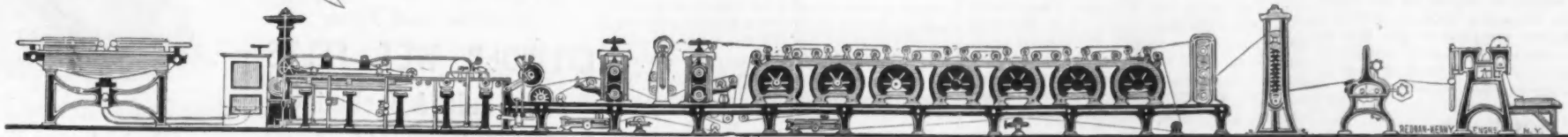


THE PAPER TRADE JOURNAL.



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

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WHOLE NUMBER 158.

Trade Topics.

Special Report on Group XX in the International Exhibition of 1876.

TESTS OF TURBINE WATER-WHEELS.

PHILADELPHIA, NOV. 21, 1876.

John S. Albert, Esq., Chief of Bureau of Machinery.

DEAR SIR—I herewith inclose you the records of the tests of turbine water-wheels made by me, at your request, in the hydraulic department of Machinery Hall, and, that the whole matter may be perfectly understood, will commence with a recapitulation of the apparatus employed for the purpose.

The water was furnished by a pair of powerful centrifugal pumps, exhibited by Messrs. W. L. Andrews & Co., of New York, and driven by oscillating engines, which raised from 1,800 to 1,900 cubic feet of water per minute to a tank placed at the end of the hydraulic annex, the overflow of which was thirty-three feet above the level of the water in the large tank in the centre of the building from which it was pumped.

This water usually formed the "cataract," which was stopped partially or wholly while testing the turbines.

From this tank a wrought-iron tube or "penstock" 4 feet in diameter descended to the "flume" or case in which the wheels were set, and which was 8 feet in diameter by 6 feet in height, supported by a brick wall resting on a granite bedstone. From the wheels the water was conducted by an ample passage to a rack, or strainer, 30 feet from the wheel, and stretching across a brick tail-race 14 feet wide by 8 deep, at the lower end of which, 15 feet below the rack, was the measuring weir, 9 feet long, formed of a heavy cast-iron plate planed to a true edge $\frac{1}{8}$ of an inch thick, and beveled from that on the further side at an angle of 45 degrees. The upright ends of the weir were made of Georgia pine, cut and beveled to the same dimensions, and were carefully adjusted by Mr. Samuel S. Webber, and verified by myself.

The hook gauge, loaned for the experiments by Mr. T. H. Risdon, was placed in a tight wooden box 6 feet up-stream from the weir, and the water was admitted to this box, for the purpose of measurement of height, by a few $\frac{1}{8}$ -inch holes bored in the bottom of the box, 3 feet below the surface of the water; and an examination of the very thorough test of the Tait wheel shows the sensitiveness with which the weir measurement responded to the changes of load and variation in the number of revolutions of the wheel.

The apparatus for measuring the power consisted of a friction pulley fitted to the wheel shaft, 37.44 inches diameter and 18 inches face, which was clamped by a prony-break, consisting of a pair of cast-iron shoes lined with wood, from one of which projected an oak arm 6 by 4 inches, through which a knife-edged eye-bolt was fastened at a distance from the centre of shaft of 10.50 feet, or the radius of a 66-foot circle. These portions of the apparatus, with the scale, pan, and hydraulic regulator, 16 inches diameter, were also loaned by Mr. Risdon.

To facilitate the handling of weights, this lever was connected by an iron rod with the short arm of a bell-crank or scale beam 2 feet in height, while the longer arms, which were attached to the scale, pan, and regulator, were 4 feet each, thus giving a leverage of 132 to 1 for each pound placed in the scale. All the pivots or bearings of this scale-beam were of steel, knife-edged, and bearing in hardened iron sockets.

The weights used were United States standard, and were kindly loaned by Messrs. Fairbanks & Co. The pulley, weighing 1,000 pounds, rested on the shaft and step of the wheel, corresponding in some measure to the usual "crown gear;" but the brake, which weighed 1,000 pounds, was suspended by a swivel from a beam directly over the centre of the wheels, so as to allow perfect freedom of motion in any direction. An examination of the records will also show the sensitiveness and accuracy of this part of the apparatus, every distance and dimension of which I carefully measured and adjusted personally before commencing the tests.

The head of water acting on the wheels was ascertained by a gauge-rod, having a hook at the lower end, which was carefully kept at the level of the tail-water in a box sunk in the floor and connected with the tail-race by a perforated pipe; while a pipe led from the case to the level of the head water, where a glass tube enabled the observer to read at once the acting head, by the gradations on the upper end of the gauge rod.

Experiments not strictly belonging to the wheel tests were made, showing that the same

wheel, with the same load, at different times repeated the number of revolutions very accurately, and proved the correctness of the apparatus. The revolutions of the wheel were ascertained by a worm-gear clock, which was thrown in and out of connection with the shaft of the wheel, at signals given by a bell, which was struck at intervals of one or two minutes, according to the length of test desired.

The friction pulley was accurately balanced before commencing the tests, and, when the wheels themselves were truly set, run with perfect steadiness and regularity.

In conducting these tests I have been assisted by the following gentlemen, our watches being all set to the same time before commencing the tests, and simultaneous observations being taken during their entire duration. These observations being noted down as taken, a comparison of the different note-books gave a record of all the points in the test at every half-minute of its duration.

Mr. Percy Sanguinetti read the hook gauge, giving the height of water on the weir; Mr. D. W. Voorhees read the gauge giving the head of water acting on the wheel; Mr. Samuel S. Webber managed the counting clock and read the revolutions of the wheel, and also saw that the lubrication was perfect; while Mr. John Cotter, superintendent of the hydraulic annex, kept the records of the weight and revolutions, and assisted me generally in various ways. I personally kept an eye on all points, and gave the bell-signals by which the observations were taken; and to all of the above-named gentlemen who assisted me I desire to return my thanks for their fidelity to their duties, and their active co-operation, as well as to Mr. Johnson, who handled the wrench by which the friction of the break was regulated, and to the engineers in charge of the Andrews pumps for their uniform patience and courtesy under, at times, very trying circumstances, and also to all the employees who took charge of the less prominent but not less important parts of the operations.

Each exhibitor was allowed free access and liberty of observations during the tests of his own wheel; and whatever may be the accuracy of the net results obtained, the comparative ones may be depended on, as the tests were all made under similar circumstances, and the different points watched and the notes taken throughout by the same observers, none of them having any interest whatever in the result, or any opportunity at the time of knowing what the observations were at other stations than their own.

It is worthy of notice that the best results have been attained by wheels taken just as they came from the shop, without any especial finish or preparation, and the thoroughly exhaustive test of the Tait wheel is worth studying, as showing the accurate working of the apparatus.

The Geyelin wheel, entered by R. D. Wood & Co., was so tightly fitted in the shop that I do not think we got a fair record of its power; and the Cope wheel used so much water that we could not carry the test out in full, but the percentage was gaining regularly up to the last trial, when we exhausted the supply of water, having reached over 1,800 cubic feet, or about 14,000 gallons per minute.

The Hunt wheel also taxed the supply of water to the utmost. The Tyler wheel was too loose in the upper bearing on the second trial, and the third wheel, from the York Co., was only tested to prove or disprove what was believed to be an unsound principle, viz., that of shallow buckets and central discharge; and the result is confirmed by those obtained from some of the other wheels.

The leakage of the flume was large during the first six trials, but by caulking and tamping with lead was very much reduced at the test of the Tyler wheel, after which test the allowance was uniform of 14,352 cubic feet per minute waste to each wheel. In the first six tests it was taken as noted in the tables, and the amount is in all cases deducted from the water consumed per minute.

Believing that this report will afford all necessary explanation of the tables, and thanking you and the other officers of the Machinery Department for your cordial assistance and co-operation,

I remain

Very truly yours,

SAMUEL WEBBER,

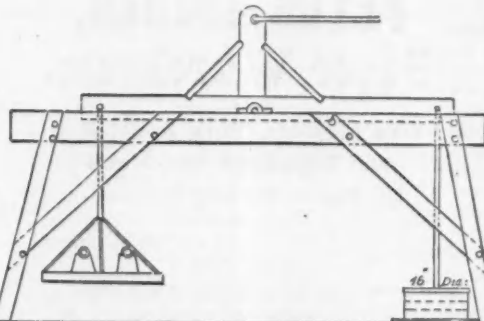
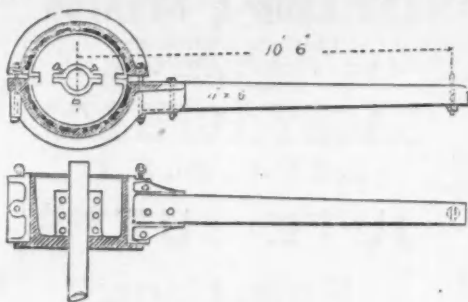
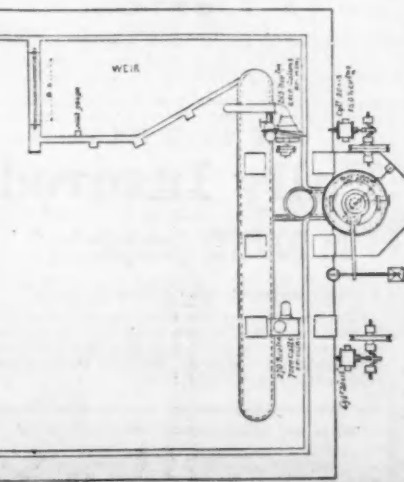
Associate Judge, Group 20, and Superintending Engineer Centennial Turbine Tests.

On Coloring.

BY COLOR.

[Continued.]

It was my intention when I commenced this treatise to have given in connection with it receipts for colors, but upon referring to older files of your papers I find that receipts for a great variety of colors have been published, and it would be only a repetition of many of them, and it would appear that there had already been a surfeit of this kind of information. Preparing coloring materials is not attended with the same



Testing Apparatus for Turbine Wheels at the International Exhibition of 1876.

difficulty it was some years since, when it was necessary, in order to produce a variety of colors, that a paper-maker should have a sufficient knowledge of chemistry to enable him to prepare his own colors; but now, with the aid of anilines, by which many colors are at the present time produced, and which are so simple that little previous knowledge is required, any intelligent paper-maker can succeed with them. The makers of coloring materials in New York are always ready to furnish coloring to match any sample required, and will make to order in large or small quantities, and at reasonable prices, so that while a few years ago a collection of practical coloring receipts was valuable, they are no longer the exclusive property of any one party.

I do not wish to infer by this that every paper-maker can make good colors. On the contrary, it will always be attended with so many difficulties that success will only be reached by the most skillful, and those who would naturally succeed in the more difficult lines of paper-making. All the receipts in the world would be useless to the "bushwhacking" paper-maker, whose only object is to turn out a large amount of "something," and send in his report to THE JOURNAL

of the "biggest day's work" on record, &c. One of this class of paper-makers once sent me some samples of paper which he had tried to color with one of the simplest receipts known to the trade, but he had only succeeded in getting a very dirty yellow, and wrote inquiring to know the reason of his failure. If he had understood the first principles of his business he would have had no occasion to ask for information; in fact, if he had simply "followed his nose" he would have learned it. The samples were so loaded with an excess of chlorine and acid, that before I removed the wrapper in which they were mailed the entire room was filled with the odor so susceptible to the olfactories of a paper-maker. He had used a sufficient quantity to neutralize four times the amount of coloring material. Upon subsequent trials, after getting rid of his chemicals, he succeeded in getting a very satisfactory color, but such paper-making could result only in annoyance and loss.

I propose, with a few directions to be observed in the management of the process in the machine room, to conclude this paper, which I fear has already become too much extended. In emptying the "stuff" into the machine chest, it is always desirable to empty a sufficient amount of water with it, to avoid, if possible, drawing any subsequent supply, or at any rate as little as possible (I refer to Fourdrinier machines), and where it is necessary to use more water it should be taken in at the "save all" or box under the mill. Many machine tenders have a habit of drawing water on to their screens. This no good manager will allow, only in exceptional cases, and where it becomes really necessary. In common print it may do no harm, but in making fine quality colored papers it injuriously affects both. The sizing is often weakened in this way—when the cause cannot be traced. It will oftentimes be noticed that one side of the sheet, particularly in reds and bright colors, and especially in thick papers, will have a different shade; one side will be darker or lighter than the other, oftentimes so much so as to be a serious objection. This is caused usually in the drying, where all the cylinders are in the felt, which brings the same side of the sheet to the felt through its entire length.

The machines first built, as well as those first introduced from abroad in this country, had a part of the drying cylinders placed on top of the others, some of them three tiers in height, thus reversing the sheet, and bringing both sides alternately to the cylinder, at the same time exposing the surface to the air in its passage through the drying press. The English machines are, as a general thing, constructed upon this plan now. The object of this is not, as is generally supposed, to economize room and steam, but to improve the sizing and other qualities of the paper. This is especially the case with engine-sized papers, and in my opinion one of the reasons why our pulp-sized papers are inferior to the foreign make, but not the only one, as their methods of preparing size are unquestionably superior to ours.

This suggestion, in regard to the position of the cylinders, will, perhaps, sound a little old foggy—to some of our more modern paper-makers—but in this, as in everything else, experience is the only teacher. Daniel Webster once said he attributed a large measure of his success in life to his being careful of his definitions—in which he was very particular at all times. I think every intelligent paper-maker would agree with me that to be successful it is very necessary to be careful of all the "details" and the apparently small things which make up the aggregate of our cares and responsibilities, and that too much attention cannot be paid to the proper definition of every duty. The old saying that "there are ninety-nine leaks in every paper mill" is more of a truth than a jest, and I have sometimes thought it would be safe to make it an even hundred.

Experiments were lately made at the Paris école des arts et métiers with an incombustible paper, the secret of the manufacture of which rests with the experimenter. Sheets of the paper were exposed singly to the flame of a spirit lamp, which had no other effect on the paper than to "crinkle" it a little. In bulk, the paper was uninjured by gas flame. Whether absolutely incombustible, so as to be fit for the manufacture of imperishable bank notes, was not shown.

Trade Prospects.

The London *Times*, in a recent editorial article on "Trade and Commerce in the United States," takes a very gloomy view of the situation in this country. While admitting that in the domain of commercial and industrial progress the power of the American people has seemed capable of an indefinite expansion, it is claimed that we have been brought abruptly to a halt, and that to impartial eyes no break in the clouds is yet visible. In support of this theory the *Times* reviews briefly the statement of failures for the first quarter of 1877, which statement shows a very small increase in the number of failures over the corresponding quarter of the preceding year, and also calls attention to the matter of emigration, and the decrease in the sailings of the principal ocean steamship lines from New York. Allowing due deference to the leading journal of the world, we must beg leave to entirely differ from its conclusions in considering this subject. After four years of partial paralysis, extending to every branch of our industrial interests, and following a panic of great severity, we hold that, while many of the effects are painfully apparent, the causes that led to our troubles have largely ceased to exist, and a slow, but nevertheless, healthy and very marked reaction has set in.

The *Times* gives us credit for a show of hopefulness, which is evidently considered very remarkable under the circumstances, and says: "It is certain, also, that the spirit of the American people remains unbroken." Now, we believe our courage is not born altogether of hope, but we feel that we are actually beginning to grasp the substance of things hoped for, and are about to realize the beneficial effects of our hard-learned lessons of the past four years. Aside from the reports which come to us from the press of the country, and which give good indications of such a revival as we claim exists, we have the more conclusive evidence of statistical information. The public has given especial attention to the collating of the exchanges of the various clearing houses of the country. The gradual extension of the clearing house system to all our principal cities, and the enterprise of the public, have enabled us to get figures which give the most correct idea of the volume of business; indeed, we may almost be said to be able to keep our finger upon the pulse of trade. For the first quarter of 1877 the aggregate transactions in fifteen principal cities show a falling off of 1.6 per cent. as compared with the corresponding quarter of 1876, and we know that during those months business was very discouraging over the whole country, but the causes of this depression were easily determined. The trade of the country suffered most from the terrible uncertainty of the political situation, then the snow embargo tended to delay transactions, and the peaceful aspect of the Eastern question held back our food products, and added much to the general stagnation. But since the first of April we have had an opportunity to note the effect of the removal of these causes which have acted during the winter as a check upon the free course of trade. The clearing house returns for April show a marked revival in business, the transactions being larger by 13 per cent. than those of April, 1876, and larger even than in January, which is usually the month of the heaviest transactions.

In addition to the above, we have the further evidence of an increase in internal taxes, and other minor matters, that also go to strengthen the belief that the long period of inaction and depression has fairly come to an end, and that production and consumption are both on the increase. The great trouble has been that in looking for returning activity we have expected too much, the public generally thinking to find a brisk rise in commodities as a result. Confidence, to be thoroughly healthy, should be of slow growth, and confidence is the prime factor in restoring what a commercial crisis has brought down. Capital has been fairly frightened out of its former channels of activity, and has sought refuge in the most conservative class of investment securities. But this form of investment for capital actively employed will not be permanent, and, with the gradual restoration of business, we shall find it abandoning its ultra conservatism, and entering in other and more active forms, which will be made more profitable, and, in the new order of things, more safe. Taking what we think to be a very impartial view of the situation, we cannot agree at all with the *Times*, although we admit that the state of things as described by it has existed. In regard to the increase in number of failures, as reported for the first quarter of this year, we must bear in mind that while the number of failures has slightly increased, the amount of capital involved has decreased, and, furthermore, these failures are not the result of

the present situation, but the effect of the long-continued depression. A few emigrants have gone to Sydney, New South Wales, as the result of an effort in the interest of that colony, but the movement is so slight as to hardly deserve public notice, and it was very doubtful when they sailed if they could not have done better in the West. Four steamship lines have lessened their sailings from New York, but with present prospects for rates and cargoes they must soon put their boats on again. The Times has not always been strictly correct in regard to American affairs, and has frequently taken a pessimist view of the situation here; but we feel that it will take only a few months more to completely change its opinion of the condition of trade in America.—*Banker and Tradesman.*

New Patents.

For two weeks ended April 24.
No. 189,547. Water-Wheels.—J. S. Boddie, Jr., Nashville, N. C.

A wheel having a double set of radial buckets, divided by a partition, in connection with a single gate having one set of ports or openings in the top to correspond with the inner row of buckets, and another set of ports or openings in the side, to correspond with the outer row of buckets, and which can be adjusted to suit the requirements of the work.

No. 189,671. Paper-pulp Engines.—J. S. Warren, Cumberland Mills, Westbrook, Me.

In a paper-pulp engine a female cone provided with groups of knives and guide-cavities in the spaces between said groups of knives.

No. 189,970. Water Wheels. T. Tripp, East Stoughton, Mass.

This wheel has an annular or register gate, whole or in section, and, in connection with such gate and the corresponding openings in the wheel-case, a series of interposed independent pads, balanced or practically balanced to the outside pressure of water. There is provided, between the outer termini of the chutes and the wheel-case and gate, a space for the reception of a large body of water, under its original head or pressure, in order to bring such water, under such pressure, as close as possible to the buckets of the wheel before directing it into the chutes, while the latter are as short as possible consistent with imparting proper direction to the water as it proceeds to the buckets of the wheel.

No. 189,988. Belt Fasteners.—Johann Bachmann, Nurnberg, Germany.

A cross or double-clamp fastening, composed of hinged sections, each of which has one or more tongues, projecting beyond the joint-pin of the hinge on the opposite side of said pin to that on which the body of the same section projects, the bodies and tongues of said sections being provided with intermediately-arranged teeth.

No. 190,012. Water-Wheels.—Luigi d'Auria, Gaetano, Italy.

The floats of this wheel are constructed on an involute curve, and the stream of water that strikes them causes the working-surface of the floats to receive the force of the impelling fluid always in a normal direction, in whatever position the wheel may be.

No. 190,098. Turbine Water-Wheels.—Jos. Hough, Buckingham, Pa.

Two turbines are placed in a single incasement, and revolving in opposite directions, the water being delivered at right angles to the buckets of the upper wheel by means of a series of fixed chutes, and discharged from the buckets of said upper wheel upon and at right angles with the buckets of the lower turbine wheel, the shaft of the aforesaid upper turbine wheel being hollow, and inclosing the shaft of the said lower wheel, the opposite rotary motions of the said shafts being converted into rotary motion in a single shaft by means of gears meshing into the teeth on opposite sides of a master-wheel.

No. 190,089. Machines for Cutting Paper.—E. R. Sheridan and Theo. W. Sheridan, Brooklyn, N. Y.

The clamp descends upon the paper to be cut by gravity, after which it receives a pressure commensurate to the resistance which the knife has to overcome in cutting, by means of a lever which has a movable fulcrum, resting on lugs and fitted in another lever, which latter, in its downward movement, together with a slide, throws a locking mechanism into gear, and thus induces the pressure. A projection on the knife trips the clutch mechanism, and the knife also elevates the clamp by striking the hook of the latter.

No. 190,097. Paper-Bag Machines.—Reuel H. Thayer, Buffalo, N. Y., assignor to Ellen E. Hughes, Erie, Pa.

1. In a paper-bag machine rotating arms carrying the cutting-blade, surface-blade, and gripping-piece, and so arranged that they will not come in contact with each other except at the point of severing the tube.

2. The combination of a driving-shaft with a cog-wheel, shafts geared together, cog-wheels, the arms carrying the cut-off mechanism, and a cog-wheel placed on the shaft, and meshing with the wheel on the driving-shaft.

REISSUES.

No. 7,612. Paper-Cutting Machines.—Erhard Schlenker, Buffalo, N. Y., assignor of one-half interest to Rufus L. Howard. Patent No. 182,250, dated September 12, 1876.

The knife and clamp descend together, and when the latter strikes the paper it is arrested, and, by reason of its driving friction-clutch, a steady pressure is induced, which firmly holds the paper while the knife acts. The clamp has a vertically-operating gauge, whereby the paper can be set or graduated with relation to the knife edge without first lowering it, as is customary.

In 1874, the Swedish Diet lowered the import duty on foreign printing and blotting papers, colored or not, from four to two öre (1/2 d.) per lb., other papers paying 1d. It is found that Sweden does not produce either sufficient or good enough paper for its own consumption, and the Diet is considering the advisability of abolishing the import duty, or at least of keeping it within its nominal bounds, which in practice it has exceeded.

Manufacturing News.

EASTERN STATES.

Tileston & Hollingsworth, Hyde Park, Mass., are now running five machines, having recently started up one.

The Newton Paper Company, Holyoke, Mass., has elected James Ramage, president; Moses Newton, treasurer, and G. A. Clark, clerk.

S. M. Hotchkiss has purchased the interest of A. D. Bridge in the American Paper Barrel Company, of Hartford, Conn. S. M. Hotchkiss has been elected president and general agent, and George M. Williams, vice-president. This company was organized last August, with a capital stock of \$200,000, for the purpose of manufacturing barrels and kegs from paper pulp.

The Holyoke Machine Company has just completed a stack of super-calenders for the Messrs. Pirie, Aberdeen, Scotland. The stack consists of eight rolls, and is fitted up to be used for either sheet or web, the reeling apparatus, according to their patent, being on one side. The other is fitted up for the girls. When used for sheets one girl sits over the other instead of, as at present, on different sides. By this arrangement they can be used for either sheet or web without having to unscrew a nut or make any change whatever in their fixings.

MIDDLE STATES.

An addition, 48 by 48 feet, has been added to W. H. McHenry's mill, at Mount Vernon, Pa.

William Heyser, Chambersburg, Pa., is about rebuilding his mill, which was recently destroyed by fire.

The new mill of Rich, Scott & Safford, at Camden, N. Y., is nearly ready to start up, and will probably be in operation about June 1.

Stelwagon Bros., Philadelphia, Pa., are about making some extensive changes and repairs to their mill. They will put in a new 48-inch double cylinder machine, with twelve dryers and three new rag engines.

WESTERN STATES.

Paine's Mill, at Decorah, Iowa, is not running at present.

The Hamilton Paper Mill, Hamilton, O., has had a new vat and cylinders put in.

The Cleveland (O.) Paper Company has added three new engines to the plant of its city mills.

E. Mathews, Zanesville, O., is still running his mill fifteen hours per day on print and manilla papers.

The Kankakee (Ill.) Paper Company will make some changes in its mill soon, adding a new water wheel, additional dryers and another boiler.

The Western Reserve Mill, at Chagrin Falls, O., has added two new dryers to its machine; four new and large engine rolls will be put in during the present month.

A western paper manufacturer writes to THE JOURNAL as follows: "Demand very slow at dead low prices! No hope for anything better until mills reduce production, and of this there is no present prospect!"

SOUTHERN STATES.

The mill of the Atlantic Paper Mill Company, Savannah, Ga., is advertised to be sold at auction on June 5.

A Silk-spinning Fish.

There is a mollusk—the *pinna* of the Mediterranean—which has the curious power of spinning a viscid silk which is made in Sicily into a textile fabric. The operation of the mollusk is rather like the work of a wire-drawer, the substance being first cast in a mold formed by a sort of slit in the tongue, and then drawn out as may be required. The mechanism is exceedingly curious. A considerable number of the bivalves possess what is called a *bysus*, that is, a bundle of more or less delicate filaments, issuing from the base of the foot, and by means of which the animal fixes itself to foreign bodies. It employs the foot to guide the filaments to the proper place and to glue them there, and it can reproduce them when cut away. The extremity of the thread is attached by means of its adhesive quality to some stone, and this done, the *pinna*, receding, draws out the thread through the perforation of the extensible member. The material when gathered is washed in soap and water, dried, straightened, and carded—one pound of coarse filament yielding about three ounces of fine thread, which, when made into a web, is of a burnished gold brown color. A large manufactory for this material exists in Palermo.

Circulation of Matter.

Notwithstanding the constant return of plant and animal to the parent earth, all the mineral matter they contain does not remain where it is deposited. Rains and rivers daily remove from the soil a portion of the materials which are so essential to the perpetuation of animal and vegetable forms, and transport them to the sea. Thus the natural store of mineral food becomes daily smaller, and the land, in consequence, less fitted for the growth of plants. But for this contingency also there is a provision; the solid rocks which form the crust of the earth contain all these essential forms of inorganic matter in mineral proportion. As these rocks crumble and mingle with the soil, they yield constant small supplies of each ingredient—phosphoric acid, lime, magnesia, &c. The springs which trickle through the rocks from above or from beneath, dissolve and diffuse wherever they go; thus in many localities a moderate supply is day by day brought to the surface to replace that which, by natural causes, is constantly removed, and the great seas help in this work of restoration—they heave their lofty waves into the air and break into foam, that the rough wind may take up and bear back again to the land a portion of the salty spoils with which the rivers are ever enriching

them. And then, lest these small daily restorations should not succeed in perpetually maintaining the necessary richness of the soil in mineral plant food, periods of convulsions come at last to their aid; great physical revolutions from time to time intervene; now all at once, and then by slow degrees, the bottom of the sea becomes dry; land and water change places, as they have often done during the geological history of the globe, and after each change new races of plants forthwith begin to take up what rivers and rains had carried down into former sea-beds. The same mineral matter begins to play over again the same part as before in the constant succession of animal and vegetable life. In this we see another long cycle through which certain ingredients of the solid earth are ever slowly moving.—*Manufacturer and Builder.*

We are always looking into the future, but we only see the past.

A gentleman in England committed suicide the other day, and left a paper stating that he did so because his wife was a great deal too good for him. That's why the jury returned a verdict recording their opinion that deceased was of "an unsound state of mind."

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Will save twenty-five per cent. in fuel, and make an increase of twenty-five per cent. in Steam Power. Will burn coal dust without blast. We guarantee fifteen per cent. increase in evaporation and capacity where we can have evaporative test before and after setting. Boilers set this way can be seen at RUSSELL PAPER CO., Lawrence, Mass., W. W. HARDING'S PAPER MILL, Philadelphia, Pa. HOWLAND & Co., Sandy Hill, N. Y. BYRON WESTON, Dalton, Mass. HARMONY MILLS, Cohoes, N. Y. ALLEN PRINT WORKS, Providence, R. I.

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FREE FROM IRON AND FROM EXCESS OF ACID.

Two pounds of it will size as much paper as three pounds of Potash or Ammonia Alum.

Pennsylvania Salt Mfg. Co.
140 South Delaware Ave., Philadelphia.
59 Maiden Lane, New York.
219 Washington Ave., St. Louis, Mo.

AGENTS,
W. M. ELLICOTT & SON, Baltimore.
MOREY & CO., Boston.

PIQUA FELTS.

Paper-Makers'
FOURDRINIER FELTS.
Coarse and Fine
CYLINDER WET FELTS.

Press Felts & Jacketing.
F. GRAY, O'FERRALL & CO.,
Piqua, Ohio.

We warrant every Felt to work well, and if it does not, it can be returned.

SATISFACTION GUARANTEED.
In ordering Felts, give kind of Stock used, and quality of Paper made.

[From The Paper Trade Journal of March 4, 1876.]
MIDDLETOWN, O., February 23, 1876.

To the Editor of The Journal:

Much has been said in former numbers of THE JOURNAL about the running and durability of cylinder long felts. GRAY, O'FERRALL & Co. are supplying the best cylinder long felt I have ever had any experience with for wide machines. I think they decidedly excel. They keep their width under a reasonable strain, and when kept clean never trouble with wind marks, never get slack in the middle or edges; in fact, they make paper with ordinary care, until they are entirely worn out, and it would be well for any one who is troubled with an unsatisfactory working felt of any other make, to try one, and by all means to do so if there is a necessity for fast running.

J. W. B.
IRA L. BEEBE,
NEW YORK AGENT.

CHAMPION (DOUBLE HITCH) BELT HOOK

LEADING MANUFACTURERS and others who have tested it emphatically pronounce it, in all respects, the BEST BELT FASTENING in use.



This cut conveys a correct idea of the manner of adjusting these Hooks. It will be observed that the substantial DOUBLE BEARING of each Hook precludes the possibility of its "tearing out."

For sale by THE TRADE. Specimen Hooks and United Belt Ends mailed when requested.
Address, CHAMPION BELT HOOK CO., 87 Liberty street, New York.

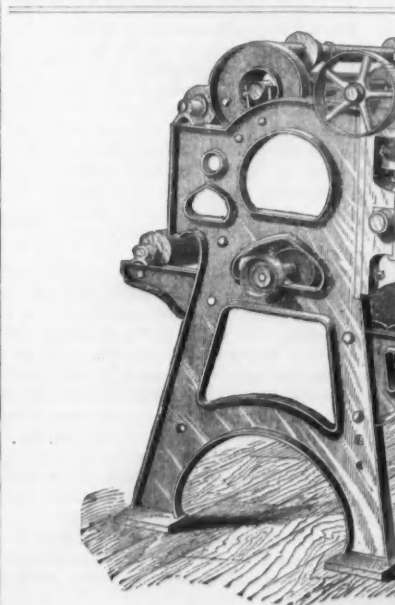
[FROM THE CLARK THREAD CO., Newark, N. J.]
"We have thoroughly tested your Belt Hooks, and we think it the best belt fastening we have ever used."

SUPERIOR QUALITY Wood Pulp.

For price and samples address,
J. HENRY BLANCHARD,
Boston, Mass.

Wood Pulp, WET or DRY,

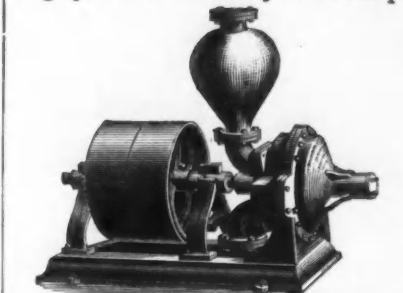
Delivered in any part of the country, in quantities to suit.
IRA L. BEEBE,
60 Duane Cor. Elm St., N. Y.



ABOVE REPRESENTS THE
Gavit Patent Cone Pulley Cutter.
Which received the very highest award at the Centennial Exhibition for strength, finish, economy in cost, and for running at a high rate of speed. The only Cutter extant that will cut A PERFECTLY SQUARE SHEET while running rapidly.

MANUFACTURED BY THE
GAVIT PAPER MACHINE WORKS,
224 to 230 North Broad Street, Philadelphia.

Bagley & Sewall's Rotary Force Pump



Most Perfect Rotary Pump Ever Offered to the Public.

SPECIALLY ADAPTED FOR WORK IN PAPER MILLS.

The following are among the leading advantages of this pump: Its few Parts, Simplicity of Construction and small space occupied. Its small cost compared with other pumps. The comparatively small Power required (using from 30 to 75 per cent. less power than any Rotary Pump now in use.) Its Action is Positive, given an Even and Continuous Stream, being perfectly balanced in the water. Its Self-Packing Match Joints, requiring no Packing or Stuffing Boxes. Its Ready Accessibility of Parts, without breaking joints on pipes in taking apart. All Parts are made to an Exact Gauge, corresponding parts being interchangeable. The Speed can be adapted to Quantity of Water desired, the amount of water delivered being in proportion to speed and water applied.

TESTIMONIALS.

OFFICE OF THE WATERTOWN PAPER CO.,
WATERTOWN, March 22, 1875.
Its action is positive, discharging all the water taken in, and consequently no power is wasted. In short, we give it our UNQUALIFIED ENDORSEMENT.
Yours, &c.,
HIRAM REMINGTON, President.

WEST CUMMINGTON, MASS., October 4, 1876.
It does its work well, and I recommend it as the simplest and cheapest, as well as the best suction pump I ever saw.
Truly yours,
F. A. BATES.

OFFICE OF THE REMINGTON PAPER CO.,
WATERTOWN, March 20, 1875.

We have used two 2-inch Pumps for the past ten months, as Suction or Vacuum Pumps, on our two 84-inch Fourdrinier Machines with entire satisfaction. For this purpose, or for raising and forcing water for general purposes, we regard the Green Pump as vastly superior to anything we have ever seen, and we have made the subject of Pumps one of especial study and investigation.
A. D. REMINGTON, President.

OFFICE OF THE CANADA PAPER CO.,
MONTREAL, December 11, 1876.

DEAR SIR—The Bagley & Sewall Pump we are now using for pumping strong Caustic Alkali Liquors. We find it the best pump for that purpose that we have ever used, the metal packing being particularly valuable. The No. 3 Pump of your make, which we are using as a Fire Pump, we find to be very effective and easily managed.
Yours truly,
CANADA PAPER CO.,
WM. ANOUS, President.

PATERSON, N. J., October 11, 1875.

Sirs—The little Rotary Fire Pump (No. 3) is entirely satisfactory. I have it connected with a system of sprinklers on each floor, and a set of hose front and rear, 1 1/2 inch nozzle from which I am able to throw TWO STREAMS AT ONCE, EACH 135 feet.
J. SWINBURNE.

WATERTOWN, March 23, 1875.

In an experience of fifteen years we find this to be decidedly superior to any Pump we have found, and we have tried a large number, both Rotary and Piston. IN FACT IT IS THE ONLY ONE WHICH HAS ENTIRELY PLEASED US.
Yours truly,
KNOWLTON BROS.

BALTIMORE, October 12, 1876.

DEAR SIR—It works smoothly and rapidly without a jar, and does all its makers claim it will do. We know of no pump that is its equal for the purpose it is used for.
JOHN A. DUSHANE & CO., Manufacturers.

WINCHESTER PAPER COMPANY,
WINCHESTER, Va., September 14, 1875.

We have it in use on our Straw Board Machine (62-inch Fourdrinier) as a Vacuum Pump, connected to an 18-inch box, which is a severe test. We consider it the best pump for that use that we have ever seen used.
Yours truly,
CHAS. L. CRUM, Sec'y.

These Pumps are now in use as Force and Vacuum Pumps in many of the Leading Paper Mills.

Liberal Terms made to First-class Parties.

SEND FOR PRICE LIST OF THE

CHEAPEST PUMP IN THE MARKET.

Address
EDWARD CONLEY,

Sole Agent for Paper Mills,
No. 74 DUANE ST., N. Y.,
where the Pump can be seen by parties wishing to examine it.

DIRECTORY.

NEW YORK HOUSES.

Paper and Paper-Makers' Supplies.

Table listing various suppliers and their addresses in New York, including Anderson, J. F., Jr., Barrett, Thomas, Beebe, Ira L., etc.

Rags and Paper Stock.

Table listing suppliers of rags and paper stock, such as Atterbury Bros., Briggs & Taylor, Butterworth & Smalley, etc.

Paper-Makers' Chemicals and Colors.

Table listing suppliers of chemicals and colors, including Gantz, Jones & Co., Pennsylvania Salt Mfg. Co., etc.

Paper-Makers.

Table listing paper manufacturers like Orrs & Co., printing and hanging mills at Troy, etc.

Jute Butt Brokers.

Table listing jute butt brokers such as Cabot, Bowles & Co., Lacey, Pope & Co., etc.

Straw Boards.

Table listing straw board suppliers like Butterfield, H. A., Hayes, James E. & Co., etc.

Paper-Making Machinery.

Table listing paper-making machinery suppliers such as Allen Iron Works, Currier, Cyrus, Daniels Machine Co., etc.

Water Wheels.

Table listing water wheel suppliers like Stout, Mills & Temple, Dayton, O.

Wire Cloth.

Table listing wire cloth suppliers such as Cable Manufacturing Co., The Sellers Mfg. Co., etc.

Felts and Felting.

Table listing felt and felting suppliers like Bulkeley, Dunton & Co., Gray, F. O'Ferral & Co., etc.

Belt Hooks.

Table listing belt hook suppliers such as Wilson, Greenleaf, Lowell, Mass.

Paper Mill Insurance.

Table listing paper mill insurance providers like Anderson & Stanton, 130 Broadway, N. Y.

BOSTON HOUSES.

Table listing Boston-based suppliers like Blanchard, J. Henry, Chemicals and Wood Pulp, etc.

CHICAGO HOUSES.

Table listing Chicago-based suppliers such as Clarke, Friend, Fox & Co., Gilbert, Wm. & Co., etc.

CINCINNATI HOUSES.

Table listing Cincinnati-based suppliers like Block & Pollak, Paper Stock, Sniders, Louis' Sons, etc.

PITTSBURG HOUSES.

Table listing Pittsburgh-based suppliers such as Bakewell, Allan C. & Co., Harrison, James, etc.

PHILADELPHIA HOUSES.

Table listing Philadelphia-based suppliers like Barber, J. & S., Ditman, J. G. & Co., Elliot, A. G., etc.

ST. LOUIS HOUSES.

Table listing St. Louis-based suppliers such as Graham & Bro., H. B., Mayer, A. B., etc.

MANUFACTURERS.

Table listing manufacturers like Olaremont Manuf'g Co., Walsh, J. DeWitt, & Co., etc.

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

IMPORTS of Paper and Paper Materials, Books, &c., at the Port of New York, for the week ended May 4, 1877. Quantity given in packages when not otherwise specified.

Table showing import statistics for various paper and book materials, including Aniline Colors, Alum, Aluminous Cake, Bleaching Powders, etc.

TOTAL IMPORTS.

Table showing total import statistics for general merchandise, paper stock, and books for various periods.

IMPORTS of Rags and Paper Stock at the Port of New York, since Jan. 1, 1877, from the following Ports, showing quantities from each Port.

Table showing import statistics for rags and paper stock from various international ports like Alexandria, Antwerp, Bremen, etc.

EXPORTS of Paper, Books, &c., from the Port of New York to Foreign Ports, for the week ended May 8, 1877, with Aggregates and Values.

BOOKS—Cases, to Hamburg, 4; to Bremen, 4; to Havre, 1; to Cuba, 4; to United States of Columbia, 15; to Liverpool, 36; to China, 1. PAPER—To China, 1 cs.; to British Honduras, 46 pkgs.; to British Guiana, 2,000 rns.; to British West Indies, 587 do.; to Liverpool, 3 cs.; to Bremen, 12 pkgs.; to Danish West Indies, 150 rns.; to Cuba, 29,406 rns.; 7 pkgs.; to Porto Rico, 200 pkgs.; to Venezuela, 556 rns.; to Brazil, 800 do.

Table showing export statistics for paper, books, and stationery to various foreign ports.

TOTAL EXPORTS.

Table showing total export statistics for general merchandise, paper, and books for various periods.

NEW YORK IMPORTS.

FROM MAY 4 TO MAY 8, INCLUSIVE.

Jute Butts.

John Sloane, C. Castle, Calcutta, 350 bs. New York Bagging Co., by same, 100 bs. A. Z. Vouros, Idomena, Calcutta, 3,735 bs.

Paper.

B. Illfider, Oder, Bremen, 4 cs. B. Budde, by same, 1 cs. Chas. Joerg, by same, 1 cs. E. & H. T. Anthony, by same, 5 cs. F. Dietrich, by same, 1 cs. G. de Metz, Holland, London, 1 cs. B. P. Lawrence, by same, 6 cs. F. J. Emmerich, Camden, Havre, 3 cs. hangings. E. & H. T. Anthony, by same, 4 cs. E. Schwartz, Elysia, London, 1 cs. Hecht Bros., Britannic, Liverpool, 10 cs. Banat Bros., Mosel, Bremen, 2 cs. E. & H. T. Anthony, Frisia, Hamburg, 1 cs. S. Archer, by same, 1 cs. K. Anche & Downing, by same, 5 cs. Hirsch, V. & Co., by same, 2 cs. A. & C. Kaufmann, by same, 3 cs. G. Gennert, by same, 8 cs. Fischer & Keller, Russia, Liverpool, 3 cs. hangings. B. & P. Lawrence, France, Havre, 3 cs. M. Jacoby & Zeller, by same, 1 cs. E. Fougera, by same, 3 cs.

Rags, &c.

Jonas Phillips & Co., A. B. Stromack, Leghorn, 98 bs. rags. N. Semoni, by same, 210 bs. rags. Fabbri & Chauncey, by same, 50 bs. rags. Geo. Watson, Jr., Oder, Bremen, 80 bs. rags. Lee & Sturges, by same, 29 bs. rags. Cumming & Lockwood, by same, 77 bs. rags. E. Storey Smith, Marie B. Alexandria, 634 bs. rags. L. Congden, Britannic, Liverpool, 133 bs. paper stock. Briggs & Taylor, by same, 61 bs. paper stock; 83 bs. gunny rags. O. Keenan & Son, by same, 34 bs. paper stock. John W. Mason & Co., Nevada, Liverpool, 35 bs. rags. W. I. Clark, State of Nevada, Glasgow, 196 bs. paper stock. O. Keenan & Son, by same, 87 bs. paper stock. Briggs & Taylor, by same, 135 bs. paper stock. W. H. Parsons & Co., Anchoria, Glasgow, 56 bs. paper stock.

BOSTON IMPORTS.

IMPORTATIONS of Paper Stock, Chemicals, &c., at Port of Boston, from May 4, 1877, to May 10, 1877, inclusive.

Books, &c.

A. Williams & Co., Parthia, Liverpool, 1 cs. Estes & Lauriat, by same, 10 cs. John Allyn, by same, 1 cs. Frost & Adams, by same, 1 cs. Schoenhof & Moeller, by same, 2 cs. C. F. Harris, by same, 1 cs. Little, Brown & Co., by same, 5 cs. A. Roffe & Co., by same, 2 cs. G. F. Brown, by same, 1 cs. Perkins Institute for the Blind, by same, 3 cs. E. A. Snow, by same, 1 cs. J. Alexander, by same, 1 cs. J. E. Gale, Victoria, 1 cs. Boston Athenaeum, China, 2 cs. F. E. Parker, by same, 1 cs. A. Williams & Co., by same, 2 cs. Schoenhof & Moeller, by same, 2 cs. Estes & Lauriat, by same, 4 cs. Little, Brown & Co., by same, 7 cs. A. A. Marcus, by same, 1 cs.

Paper Stock.

M. A. Ring & Sons, Victoria, Liverpool, 81 bbls. rope. Morey & Co., by same, 77 bs. paper stock. Morey & Co., Istrian, Liverpool, 54 bs. waste paper. J. T. Lodge & Co., by same, 47 bs. rags; 30 bs. cotton rags. Pickering, Winslow & Co., by same, 30 bs. waste paper; 40 bs. rope. Twombly & Co., Parthia, Liverpool, 48 bs. paper stock. Knowles & Appleton, by same, 165 bbls. rope. C. Swain, Condor, Port Medway, 1/2 ton paper stock. W. B. Forest, Nimble, Bridgewater, 300 lbs. paper stock. Haskins & Montague, Somerset, Halifax, 45 bs. paper stock. J. G. Hall & Co., Dominion, Yarmouth, 10 tons paper stock. Z. T. Hollingsworth, Istrian, Liverpool, 65 bbls. rope. W. H. Parsons & Co., Massachusetts, Liverpool, 22 bs. waste paper.

Paper.

Cutler, Bros. & Co., China, Liverpool, 4 cs. H. Partridge & Co., Istrian, Liverpool, 2 cs. T. Campbell, Parthia, Liverpool, 2 cs. W. Bellamy & Halsey, by same, 1 cs. C. Reid, by same, 2 boxes and labels.

Bleaching Powders.

E. & T. King & Co., Istrian, Liverpool, 100 cks. Wing & Evans, by same, 150 cks. S. D. Warren & Co., by same, 63 cks.

Caustic Soda.

E. Hill, China, Liverpool, 98 drums.

China Clay.

J. Henry Blanchard, from South Carolina, 36 cks.

Hide Cuttings.

Twombly & Co., Massachusetts, Liverpool, 602 bs. Knowles & Appleton, Parthia, Liverpool, 52 bs.

Soda Ash.

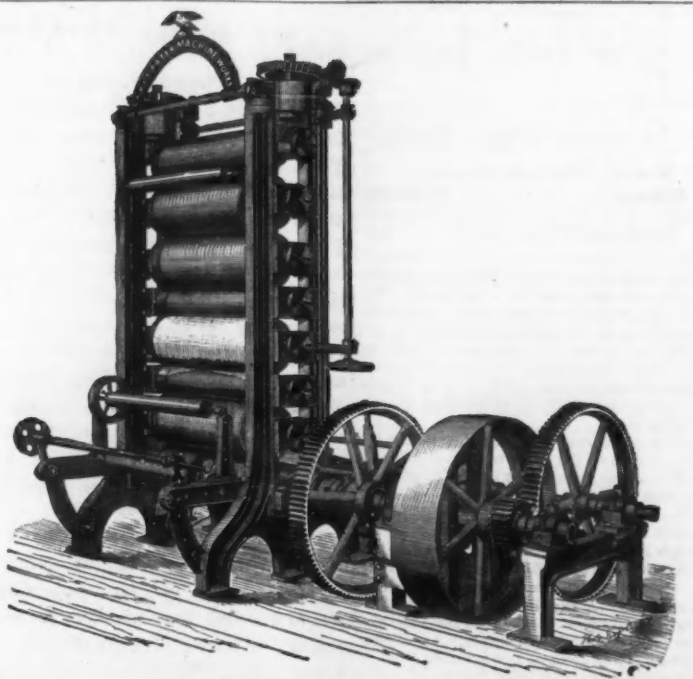
Warren & Co., Parthia, Liverpool, 68 cks. Linder & Meyer, by same, 110 cks. W. B. Reynolds & Co., Istrian, 25 cks. E. Hill, by same, 133 cks. E. Hill, China, Liverpool, 15 cks.

Ultramarine.

Dupee & Soren, Parthia, Liverpool, 20 cs.

Venetian Red.

Hobbs, Pope & Co., Massachusetts, Liverpool, 300 bbls.



THE ABOVE CUT REPRESENTS A STACK OF WEB SUPER CALENDERS, ECONOMY OF COST, AS MADE BY THE Gavit Paper Machine Works. 224 TO 230 NORTH BROAD STREET, PHILADELPHIA.

M. A. TAYLOR, Paper, Paper Stock, and Binders' Boards, NO. 50 DUANE STREET, NEW YORK

JESSUP & MOORE, 27 North 6th Street, Philadelphia.

DEALERS IN DOMESTIC & FOREIGN RAGS. OFFER TO PAPER MANUFACTURERS' Country White or Mixed Rags at a Small Advance on Cost.

SMITH, WINCHESTER & CO., South Windham, Conn., MANUFACTURERS OF

PAPER MACHINERY CONSISTING OF

FOURDRINIER AND CYLINDER MACHINES, Washing and Beating Engines.

AIR - DRYING MACHINERY FOR DRYING SIZED PAPERS. Sole Manufacturers of the

JORDAN PATENT BEATING ENGINE, Which has no rival for clearing the stock for fine papers.

CHILLED IRON & PAPER ROLL SUPER CALENDERS. Plate Calenders, Chilled Stack Calenders, Rag Cutters, Hand and Power Cutting Presses, Stop Cutters.

THE HATCH PATENT Stop Cutter, The only Cutter that can be regulated to cut between water marks of writing papers.

SCREENS, BRASS AND NICKEL PLATED. The latter warranted to wear twice as long as brass. BED PLATES, ROLL BARS, FAN AND PLUNGER PUMPS. Also,

Gun Metal Covered Rolls. FOR SIZE AND PRESS ROLLS. STEVENSON WATER WHEELS. Shafting and Mill Gearing Generally.

GEORGE HARLEY, Importer of California Rags AND DEALER IN WOOLEN AND COTTON RAGS, & All Kinds of Paper Stock. 362, 365 & 367 Third Street, Between Avenue D and Lewis St. NEW YORK

The Paper Trade Journal.

DEVOTED EXCLUSIVELY TO THE INTERESTS OF
The American Paper Trade.
Weekly, \$4.00 per annum.
Single Copies, 10 Cents.

NEW YORK: SATURDAY, MAY 12, 1877.

Advertisements cannot be received for insertion in the current week later than 9 A. M. on Friday. The charge for advertising is 25 cents a line, each insertion. Special terms for standing and displayed advertisements to be had on application. Card in Directory Column and one copy of paper, \$10 a year.

THE PAPER TRADE JOURNAL is the recognized organ of the various Paper-Makers' Associations of the United States.

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

Subscription and postage for Great Britain, per annum, \$1
Subscription and postage for France, per annum, 25 francs
Subscription and postage for Germany, per annum, 8 thalers
Foreign subscribers may address our New York office.

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

All communications must be addressed to
HOWARD LOCKWOOD,
Publisher and Proprietor,
No. 74 Duane street, N. Y.

TO CORRESPONDENTS.
As THE PAPER TRADE JOURNAL is the recognized vehicle of communication in matters of trade interest, we will be glad to receive correspondence from all parts of the country. Information and suggestions upon paper-making topics are especially valuable, and manufacturing news and personal items are equally acceptable.

A CIRCULAR letter calling for a meeting of the straw-board manufacturers, to be held in New York, on June 1, has been issued by a well-known Western manufacturer. What has become of the Straw-Board Manufacturers' Association of the United States? Why does not the call emanate from it?

THE United States are not likely to be represented at the Paris International Exhibition of 1878. It will be too late to appoint a Commission when Congress meets in the autumn, as sufficient time will not be afforded before the opening of the Exhibition to complete the necessary arrangements. We are told, too, that no exhibits will be received except through the representatives of the Government. The United States have not accepted the invitation to be present, and there are reasons why it should not. The chances are that the Exhibition will be postponed, and these will become certainty if the war embroils all Europe.

THE special report on the tests of turbine wheels at the Centennial Exhibition will be found on the first page of THE JOURNAL to-day. The illustrations accompanying it are explanatory of the method of applying the tests. The results shown by the tabulations of the several trials are very interesting; but as they are too full for use in our columns, we shall be obliged to condense them, and will give them in the form of averages, which will appear in future issues of this paper. Judging from the report and accompanying tabulations and drawings, we believe that the tests were carefully applied and scientifically measured. In connection with this report we desire our readers to note that it has never before been published, and that we print it from advance sheets of the Director-General's report, which we have been at pains to get and present for the information of all interested.

WE are informed that Smith, Winchester & Co. are building the Fourdrinier machine, the specifications for which we lately printed. It will be seen that some other of our correspondents have expressed their views upon this machine, but all who have criticised it take exception to it, and issue with us in matters of detail, which in nowise sustain an argument against our views upon it. Taking the machine in pieces, improvements may be suggested.

Indeed, we have said as much ourselves. There may not be any very new features in the plan of construction. Some machines compare with it in some points, and some in other features. The great thing is: What is it as a whole? It is well to say that there will probably be some changes in construction, and the reputation of the firm having it in charge is a guaranty not only as to the class of workmanship, but for such improvements in detail as will necessarily come up in its manufacture. Discussion is not bad, however. We invite it, even if in opposition to our own ideas. There is really nothing so good for the trade as the constant bringing up of topics in which all are interested, and which lead to inquiry, suggestion, assertion, and denial.

A REPORT has been floating around that the fine writing-paper manufacturers had decided to abolish the limit on production, and to run full time or otherwise, as each saw fit. We are glad to say that the rumor is unfounded. We cannot conceive of anything more impolitic for the writing-paper makers than a change which would lead to rushing production. As trade now goes they ought to work as closely as possible to short time. The market is in too delicate a condition to permit of any addition to the stocks now offering. Trade is working around slowly into a safe position. There are no impulses which, at present, warrant any change in a careful nursing of all business interests. Disregard of prudential means for keeping the consumption and supply as nearly balanced as may be will certainly bring ruin, and bankruptcy will be likely to attend those who are too impatient to wait upon the working out of commercial salvation.

THE printed official report of the late meeting of the Flour-Sack Paper and Flour-Sack Manufacturers' Association has reached us. The agreement to maintain prices on and after June 1, which has since received the signatures of most, if not all, of the manufacturers of that class of papers, is a strong one, and binds the members of the association, as far as honor can, to a strict observance of its provisions. The text of the resolution is as follows:

Resolved, That we, the undersigned, manufacturers of Flour-Sack Paper, Flour Sacks or dealers in the same, do, upon our honor, without any reservation, agree to maintain the prices for Paper and Flour Sacks, agreed upon April 25, in New York, and to take effect June 1, and that neither any one person or firm shall withdraw from this association, or annul this agreement without first giving thirty days' notice to the Secretary of the association, with the reasons of such proposed withdrawal in writing, and the Secretary shall then proceed, in accordance with the articles of association, to call a meeting of the association at some convenient point, to take into consideration the grievance of the complainant member. We do hereby obligate ourselves in honor and fair dealing to comply in spirit and fact with the action of this association, and pledge ourselves to carry out the scale of prices in good faith.

The resolution relative to the purchase of rope was adopted in the following terms:

Resolved, That we buy nothing but dry rope, and in case a lot of rope bought as dry should prove, upon examination at the mill, to be wet, that we will insist upon a reduction that will cover the water in it, and in case it is not allowed, we will thereafter refuse to purchase of said parties.

There is undoubtedly considerable just cause for complaint as to the condition in which this class of stock is often shipped. In certain seasons of the year it is next to impossible to pack grass rope perfectly dry. This is usually understood, and the price regulates itself accordingly. "Dust dry" rope will always command a better price than ordinary stock, whether collected from the river fronts or brought from over the ocean. The resolution above cited, if rigidly adhered to, may, however, work some reform, though in its execution injustice may sometimes be done to packers and shippers. It is well that the latter should fully understand just what manufacturers expect, and we have no doubt that all responsible firms will meet the issue properly.

In Town.

S. Q. Porter, Unionville, Conn.; W. H. Nixon, Philadelphia, Pa.; J. H. Appleton, Holyoke, Mass.; C. O. Chapin, Springfield, Mass.; John Keith, Turner's Falls, Mass.; G. L. Wright, Jr., Mittineauque, Mass.; Geo. B. Connard, Reading, Pa.; A. W. Hill, Middletown, O.; Byron May, Lee, Mass.; H. M. Twombly, Boston, Mass.

Correspondence.

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

Facts and Bait.

To the Editor of The Journal:

In reply to my last letter, your correspondent "Jack" says: "Let him run some of the kinds of paper I have to run, and at the speed of my machine. The paper is 22x28 inches, 100 to 140 pounds to the ream; speed of machine eighteen feet per minute." That's just where "Jack" made the mistake. Had your correspondent stated facts at first when he threw out the bait, we would have known better how to have dealt with his letter. Try again. AMBOY.

Another Judgment.

To the Editor of The Journal:

Permit me to call your attention to an item in the specifications for an "Improved Fourdrinier Machine," which says: "Instead of having the old-fashioned declie pulleys next to dandy-roll, to be provided with composition drums 12 inches in diameter and 20 inches long." This, I suppose, is intended to facilitate the changing of declies with the machine running. It is a step backward, and has been condemned for nearly thirty years. It is a cumbersome, clumsy, useless, and unsightly piece of machinery. There is no arrangement which will make as good edges, look so well, and work so satisfactory, as to have the wire the motive power for the declie straps, having the pulleys, as used at present, loose and revolving on the shaft. By so doing declies can be as easily changed with the machine running as if there were composition drums 12 inches in diameter and 20 inches long. Yours, T.

Setting a Cylinder.

To the Editor of The Journal:

"A Subscriber" wishes to know the proper depth and raise to set a 30-inch cylinder. My experience has been, for running light paper at a fast speed, to set a cylinder within six inches of the bottom of the vat, and as for the raise above, it does not affect the formation of stock; usually six to eight inches is calculated to be about the right height to allow the "slice" and rolls to set at the proper angle with the top of the cylinder. A mistake, which some make, in placing the partition too near the mold will affect the forming of stock more than varying a trifle in the depth of setting. By observing this, and making shoots at the bottom of the partition, angling to the front side of the machine, the current will be thrown that way and it will cause the suction to be more even at both ends of the mold, and form much better than if there are gates to shut off at the back side, where the draft is the stronger, if the return water is discharged at that end. The proper way, however, to have uniform suction without having to regulate the vat for every different size is to construct discharge pipes at both ends of the cylinder and connect to one pipe which conveys the water to the pump; then to properly adjust the return water gates, which, if marked off, can readily be raised to the required place. If a vat is ever so well constructed, and the water level and draft arrangement are not properly regulated, a well-formed sheet is out of the question. Yours, &c., H.

Long and Short Stuff.

To the Editor of The Journal:

I neglected to mention in my last letter, says "One who has been There," that the stuff ought to be kept thin in the chest. I observe that "Subscriber" mentions it, however. His advice to beat the stuff short is rather wild. Every blockhead who has any knowledge of paper-making is aware, or at least ought to know, that long stuff creates knots and strings, not only in the chest, but all over the machine. Again, he says he is surely posted enough to know that the stuff is beaten according to the paper to be made. That depends a good deal on circumstances. If the stock is very strong and lumpy, as your correspondent represented it, you cannot beat it too short for any kind of paper. Again, he says, "I guess he never tried sparto." I guess not, but your correspondent knows all about it. He goes on to say: "In fact, any time that I have been troubled so was when the stuff was composed of all one stock. Some mills working such have a gauge and empty a certain portion of water with each engine, and on no account are they allowed to empty unless the chest will hold the contents of the engine." This will be startling news to some of your readers, and to others it will cause a good hearty laugh. Talk about gauging water emptied with each engine! Why, some engines, on account of being thickened with papers, will carry at least fifty pounds more stock than others. "One who has been There" must be one of those chaps who solicits information through the columns of THE JOURNAL like a shark with his mouth open. He shuts down his jaw on the unsuspecting victim, and, with great voracity, gobbles him up.

SLEEPING CAR.

That Fourdrinier.

To the Editor of The Journal:

Your correspondent "Duster" seems to have left but little to say in regard to the "Improved Fourdrinier Machine," the specifications for which you published in THE JOURNAL. When I commenced reading the article I expected to find something wonderful, or at least new, but instead I found but one thing that was actually so to me, and whoever claims the application of it is entirely welcome to the novelty. I refer

to applying the motive power to one of the middle rolls in the calender stack. If applied to the bottom roll also, I could conceive it might be some advantage in a high stack, but not otherwise.

I consider such a machine inferior in many respects to a number now in use, and one or two of the later machines built by J. L. Seaverns (and particularly the last one, now in a mill in Lawrence, Mass.), are, in my opinion, far superior. When you claim editorially anything new or improved in paper machinery, please to designate more fully what it is.

In this connection, allow me to say, I saw something that was new, at least to me, a few days since, i. e., an adjustable declie for a cylinder machine. I look upon it as one of the simplest and most perfect arrangements for the purpose that can be made. It can be applied to any machine at a very moderate expense, and the declie can be changed to any width, with the machine running at any rate of speed, in thirty seconds, without a break in the paper, and it makes a perfect edge at all times.

I should suppose every owner of cylinder machines in the country would purchase it at sight. I believe the inventor's name is Cronk, and he should avail himself of THE JOURNAL columns to make his invention known to the trade. It is really an improvement.

Yours, COLOR.

A Few Words from Lowell.

LOWELL, Mass., April 30, 1877.

To the Editor of The Journal:

Agreeably to promise, I will try to put in a few notes by the way. The paper mill of C. B. Richmond here is running night and day on manilla paper, averaging a ton per day, and sending the whole product to New York City. The cotton mills here afford them all the stock they need. No better manilla paper is made than this mill furnishes, which seems to be appreciated, for they have orders ahead reaching to July. They make as wide as sixty-four inches. They contemplate improvements in July by replacing two old water-wheels with the turbine wheel, and will be stopped about a week. They have an abundance of water now.

The cotton mills are running on full time, but just now there seems to be an unsettled state of prices. The product on hand is large, but prices are low. How the Russian and Turkish war will affect these last remains to be seen. One thing is noticeable—nearly every man believes that the war in Europe will stimulate business generally, and if so, all classes of industry will feel it. The cotton mills here are the pride of Lowell, and well they may be. The writer has been around some, and has seen a few things in the way of factories, but they come a little nearer perfection here than anywhere else I have ever been. Their neat and tidy appearance both outside and inside is proverbial. Their grounds are ornamented with trees, beautiful lawns, &c., and present as neat an appearance as a first-class residence.

Those who were living here from 1854 to 1856, and remember the effect which the war between Russia, England and France had upon the business of this country, look for a repetition of it now if the present war lasts. It was a god-send to the Western farmer, and no doubt will be again should the present fight continue, and when the Western farmer has plenty of money he makes things "lively" all around.

Yours truly, LOWELL.

Changes, Removals, and New Firms.

Barr Bros., bookbinders, New York, have dissolved partnership.

W. H. Hanley & Co., news depot, &c., Wau-seon, O., have sold out.

Barlett & Fluhart, publishers, Newton Falls, O., have sold out.

Wilson & Smith succeed Wilson & Bro., books, &c., Faribault, Minn.

Benjamin Graham, stationer, No. 235 Grand street, N. Y., has gone out of business.

Peyton & Fitzgerald, paper stock dealers, have removed to No. 105 South Fifth Avenue.

William Elliott, books and stationery, Seaford, Ontario, has sold out to C. W. Papst.

The World Publishing Company has removed from No. 142 Eighth street to 21 Astor place.

Henry A. Thomas & Co., lithographers, No. 865 Broadway, N. Y., have dissolved partnership.

E. A. Jacks & Co., paper dealers, Detroit, Mich., have dissolved partnership. E. A. Jacks continues.

Stelwagon Bros. succeed Joseph Stelwagon & Sons, manufacturers of roofing papers, Philadelphia, Pa.

H. P. Eldridge has started as a commission dealer in paper stocks, &c., at No. 48 Beekman st., New York.

Hart & Deming, books, &c., New Britain, Conn., have dissolved partnership. J. O. Deming retires, and Adna Hart & Son continue.

Riley & Sargent, news agents, &c., Philadelphia and Pittsburg, Pa., have dissolved partnership; they are succeeded at the Pittsburg store by Irving Maurel.

William J. Swain, publisher of the Public Record, Philadelphia, Pa., has retired; the business is now conducted by the Record Publishing Company; W. M. Slingerly, president, and R. G. Oellers, secretary and treasurer.

The firm of Taylor, Stiles & Co., manufacturers of machine knives, roll-bars, bed plates, &c., Riegelsville, N. J., have been succeeded by Taylor & Corser. The new firm is composed of F. S. Taylor, of the late firm, and George A. Corser, formerly of A. Hankey & Co., Rochdale, Mass. Mr. Taylor has been in this business nearly thirty years, and Mr. Corser was for fifteen years previous to his entering the firm of A. Hankey & Co. in the employ of the well-known firm of Stiles & Co., and during the

eleven years he has been in the firm of A. Hankey & Co. has had entire charge of the manufacturing department. Their facilities for the production of paper-mill roll bars and bed-plates are excellent.

Failures.

Bacon & Dyer, printers, Boston, Mass., are reported failed.

J. H. Foster, newspaper publisher, Van Wert, O., has assigned.

George H. Field, stationery, &c., Passaic, N. J., has been closed out by the sheriff, and is reported to have left the town.

Chattel Mortgages.

NEW YORK CITY.

Mortgages. Amount.
Allemond & Werner, 145 Cen-tre st., R. H. C. Valentine, \$75
J. Fahnestock, 29 Rose st., R. Hoe & Co., 1,106
J. W. Graff, 120 Market st., R. H. C. Valentine, 720
P. M. Haverty, M. J. Lange, 1,000
Hatch Lithographic Co., 23 Vesey st., W. A. Camp et al., 40,000
E. Huber, 58 Fulton st., T. Holder, 300
J. K. Halliwell, 139 8th st., H. Parsons, 1,500
J. MacKenzie, 118 William st., Benedict & Hight, 580
E. E. Tomlinson, 32 Beekman st., B. Frost, 1,000
J. W. Taylor, H. Lovejoy (2), 2,414

BROOKLYN.

Edward S. Dodge, 12 Warren st., Edward Dodge, 12,084
Trenlett & Co., 330 Fulton st., Jos. Engeman, 3,000
Warner & Haigh, 3,150

NEW JERSEY.

Milton Sears & Bros., Paterson, 350

EASTERN STATES.

Thomas H. Atwood, Boston, Mass., 1,800
Francis A. Hobbs, Boston, Mass., 500
Arnold & Horton, Providence, R. I., 3,000

WESTERN STATES.

Gregory & Seiger, Chicago, Ill., 1,100
Leopold Haas, Chicago, Ill., b. s., 600
Thomas A. Lantry, Chicago, Ill., 1,500
W. T. Dondal, Peoria, Ill., 2,000

Fires.

The stock and fixtures of L. F. Allen & Co., publishers, &c., Canajohare, N. Y., were damaged by fire on April 29.

Accidents.

Joseph A. Bartlett, an employee of the Win-nipisogee Paper Company, Franklin, N. H., was badly scalded on his arm while attempting to pack a valve before the steam had gone down.

Personals.

T. H. Eaton, bookbinder, at No. 11 Spruce street, died recently.

The death of Alfred Kittredge, printer, Haver-hill, Mass., has been announced.

R. B. Briggs, of Briggs & Taylor, sailed from Liverpool on May 2, per the steamer England, and is due here to-day or to-morrow.

Obituary.

CYRUS HILL.

Cyrus Hill, senior partner in the firm of Hill & Cutler, paper stock dealers, Boston, Mass., died at his residence in that city on Saturday, May 5. Mr. Hill was connected with the trade for many years, being one of the oldest paper-stock merchants in the country, and was well and favorably known.

AUGUSTIN H. HART.

Augustin H. Hart, the founder of the Elm Flax Mills, the largest flax twine and thread manufactory in the world, died at his residence in this city on Monday at two o'clock, aged forty-nine years. Mr. Hart came from England about thirty-four years ago, and at once engaged in the above business. His first venture was at Schaghticoke, N. Y., where the business was commenced in a small way. A few years after he removed to this city. He was a kind husband and father, a man of good principle, and was universally liked. He leaves a wife and daughter.

Newspaper Intelligence.

The following is a list of new newspapers, furnished from the advance sheets of the American Newspaper Reporter and Printers' Gazette:

NEW NEWSPAPERS.	
WEEKLY.	Size.
Brownstown (Ind.) Jackson Co. Bee	22 x 32
Detroit (Mich.) American Workman and Trades Reporter	24 x 36
Hartsville (Mo.) Wright Co. Home-Talk	21 x 26
Portsmouth (N. H.) Weekly	26 x 40
MONTHLY.	
Boston (Mass.) Leader	28 x 44
Springfield (Ohio) Live Patron	24 x 36
RESUMPTIONS—MONTHLY.	
Omaha (Neb.) Church Guardian	9 x 12
SUSPENSIONS NOT PREVIOUSLY ANNOUNCED.	
Enterprise, Lock Haven, Pa.	

General Notes.

James Allen, of the Allen Iron Works, South Adams, Mass., has patented a new sponge filter for paper manufacturers use, which is claimed to be more simple, effective and convenient than any now in use.

The Secretary of the Treasury has awarded the contracts for stationery for the department for the next fiscal year as follows: Morgan Envelope Company of Springfield, 600,000 No. 6 XX white envelopes, \$1.55 per thousand; 500,000 XX white envelopes, \$2.80 per thousand; 5,000 XX white envelopes, \$4.75 per thousand; 5,000 brown manilla envelopes, \$2.85 per thousand; 20,000 heavy brown manilla envelopes, \$3.85 per thousand; 25,000 heavy brown manilla envelopes, \$2.85 per thousand. Woolworth & Graham, of

this city, get the contract for white paper, 4,100 reams. William Ballantyne, of Washington, D. C., gets the contract for most of the brown manilla, and contracts for the minor articles of stationery are mostly with Washington bidders and with E. D. Lockwood, of Philadelphia. The bid of the Russell Paper Company, of Lawrence, Mass., for card blotter was not accepted. Lockwood, Brooks & Co., of Boston, supply 50 dozen quarts of muilage.

A mere transfer of a combination of elements to a new structure, where it operates in the same way to produce the same result, is not patentable.

A train of cars on a Florida railroad passed a man on horseback, and there was a great hurrahing among the passengers until they discovered that the horse was tied to the fence.

A type foundry in St. Paul has lately furnished the types for the Frameri, an Iceland newspaper to be published in the Iceland colony at Kewatin, on the Red river, in British territory, about sixty miles from Fort Garry. This will be the first newspaper published on the American continent in the Icelandic language.

Prof. Lee Tom has opened a Conservatory of Music in San Francisco, with the design of training the Chinese youth for the orchestra in the Chinese theatre. There are four instruments—the Chinese fiddle, the zung-fu or devil's banjo, the tabor, and the tom-tom. The latter is like a brass skillet turned over and beaten with sticks.

Calculating Interest.

There are several rules for calculating interest, which are used by many without understanding the principles on which they are founded, these principles being to them a mystery. We consider it very wrong ever to apply any rules for making calculations without being in possession of the key on which these rules are based, and therefore will explain the fundamental principle of several of the rules for calculating interest.

A rate of interest at 5 per cent. is 1-20th of the capital, therefore divide the capital by 20 and you have the interest per year; divide this again by 365, the number of days per year, and you have the interest per day. You may combine these two operations, and divide the capital at once by 365x20—that is, by 7,300—to have the interest per day in dollars, and if you divide the capital by 73, you have the interest at 5 per cent. per day in cents. This you have only to multiply with the number of days to find the interest for a given time; but this multiplication may be done first—it will avoid fractions, hence the rule: Multiply the capital with the number of days, then divide the product by the constant number 73, and you have interest at 5 per cent. For 6 per cent. add 1-5th, for 7 per cent. 2-5ths, for 8 per cent. 3-5ths, for 9 per cent. 4-5ths, for 10 per cent. double it.

This rule is the most correct, but any interest may be directly calculated thus: Multiply the capital with the number of days, then for 5 per cent. divide by 73, for 6 per cent. by 61, for 7 per cent. by 52, for 8 per cent. by 45, for 9 per cent. by 40.67, for 10 per cent. by 36.5.

These latter divisors are obtained by dividing 100 by 6, 7, 8 and 9 respectively, and multiplying the quotients with 365, which serve as units, cutting off two decimals, 61, 52, 45 and 40.67.

If interest is to be calculated per month only, and not for any odd number of days, it is very convenient that 6 per cent. per year is one-half of 1 per cent. per month, or 1 per cent. for two months; hence the handy rule that 6 per cent. for 60 days is 1 per cent.; but here the year is counted at 12x30 or 360 days only; thus it is not absolutely correct, but near enough to be adopted in most banks.

The Coltsville Paper Mill Colony.

When it was announced a year ago that Chalmers Bros. & Baxter, a firm of five brothers and a brother-in-law, had bought the Coltsville paper mill, with the intention of running it, people shook their heads and wondered how they expected to make money enough there to support so many proprietors and their families, but a slight acquaintance with their way of managing shows that they are not to be pitied. They do the work themselves instead of all playing boss and hiring the work done. The members of the company are all practical paper-makers except one, who is a machinist, and quite as useful in the mill as either of the others. Three of the Chalmers brothers came from Paterson, N. J., and the other two and Baxter from Holyoke. They put their heads and their capital together, and bought the Coltsville property for \$50,000, the mill, which was built in 1863 by the late Thomas Colt, being as good as new, and having cost with the machinery \$150,000, exclusive of the water privilege, which, fed by the Windsor reservoir, is one of the best on the stream. There are also on the premises two artesian wells, sunk by Mr. Colt at a cost of \$10,000, one of which is 500 deep, and which together furnish over 500,000 gallons of water daily.

The new firm spent \$8,000 to \$10,000 in additional machinery, putting in a turbine wheel, two stocks of calendars and one of super-calenders, and began the manufacture of book printing paper, of which they turn out about 3,500 pounds a day. They are also just now working on an order from Fall River of 1,000 tons of collar paper, and they are getting more and more into making flat-caps. As these several kinds of paper are made with the same machinery, the mill is put upon whichever is likely to pay the best. A new rotary boiler has just been put in capable of boiling 6,000 pounds of dry rags a day. After being boiled, the rags are washed with the water from the artesian wells, then bleached, and finally put into the beating machines and prepared to be made into pulp.

The undersigned is also agent for the following specialties:

outlook is not so good just now as it has been, as the mills are all running and filling the market with all kinds of goods; but there are few concerns in the country that can make paper more economically than the Coltsville company. Nearly all the help employed, except the girls in the rag-room, are the partners or members of their families, and these form almost half of the whole force of the mill.

The only large item of expense is the interest on the investment, and that is small compared with the capacity of the property. No new dwelling-houses were built, but the families took the vacant tenements of the little village, and not a single horse or carriage is owned by either of the proprietors. They hire all the trucking done, the necessary visits to Pittsfield are made by rail or stage, and every Sunday the Dalton stage comes out and takes the families to church in that quiet town. Scotch Presbyterians generally make good Congregationalists, and the Dalton church is much helped by the addition of such representatives. Thomas Chalmers, the oldest brother, is the business manager, and beyond his regular visits to the Pittsfield Bank and some trading by different members of the families, the large town knows nothing of the busy and unpretentious colony so near. Besides the young people who work in the mill, the families furnish the district school with a good share of its pupils, and in every way the enterprise is a benefit to that part of the town, and forms an example worthy of being followed.—Springfield Republican.

Third Edition—Now Ready.

LOCKWOOD'S DIRECTORY

OF THE Paper Trade. 1877.

This Directory contains a full and detailed description of every Paper Mill in the United States and Canada.

This Directory is octavo in form, is printed on the finest book paper, handsomely bound in cloth, and as a work of reference is indispensable to every Paper-maker, Paper and Paper Stock Dealer, Stationer, or any one connected with the trade.

LOCKWOOD'S DIRECTORY is the only STANDARD authority of the kind, and is constantly consulted by the Trade in all parts of the country.

PRICE, - - - - \$2.00.

Howard Lockwood, Publisher, 74 Duane Street, N. Y.

PAPER-MAKING MACHINERY

Paper Mill Property

FOR SALE.

The undersigned offers for sale, in whole or in part, a large line of second-hand Paper-making Machinery, consisting of:

- One 70-in., one 62-in. and one 36-in. Fourdrinier Machine.
One 36-in., one 48-in., one 54-in., two 62-in., one 68-in., one 72-in. and one 76-in. Cylinder Machine.
One stack of nine Chilled Iron Calendar Rolls, 55 inches on face; one stack of nine Soft Iron Calendar Rolls, 62 in. on face; also a large variety of Calendar and Press Rolls.
Four Daniels Rag Cutters.
Two 48-in., one 54-in. and one 62-in. Paper Cutters.
One double Patent Engine.
Three Kingsland Patent Engines.
Twelve Cutting Presses, from 27 in. to 45 in. wide.
One set of three Reels, 62-in. face; one set of six Revolving Reels, 54-in. face; one set of six Revolving Reels, 70-in. face; one Sizer for a 62-in. machine; one Straw Cutter, one Winding Machine, one Size Washer, one Wood Chopper, together with an extensive list of Miscellaneous Machinery, including ten Rag Engines of different sizes, four Rotary Rag Boilers, from 2x16 in. to 6x24 in.

A number of Paper Mills in Massachusetts, New York, Connecticut, Pennsylvania, Ohio, Michigan, Kentucky and Virginia, containing the following size machines: One mill with two 72-in., one with one 76-in., one with one 84-in., one with one 72-in. and one with one 48-in. Fourdrinier Machine; one with one 72-in. and one 62-in., one with one 72-in., one with one 72-in. and one 36-in., two with one 36-in. each, one with one 32-in., and one with one 48-in. Cylinder Machines.

The undersigned is also agent for the following specialties:

The Lahauss Process for Reducing and Bleaching Straw Pulp.

The Process for Bleaching Jute (Owned by the Inter-State Fibre Bleaching Company).

The Bagley and Sewall Rotary Force Pump, adapted especially to Paper Mills (see advertisement in another column).

J. N. Paddock's Improvement for equalizing the pressure on the Making Roll in the manufacture of Straw, Binders', Leather and Press Boards.

He also offers his services as a Consulting Engineer and Expert in the erection, alteration and equipment of paper mills, and in paper-making processes. With an experience of over twenty years in the manufacture of paper, gained both in this country and in Europe, he purposes to make his services valuable to whoever shall require them.

Full description of the Mills, Machinery and Processes will be given on application.

EDWARD CONLEY, No. 74 Duane Street, N. Y.

SPECIAL NOTICES.

[Insertions under this heading will be charged 50 cents a line. Payment invariably in advance.]

To Paper Manufacturers.—Our long and practical experience in paper-making, having made it our special study and investigation, enables us confidently to offer our services for the satisfactory execution of orders for all Paper Makers' Supplies. We keep ourselves thoroughly posted in all improvements pertaining to the Manufacture of Papers, as to the best stock to use for all the different qualities, the proper coloring materials and most approved mode of using them economically, and all information concerning the same will be given to our friends. Soliciting the correspondence and orders from paper manufacturers, we are, respectfully, WARREN, BARNES & CO., 69 Duane Street, New York.

51 JOHN STREET, NEW YORK, MAY 11, 1877.

We offer, if unsold prior to receipt of order, bleaching powders, prime and fresh, immediate delivery in New York, \$1.00 currency; Boston, \$1.45 gold, and to arrive in Boston subject to usual contract claims, \$1.40 gold.

WOOLWORTH & GRAHAM.

Market Review.

OFFICE OF THE PAPER TRADE JOURNAL, FRIDAY EVENING, MAY 11, 1877.

THE MONEY MARKET.—Is without change in its chief characteristics. The supply of funds continues full, and the rates on call loans remain quite steady at from 2 to 3 per cent., some business being done at lower figures. The banks and trust companies keep their rates at 4 and 5 per cent. Commercial paper is unchanged as to rates, but is in more inquiry.

The demand for Government bonds continues active, and the tone of the market is strong. The floating supply of bonds is said to be smaller than for some time past. Railroad bonds are strong, but in smaller movement. State bonds are dull and steady.

The gold market has shown a greater activity, and the rates show some advance. The quotations for the week are:

Table with columns: Opening, Highest, Lowest, Closing. Rows for May 5, 7, 8, 9, 10, 11.

Foreign Exchange remains unchanged. The supply of bills continues small, while the demand, by reason of the larger importation of securities from Europe, is quite active. The rates to-day are: Sterling, 60 days, \$4.86 to \$4.86 1/2; sterling, sight, \$4.89 1/2 to \$4.89 3/4; commercial sterling, prime long, \$4.86 to \$4.86 1/2; commercial sterling, good long, \$4.85 to \$4.86; Paris, bankers', 60 days, 5.15 to 5.13 1/2; do. sight, 5.12 1/2 to 5.11 1/2; Antwerp, bankers', 60 days, 5.16 1/2 to 5.13 1/2; do. sight, 5.12 1/2 to 5.11 1/2.

THE PAPER TRADE.—The situation remains much the same, and business, taken as a whole, is of rather a disappointing character. The aggregate of the movement is small, and prices are too weak and unsettled to give any comforting assurances to manufacturers. The secret of this, if a fact which is so apparent can be called a secret, is the over-production which is constantly going on. There is too much paper made, and weak and irregular markets must be looked for just as long as the supply continues so far in excess of the demands. Fine Papers are in moderate request, and so far as steadiness goes are in the best position. Book Papers continue slow of movement. News is depressed, and is pressed for sale at extremely low figures. Manilla Papers are rather quiet, even in a jobbing way, and, notwithstanding the high prices of Butts and all classes of Bagging stocks, are not well sustained in price. A rumor to the effect that the manufacturers of Fine Papers were about starting up on full time obtained some currency among the trade here during the past week. There was no foundation for the report, and no movement of the kind has ever been contemplated.

JUTE BUTTS.—The market the past week has manifested more strength under cable advices from Calcutta indicating still higher prices there, and but few Butts obtainable for the remainder of this season. We also learn that the demand for England is large and active, and the difficulty of obtaining Butts in Calcutta turned the attention of English manufacturers to this country, which resulted in the purchase of 2,000 bales just arrived per Carisbrooke Castle, at 2 1/2 c., gold, in bond, cash, for export to England—the first ever made of the kind. This fact, and the knowledge that the necessity of English manufacturers might lead to further exports, stimulated holders' views and induced them to still further advances prices for parcels on the spot and to arrive. Sales on the spot during the past week embrace, in addition to 2,000 bales for export, about 1,500 bales at 3 1/2 c., cash and time. Sales to arrive have been about 4,500 bales, at 3 1/2 c., currency, and 3 1/2 to 3 3/4 c., gold. The market closes strong on spot at 3 1/2 to 3 3/4 c., asked, and for any arrivals nothing can be had under 3 1/2 c., gold, to-day. Arrivals since last issue have been: Idomee, 3,438 bales; Russia, 11,080 bales.

FOREIGN RAGS AND PAPER STOCKS.—About the same general features are shown in the market this week as has been noted in our recent reports, and a repetition of what has already been said would give a fair idea of the situation. Rags are without activity, a limited movement in some special and well-known goods constituting the bulk of what is done. Waste Papers are quiet, the variation, if any exists, being towards greater dullness. There is a stronger inquiry for Baggings and Jute Stocks, and the limited supplies here are held strongly, and some orders for forward delivery are reported to have been made at full figures. The cargo of Egyptian Rags, reported among the imports, was sold to arrive, and has gone directly into consumers' hands. Late London advices indicate a light stock and good demand for strong Linens, and considerable inquiry for fine Linens. White Cotton Rags are reported easier, and low grades in some request. Gunnies are reported in

demand, and scarce. The arrivals for the week are 1,141 bales Rags; 807 bales Old Papers; 83 bales Manilla Stocks.

DOMESTIC RAGS.—Trade does not present any new features, and is not by any means active. There is a moderate inquiry for reliable packings of No. 1 Whites and also for No. 2s. Seconds have only limited movement. Prices, as a whole, are steady but not strong.

WOOLEN RAGS.—There is a moderate business doing, principally in hard Woolens, and prices show very little variation.

OLD PAPERS.—The changes in the market are so slight as to be scarcely perceptible. There has been a trifle more inquiry for No. 1 White Shavings, and Solid Stock and first-class lots have pretty steady movement at old figures. Manilla Papers keep in sharp demand and are scarce. In other grades of stock there is a restricted movement, and prices are not better than steady, if they are that. Sales are noted of 50 bales light Book Stock at 2 1/2 c.; 50 bales Manilla Papers at 3 c.; 40 bales No. 1 Manilla Papers at 3 1/4 c.; 10 tons No. 2 White Shavings at 4 1/2 c.

BAGGINGS, &c.—There has been an active market for good No. 1 Bagging Stock, that is, so far as inquiry is concerned, but the movement is retarded by the limited supplies on spot. No. 2 and poorer qualities do not meet with an equal amount of favor, but are not slow of movement. Holders show great firmness both on spot goods and contracts for future delivery, and are a little higher in their asking figures. Rope continues in about the same condition both as to price and demand. Hemp Stock is still in active request. We note sales of 65 tons Grass Rope at 3 1/2 c.; 10 tons Mixed Rope at 3 1/2 c.; 12 tons Grass Rope at 3 1/2 c. to 4 c.; 45 tons No. 1 Gunny Bagging at 2 1/2 c.; 15 tons No. 2 Gunny Bagging at 2 1/2 c.; 10 tons No. 1 Gunny Bagging at 3 1/2 c.; 10 tons Jute Rope at 3 1/2 c.; 50 tons Jute Rope, and 25 tons No. 1 Gunny Bagging on private terms.

STRAW.—The demand is somewhat smaller, but as the receipts are light, prices remain firm at 75c. to 80c. for Long Rye; 55c. to 60c. for Short Rye; 60c. to 65c. for Oat.

ROSINS.—There has been a little better inquiry, but the business is rather light, prices continuing nominally steady.

CHEMICALS.—The market continues dull for almost everything, and prices are somewhat unsettled. Soda Ash has sold at low figures. The best brands of Caustic Ash are in moderate supply and held firmly. Caustic Soda is in light request and full stock. Some brands of Bleaching Powders have been offered at low figures, but well known brands are held steadily. Sal Soda is moving slowly. Venetian Red is offered less freely, and is in smaller stock. China Clay is moving quite steadily at old figures. Sales include 225 barrels Lump Alum at 2 1/2 c. currency; 100 barrels Ground Alum at 2 1/2 c. currency; 100 tons Potash Alum at 2 1/2 c. currency; 100 tons Porous Alum at 3 1/2 c. currency; 300 casks Bleach, spot, at 1.80c. currency; 100 tons Paper-makers' Soda Ash at 2c. gold.

THE COAL TRADE.—Some parties having faith in the recent decision of the so-called combination, and fully believing that the advance of 50 cents per ton will be put in force on the 1st prox., are purchasing quite freely of Egg and Broken, and the market, in consequence, exhibits a fair degree of activity. On the other hand, parties in this vicinity who are really in need of supplies are purchasing only sufficient quantities for immediate uses, believing that no material advance will take place, and that stocks can be obtained after the first on as favorable terms as at the present. There is considerable movement in Bituminous, but the prices realized are generally low. Seward's Coal Trade Journal of May 9 says: "Anthracite is stated to be in fair demand, if we except Stove size, which drops somewhat, and dealers are all feeling more hopeful of being able to place the supplies that are forwarded. The prices do not show any great tendency to advance, however, and it is still possible to find those who do not put any great faith in the possibility of the combination acting strictly up to the agreement made as to the restriction of tonnage, &c. On the contrary, if there is to be a strict following out of this scheme, there will be some parties caught with season contracts on hand that they will not be able to fill at a profit, for they will find that the production will be much curtailed, and tolls advanced."

NEW YORK MARKET.

PRICES CURRENT.

Table with columns: Paper Market, Dealers' Selling Prices, Hamburg Rags, &c., LINENS, Cottons, Ropes, Old Papers, Leghorn and Genoa Rags.

Straw Boards, air-dried, 120 sheets, 10x50, @ 60.00
Straw Boards, air-dried, Albion, 10x50, @ 55.00
Straw Boards, air-dried, No. 1, 10x50, @ 55.00
Straw Boards, steam-dried, No. 1, 10x50, @ 55.00
Straw Boards, steam-dried, No. 2, 10x50, @ 55.00
Straw Boards, steam-dried, No. 2, 10x50, @ 55.00
State, 10x50, @ 47.50 @ 55.00
Straw Boards, air-dried, Penn., 10x50, @ 55.00
Straw Boards, air-dried, State, 10x50, @ 55.00
Straw Wrapping, basis, 15x30, 10 lb, 30 sheets—

Table with columns: 30 sheets, 30x40, 24x36, 22x32, 20x30, 18x28, 18x26, 15x30, 15x18, 13x18, 12x16, 11x15.

Straw Wrapping, 10 sheets—
Tea Papers, 10 sheets—
12x18 40 @
14x20 50 @

Woolen Rags.

Table with columns: Comforter Stock, White Woolens, Blue Grey Stock, Blue Flannels, Reds, old, Reds, new, Mixed Softs, Seamed Cloth, Skirted Cloth, New Dark Clips, New Light Clips, New Black Clips, New Blue Clips, New Felt, New Fancy Shirt Cuttings, New Fancy Linsey Cuttings, New Satinets, clean stock, Seams and Satinets, Delaines, striped for extras, Black Shoe Lastings, Blankets, Wool Carpets, Mixed Carpets, White Linseys, Mixed Linseys.

Rags, Rope and Bagging.

Table with columns: White Shirt Cuttings, No. 1, White Shirt Cuttings, No. 2, Mill Assorted Whites, Unbleached Muslins, White Linen, New Cotton Flannels, New Cotton Strips, light, New Cotton Strips, dark, No. 2, Whites, Cotton Canvas, Linen Canvas, Country White Rags, Country Mixed, Seconds (City), Seconds (City) Extra, Colors, per 100 lb, Manilla Rope, Manila Rope, tarred, Hemp Rope, Gunny Bagging, No. 1, Gunny Bagging, No. 2, Kentucky Bagging, Burlap Bagging, Tar Shavings, Hemp Twine Stock, Jute Waste.

Shavings and Old Paper.

Table with columns: White Collar Cuttings, all paper, White Collar Cuttings, muslin lined, White Envelope Cuttings, Hard White Shavings, No. 1, Soft White Shavings, No. 1, White Shavings, No. 2, Mixed Shavings, part white, Ledger and Writing, Solid Stock, Book Stock, Book Stock, No. 1, light, Book Stock, No. 2, light, Prints, Paper Manilla, Bogus Manilla and Hardwares, Commons, Binder's Board Cuttings, Straw Board Cuttings.

English Rags, &c.

Table with columns: New Cuttings, cotton, Essex Fines, London Fines, cotton, Fines, cotton, Outshots, cotton, Seconds, Extra, Seconds (City), Thirds, New Print Tabs, Checks and Blues, Light Prints, Light Fustians, Dark Fustians, Black Calicoes, First Canvas Linen, Second Canvas Linen, Black Bagging, Gunny Bagging, No. 1, Gunny Bagging, No. 2, Mixed Bagging, Burlap Bagging, No. 1, Rope, Manilla, tarred, Rope, Manilla, Jute Ropes, Jute Threads.

English Old Papers and Shavings.

Table with columns: Hard Shavings, No. 1, Soft Shavings, No. 1, White and Colored Shavings, White and Colored Shavings, No. 2, Cream Shavings, Paper-collar Cuttings, Ledgers, Briefs and Letters, Newspapers and Pamphlets, extra, Old Newspapers and Letters, New Books, Solid Folios, Old Blank Books, Brown Papers, White and Buff Railway Sheets, Railway Tickets.

Hamburg Rags, &c.

Table with columns: LINENS, Linen Cuttings, S P F F F, square bale, S P F F F, long bale, S P F F, square bale, S P F F, square bale, P F, square bale, L F X, square bale, Extra Fine Blue Linen, light color, L F, square bale, L F B, long bale, Gunny Bagging, No. 1, Burlap Bagging, No. 1.

COTTONS.

Table with columns: Shirt Cuttings, square, C S P F F F, long bale, C S P F F, square bale, C S P F F, long bale, C S P F F, square bale, F R, square bale, C F X, square bale, Extra Fine Blue Cotton, C F B, square bale, Cotton Canvas.

Ropes.

Table with columns: T R (tarred), W R (white), M R (manilla).

Old Papers.

Table with columns: Old Book Paper, Colored Paper, Imperfections, White Shavings, Colored Papers, Printed Papers, Writing Papers.

Leghorn and Genoa Rags.

Table with columns: P P, No. 1 Linens, S S, No. 2 Linens, T T, No. 3 Linens, P, No. 1 Cottons, S, No. 2 Cottons, T, No. 3 Cottons, R, ordinary stripes, R C, C B, C C, C Q.

Table of market prices for various types of paper and rags, including Alexandria Rags, Memel Rags, Trieste Rags, and Japanese Rags.

BOSTON MARKET.

Table of market prices for paper stock in Boston, listing items like Mill Assorted Whites, Cotton Canvas, and various types of rags.

Table of market prices for Leghorn Rags, including items like P.P. No. 1 Linens, S.S. No. 2 Linens, and various cottons.

Table of market prices for Alexandria Rags, Smyrna Rags, and Constantino Rags.

Table of market prices for various types of paper, including Superfine Book, Rag News, and Manila Cream.

Table of market prices for Boston Chemicals, listing items like Alum, Potash, and various salts.

PHILADELPHIA MARKET

Table of market prices for Paper Stock in Philadelphia, including White Rags, White Shirt Cuttings, and Cotton Canvas.

Table of market prices for Leghorn Rags and New Papers, including items like P.P. No. 1 Linens and various types of books.

Table of market prices for Chemicals, including Alum, Potash, and various acids.

CINCINNATI MARKET.

Table of market prices for Paper Stock in Cincinnati, including City Whites, Mill Assorted Whites, and various rags.

CHICAGO MARKET.

Table of market prices for Rags and Paper Stock in Chicago, including City Whites, Mill Assorted Whites, and various rags.

FOREIGN MARKETS.

London Market Report.

Business during the week showed a marked improvement, paper manufacturers here coming more freely in our market to secure their requirements at present prices, as there is every probability of a rise, especially for Russian rags, on account of the present war in the East.

The French Market.

PAPER AND PAPER STOCKS.—There is no improvement in the market for rags. Stocks of all kinds are selling too low for profit, and as the manufacturers refuse to pay higher prices, the trade is beset with difficulties which are most discouraging.

Advertisements.

WANTED—A COMPETENT MAN TO TAKE charge of the books and sell the paper for a writing mill of about a ton capacity, situated in New England. Address with references, B. F. W., care Howard Lockwood, Paper Trade Journal.

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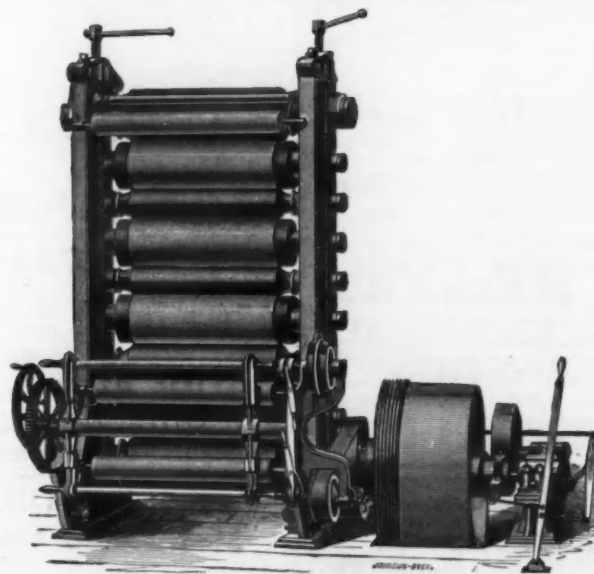
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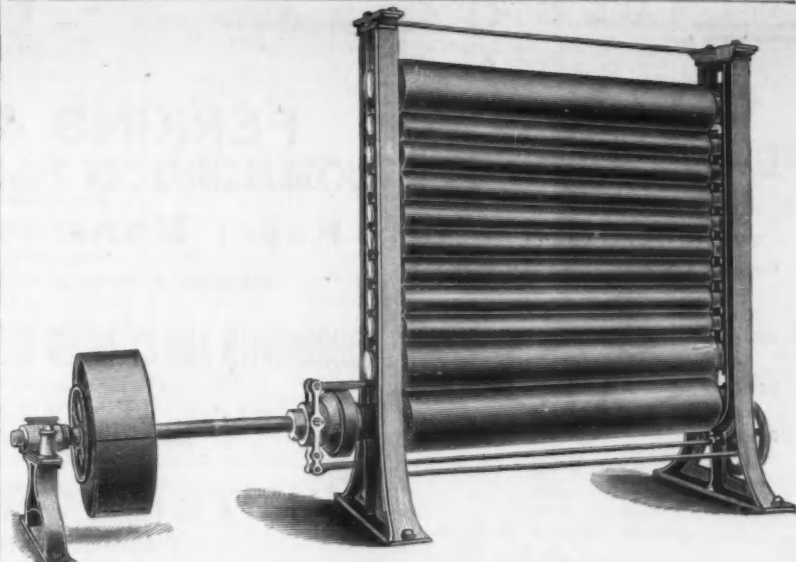


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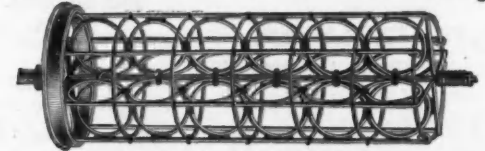
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