to scatter beneficence like Carnegie?

Simply because you have fooled your money away on leaky Digesters.

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We don't believe in faith cure, but can brace you on the Digester question.

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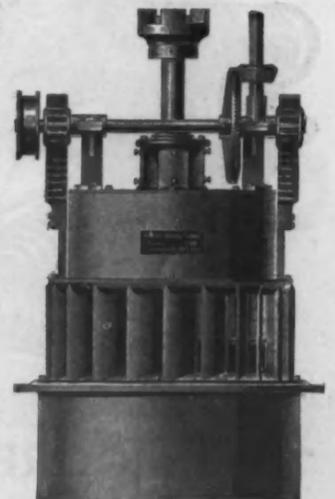
Screens and Vats for Paper Machines.

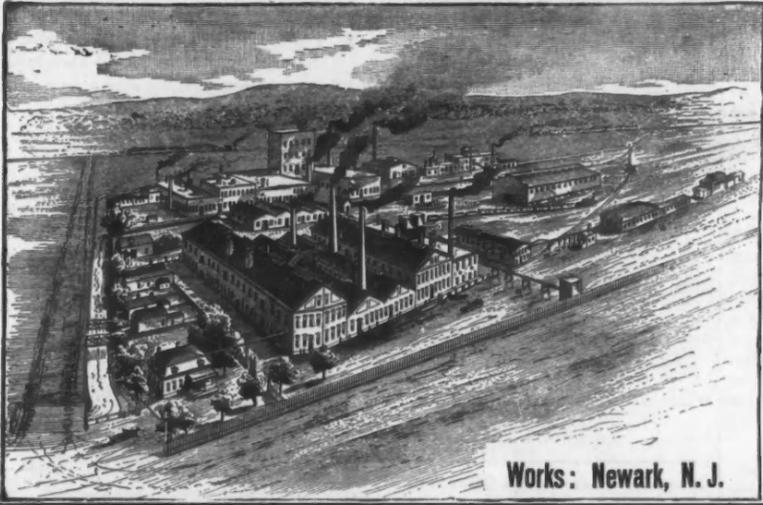
RAG ENGINES AND JORDAN ENGINES MADE AND REFILLED.

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**IT  
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AUTOMATICALLY KEEP THE DRYERS FREE FROM AIR AND WATER.  
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 GIVE A UNIFORM TEMPERATURE THROUGHOUT THE CYLINDERS.  
 CIRCULATE EXHAUST STEAM WITHOUT BACK PRESSURE IN PAPER MACHINES.  
 CIRCULATE EXHAUST STEAM WITHOUT BACK PRESSURE IN LOFTS AND HEATING CIRCULATIONS.  
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The **Russell Patent** covers every description of Acid Proof Cement Lining and can be applied to any form of Sulphite Digester in use. This Lining for Sulphite Digesters is now in constant operation in many of the largest mills in the country, **more than thirty Digesters being lined with the RUSSELL CEMENT LINING,** and in every case it has given entire satisfaction and proved itself to be a **Perfect Lining.**

IT IS THOROUGHLY ACID PROOF.

IT IS EASILY APPLIED.

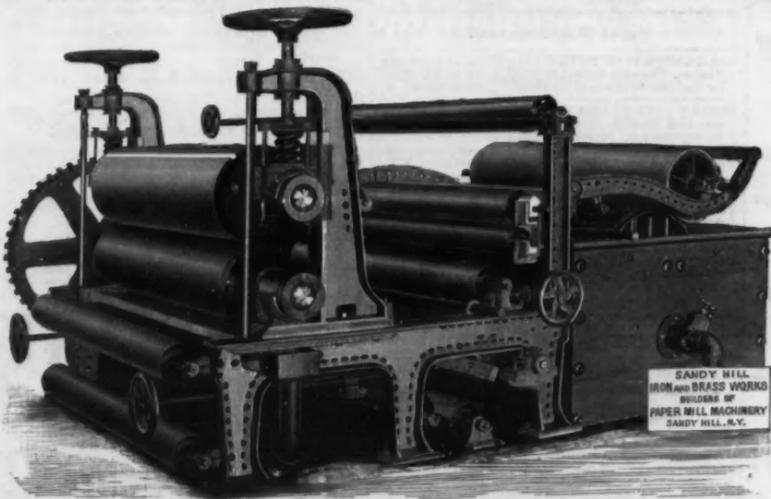
IT IS DURABLE AND IMPROVES RATHER THAN DETERIORATES BY USE.

IT PREVENTS RADIATION OF HEAT, AND THUS EFFECTS GREAT SAVING OF STEAM AND INSURES EVEN COOKING OF ENTIRE CONTENTS.

IN THE "ONE METAL" DIGESTER IT PREVENTS CORROSION AND THE DANGEROUS EXPANSION OF THE BRONZE.

Manufacturers of Sulphite Pulp and those intending to build Sulphite Mills are invited to examine into the merits of the *Russell Cement Lining.* Correspondence solicited. All inquiries cheerfully answered.

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## IMPROVED WET MACHINE.

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SIMPLE, DURABLE, PERFECT, COMPACT.

COMPLETE, NOISELESS, NO STRINGS, LESS POWER.

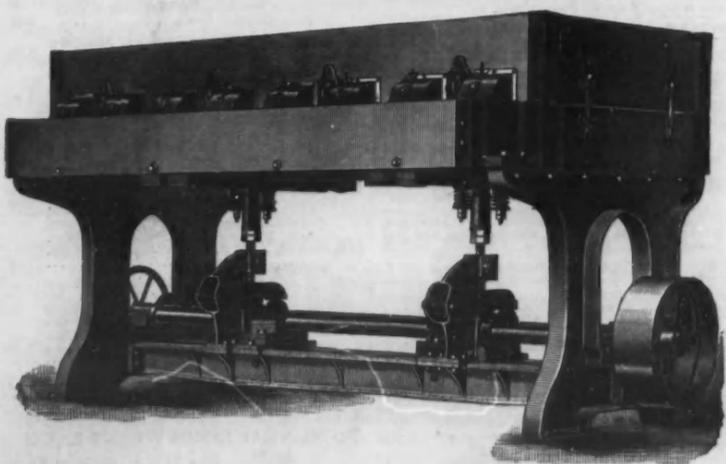
Plates are sure to last longer, and but two-thirds the number being necessary. No waste of stock when washing up. Occupies a small space; a simple, solid built flooring the only foundation necessary. Excellent work accomplished with eight (8) plates and 11-1000 screen plate.

Six (6) hours' time only required to put in position ready for work. In ordering the Screens no particulars are required.

IT HAS NO EQUAL AS TO SCREENING QUALITIES, CAPACITY AND SAVING OF STOCK.

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**C. R. MILLIKEN, PORTLAND, ME.**



**Water-Tube Boilers.**

Water-tube boilers are those in which steam is generated from water contained in thin tubes of small or moderately small diameter, by heat applied to the outside of the tubes from a fire generally placed underneath them. They are sometimes called safety boilers, because they are supposed to render the destructive effects of an explosion as harmless as possible to the surrounding property. The violence of an explosion depends principally upon the weight of water and steam set at liberty. The quantity of water contained in a water-tube boiler is very small compared with the contents of an ordinary cylindrical boiler or fire-tube boiler of the same power. The water is contained in a number of small spaces, and in case of an explosion the amount of destructive force is presumed to be reduced to a minimum, and the range of its action confined within narrow limits.

It is claimed for these boilers that instead of the widespread destructive effects arising from the sudden liberation of the large amount of explosive force contained in the large body of water existing in a fire tube boiler, the destructive effects are limited to the force due to the liberation of the small body of water which would escape through the orifices of the fractures of a single water tube. The amount of force so liberated might not be sufficient to cause displacement of other portions of the boiler, or to seriously damage buildings.

The principle of all water-tube boilers is, with few exceptions, practically the same. They differ only in their arrangements and in details of construction. They generally consist of a number of rows of water-tubes connected by connecting boxes placed either horizontally, in an inclined position, or vertically above a fire grate, and inclosed in a chamber formed by brick walls lined with fire brick. The tubes are generally either 3 1/2 or 4 inches external diameter, of wrought iron or mild steel lap welded. The tubes are most frequently inclined upward from the back to the front of the fire. A steam chamber is placed above the boiler into which water ascends from the inclined tubes above the fire, through tubes at the front of the boiler, and returns to the inclined tubes through others placed at the back of the boiler, when it is again heated and again ascends to the steam chamber. A mud drum for collecting the impurities deposited from the water is placed beyond the action of the fire.

In this type of boiler a small quantity of water covers a large area of heating surface, and a rapid circulation is necessary to carry off the heat absorbed by the tubes. It is essential that the tubes are regularly supplied with water, as any irregularity in the supply of feed water is liable to cause a sudden and rapid generation of steam, which may accumulate in the tubes and cause priming.

A large capacity for both steam and water space is necessary for steady steaming. Ample passages should be provided for circulation, with free ascent and descent of the convection currents, and a large area of surface at the water line to secure steadiness of water level. The feed water should be pure and the heating surface maintained clean and free from incrustation, to prevent overheating. The firing should be regular and the boiler lightly worked to avoid violent ebullition.

The tubes should be arranged to facilitate free escape of the steam. When the tubes are placed horizontally they offer a great resistance to the escape of steam bubbles, which are compelled to travel along the tubes to the nearest vertical outlet before they can escape, and the tubes are constantly liable to be burnt. They frequently burn at the top, owing to the formation of

a film of steam between the water and the heated metal. By inclining the tubes the escape of the steam bubbles is facilitated and circulation promoted. The tubes should be free to expand and contract.

The feed water should be as free from mineral substances as possible, but in the better class of this make of boilers the headers are arranged to be taken off so that the interior of the tubes can be got at and scrapers put through to clear them from scale or other formation. This arrangement is a very desirable one, as the boiler can then be cleaned, both inside and outside, with very little difficulty.

The principle of applying heat to a large body of water by subdividing it into small streams, or into a number of small columns contained in thin tubes around which the products of combustion freely circulate, is conducive to evaporative economy. It permits the heating surfaces to be arranged in the best manner for absorbing the heat by causing the tubes to intercept and break up the current of heated gases, and when the circulation of the water in the tubes is efficient, and they are placed so that the draught is not impeded, sufficient space being provided for the development of flame and combustion of the gases, then the necessary arrangements for economical evaporation are theoretically complete.

**THE ADVANTAGES CLAIMED FOR WATER-TUBE BOILERS**

are that, when the circulation is efficient, a rapid current flows through the tubes, producing a tolerably uniform temperature in all parts of the boiler, and there are no serious strains from unequal expansion. The small diameter of the tubes permits the attainment of excessive strength over any desired ordinary steam pressure even with thin heating surfaces. As the boilers are made in sections of moderate size they are easily transported and can be conveyed through narrow openings of buildings, which would not admit of a fire-tube boiler, and they may be fixed in confined spaces.

**PROPORTIONS OF WATER-TUBE BOILERS.**

The heating surface of water-tube boilers is measured on the internal diameter of the tube. In a general way 1 square foot of heating surface is required for the evaporation of 2 1/2 pounds of water per hour, and 49 square feet of heating surface are required for every 100 pounds of water evaporated per hour. For instance, to evaporate 6,000 pounds of water per hour a water-tube boiler is required with 6,000 ÷ 100 = 60 × 40 = 2,400 square feet of heating surface. There are many cases in which less heating surface is used and is entirely satisfactory.

It is necessary to provide a large steam

receiver at the top of the boiler to obtain dry steam, especially for a boiler which only delivers the same at one end of the receiver, because such unequable delivery causes violent disturbance of the water level. The diameter in inches of the steam receiver may be — heating surface of the boiler in square feet ÷ 38 to 40. The receiver should be of mild steel, with the longitudinal seams double or triple riveted, according to the working pressure.

These boilers are sometimes cased with sheet iron lined with non-conducting material, or with fire tiles, but they are most frequently set in a chamber of brickwork, having a cast iron front. The number of bricks varies, but when the walls are of ordinary thickness it is, on an average, seven stock bricks and two fire bricks per square foot of the heating surface of the boiler.

**WEIGHT OF WATER-TUBE BOILERS.**

The weight of water-tube boilers of different types varies considerably. Taking the average of a number of water-tube boilers having tubes 4 inches external diameter arranged in an inclined position over the furnace, it appears that they weigh from 20 to 22 pounds per square foot of heating surface, exclusive of the brickwork casing. For instance, a water-tube boiler of this kind having 1,200 square feet of heating surface weighs, approximately, 1,200 × 22 pounds = 26,400 pounds ÷ 2,240 = 11.8 tons without the casing.

Allowing, in a general way, 10 square feet of heating surface per indicated horse power, this boiler is suitable for supplying steam for an economical engine of 1,200—10—120 indicated horse power.

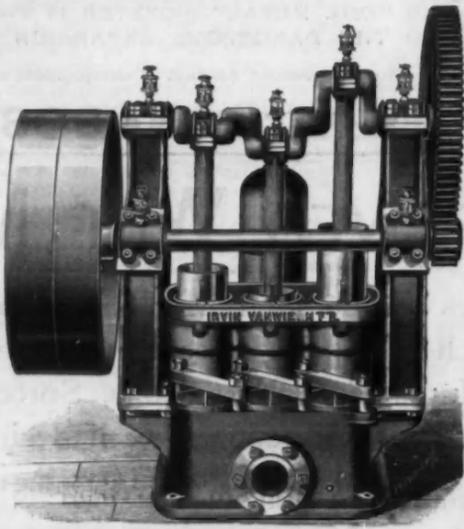
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NEWARK, N. J.,

**Paper Machinery.**

**KINGSLAND**

**BEATING ENGINE.**



Established at Baldwinville, 1861.  
Removed to Syracuse, 1881.

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**Vertical, Horizontal and Suction CENTRIFUGAL PUMPS.**

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Work done all over the country. Leading Publishers, Bankers, Merchants and Lawyers as references.

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88 Water st., Boston, Mass.

**TOWER, ASHLEY B.,** successor to D. H. & A. B. Tower—Designs for Paper and Fibre Mills. Surveys and Plans for Mill Sites. Valuations of Mill Properties. Holyoke, Mass.

**WILDHAGEN, HENRY,** ARCHITECT,  
MAKES A SPECIALTY OF  
SULPHITE FIBRE MILL WORK,  
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**BROWN & SELLERS,** mfrs. of Fourdrinier Wires, Wire Cloth; Dandy Rolls; Watermarking a specialty; Cylinder Molds, &c. Holyoke, Mass.

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

**GLEESON, THOMAS E.,** Wire and Wire Cloth of all descriptions furnished promptly. Cylinders and Dandy Rolls made and repaired. Lettering and all kinds of Watermarks done with neatness and dispatch. Covering Cylinders at Mill a specialty. 400 John st., East Newark, N. J.

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**HULBERT, H. C., & CO.,** 58 Beekman st., N. Y.

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**DIAMOND MILLS PAPER CO.,** White and Colored Tissues, Copying Paper, 44 Murray st., N. Y. Send for Samples of the new "Mikado" Tissue Paper.

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**ORRIS & CO.,** Printing and Hanging Mills at Troy. Roll Papers a Specialty. Office, 122 Nassau st., N. Y.

**STOEVER, CHAS. M., & CO.,** Manufacturers of and Dealers in Book, News, Writing and Manila Writing and Wrapping Papers. 326 Minor st., Philadelphia, Pa.

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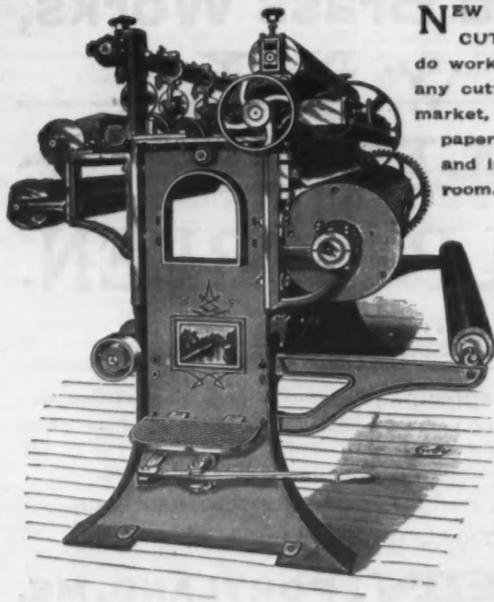
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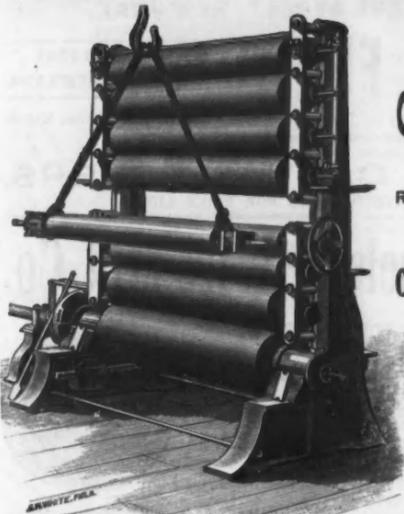
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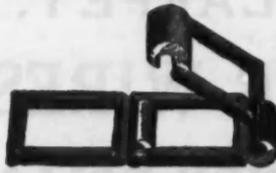
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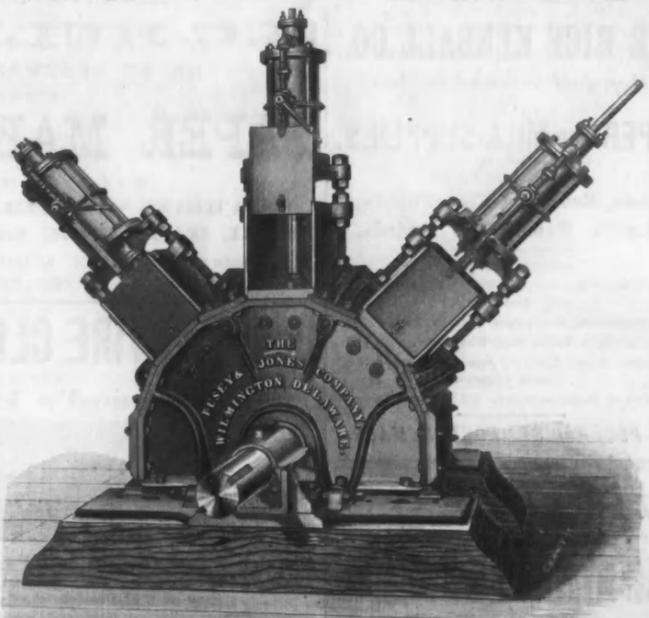
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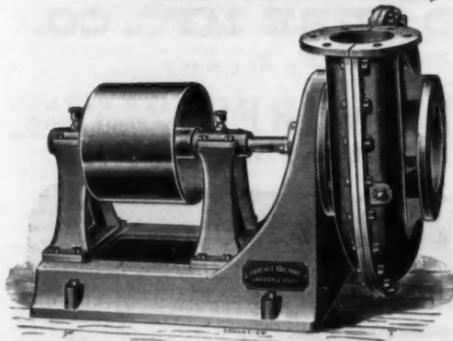
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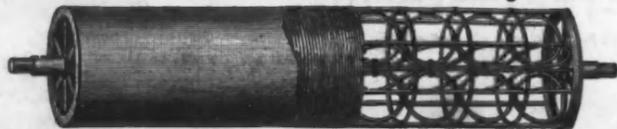
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