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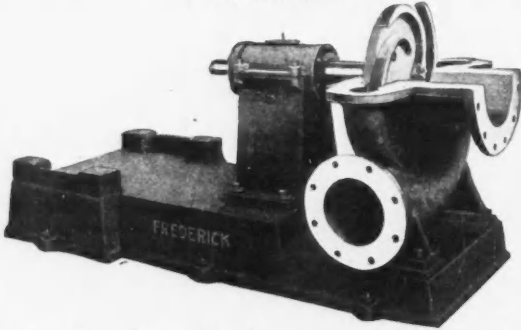


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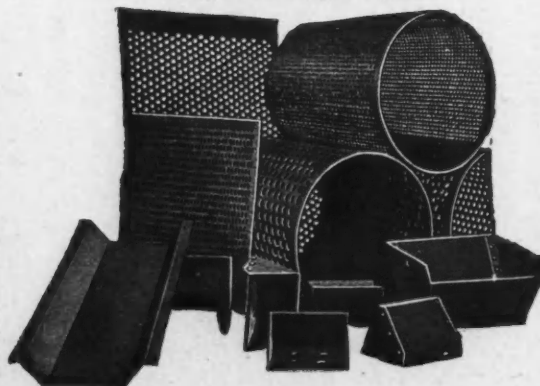
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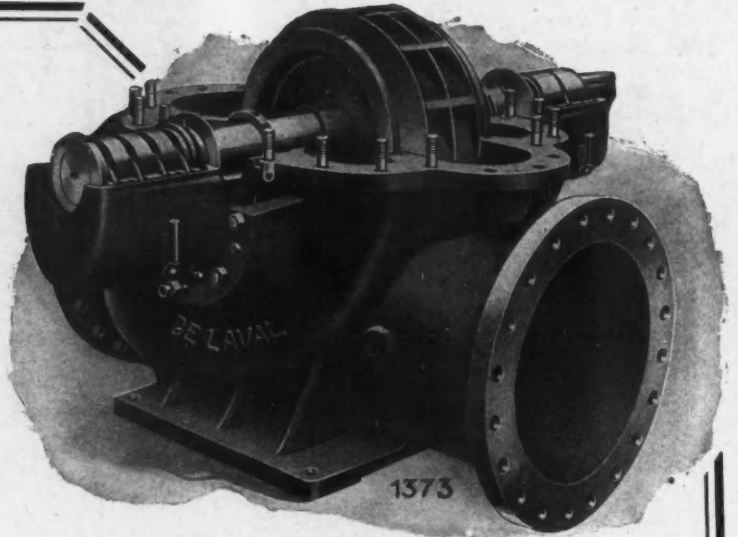
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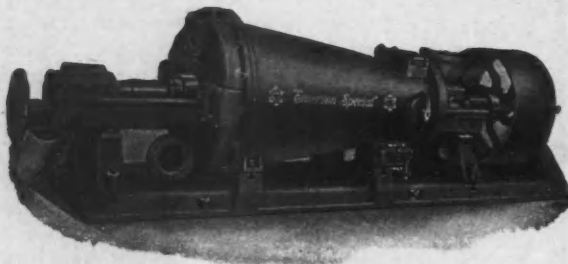
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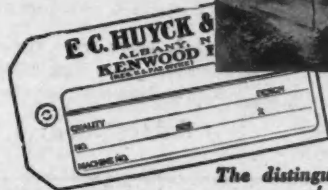


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PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

FORTY-NINTH YEAR

PUBLISHED EVERY THURSDAY BY THE
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NEW YORK AND CHICAGO

Thursday, April 7, 1921

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PRODUCTION OF WOOD PULP DURING MONTH OF FEBRUARY

Total Stocks of All Grades of Pulp in the Mills at the End of the Month Amounted to 216,606 Tons—Ground Wood Pulp Stocks Equalled Slightly More Than Thirty-three Days' Average Output—New Grade Sulphite Mill Stocks Equalled Slightly More Than Nine Days' Average Output—Sulphate Mill Stocks Equalled Slightly Less Than Eighteen Days' Average Output.

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., April 6, 1921.—In connection with the Federal Trade Commission's current statistics of the paper industry, a summary of the monthly reports from manufacturers of wood pulp and other kinds of pulp used in paper making is submitted herewith for the month of February, 1921. The table shows the kind of pulp, the stocks, production, pulp used and shipments for the month. The pulp shipped during each month represents only pulp shipped to a concern different from the one producing it. Loss of production is shown by giving the idle machine time reported by each company for each kind of pulp.

Pulp Production

The following is a tabulation of the production, pulp used by the company producing it, shipments to outside concerns, and stocks of finished pulp, in tons of 2,000 pounds on an air-dry basis, for February, 1921, compared with February, 1920, for the operating mills. The average production is based upon the reports covering the years 1917, 1918, 1919 and 1920, and the average stocks are based upon the stocks carried for the years 1919 and 1920.

	Number of mills	On hand first of month	Production for month	Used during month	Shipped during month	On hand end of month
Ground Wood Pulp—						
February, 1921.....	165	146,964	117,884	99,609	9,242	155,997
February, 1920.....	168	121,205	102,141	106,235	9,559	107,552
February, 1919.....	157	131,885	101,009	98,712	5,038	129,144
Average.....	...	...	108,583	...	...	137,165
Sulphite, News Grade—						
February, 1921.....	63	20,930	55,148	44,010	9,340	22,728
February, 1920.....	63	19,373	64,476	53,849	9,451	20,549
February, 1919.....	63	20,551	53,576	43,417	7,142	23,568
Average.....	...	...	57,431	...	...	19,800
Sulphite, Bleached—						
February, 1921.....	32	11,102	27,931	18,890	6,914	13,229
February, 1920.....	32	6,256	41,317	22,582	18,764	6,227
February, 1919.....	33	7,393	35,627	18,181	13,260	11,579
Average.....	...	...	39,008	...	...	8,710
Sulphite, Easy Bleaching—						
February, 1921.....	7	1,482	5,590	3,056	2,242	1,774

	Number of mills	On hand first of month	Production for month	Used during month	Shipped during month	On hand end of month
February, 1920.....	7	1,124	4,922	3,337	1,662	1,047
February, 1919.....	8	2,241	2,140	3,129	1,743	2,509
Average.....	...	...	5,727	...	...	1,555
Sulphite, Mitscherlich—						
February, 1921.....	7	3,034	4,412	2,983	473	3,990
February, 1920.....	7	1,756	6,690	4,382	2,642	1,422
February, 1919.....	7	1,714	6,432	4,136	2,279	1,731
Average.....	...	...	5,934	...	...	1,655
Sulphate Pulp—						
February, 1921.....	21	8,619	8,409	5,920	1,754	9,354
February, 1920.....	22	5,537	14,583	10,815	4,212	5,093
February, 1919.....	19	6,560	8,712	5,416	3,100	6,756
Average.....	...	...	12,236	...	...	5,908
Soda Pulp—						
February, 1921.....	26	8,551	23,960	14,619	8,514	9,378
February, 1920.....	29	3,734	31,178	18,367	13,232	3,313
February, 1919.....	28	4,305	27,262	15,688	10,375	5,504
Average.....	...	...	29,164	...	...	5,938
Other than Wood Pulp—						
February, 1921.....	4	135	463	442	0	156
February, 1920.....	5	211	884	727	219	149
February, 1919.....	4	114	470	494	0	90
Average.....	...	...	805	...	...	159
Total for all Grades—						
February, 1921.....	...	200,817	243,797	189,529	38,479	216,606
February, 1920.....	...	159,196	266,191	220,294	59,741	145,352
February, 1919.....	...	174,763	238,228	189,173	42,937	180,881
Average.....	...	...	258,888	...	...	180,880

Total stocks of all grades of pulp in the mills on February 28, amounted to 216,606 tons. Mill stocks of all grades increased during the month.

Ratio of Stocks to Average Production

Comparing the stocks on hand at the domestic pulp mills at the end of the month with their average daily production based on the reports covering the years 1917, 1918, 1919 and 1920, the figures show that:

- Ground wood pulp stocks equal slightly more than 33 days' average output.
- News grade sulphite mill stocks equal slightly more than 9 days' average output.
- Bleached sulphite mill stocks equal slightly less than 8 days' average output.
- Easy bleaching sulphite mill stocks equal more than 7 days' average output.
- Mitscherlich sulphite mill stocks equal more than 15 days' average output.
- Sulphate mill stocks equal slightly less than 18 days' average output.
- Soda pulp mill stocks equal slightly more than 7 days' average output.
- Mill stocks of "other than wood pulp" equal about 4 days' average output.
- Total mill stocks of all grades equal slightly more than 19 days' average output.

Grade	LOSS OF PRODUCTION.									
	Lack of Orders		Lack of Power		Repairs		Other Reasons		Total	
	1921a	1920	1921	1920	1921	1920	1921	1920	1921	1920
Ground Wood Pulp—										
Number of grinders.....	76		32	463	142	144	300	201	550	808
Total hours idle.....	11,991		10,197	144,758	24,402	20,792	66,799	53,488	113,389b	219,038
Sulphite, News Grade—										
Number of Digesters.....	30		0	11	21	1	8	7	59	19
Total hours idle.....	4,303		0	1,454	2,290	644	510	814	7,103	2,912
Sulphite, Bleached—										
Number of digesters.....	45		0	4	28	27	16	12	89	43
Total hours idle.....	5,605		0	62	3,946	5,521	967	2,564	10,518	2,147
Sulphite, Easy Bleaching—										
Number of digesters.....	6		0	6	3	4	0	0	9	10
Total hours idle.....	999		0	1,403	282	187	0	0	1,281	1,590
Sulphite, Mitscherlich—										
Number of digesters.....	16		0	0	6	7	0	0	22	7
Total hours idle.....	5,588		0	0	1,556	920	0	0	7,144	920
Sulphate Pulp—										
Number of digesters.....	24		0	9	1	3	8	11	33	23
Total hours idle.....	4,815		0	1,097	51	1,119	3,642	3,170	8,508	5,386
Soda Pulp—										
Number of digesters.....	90		0	13	0	2	18	25	108	40
Total hours idle.....	15,463		0	1,214	0	624	2,521	4,785	17,984	6,623
Other Grades—										
Number of digesters.....	2		0	2	0	4	0	0	2	6
Total hours idle.....	868		0	112	0	136	0	0	868	248
Total number of grinders and digesters....	389		32	508	201	192	350	256	872	956
Total hours idle.....	49,632		10,197	150,100	2,527	24,943	74,439	64,821	166,795	239,864

a Lack of orders for 1920 included in "other reasons."
b Includes 58,336 hours due to water conditions.

Loss of Production

The idle machine time of grinders and digesters reported to the Commission for the month of February, 1921, is shown in detail in the attached tabulation. The lost time is compiled from the following operating reports: Ground Wood Pulp, 89 companies operating 124 mills and 881 machines; News Grade Sulphite, 46 companies operating 50 mills and 171 machines; Bleached Sulphite, 19 companies operating 22 mills and 109 machines; Easy Bleaching Sulphite, 8 companies operating 8 mills and 29 machines; Mitscherlich Sulphite, 7 companies operating 7 mills and 47 machines; Sulphate Pulp, 14 companies operating 14 mills, and 46 machines; Soda pulp, 20 companies operating 23 mills and 158 machines; Other Grades, 2 companies operating 5 mills and 5 machines. The reasons tabulated for lost time are lack of orders, lack of power and repairs. "Other Reasons" include lack of wood, water conditions, etc. The time lost in February, 1920, is shown by grades and reasons for purpose of comparison. These figures do not include 14 mills not in operation.

To Erect Board Mill Near Baltimore

BALTIMORE, Md., April 4, 1921.—A group of well known men, prominent in the paper industry, has organized a company for the manufacture of box board and wrapping rope and will shortly erect a half-million-dollar plant on Gwynns Falls. The new company, whose charter will be filed with the State's Tax Commission, will be known as the Gwynns Falls Paper Company, and it is understood will be one of the most up-to-date in this country. It is expected that actual building operations will be under way by the middle of May.

It was explained by one of the men that the industries of Baltimore consume approximately 250,000 tons of box board annually and that only about 16 per cent of this is manufactured in the State of Maryland.

The raw material, consisting of waste paper, which Baltimore can supply in abundance, will be taken to the plant daily in large motor trucks.

For certain reasons the exact site of the company will not be announced until later, but it is understood from an engineering point it is most advantageously located, having ample railroad facilities, good roads for trucks and above all an abundant supply of water.

The Industrial Bureau of the Board of Trade, of which George C. Smith is director, played a prominent part in bringing this new industry to this city.

Permanent Papermaking Exhibit

There is now being arranged at the Smithsonian Institute, the United States National Museum, in Washington, a permanent exhibition of hand-made paper appliances. This exhibit has been gathered together by Dard Hunter and occupies a case in the Graphic Arts Division of the Museum.

There are examples of laid moulds of different sizes which have been used for making hand-made paper in old established mills in Europe. Also moulds which have been used in forming light-and-shade watermarked portraits—the most complicated form of water-marking paper. The dies and appliances used in making these moulds are shown, as well as specimens of paper from the moulds.

Samples of paper with watermarks may be seen, dating from the middle of the fifteenth century to the present, showing the different stages of development that took place in the laid and wove moulds during that period. Deckle edges of all varieties are exhibited, also illustrations and photographs of old mill interiors, beating engines, etc.

While the exhibit is not large Mr. Hunter has tried to make it as complete as possible so that the many thousands who visit the National Museum each year will be able to get some idea of how fine watermarking is accomplished.

Consumption of Pulpwood on Coast

The 1920 consumption of pulpwood in California, Oregon, and Washington exceeded by 23,000 cords, or 7.4 per cent, the greatest previous record which was in 1919. Similarly the 1919 consumption of pulpwood exceeded by 18.6 per cent that of 1917, the previous record. The 1919 production of wood pulp fell short of the 1917 production by nearly 3 per cent, while the 1920 production exceeded the 1917 record by 14 per cent.

This statement is based upon the following complete figures published jointly by the Bureau of the Census for 1919 and the Forest Service of the United States Department of Agriculture, in co-operation with the American Paper and Pulp Association, for 1920.

Year	Number of Mills	Pulpwood Consumed (Cords)	Wood Pulp Produced (Short Tons)
1920.....	11	334,193	243,849
1919.....	10	311,130	207,607
1918.....	9	239,774	168,654
1917.....	8	262,294	213,813
1916.....	8	259,544	188,782

The hemlock pulpwood consumed in 1920 exceeded by 72,000 cords, or 55 per cent, all other species combined. The detail of consumption by species and by processes follows:

Species	Cords Consumed
Hemlock	203,234
Spruce (domestic)	61,430
White fir	41,862
Cottonwood	18,806
All other*	8,861

Process	Cords Consumed	Pulp Produced (Short Tons)
Sulphite	174,753	97,660
Mechanical	134,601	135,657
Soda	24,839	10,532

*All other includes Douglas fir, imported spruce, slabs, etc.

Strong Endorsement for Snell Bill

As the time approaches for the convening of the next Congress, when the Snell bill will be reintroduced and pressed for passage, some important endorsements are being received from all parts of the country. The action of the New York State Legislature in endorsing the measure has brought wide comment, and may be duplicated in some other states.

The Boston Chamber of Commerce has endorsed the principles of the bill, leaving to Congress the determination of the size of appropriations in its judgment.

A state conference, called by seventeen state organizations of Wisconsin, from the state bankers to the Society of Equity, and from lumber manufacturers to womens' clubs, the Snell bill was given strong endorsement. This conference was addressed by Dr. Hugh P. Baker, representing this committee.

The Executive Committee of the National Implement and Vehicle Association has declared itself in favor of the adoption of the bill.

A. W. Cooper, secretary-manager, of the Western Pine Manufacturers Association of Portland, writes Warren B. Bullock, secretary of the National Forestry Program Committee, 18 East 41st street, New York, to note the omission of that association from the list of endorsers, saying: "In view of the fact that the joint committee of our association and the Western Forestry Association first adopted the basic principles upon which the bill was framed and which subsequently became the National Association's platform, I think you might include us among the associations endorsing the bill."

CAUTION MARKS BUYING IN THE TORONTO MARKET

Orders Booked Are Usually for Small Quantities and Are Usually for Immediate Delivery—Substantial Reductions Are Announced on Toilet and Tissue Paper—Demand for Pulp Is Extremely Limited with Several Large Plants Running Only on Part Time While Some Smaller Ones Have Closed Entirely—Demand for All Varieties of Paper Stock Also Slow—Other News of the Trade.

[FROM OUR REGULAR CORRESPONDENT.]

TORONTO, Ont., April 3, 1921.—There is a fair volume of orders coming in to all paper concerns and stocks with most consumers are getting low as in nearly every case, where business is placed, there is the inevitable request that delivery be made as soon as possible. Caution and conservatism marks all transactions just now as the items booked are for small quantities. The trade in general is not convinced yet that prices have struck bottom. Decreases go into effect every few days and, during the past week, there were substantial reductions in toilets and tissues, about 10 per cent on the former and 15 on the latter.

Paper napkins have been reduced 15 per cent, paper towels 10 per cent, parchment paper 15 per cent and one concern has lessened the price of kraft in car lots by three quarters of a cent, the figure in cars lots being 9¼ cents. Tag manila is now selling to jobbers at 7¼ cents, the quotation at the beginning of the year being 12½. During the past few weeks envelope manila has been reduced from 14½ to 10 cents and bristols now bring from 10½ to 16 cents, the former rates being from 15½ to 23 cents, according to quality. The decline on cover papers has not been so marked, the range of quotations prevailing being 13 to 23 cents, the drop being from 1 to 2 cents.

There is a very limited demand for pulp of all kinds and several plants are running only on part time, while 2 or 3 of the smaller ones have closed down until the market improves. In the rag and paper stock world, white envelope cuttings and soft white book shavings are coming down, news is moving slowly and mixed papers are at a low price. Dealers report that book and ledger stock is not selling in the quantities which they would like to see.

In domestic rags, the demand for new cotton cuttings is not large and prices are nominal. Mills are evidently having difficulty in selling the finished product and are, therefore, not buying rags. An improvement is looked for in the near future as, it is stated, that accumulated stocks are not large. Envelope manufacturers are fairly busy but could still take on more orders. An agitation has been started in Toronto and other cities to have the postage reduced from three to two cents and the postage on local or drop letters made one cent instead of two. If this is carried out envelope producers say there will be an immediate increase in their trade. Board is selling only in meagre quantities and box factories at outside points are reported to be much busier than those in Toronto.

Demand for Kraft Is Strengthening

W. H. Sherriff of the Hodge-Sherriff Paper Company, Toronto, who has been spending the past three months on a business visit to the Old Country, returned home last week. His company is the selling agents for the Wayagamack Pulp and Paper Company of Three Rivers, Que. Mr. Sherriff reports that stocks of kraft paper in England are very large and that business has been slow but is gradually improving, although the coal miners' strike and other disturbances have a tendency to unsettle the future. He was much surprised on his return to find the kraft paper business in Canada better than he expected. The Wayagamack Company resumed operations some time ago and reports that the requisitions for their

product are growing in number. Good progress is being made in the installation of the new machines. Mr. Sherriff found a lively interest taken in the Old Country in the Canadian paper trade.

Papeterie Business Is Picking Up

The annual meeting of the Barber-Ellis, Limited, manufacturing stationers, Toronto, with envelope plants in Brantford and Winnipeg, was held last week. Good reports were presented for the past year and it was stated that business for the coming year is steadily improving. J. F. Ellis, Toronto, was re-elected president; F. M. Ellis, vice president; H. Holt, secretary-treasurer; directors—C. G. Ellis, Brantford; Wallace Murphy, Winnipeg; G. Graham, Calgary; L. Graham, Vancouver; George Scott, J. F. Ellis, F. M. Ellis, E. H. Ellis, and H. Holt, Toronto. Orders for holiday papeteries and special stationery for next season's trade have been all taken and a gratifying increase is recorded.

Mead Company Closes Toronto Office

The Canadian offices of the George H. Mead Company, of Dayton, Ohio, in the Bank of Hamilton building, Toronto, have been closed and L. E. L. Harvey, who was the manager, has gone to Montreal. In future, the Canadian sales of the Spanish River Pulp and Paper Mills, Ltd., will be handled from the headquarters of the company at Sault Ste Marie, Ont. T. H. Watson, who is president of the Canada Machinery Corporation, of Galt, and a director of the Spanish River, has taken the offices vacated by the George H. Mead Company.

Good Progress on Spruce Falls Plant

The Spruce Falls Company, which erected a large sulphite pulp mill in the new town of Kapuskasing, Ont., state that construction is proceeding as rapidly and satisfactorily as could be expected. The buildings are all up and the machinery is in process of installation and it is hoped to have the plant in operation in a couple of months. The company has practically its entire requirements of pulpwood for 10 or 12 months taken off their own limits. The company has also erected a saw mill of about 35,000 feet capacity per day but has not sawed any lumber for the market, only for its own construction requirements. The report, published in the press some time ago that the company had curtailed operations at Kapuskasing is entirely unfounded, according to advices received from headquarters.

Strathcona Company Installing Board Machine

The Strathcona Paper Company is installing a new board machine at their plant at Strathcona, Ont., and expect to have it in operation by the end of the present month. The machine consists of four cylinders overhead felt, three baby presses, 36 dryers, 84 x 48. Its width is 84 inches. The company last week started up its machine on sheathing papers, which was installed last fall. The market for building and sheathing papers has been quiet for some time but, with the advent of spring, is improving. The company recently added new motors in its beater room and has also erected two new boilers.

New Pulp Plant for the North

Much interest is being developed in the Haileybury and New Liskeard district over the proposed new groundwood pulp plant which it is proposed to erect on the shores of Lake Temiskaming, Ont., at Dickson Creek, half way between Haileybury and New Liskeard. Those behind the enterprise have already advanced several thousand dollars in securing the site and an endeavor is being made to secure a concession from the township of Bucke that the fixed assessment of the plant shall not exceed \$20,000 for a term of twelve years.

Statement of Defense in Timber Inquiry

Justices Riddell and Latchford, Toronto, the commissioners, who are investigating the timber and pulpwood administration of the

province, have filed their statement of defense in the injunction proceedings directed against them by the Spanish River Pulp and Paper Mills. The Commissioners contend that the ground for the action of the plaintiffs is premature and should not have been brought until the defendants had exercised their powers in accordance with law and, on this ground, ask for the dismissal of the injunction. The defendants say their only purpose is to perform their duties fully and that they have no desire to exceed the powers conferred on them as commissioners.

Notes and Jottings of the Trade

Lorne Graham, of Vancouver, manager of the Barber-Ellis Company, Limited, in that city, was in Toronto recently on business.

A provincial charter has been granted to the Frontenac Paper Box Company, Limited, with headquarters in Kingston, Ont., and a capital stock of \$40,000. The company will manufacture a general line of paper boxes.

Charles S. Taylor, of the sales staff of Ritchie & Ramsay, coated paper manufacturers, Toronto, last week joined the ranks of the benedicts, being married at Oakville, Ont., to Miss Monica Wood.

F. L. Ratcliff, president of the Ratcliff Paper Company, Toronto, and Mrs. Ratcliff, who have been spending several weeks in Bermuda and Atlantic City, have returned home.

F. A. Ritchie, of Ritchie & Ramsay, coated paper manufacturers, Toronto, who, with Miss Ritchie, has been enjoying a winter vacation in Jamaica, has arrived in Halifax, N. S., on his way home.

Joseph Kilgour, of Toronto, president of the Canada Paper Company and Mrs. Kilgour, who have been spending some time in Florida, got back to Toronto a few days ago.

Archie Reid of the National Paper Company, Valleyfield, Que., spent a few days in Toronto last week calling upon the trade. He is a former member of the executive staff of the Provincial Paper Mills Co.

E. S. Munroe, president of the Wilson-Munroe Company, Limited, wholesale paper dealers, Toronto, and treasurer of the Canadian Paper Trade Association, who has been holidaying the past few weeks at St. Petersburg, Fla., with Mrs. Munroe, returned home last week, much benefited by his outing.

A. P. Rawsthorn, who until recently was connected with a London, Eng., export paper house, has joined the selling force of the Fred W. Halls Paper Company, wholesale paper dealers, Toronto.

W. J. Gage & Company, wholesale stationers and publishers, Toronto, have announced that they will give all their employees in the factory holidays with full pay. Those who have been in the service for one year and less than two will get a week and those of over two years' standing will receive two weeks annually.

A. P. Costigane, of Toronto, secretary and safety engineer of the Ontario Pulp and Paper Makers' Safety Association, has been invited by a number of pulp and paper mills in the province of Quebec to give addresses on "Safety Work" and is arranging for suitable films to illustrate his talks on the subject in which he has become a widely recognized exponent.

To Furnish Counsel for Paper Makers

The Industrial Foundation, Inc., 50 Union Square, New York, announces the formation of an engineering department, equipped to furnish counsel on all matters relating to the mechanical end of the paper converting industry. The work of this department will cover the practical development of ideas and patents, supervising the equipping of new plants, counsel on operating efficiency of established plants, the designing and building of special machinery and general advice and research work. Kurt Wandel, president of the Industrial Foundation, Inc., and well known as a paper engineer, will be in charge of this department, assisted by able associates. The Engineering Department of the Industrial Foundation, Inc., will cater exclusively to the needs of the paper converting industry.

Specifications for Wrapping Rubber Tires

The revised specifications for wrapping pneumatic tires adopted by the Consolidated Freight Classification Committee, effective about May 10 are as follows:

Pending the effective date of this supplement we are informed that shipments wrapped in accordance with these specifications will be accepted by the carriers in Official Classification territory. It will be observed that only waterproof paper can be used for this purpose.

SECTION 1. Single tires must be completely protected by machine one-third overlap wrapping in

- (a) waterproof paper having a resistance of not less than 60 lbs. per square inch, Mullen Test, or
- (b) crinkled waterproof paper having a resistance before crinkling of not less than 60 lbs. per square inch, Mullen Test.

SECTION 2. Bales or bundles of two or more tires, other than individually wrapped tires, must have wrapping overlap not less than one-third its width and bales and bundles must be protected

- (a) by completely wrapping in burlap, or
- (b) by overlap wrapping in waterproof paper having a resistance of not less than 100 lbs. to the square inch, Mullen Test, or
- (c) by overlap wrapping in crinkled waterproof paper having a resistance before crinkling of not less than 100 lbs. per square inch, Mullen Test, or
- (d) by overlap wrapping in two thicknesses of waterproof paper fastened together with a waterproof composition and reinforced with yarn or wire not more than one inch apart, the combined material having a resistance of not less than 60 lbs. per square inch, Mullen Test, or
- (e) by machine overlap wrapping with waterproof paper and cloth, the combined material having a resistance of not less than 60 lbs. per square inch, Mullen Test, or
- (f) by machine overlap wrapping with waterproof paper having a resistance of not less than 60 lbs. to the square inch, Mullen Test, or
- (g) by machine overlap wrapping crinkled waterproof paper having a resistance before crinkling of not less than 60 lbs. per square inch, Mullen Test, and

SECTION 3. All bales or bundles must be securely tied in not less than three places with rope not less than $\frac{1}{4}$ inch in diameter, or three metal bands not less than U S Standard Gauge No. 29, $\frac{1}{2}$ inch in width, securely fastened and properly spaced.

To Use White Birch for Pulp

Tiers of white birch, to be used as a distinct addition to the usable basis of pulp manufacture, are piled high in the stock piles of the Penobscot Chemical Fibre Company, according to a press dispatch from Old Town, Me., and are attracting much attention. The company has been experimenting for several years with various kinds of wood for this product and results have been so satisfactory that it is understood that in another year practically every kind of tree on the tract will be peeled for use in making pulp. While all trees are not equally adaptable to the making of pulp, the harder ones, cooked longer and mixed with the softer varieties, make the supply hitherto depended on for the making of pulp go much farther.

Norwegian Paper Industry Dull

About half of the Norwegian paper mills are closed down, with large stocks on hand, and in order to avoid a complete shutdown some mills are operating only three to five days a week, according to the Christiania representative of the Liberty National Bank, writing in *Present Day Scandinavia*, published by the financial institution. He adds, however, that a revival is expected in the next few months.

PRICES IN PHILADELPHIA SHOW A FURTHER DECLINE

Reductions of Nearly 10 to 15 Per Cent on Nearly All Grades of Fine Paper and of Even Larger Amounts on a Majority of the Coarse Paper Lines Are Contained in Various New Price Lists Issued April 1—Because of Unusual Conditions a Specially Large Attendance Is Desired at the Annual Banquet of the Philadelphia Paper Trade Association to Be Held Saturday Evening.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, April 4, 1921.—Reductions of from 10 to 15 per cent on nearly all grades of fine papers, and even of larger amount on a majority of the coarse paper lines, are contained in the price lists which the various distributors issued as of April 1. These reductions followed closely upon the rather large cut made by the Hammermill Company as announced a week ago, by the Hollingsworth & Whitney Company, which earlier in the week sent out announcement of new prices about \$20 a ton lower than the last preceding list, and the lower quotations of a number of other mills. So far as the mills are concerned the only other feature of the week was the withdrawal of prices by a few who previously had made very large cuts. Whether the withdrawals are due to a purpose to advance from the radical reductions which were made or whether they foreshadow the closing of these mills, is not known to the trade.

Optimists in the ranks of the distributors regard the reductions of the week as merely marking another step towards stabilization, the absence of which they charge as being wholly responsible for the very unsettled condition of the trade. The pessimists are inclined to the view that the April 1 reductions reflect the very poor business in the paper trade and that further reductions, invoking still greater loss on stock at hand purchased at high prices, may be expected.

Conditions Unsettled

Save as the reductions being nearer the day when prices will really be at rock bottom, the distributors do not rejoice over the action of the mill men. Salesmen for all the paper houses report that there is awaiting a goodly sized volume of buying orders which will be given out, just as soon as printers and publishers reach the conclusion that better prices cannot be secured by waiting. They regard the reductions of the week as certain to further postpone buying orders, arguing that there can be no activity in the buyers' demands on a falling market. On the other hand, they do not believe that the volume of business enjoyed during the last few weeks will be decreased, for the simple reason that consumers for many weeks past have been purchasing only for immediate necessities and in the very smallest amounts possible. The April 1 reduction is the first large decline which has been made since February, and because of the passage of two months with prices virtually unchanged, belief had been growing that at last stabilized values had been reached. Now everything again is unsettled.

The week brought a continuance of rather steady conditions in the fine paper market, with many orders but all for small amounts. The coarse paper market continued, however, to be unsettled and uncertain. There seems really no longer to be a standard price for anything. Apparently the price is fixed by the consumer rather than by the distributor. There is intense rivalry in getting orders and in many cases prices are made by distributors at even less than replacement cost, in order to get rid of large stocks before another decline in cost is announced.

Paper Stock Market Continues Slow

The stock market for both rags and old papers continued in its somnolent way of the last few weeks. Mill demand is almost nil. Dealers are taking into the warehouses only such stock as they are compelled to, in order to retain customers who, when prosperity again sets in, they desire to have on their books. Commons and mixed are not bought at any price for the mills continue to apportion among the dealers the amounts they will take in and to limit the price at the mill to \$7 a ton, a sum which hardly pays for handling this stock.

With all the disappointments of the week, the trade continues cheerful and no less convinced that it is only a matter of time before improvement will set in. All are looking forward to the national conventions next week to clarify the vision into the future.

Large Attendance Desired at Banquet

Because the present is perhaps the most trying time the distributors have suffered for the last decade, the Philadelphia trade, united in the Paper Trade Association, is exhausting efforts to have present at the annual banquet on Saturday evening of this week the most representative attendance of mill men whom it ever attracted to any function. It was for the purpose of assuring their presence that the association selected the unusual date for its annual banquet, a Saturday night in April rather than as customary in February. The association desires to have stop off in Philadelphia en route to New York, every mill man who can be induced to attend. For the banquet there has been prepared a vaudeville entertainment on the most elaborate scale ever attempted by the association. There will be but two speakers but each of these will have a message of special import at this time. They will be F. L. Moore, president and general manager of the Newton Falls Paper Company and "Judge" Charles F. Moore of the Seaman Paper Company. President Allen E. Whiting of the association expressed during the week his delight that the association has been able to secure these speakers. He believes they will have words of vital importance to say at this time.

Nominating Committee Appointed

President Whiting has just appointed the following Nomination Committee to make recommendations for the annual election in June: Chairman William S. Wilcox, the D. L. Ward Company; Arthur B. Sherrill, Riegel and Company, Walter J. Matthias, Matthias and Freeman, and J. L. N. Smythe, the J. L. N. Smythe Company.

Many Paper Men Going to New York

There is every indication that Philadelphia will send to New York the largest delegation which ever attended the annual conventions. The D. L. Ward Company has taken a suite of rooms in the Waldorf-Astoria. A dozen representatives will attend, including President George W. Ward, and Vice-Presidents William S. Wilcox in charge of Fine Papers, William Seery, News, and E. T. Walter, Coarse Papers, and Secretary W. A. Hentz, purchasing agent, J. L. Taylor and others. All the department heads of the Whiting-Paterson Company have arranged to go to New York. Virtually every paper distributor in this city will be represented by one or more executives.

Little Progress in Paper Collection Plan

The Typothetæ of Philadelphia has made but little progress in its program of making an award to the best bidder among the paper stock dealers for the collection of waste from such of its master printer members as choose to enter into the combination. Though Acting Secretary Schryer invited proposals from four of the largest paper stock dealers of the city only one submitted a proposition during the week. At least one of the others indicated to the representative of the PAPER TRADE JOURNAL that he had no interest at all in the proposition of the Typothetæ and did not

(Continued on page 64)

When You Buy SULPHITE

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KRAFT PULPS

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NEW YORK

MATTERS IN WASHINGTON, D. C., OF INTEREST TO PAPER MEN

George H. Carter, Well Known to the Paper Trade as Clerk of the Committee Which Purchases Paper for the Government Printing Office, Is Appointed Public Printer—Special Session of Sixty-Seventh Congress to Convene Monday Promises to Be of Great Interest to the Paper Trade—Indian Government Interested in Possibilities of Paper Making—Tariff on Pulpwood.

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., April 6, 1921.—President Harding last Thursday announced the appointment of George H. Carter, clerk of the Congressional Committee on Printing, as Public Printer. This confirms an announcement which was made in the PAPER TRADE JOURNAL some weeks ago to the effect that Mr. Carter would probably be the successful candidate. He is well known to the



GEORGE H. CARTER

paper trade in his capacity as clerk of the committee which purchases paper for the Government Printing Office.

Mr. Carter was born at Mineral Point, Wis., in 1874. He is a graduate of the LeMars, Ia., High School, the State University of Iowa and the George Washington University Law School of this city. He was admitted to the bar of the Supreme Court and the Court of Appeals of the District of Columbia last year.

When a young man Mr. Carter learned to set type and operate a job press at LeMars, Ia. He was a clerk in the National Bank of Pittsburg, Kan., during the summers of 1892 and 1893, and in 1898 and 1899 was proofreader and state news editor of the Sioux City *Tribune*. During the latter year and in 1900 he was a reporter on the Council Bluffs *Nonpareil*, and in 1901 he came to Washington as clerk in the Census Office. From the latter part of the year 1901 to 1906 he returned to the Council Bluffs *Nonpareil* as city editor, and in 1903 through 1905 he was secretary of the Pottawattamie, Ia., Republican Central Committee. From 1905 to 1907 he was a political writer and State House reporter for the Des Moines, Ia., *Capital*, and from 1907 to 1909 he was copy editor and assistant telegraph editor of the *Washington Post*. In 1909 and 1910 he was Washington correspondent and special writer for various Iowa newspapers, and in 1910 and 1911 was assistant secretary and sec-

retary of the Printing Investigating Commission. In 1911 he was appointed clerk of the Joint Committee on Printing, which position he has held to date. Mr. Carter was also appointed in 1911 secretary of the Special Committee on Government Paper Specifications and is author of the Congressional Printing Handbook and compiler of numerous Congressional documents.

Mr. Carter is a charter member of the National Press Club of this city and honorary life member of the International Printing, Pressmen and Assistants' Union of North America, has an honorary card in the Milwaukee Newswriters Union No. 9 affiliated with the International Typographical Union. He is also a Knight Templar, Shriner, and 33rd degree Mason, honorary inspector general, and belongs to the Phi Kappa Psi Fraternity. He was married in 1904 and has one daughter.

Traffic Suspended on Pulpwood

The Interstate Commerce Commission has suspended until April 30 the operation of certain tariffs. The suspended schedule seeks to increase the rates on pulpwood between points in Washington, Oregon, Idaho and British Columbia.

Paper Manufacturing in India

The Far Eastern Division of the Bureau of Foreign and Domestic Commerce has received the following report telling of the development of paper manufacturing by the Indian Government:

"The Indian Government is interested in the possibilities for paper making within the country, investigating particularly the manufacture of paper from bamboo in Burma. It is stated that the paper making products of India are innumerable and that the impediments in the way of their utilization, though many, are by no means insuperable. It is hoped that through the efforts of the Government the industry will be developed on a sound and economic basis."

Several Sessions of Great Importance

The special session of the Sixty-seventh Congress convenes here on next Monday, April 11, at the call of the President. This session of Congress will probably be more interesting to the trade than any which has been held for many years in view of the fact that not only will the tariff be revised but also the revenue laws. In addition to these very important measures, it is more than probable that many other bills will be passed which will affect the industry in one way or another.

Paper Supply Co. in New Quarters

MINNEAPOLIS, Minn., April 1, 1921.—On Saturday night, February 19, fire completely destroyed the Paper Supply Company's building at 414-416 Third Avenue North, Minneapolis, Minnesota. Monday morning, February 21, the firm opened for business at 240-246 Sixth Avenue South.

The new headquarters of the Paper Supply Company contains 45,000 square feet of floor space. It is well lighted and has excellent trackage facilities. Within a short distance of the new building are a majority of the printing establishments of the city.

Coincidentally with moving into the new quarters, J. H. Hillyer, a veteran of fifteen years in the paper business, became second vice-president and sales manager. C. R. Hartinger assumed the position of secretary. Mr. Hartinger has been connected with the Paper Supply Company's credit department for about ten years. Previous to this he conducted a large implement business.

The phenomenal recovery of the Paper Supply Company was made through the assistance of the Washburn-Crosby concern, manufacturers of Gold Medal flour. Previously to the occupancy of this building by the Paper Supply Company it had been used as a warehouse for the storing of surplus flour. Over two hundred carloads were in the building at the time. Through energetic work one entire floor had been cleared on Monday.

A very satisfactory adjustment has been made with the insurance firm of Sexton Company.



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Before you place your contract permit us to give you our prices.

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"ASK THE MAN WHO BURNS IT"

STRIKE SITUATION BETTER AT NORTHERN PAPER MILLS

Officials Expect That Production Will Have Returned to Normal If the Present Rate of Improvement Continues—
Wage Cut Is Authorized by the Island Paper Co., of Menasha, Which Has Been Closed Down for a Few Days
—Signs of Increasing Interest in Reforestation in Wisconsin
—Paper Making Concerns of Which L. L. Alsted Is President Will Have General Offices in Appleton.

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., April 5, 1921.—Production in the Northern Paper Mills, Green Bay, where a strike has been in progress for more than two weeks, will have returned to normal by the end of this week if the present rate of improvement continues, according to officials of the company. The strike was called because of a reduction of 17 per cent in wages on March 1. Between four and five hundred men left their jobs at that time but several since have returned and places of other strikers have been filled, it was said.

An injunction restricting striking employees to "peaceful" picketing was issued by Judge Henry Graas and was followed a few days later by the arrest of 40 men and women who were cited to show cause why they should not be sentenced for contempt for violating the injunction. The cases were dismissed, however.

There have been a few fights since last week but as a general rule the strike has been conducted in an orderly manner. Strike leaders have instructed the idle men that their only hope for victory lies in careful observance of the law.

About 65 per cent of the product manufactured in February was turned out in March, according to mill officials. Production is constantly increasing, giving rise to the belief that the effectiveness of the strike will be destroyed within a week or ten days.

Island Paper Co. Cuts Wages

A wage cut has been authorized by the Island Paper Company of Menasha which was closed down for a few days. It was to resume operations on Monday. It has been rumored that the Marinette and Menominee Paper Company is considering a wage reduction and a meeting of workmen was held last week to arrive at some understanding on the attitude to be taken. A committee was appointed to confer with the company after which it will report to the workmen who then are to determine if the proposed reduction is to be accepted.

To Stimulate Interest in Reforestation

Henry C. Campbell, associate editor of the Milwaukee Journal, was elected chairman of the Wisconsin Forestry and Development conference in Milwaukee last week. An organization was formed to stimulate interest in reforestation in Wisconsin and to conserve forests now in existence.

One of the principal speakers was Dr. Hugh P. Baker, secretary of the American Paper and Pulp Association, who said that depletion of forests in Wisconsin not only threatens its great paper and wood using industries but may mean the wiping out of entire communities. He said the woodpile is fundamental to the permanency of the paper industry and urged support for the Snell bill, now before Congress, providing federal aid for reforestation.

Prominent Wisconsin lumbermen declared that unless action is taken at once to reduce the fire loss and more intelligent lumbering methods are adopted, Wisconsin's great forests will have disappeared in 55 years.

Arthur F. Belitz declared the state should immediately engage in reforestation and suggested that the necessary funds can be secured by increasing hunting and trapping licenses, producing a revenue of \$200,000 a year, to be used entirely for replanting forest areas.

The Wisconsin Legislature now is considering a constitutional amendment which would permit spending two-tenths of a mill per dollar of the last assessment for reforestation work. The resolution was introduced by Senator Titus. It was said Wisconsin has about 2,000,000 acres of cut-over land which can be used for no other purpose than for reforestation. Senator Titus and friends of the resolution urge a survey of northern Wisconsin to determine the amount of land that is too poor for agricultural purposes but which is admirably suited for forests.

To Have Offices in Appleton

General offices of the Combined Locks Paper Company, Lakeview Paper Company and the Valley Pulp Company, located in Combined Locks, Neenah and Kaukauna, will be established in Appleton, it has been announced by Major A. J. McKay, vice-president and general manager of the three companies. The Combined Locks company has purchased the old home of the First National Bank in Appleton, one of the most centrally located buildings in the city, and will take possession about June 1, after considerable remodeling. The building now is occupied by the main offices of the Wisconsin and Northern Railroad, which lately was absorbed by the "Soo line." Offices will be maintained at the mills but general officers will have their headquarters in Appleton. The purchase of the building, completed on Saturday, was one of the most important transfers of property in Appleton this year. L. L. Alsted of Milwaukee, is president of the three companies. Mr. Alsted, Mr. McKay and their associates purchased the Lakeside paper mill in Neenah and the Kaukauna Pulp Company plant at Kaukauna within the last year, organizing the Lakeview Paper Company and the Valley Pulp Company to operate the plants.

To Resume at Wisconsin Rapids

Papermaking will be resumed in the Wisconsin Rapids division mill of the Consolidated Water Power and Paper Company which closed down late in March. It was intended to resume operations April 4 but the date was deferred.

Nearly all of the employes will be kept busy, however, until the reopening of the mill. Considerable pulpwood is being piled in the yards and a large crew is cleaning up following the vast amount of construction work carried on during the last year.

The Biron division mill now is operating four days a week. It is not known if the Wisconsin Rapids mill will operate full time when the machines again are set in motion.

New Office Building for Park Mills

The office force of the Marinette and Menominee Paper Company now is installed in the new office building at the Park mills, regarded as one of the finest structures of its kind in the state. The building is 80 feet long by 40 feet wide and is built of concrete and brick. A large recreation hall and kitchen are included. It is planned to serve meals at cost to office and mill employes. The main office and several private offices are on the main floor while the general superintendent, time keeper and first aid rooms are provided for on the ground floor.

The second machine in the Peshtigo Pulp and Paper Company plant at Peshtigo was started March 30 and is now turning out paper. The first machine was set in motion last June. Both turn out tissues 146 inches wide. Pulp for both machines is furnished by the Peshtigo Fibre Company plant, which began operations about two weeks ago.

Consent of the government must be secured by the Wisconsin-Minnesota Light and Power Company before it can begin work on the construction of an immense power dam across the Chippewa river in western Wisconsin. The dam would cause the river to overflow 296 acres of Indian tribal lands. If the permit is granted the company will expend \$700,000 in construction of the dam and reservoir which will have a storage capacity of 12,000,000 cubic feet. This will provide a constant flow of water to the dams further down the river, one of which is generating current for a paper mill.

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A-1 Bleached Sulphite

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*Uniform in Quality
Essential for Strength Requirement*

The Pulp and Paper Trading Company

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Sole Agents for United States for

CANADIAN KRAFT, Ltd.

Three Rivers, Canada

THE NEWTON FALLS PAPER CO. TO OPEN IMPROVED MILL SOON

Plant Has Been Closed for Past Two Weeks While New Equipment Has Been Installed—While the Improvements Are Not Expected to Increase the Production of the Mill They Will Guarantee a Much Better Quality of Paper for the Present Trade—Prominent Watertown Paper Manufacturers Attend News Print Conference in New York—Floyd L. Carlisle to Speak at Utica.

[FROM OUR REGULAR CORRESPONDENT.]

WATERTOWN, N. Y., April 4, 1921.—The Newton Falls Paper Company will be ready to open its plant in about a week with greatly improved machine conditions. The plant has been down for two weeks while new equipment is being installed, but when production starts again it will be of a very much better grade because of the changes made.

President Frank L. Moore said today that the wet end of the two paper machines is being lengthened, new screens are being installed and a third press is being added while the two old ones are being replaced with new.

All the extensive additions and improvements to the big plant are made with the ultimate purpose of converting the plant into the manufacture of book paper. The new owners of the concern intend to devote this mill to book paper at some future date and will be able to utilize the entire capacity of the plant in their own business.

Wrapping paper and specialties have always been manufactured at this plant. While the new improvements are not expected to increase the capacity of the mill they will guarantee a much better quality of paper for the present trade.

The usual supply of pulp wood has been cut for the company and skidded for regular delivery this spring.

Paper Men Meet in New York

The paper manufacturers have agreed upon a counter proposition to meet the demands of organized labor and a compromise may be brought about that will avoid trouble May 1. Floyd L. Carlisle, president of the St. Regis Paper Company, who heads the manufacturers' organization, returned from New York Thursday morning following the conference at the Biltmore Wednesday. He said that a proposition had been agreed upon by the manufacturers and that it would be submitted to President J. T. Carey of the International Brotherhood of Paper Makers, and to John P. Burke, head of the International Brotherhood of Pulp and Sulphite Workers, at a conference to be held in New York within the next week. Mr. Carlisle is a member of the special committee of manufacturers that will carry the program of the manufacturers before the labor heads.

Mr. Carlisle declined to make public the nature of the proposition agreed upon by the conference Wednesday. He said that the labor organizations withheld from the public the text of their proposition until it was officially communicated to the manufacturers and it was decided at the meeting Wednesday that the same courtesy should be extended in return. It is understood, however, that the manufacturers will forward a proposition carrying a substantial reduction in the present wage scale and this will counteract the demand for an advance presented by labor. The result will offer a basis for negotiations between the special committee of manufacturers and the Brotherhood heads.

J. V. Baron, head of the Sherman Paper Company, and R. B. Maltby of the Hanna Paper Corporation attended the conference but did not return with Mr. Carlisle. They represent the local mills affected by the union working agreements which expire May 1.

The DeGrasse Paper Company and International Paper Company mills in this section were represented by New York officials.

Asked concerning general sentiment as to industrial conditions, especially as affecting the paper business, Mr. Carlisle said that the subject was not even discussed.

For Regulating Stream Flow in Black Creek

Complete plans for the enlargement of the Stillwater reservoir to five times its present capacity were agreed upon by the Board of the Black River Regulating District in session Friday and these plans will be certified to the Conservation Commission for approval at once. It is believed that present industrial conditions warrant immediate promotion of the big project and it is expected that by this summer the contracts will be awarded and that the reservoir will be affording regulation of stream flow in Black river in about two years.

The original plans of the Board called for the raising of the present dam six or seven feet, but the revised plans reached at the meeting Friday call for the raising of the dam by nineteen feet. This will make a dam thirty-nine feet high which will impound 4,500,000,000 cubic feet of water and give a surface area of ten square miles. The first step will be the lumbering and clearing of 3,500 acres of land which will be brought into the flooded area by reason of the nineteen feet raise of the dam.

President J. V. Baron, Commissioners J. N. Carlisle and James A. Outterson, Secretary E. S. Cullings and Attorney D. M. Cosgrove were present at the meeting. It was decided from information at hand that prices of materials and labor had returned to such a level that economy would warrant the earliest possible development.

The decision to press formal steps necessary before work can be started was reached. It is now estimated that the new dam will cost between \$800,000 and \$900,000.

The plans certified to the Conservation Commission by the local Board may be approved or modified by the Commission any time within forty days. Then a public hearing must be held, after which a final order will issue and the Board must file the order in the offices of the County Clerks in the counties affected and various State offices.

Mr. Carlisle to Speak at Utica

Floyd L. Carlisle, president of the St. Regis Paper Company and a member of the special committee of manufacturers that will present to labor heads the wage scale proposition of the group of manufacturers that met last week in New York, will speak on "Relations of the Employer to the Employee" at the spring meeting of the Northern New York Division of the American Pulp and Paper Mill Superintendents' Association to be held in Utica Friday. Several superintendents of mills in this section will attend the meeting.

Consumption of Paper in the United States in 1920

A table compiled from the reports of the Federal Trade Commission by R. S. Kellogg, secretary of the News Print Service Bureau, showing the consumption of paper in the United States during 1920:

Grade	Mill Stocks		Imports, Exports		Mill Stocks Dec. 31, 1920	Quantity Available for Consumption 2,300,674
	Jan. 1, 1920	Production, 1920	1920	1920		
Board	40,329	2,313,449	(a)	(a)	53,104	2,300,674
News print	15,369	1,511,968	729,869	45,976	24,763	2,186,467
Book	23,279	1,104,464	2,170	47,845	25,005	1,057,063
Wrapping	26,271	831,889	2,471	30,632	35,800	794,719
Fine	31,516	389,322	(a)	(a)	30,312	390,526
Felts, etc.	5,315	366,941	(a)	(a)	13,420	358,836
Bag	2,087	211,923	(a)	(a)	3,031	210,979
Tissue	5,697	177,447	(a)	(a)	8,774	174,370
Hanging	1,452	113,824	(a)	(a)	3,027	112,249
Other	12,482	313,387	(b)25,000	(b)140,000	17,160	193,709
Total	164,317	7,334,614	759,510	264,453	214,396	7,779,592

(a) Not separately reported.
(b) Estimated.

Nearly Twenty Years Ago

The first Rotary Screen was built by the Bird Machine Company. The Bird Machine Company has been building Rotary Screens ever since, the present Bird Screen being the result of twenty years' experience.

During those years other rotary screens have been developed and passed into oblivion.

Twenty years' specialization in building screens has resulted in producing the one universally successful rotary screen.

Hundreds of Bird Screens are in successful daily operation and have been for years.

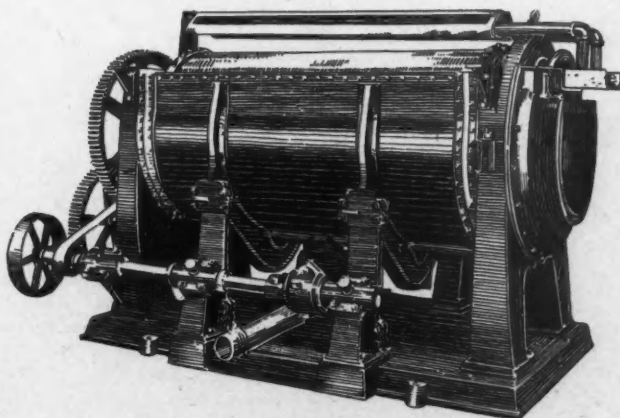
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BIRD ROTARY SCREENS

TO GRADE DOWN THE WAGES IN FOREST PRODUCTS TRADES

Men in Woods Are Already Faced by Substantial Cuts in Wages—Labor Unions Announce Intentions to Resist to the Limit of Their Power the Introduction of These Changes—Abitibi Power and Paper Co. Reduces Quarterly Dividend from \$1.50 to \$1 Per Share on the 250,000 Shares of No-Par-Value Stock Outstanding—Brompton Co. to Create Issue of \$3,000,000 Bonds.

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., April 4, 1921.—A movement has started with spring in Eastern Canada for grading down the high wages paid in the industries in forest products during the war and after. Men working in the woods and lumber yards are already faced in many instances by substantial cuts in wages. For instance, beginning today the Gatineau Lumber Company, Ltd., is putting into effect a 15 per cent reduction to all Ottawa employees, some 200 in number. The scale of wages will now be practically the same as in 1919, a general increase of 15 to 20 per cent having been given early in 1920. The reduction is announced as the only alternative to closing up both the yard and factory. The Gatineau Company is now a subsidiary of the Riordon Company. From Fredericton, N. B., it is announced that there is every indication of an impending struggle between the mill owners and the workers of that province. The owners of the mills have announced their intention of returning to the 10-hour day, a 9-hour schedule having been adopted last year. In some cases a reduction in wages, amounting to as much as 20 per cent, has been announced. Labor unions have announced their intention to "resist to the limit of their power" the introduction of these changes.

Abitibi Company Cuts Dividend

An important development in the industry during the week was the action of the directors of the Abitibi Power and Paper Company in reducing the quarterly dividend from \$1.50 to \$1 a share on the 250,000 shares of no par value stock outstanding. The announcement was accompanied by the statement that the earnings for the current quarter warranted a larger dividend distribution, but it was deemed advisable, considering current business conditions, to maintain a favorable liquid position for the company.

Brompton Company's Financing

At a special general meeting of the shareholders of the Brompton Pulp and Paper Company in Montreal authorization was given to the proposal of the directors to create an issue of \$3,000,000 of 20-year 8 per cent convertible mortgage bonds. President McCrea said that the company recognized that financing under present conditions was expensive, and had decided to confine the issue to the smallest amount compatible with their requirements. He remarked that for the first five months of the company's fiscal year earnings available after fixed charges amounted to \$560,000. If these earnings were maintained there would be no need to call in question the permanency of the dividend. He added that he had every confidence in the future of the company, and believed that conditions were now approaching normal in the industry.

Navigation Open

Navigation opened last week on the St. Lawrence, which was free from ice from Montreal to the sea. This is the earliest opening for many years.

Riordon's New Financing

The Riordon Company is stated to have completed arrange-

ments for the financing of its needs, following a conference between the Canadian and American bankers interested. It is generally understood that the new financing will run into approximately \$6,000,000. The proceeds of the issues will place the company in an exceptionally strong position as regards working capital to carry on its extensive operations in both the lumber and pulp and paper industries. The magnitude of the Riordon's operations is not generally appreciated. It is the largest producer in Canada and the second largest producer in the world of bleached sulphite pulp. Through its subsidiary, the Gatineau Company, Riordon operates the largest white pine lumber business in Canada. Combined sales for 1920 were \$19,000,000, and combined gross profits nearly \$6,000,000. Riordon is one of the largest industrials in Canada. Its woods operations alone this year require the expenditure of, roughly, \$10,000,000 during the winter months. In view of the immense business which the company is doing it is obvious that it needs a large working capital.

Nashwaak Pulp Plant Closed

Notices have been posted at the Nashwaak Pulp and Paper Company's plant notifying the employees that work is suspended there for an indefinite time, says a despatch from St. John, N. B. The company has recently completed a large contract, and with a dull market and falling prices, it is regarded as an opportune time to suspend operations for the purpose of making needed repairs to the machinery and giving the plant a general overhauling. The employees of the plant number 275, some of whom will be employed on the repair work.

B. C. Plant Reopened

From Vancouver, B. C., it is announced that, after having been closed down some months owing to the depression in trade, the plant of the Western Canada Pulp and Paper Company has been re-opened. The plant manufactures kraft paper, and has a capacity of 40 tons per day.

Quebec Paper Trade

At the annual meeting of the Quebec Board of Trade John T. Ross, the retiring president submitted some striking figures showing the rapid growth of the pulp and paper trade in Quebec Province. According to the official report of the United States Consul at Quebec, he said, the growth of the exports of this industry in the province had been as follows:

1911, \$4,530,329; 1914, \$10,320,932; 1917, \$23,213,846; 1920, \$40,842,124.

This remarkable growth he attributed to the fact that some years ago the merchants of Quebec had the enterprise to build two local railways through the spruce forests to the water powers of the Saguenay and the St. Maurice, which caused the erection of pulp and paper mills, employing thousands of men, and creating a trade which was continually increasing in importance.

Advertising Rates Coming Down

The Toronto Globe has sent out an announcement to advertisers to the effect that owing to the decrease in the price of news print, which will be \$110 per ton for the quarter beginning April 1, its advertising rates will be decreased by amounts varying from five to two cents per line, according to the amount of the contract space.

Protest New Timber Tax

British Columbia lumbermen who are holders of Crown granted timber lands have protested to the Provincial Government against the announced policy of the Department of Finance to increase the tax to 3 per cent, and to re-assess the 1,000,000 acres of Crown grant timber by a new cruise. It was pointed out that the taxation of timber has been nearly trebled during the last eleven years. Further taxation would demoralize the markets for years to come. If this tax were enforced it would mean the forced cutting and slaughter of their timber resources.

Established 1886

Knowledge

EACH generation inherits the cumulative knowledge of the ages.

NOWADAYS, a man may acquire at his leisure information which took twenty centuries to discover.

INCIDENTALLY, our organization has been thirty-five years in reaching its present state of perfection, yet any manufacturer can secure its service at a minute's notice for the same price or lower than less efficient organizations would charge.

WOOD PULP

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CHEMICALS

OF EVERY DESCRIPTION

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PAPER DEMAND IN CHICAGO REPORTED SOMEWHAT BETTER

No Great Rush for Paper But General Tendency Is Said to Be Toward a Better Condition—Specially Large Delegation of Chicago Paper Men Is Expected to Attend Convention of the American Paper and Pulp Association in New York Next Week—L. P. Sine Is Elected President of the Chicago Wrapping Paper Association—Other News of Interest to the Paper Trade.

[FROM OUR REGULAR CORRESPONDENT.]

CHICAGO, April 4, 1921.—Paper jobbers in Chicago state that during the past two weeks they have noticed a slight increase in demand for many grades of paper. Tissues, writings and book papers, from reports from the jobbers, appear to be the leaders. There is no great rush for paper, however, and compared to this time last year, business is dull. However, the general tendency is said to be toward a better condition.

The feeling among the jobbers here is that the near future will bring a much better market. Stocks are continually growing lower in the buyer's warehouses and just as soon as the general commercial condition now prevailing rectifies itself, jobbers here expect to see a greatly improved demand.

Some of the houses report an increase in inquiries. These are a very good indication of what can be expected later in the way of buying. With the opening of a number of large industries in different cities through the west late last month, and the expected resumption of operation of others early this month, the trade here feels that a more confident attitude will be evident among commerce in general and the wheels of industry will start turning toward normalcy.

Jobbers here are going over their books for the last month. Thus far most of the jobbing houses have been able to say that March shows a little better than January and February.

The local condition has been one which has forced every paper jobber to throw his sales machinery into full speed ahead. Every paper man in the city knows that stocks are low and for that reason theirs is a demand which does not assert itself. For this reason paper salesmen have been working at their best and some of them have learned that they know more about selling paper than they thought they knew last year.

It is said here that if news of a prospect is sent about, a flock of paper salesmen are on hand almost before the news arrives. And some of the veteran jobbers smile when they think of how simple the "paper game" appeared two years ago and even later.

A number of jobbers selling book and other paper to local printing houses have taken much interest in the fact that the employing and labor factions have decided to settle the controversy arising between them due to a proposed decrease in the wage scale. As the matter now stands, the printing business will continue as usual, and the probabilities of a strike have been averted. Each party to the controversy has selected four members to represent them on an arbitration board and just as soon as they can agree upon an arbiter, the matter will be brought up for settlement. The point which interests the Chicago paper men is that the shops will continue to run and continue to use paper.

To Attend Convention

The Chicago delegation to the 44th Annual Convention of the American Paper and Pulp Association, to be held at the Waldorf-Astoria, April 11 to 14, even at this early date has evidence of being close to one hundred per cent representation. Many of the leading jobbers are arranging their business here, so as to be able to be in the Convention City for those days, next week.

"Business in this city," say the paper men, "is such right now which will permit of our going away for a few days. And most of the jobbers here feel that they will gain a great deal more by attending the occasion than by staying at home in the hope of not missing an order."

The wrapping paper jobbers here are waiting to hear from the meeting of the Wrapping Paper Manufacturers' Service Bureau, to be held on the morning of the 13th. There are many things which have been bothering this branch of the trade recently, one of which is the unlawful dealer, who delivers false weight. The Wrapping Paper Association of Chicago has recently informed the weighing bureau here that it would co-operate with them in seeing that all wrapping paper weights were correct. They also have registered a desire to keep this grade of paper from going below 5 cents.

Other paper men in the city have been looking forward to the eastern convention week for some time and a number of them will probably leave here late this week for New York.

L. L. Levin, a wrapping paper merchant, is already in the east, where he will probably stay until after the convention is closed.

Wrapping Paper Association Elects Officers

At a recent meeting of the Chicago Wrapping Paper Association, the following officers were elected to hold office for the coming year: L. P. Sine, president; Leo S. Altholz, first vice-president; A. G. Stewart, second vice-president; John Daley, secretary, and Howard Hollis, re-elected, treasurer. The retiring president, Harry Pomeroy, of the Pomeroy Paper Products Company, was presented with a massive loving cup, from the association, in appreciation of the services he rendered to members during his term in office.

Improvement Expected in Boards

Paper board salesmen here look for a recovery of the board market within the next 30 to 60 days. They state that at present the stocks on hand in the box manufacturing plants is low, and in some instances very low. At present this market is quiet but the board salesmen continue to go about smiling for they say there will be a resumption of business in the near future. Paper box manufacturers report that they are doing very little business now, but from inquiries and bids asked for, they can almost with a certainty state that before June they will again be forging ahead. Box board which is being purchased by the manufacturers now is for immediate consumption and most of the orders being placed are marked "rush."

General Trade News

The Superior Paper Box Company, formerly at 4653 South Michigan avenue, are now located at 336-8 West 63rd street where they have doubled their floor space with the view of increasing production.

J. Swartz and Albert Steiny, both dealers in wrapping papers, have just returned from extended winter trips to California. They both say that they had a most enjoyable trip.

Unemployment Not Serious in Kalamazoo

[FROM OUR REGULAR CORRESPONDENT.]

KALAMAZOO, Mich., April 5, 1921.—That the matter of unemployment is not a serious problem in Kalamazoo has been demonstrated by the work of the employment office in the Chamber of Commerce. This was formed to care especially for the needs of those out of work and really demanding employment to sustain themselves and families. In a period of three weeks only 225 have applied for positions and over 100 have been placed. Married men are at all times given the preference.

Paper mills are running only about 50 per cent capacity, but the schedules are so arranged as to give all hands some work and there has been very little suffering as a result. Most of the paper mill employees have said they will stay in Kalamazoo and take their old jobs when the business revival comes.



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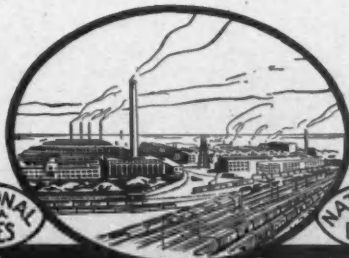
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PROGRAM FOR T. A. P. P. I. CONVENTION

The full program for the convention of the Technical Association of the Pulp and Paper Industry, April 11-14, as announced by Secretary Thomas J. Keenan, is as follows. All the meetings will be held at the Waldorf-Astoria, with the exception of the meeting of the Joint Educational Committee at the Canadian Club, Hotel Belmont and the annual banquet at the Hotel Astor.

Monday, April 11

10:00 A.M.—Meeting of Executive Committee, Raymond S. Hatch, *Chairman*.

10:00 A.M.—Meeting of Joint Vocational Education Committee, George Carruthers, *Chairman*.

2:00 P.M.—Meeting of Standing Committees under their respective chairmen.

Tuesday, April 12, 1921

10:00 A.M.—Call of meeting to order by President Hatch. Address of Welcome by Hon. Henry H. Curran, President of the Borough of Manhattan. Response to Address of Welcome on Behalf of T. A. P. P. I. by Frederick C. Clark. President's Address. Appointment of Committee to Consider Recommendations Contained in the President's Address. Offering of Amendments to the Constitution. Report of Executive Committee. Report of Secretary-Treasurer. Appointment of Committee to nominate officers to serve during the ensuing year.

Reports of Committees

Abstracts of Literature—Ross Campbell, *Chairman*. Auditing Committee—E. C. Tucker, *Chairman*. Beater Furnish—J. C. Sanburn, *Chairman*. Bibliography—Clarence J. West, *Chairman*. Coated and Processed Papers—Clarke Marion, *Chairman*. Dye-stuffs Committee—Ross Campbell, *Chairman*. Groundwood—William A. Munro, *Chairman*. Heat, Light and Power—Howard S. Taylor, *Chairman*. Joint Committee on Methods of Testing Moisture in Pulp—E. C. Tucker, *Chairman*. Paper Testing—Frederick C. Clark, *Chairman*. Soda Pulp—George K. Spence, *Chairman*. Standard Methods of Testing Materials—E. C. Tucker, *Chairman*. Sulphate Pulp—Carl Moe, *Chairman*. Sulphite Pulp—W. E. Byron Baker, *Chairman*. Vocational Education—George E. Williamson, *Chairman*.

Wednesday, April 13, 1921

10:00 A.M.—(Myrtle Room, Waldorf-Astoria.)—Special Reports by Committee on Heat, Light and Power, Howard S. Taylor, *Chairman*.

Economy of Steam in Drying on and Driving Paper Machines—By Howard S. Taylor, Dayton, Ohio.

A comparison will be made of the standard types of prime movers as applied to paper mills, from the standpoint of the economical use of steam.

Pulverized Fuel for Paper Mill Power Plants—By Loren L. Hebbard, Chicago, Ill.

In this paper an account will be given of the development and use of pulverized fuel in large power plants. The disadvantages of powdered fuel will be stated. A description will be given of a typical plant and mention made of plants now in operation, with a practical comparison between a stoker-fired boiler plant in a paper mill and a plant of the same kind converted to burn pulverized fuel.

10:00 A.M., Wednesday, April 13.—(Room 112, Waldorf-Astoria)—Discussion of Committee Reports and Special Papers:

The New Hall Process of Grinding Wood—By William A. Munro, Stevens Point, Wis.

Effect of Variables on Bleaching Efficiency—By George K. Spence, Johnsonburg, Pa.

Use of Waste Heat for Ventilation of Machine Rooms—By W. H. Howell, Jr., Willsboro, N. Y.

Evaluation of Lime by Causticizing Test—By Carl Moe, Stevens Point, Wis.

Wednesday Afternoon

2:00 P.M.—Report of Nominating Committee. Nomination and Election of Officers to Serve During 1921. Continuation of Papers and Discussions.

Paper with lantern slide illustrations on *How to Increase the Operating Efficiency of Existing Water Power Plants*—By Prof. Charles M. Allen, Worcester Polytechnic Institute, Worcester, Mass.

Facts from actual experience will be narrated and examples given of various shortcomings in water power plants taken from actual conditions. Pictures will be thrown on a screen to illustrate the apparatus employed and results obtained.

Shortening Cooking Time by Preliminary Impregnation of the Production of Sulphite Pulp—By Vance P. Edwardes, Appleton, Wis.

Economics of Electrification in the Paper Industry—By Stephen A. Staegle, East Pittsburgh, Pa.

A New Weightometer for Soft Stocks, Chips and Acid—By E. J. Trimby, Glens Falls, N. Y.

A Moisture-Content Indicator for Paper—By C. B. Thwing, Ph.D., Philadelphia, Pa.

Measuring Moisture of Chips in Cooking—By Frank M. Williams, Watertown, N. Y.

Method of Drying Paper on Paper Machines—By William B. Fulton, Middletown, Ohio.

A Classification, Filing and Indexing System for a Pulp and Paper Library—By Carleton E. Curran, Ph.D., Dayton, Ohio.

Rinman's Pulping and Recovery Methods—By Bror N. Segerfelt.

Thursday, April 14

10:30 A.M.—General Business Meeting, American Paper and Pulp Association.

2:30 P.M.—*Motion Picture Exhibition of Sulphur Production*—By Arthur S. Cosler, Chicago.

The films for this study of modern methods of sulphur production were made under the auspices of the United States Bureau of Mines, and will show in detail every operation and object of interest connected with the sulphur industry.

Motion Picture: Members of T. A. P. P. I. Marching to General Electric Company's Plant, Schenectady, N. Y., during Fall Convention, September 3, 1920.

Annual Banquet

The annual banquet of the Technical Association of the Pulp and Paper Industry will be held in the North Ballroom of the Hotel Astor on Tuesday evening, April 12, at 7:30 P.M.

Guests of Honor and Speakers:

RAYMOND S. HATCH, *President*.

JUDGE CHARLES F. MOORE, *Toastmaster*.

PROF. MARSTON T. BOGERT, LL.D., Columbia University, Past President of Society of Chemical Industry, New York.

PHILIP T. DODGE, President, International Paper Company, New York.

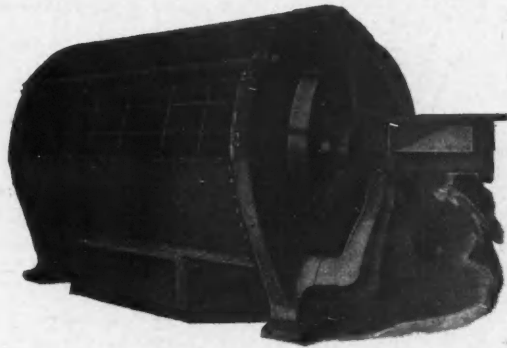
GEORGE CHAHOON, JR., President, Laurentide Company, Ltd., Grand' Mère, P. Q.

ELLWOOD HENDRICK, President, The Chemists' Club, New York.

(Continued on page 62)

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Manufacturers of **Paper and Pulp
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METALLIC PACKINGS*

By CHARLES C. HALL, VICE-PRES., NEW ERA MFG. CO.

As a comment on the subject of packing in general, it may be said that it is of prime importance that the leakage of steam, stocks, acids, or whatever gas or liquid is packed against should be held at a minimum to economize both material and power and again for economy's sake this should be done with the least possible damage and wear to the moving parts.

Many kinds of material have been used for packing. Just at present hemp, flax, rubber and asbestos and their combinations are widely used but I believe that just as babbitt metal, as a friction reducing substance, did much to promote the efficiency of modern machinery, so metallic engine packing has already done much and will do much more to promote and maintain the efficiency as well as lengthen the life of power machinery.

I am speaking more particularly of the plastic or so-called semi-metallic packings. The full metallic packings have long been accorded their rightful place as the most serviceable packing on the main rods of corliss engines. But there has been a greater delay in acknowledging the efficiency of the semi-metallic packings. The reason for this may be found in part in the fact that there is a wide difference in the methods of the manufacture of as well as of the materials used in this class of packing and there are still in some of the brands on the market some glaring faults that have not been entirely corrected. The handling of semi-metallic packing differs widely in important details from that required for fibrous packing so there is little wonder that there have been failures.

Cause of Most Expensive Repairs

But the fact remains that the most fruitful cause of the expensive repairs necessary in the engine room and to the general power machinery in any kind of mill is due to the wear of the rods, shafts and stems caused by the use of the various kinds of fibrous packing. Under the action of steam compression and friction from the moving part, these assume in one form or another a hardness and dryness sufficient to cut or score the hardest steel. This deterioration takes sometimes one form, sometimes another. It is sufficient for us here to know that the flax and hemp packings char or carbonize, presenting to the surface of the rod a composition that acts as emery. Mr. Shreffler, superintendent of the National Carbon Company's plant at Cleveland, Ohio, told me that with the best flax packing, his rods would wear down a 32d of an inch every eight or nine months and that every two and one-half years he would have to install a new rod. With asbestos packing we find that wear and compression cause these to assume a rocklike formation, ruinous to brass and steel rods and brass sleeves. How many of you have seen the shaft of a centrifugal pump worn a greater part of the distance through under the influence of asbestos? To sum up we may say that while these fibrous packings will pack, they also work great damage to the rods, shafts and stems on which they are used, and each installation after the first is effective for a shorter period than its predecessor until the rod has to be taken out and turned down or replaced with a new one.

To correct these ills we offer Durametallic packing, the base of which is composed of anti-friction metal. This is rolled into very thin sheets. These are covered with a mixture of oil and graphite and then crinkled so that when the sheet is rolled and compressed into a strap or bar, it contains many small cells filled with lubrication. These open as the packing is worn away, thus providing a constant film of the best lubricants on the moving part. I could cite many instances of slight wear during years of service but will now only offer the experience of the same super-

intendent referred to a moment ago who has used Durametallic on his high pressure water pumps for about three years. He has both the steam and water ends packed with Durametallic. These pumps are working against a pressure of 5,000 pounds of water per square inch. He asserted that he had calipered the rods on these four big pumps a year apart and found no noticeable wear. The first installation of Durametallic packing is more expensive than one of fibrous packing, but if every subsequent installation were just as expensive, the benefits just described would more than offset this difference in cost. But the fact is that after the first installation it is much cheaper to maintain Durametallic in the boxes. There is no waste to it. It is not necessary to remove any of the old packing when it is time to repack. Simply add one or two rings to the original charge. This saves both time and packing. Besides the intervals between installations are much greater with Durametallic than with fibrous packing. It is no exaggeration to say that on certain conditions it will last more years than fibrous packing will last months.

Instances in Kalamazoo

We have instances right here in the mills of Kalamazoo in which Durametallic packing has worn more than ten years on corliss valve stems with the addition of two or three rings. Placed on any of the various types of hand valves, it is practically a permanent institution and will wear as long as the valve will wear. Besides it will allow the free movement of the stem. You all know that if you set fibrous packing up tightly enough to hold the steam, you generally find difficulty in opening and closing the valve. In fact it sometimes happens that the stem is twisted off in the effort to work the valve under these conditions. I have seen Durametallic set up as hard as it could be with the aid of a long handled wrench and still allow the stem to work freely.

To illustrate the wearing qualities of Durametallic on various kinds of valve stems I want to relate the experience of Charles R. Curry, chief engineer of engine room number two of the Kalamazoo Paper Company's plant. He has one corliss valve stem that has been packed for fourteen years with this packing. During this time he has added but two rings to the original charge and it is still working efficiently. He has a cut-off valve that has been packed for five years that works very easily and on which he has not put a wrench since the packing was installed.

There are many centrifugal pumps in a paper mill. We are succeeding splendidly on this type of pump.

For Service in Paper Mills

Continuing with the service Durametallic can render on the rotary conditions found in paper mills it is only fair to report that we have failed on rotary screens after several trials at the Monarch and Vegetable Parchment mills. I have every reason to believe these installations were made as correctly as possible and can only explain the failure by repeating the information given me that there is more or less vibration on this condition and that there is generally only one bearing which allows the shaft to sometimes get off center.

On rotary cookers we are pleased to report Mr. Keyes' success at the Vegetable Parchment Company. A set of these has run over seven months without additional packing.

We have made some recent installations on suction pumps but these have not run long enough to make any definite report on here. However, the men making these installations have long been familiar with Durametallic and are confident that it will not only pack this condition effectively but will spare the brass sleeves the rapid wear they suffered under asbestos packing.

(Continued on page 36)

*Paper read at the meeting of the Michigan Division of the American Pulp and Paper Mill Superintendents' Association, Kalamazoo, Mich.

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MILL WRAPPERS

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New York, N. Y.

Obituary

Charles A. Dean

[FROM OUR REGULAR CORRESPONDENT.]

BOSTON, Mass., April 5, 1921.—Boston paper men were shocked to learn of the sudden death of Charles A. Dean, wealthy paper manufacturer, who died aboard his yacht at Captiva, Fla., Wednesday, March 30. He was 76 years old.

Mr. Dean had been in poor health for some time, and had been South since last November, accompanied by Mrs. Dean.

He was born in Shrewsbury, Vt., June 15, 1844, the son of James and Keziah (Hyde) Dean. As a youth he served during the Civil War in the Vermont infantry.

In 1864 he began his business career in the paper manufacturing trade in Cincinnati, Ohio. He remained there until 1871, when he moved to Rochester, N. Y., where he continued in the same business.

He remained in Rochester until 1875, and the following year came to Boston, affiliating himself with Hollingsworth & Whitney Company, Inc., of which he was vice-president from 1882 to 1892. He became president, retiring from this position in 1911.

He continued to serve in the capacity of a director of the company, however. He was also identified with other paper concerns.

Mr. Dean was a trustee of the Dean Building Trust, and also belonged to the Union Boat Club. He lived in Weston. His business office was at 53 State street, Boston. He married Miss Minnie Palmer in Woodstock, Conn., in 1875.

He is survived by a widow and a daughter, Mrs. Langdon Pearse of Chicago.

Mr. Dean had a wide circle of friends in the paper trade throughout New England.

METALLIC PACKINGS

(Continued from page 34)

As I said in the beginning, the best type of packing for the main rods of corliss engines is the full metallic. If you buy a good grade of this packing you will get many years of service. However, if you decide against this because of its first cost or because the rod is a small one, I would say it would be better to use a semi-metallic packing than flax or asbestos. We are holding on this type of rod with satisfaction to some of our customers. The Endura Manufacturing Company of Philadelphia, where they are keeping careful record of its performance, report that the rod of their small high speed engine has been packed with Durametallic for two years and during this time only two or three rings have been added. At Elkhart, Ind., the Inner Braced Furniture Company has a small corliss engine running under 80 pounds pressure that has been packed more than two years with Durametallic. I was there some nine months ago and found it in good condition. No packing had been added since the original installation. There are other instances, but these are mostly on small engines and working against comparatively low pressures. The point we wish to make is that while full metallic will give the best service on the main piston rod of a corliss engine, we believe that Durametallic is the best second choice.

But there is another class of piston rod that works between two piston heads or between a piston and a ram. The even travel of these is more certain and Durametallic has performed well on such conditions. It is standardized by two companies making air compressors and is giving entire satisfaction in actual service on many air compressors, stoker engines, duplex pumps and similar conditions. We should say here that we consider it good practice to use one fibrous ring, as the last one installed against the gland,

on all reciprocating conditions, although in many cases we are succeeding without this. The single ring does not seem to increase the wear on the rod. Our theory is that the face of this ring is coated over with particles worn off the metallic packing both metal and lubricants.

An Instance in Milham Mill

We have succeeded on plunger pumps. At the Milham division of the Bryant mill there is a big Gould boiler feed pump. Early in December last Mr. Zwart, the chief engineer, had the east plunger turned down and packed with Durametallic packing. The installation was made Dec. 7 and during the four months it has been installed and the three it has run it has given excellent service so that Mr. Zwart has recently had the west plunger turned down and similarly packed. Mr. Zwart's experience with fibrous packing was that, while it would give good service on a new plunger for about six months, the plunger was then scored and the periods for which successive installations would wear became shorter until toward the end he was having to repack every two weeks. His first installation of Durametallic was more expensive than of fibrous packing but the service is much better and subsequent installations will be much cheaper, for all he will have to do is to add one or two rings to secure another considerable period of wear.

Saturated Steam Presupposed

The conditions so far cited have presupposed saturated steam at ordinary pressures with occasionally slight super-heat. For this our grade B packing is excellent but we do not recommend it for extreme super-heat. Our super-heat packing is our grade D. This will work in over 800 degrees Fahrenheit. At the Erie Lighting Company's plant at Erie, Pa., there is the extreme heat condition produced by 250 pounds pressure plus 200 degrees of super-heat. Mr. Hoffman, the chief engineer, was having considerable trouble in holding the governor valves on his turbines with an asbestos packing. He told me he used to have to repack the valves on one of his turbines every ten days. He has now had five of these valves packed for over a year with our grade D packing and they have caused him no trouble. He has since standardized this grade for his entire plant including a large expansion joint, the sleeve of which is two feet in diameter. This has been packed since last September and has required but little attention. I was told by Mr. Williams, turbine engineer of the General Electric Company, that the heat at the Erie Lighting plant sometimes exceeded 700 degrees F.

News of the Kalamazoo Trade

[FROM OUR REGULAR CORRESPONDENT.]

KALAMAZOO, Mich., April 3, 1921.—James Rosenberg, president of the American Wood Pulp corporation, last week visited Frank D. Haskell, western representative of the concern. Mr. Rosenberg reported that business is generally very spotty and unsatisfactory.

A. H. Dwight, president of the Hawthorne Paper Company, accompanied by Mrs. Dwight, has returned from an extended visit to Florida points.

L. W. Sutherland, president of the Sutherland Paper Company, was in Chicago on business last week.

Frank H. Milham, president of the Bryant Paper Company, was in Chicago last week.

S. B. Monroe, general manager of the Bardeen Paper Company, has returned from a business trip to New York.

A cablegram has been received announcing that Jacob Kindleberger, president of the Kalamazoo Vegetable Parchment Company, will return from Europe April 10.

W. D. Toland has accepted the position as advertising manager of the Kalamazoo Vegetable Parchment Company.

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MILL—METUCHEN, N. J.

BOX BOARD COSTS*

By E. G. CLARKE, ASST. COMPT. OF THE RICHARDSON CO., LOCKLAND, OHIO.

Cost, broadly speaking, is the expense incurred in the purchase, manufacture and sale of a product, the process of which is connected with and related to the prime object of business, viz.: profit.

What is profit in the manufacturing concern but a "conversion and handling charge" made to the customer? Too many concerns are prone to ride along and sell at the competitive or market price, trusting probably to the "Ouija board" that they are making goods as cheaply as their competitors. But they allow their competitors to make the price, for, if one doesn't know what an article costs him, how can he intelligently fix a selling price?

The keynote of a cost system is organization. A good organization means an efficient economic management. Such management breeds a cost system to know whether it (the management) is functioning properly. A cost system relies on records and as such records must be accurate the co-operation of all departments is necessary. Good results can be obtained only through the whole-hearted support of the executives.

Fundamental Points of Organization

There are a number of fundamental points, which go hand in hand with organization, and really will be the result of careful management in perfecting a cost system.

1. A chart of accounts should be drawn up, giving all of the liability and asset account numbers, as well as those for departmental expense and others, pertaining particularly to the cost accounting end. This chart will show the interlocking of the general books of accounts with the cost ledgers, and will be a great help in visualizing the entire system.
2. Standardization in the purchasing of raw materials, goods contracted for, to be of same quality as specified on order.
3. The standardization of formulæ, i. e., for the same grade and caliper of board to use the same grade and quality of raw materials per beater as has been done in previous runs.
4. Accuracy and care in the furnishing of stock to the beaters by rigid inspection.

Raw Material Charge

By far the largest factor in the cost of manufacturing box board is the raw material charge. In 1920, which was the period of highest prices for mixed papers, news, sulphite, etc., these raw materials comprised from two-thirds to four-fifths of the total cost. Even at present, these materials make up about one-half of the total, so I would say that accounting for the paper stock is of first consideration in the obtaining of accurate costs.

The Richardson Company decided back in 1916 that it must know as nearly as possible the cost of any run of board. Up to that time the amounts for labor, departmental expense and overhead were pretty well allocated for each run of board, but this could not be said of the material end. To be sure we had a rough idea as to what stocks were furnished to the beaters and that was all.

Classifying Raw Materials

Our first step was to carefully classify the kinds of raw materials we wished to carry, eliminating those which were rarely used. It follows that we dropped a number of specialty items, by which I mean, grades of board for which we had a call once or twice a year and then in small quantities. The purchasing department insisted upon stocks being up to specifications, which meant that

a bale of mixed papers was to be all mixed papers and not three-fourths papers, one-eighth water and the remainder dead rats, etc.

The receiving department weighs, classifies and lists on receiving sheets each bale as it is taken in; such receiving sheet with its invoice attached is sent to the cost department and the invoice amount is entered in the stock book with freight added. We have long ago abandoned the inclusion of warehouse and handling charges in with the costs of raw materials, for we think it necessary to know the average price of each grade of stock f. o. b. our mill. When warehouse or handling cost is added this average price is often inflated with the additional handling expense, and makes material costs of a previous period or year valueless when compared with the present market. One can always know what his handling charge is each month on a tonnage basis without merging it with the material value.

The Price of Raw Material

The price of any raw material is the average of the value of inventory at the beginning of the month plus the value of stocks received during the month. To cost any run during the month we estimate at the beginning of the month what the average price will be for that period, taking into consideration the amount of material on hand at the start of the month, and the probable amount to be bought, as well as the trend of the market. Our estimated prices are very close to what the actual averages are found to be for that month after the books are closed.

We created the position of beater inspector, whose duties are mostly of a clerical nature, his chief purpose being to report stock used in the beaters. Let us revert to the planning department for a moment. After an order is taken the formula for beater furnish is made out in quadruplicate; the original remains on file, the other copies being sent to the board superintendent, through the co-operation of the latter with the chemist, these formulæ have been standardized. They show a formula number, customer's order number and number of pounds of each grade of stock for the top liner, back liner and filler furnish. It is possible that the board superintendent for some good reason may change the furnish as sent to him; in any event he sends back one of his beater furnishes or formulæ so that the planning department will know if any corrections or changes have been made. The superintendent retains one of the remaining two copies and forwards the other (which acts as a notice to furnish stock) to the foreman in charge of the stock room.

Stock Record by Rooms

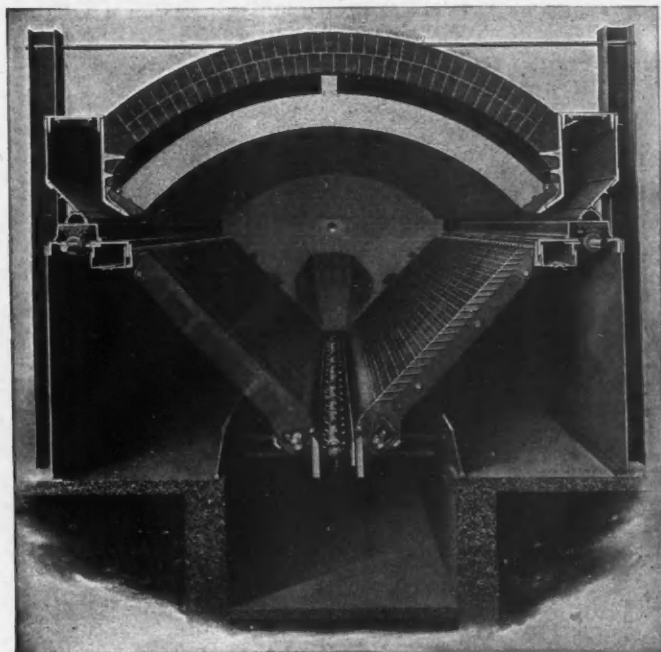
A stock clerk keeps a record by rooms of materials on hand, received and disbursed to the beater room, his disbursement records being given him by the stock foreman. When the previous run of board has consumed all of the stock in the beater chests the beater foreman orders the next run to be furnished. The formula which was used by the stock foreman to furnish materials to the beater room is passed on to the beater inspector. The stock is weighed before going into the beaters, and the inspector keeps a record on the top, back and filler beaters separately, for example: his top liner sheet shows the date, formula number, board order number, inspector's name, and then gives the amount of each grade of stock furnished, each beater being ruled off separately.

Every time a new formula is used another set of top, back and filler sheets is made out (as you probably know a sheet of box board is built up of a top ply or layer, back ply and a cheaper filler, or inner-ply). These sheets are sent up to the cost department as soon as the furnish is completed. Should the run be com-

(Continued on page 60)

*Address before the Miami Valley Local Division of the Cost Association of the Paper Industry at the Hamilton Club, Hamilton, Ohio.

OVER 6,000 BOILERS FIRED BY MURPHY FURNACES



Murphy Furnaces have been relied upon by power users in every field for 44 years to furnish continuous, efficient and economical combustion service—to burn any available fuel—and to automatically remove all ash and refuse.

**Factors Back of Every Installation of
MURPHY FURNACES**

Natural Draft—on everything except the most extreme peak loads. Will double the output of your boilers without one penny for draft.

Burn any fuel. This is the biggest possible feature for the engineer to consider at the present time.

Standard—The Murphy Furnace is standard in design. All new features produced from time to time may be applied to any Murphy Furnace now in use.

Smokelessness. The Murphy Furnace is designed to afford perfect combustion. The arch insures high furnace temperature which means that the air is preheated and admitted exactly where and when needed to give maximum efficiency.

Automatic Operation. The amount of fuel supplied may be regulated while in operation. Every detail for keeping a perfect fire is provided in the design and construction of the Murphy Furnace. The coal is supplied—the fire distributed evenly—the ash removed—continuously and automatically.

Today over 6,000 Boilers in all sections of the country are fired by

MURPHY AUTOMATIC FURNACES

They are being used in practically every line of industry—from hospital to industrial and central station service.

Write for catalog showing how *Murphy Furnaces* can be installed under any type of boiler.

MURPHY IRON WORKS, Detroit, Mich., U.S.A.

BURN ANY FUEL THAT HAS HEAT IN IT

New York Trade Jottings

Adolph Meyer trading as the Standard Paper Box Company, manufacturer of paper boxes at 47 Watt street, has assigned to Frederick M. Leonard.

Johannes Westergaard, who was for two and one half years located with A. J. Pagal and Company, Inc., is now with the Lillestroms Cellulosefabrik at Christiania, Norway.

An announcement comes from the American Paper and Pulp Association that it has secured Francis H. Sisson, vice-president of the Guarantee Trust Company, and Senator Medill McCormick, of Illinois, to be the leading speakers at the dinner of the Association on Thursday night, April 14.

Norman L. Jenkins, who was connected for some time with the sales force of the General Paper Goods Manufacturing Company, Number Three Bush Terminal, has left the employ of this company and Alfred Sykes, who has been manager of the machinery department of the Parsons Trading Company, will take his place.

The Standard Paint Company, which has a roofing felt mill at Joliet, Ill., announces the change of its corporate title to The Ruberoid Company. This change is made more closely to associate the company's name with the reputation enjoyed by the Ruberoid Roofing and other waterproofing products. There will be no change in the management or policy of the company.

Frank E. Dunaway, of 501 Fifth avenue, New York, met with a serious accident in Atlantic City Monday, March 28, having fractured the knee cap of his right leg. He met with a similar accident August 22, 1917, at that time having a fractured knee cap of the left leg. Mr. Dunaway will return to New York as soon as he is able to be moved to the Broad Street Hospital.

Maurice Good, formerly of the Harris Paper Company, announces the organization of the Midwood Paper Company with offices at 150 Nassau street and a warehouse at 586 Washington street, New York. Jesse Acker, formerly secretary and treasurer of the Harris Paper Company, is associated with the firm. A full line of regular and special lots of bond and ledger papers will be carried. Telephone Beekman 3431.

During a meeting attended by about 300 American business men and members of the Mexican Good Will Commission last Tuesday at the Hotel Astor there was some discussion of the paper situation in Mexico according to the bulletin of the Merchants' Association of New York. It was said that the only factories now manufacturing paper in that country are the San Refilget and Exis, both close to Mexico City. They have their own pulp mill. There also was one in Leone that made coarse wrapping paper.

William B. Hunter, who has been with the American Writing Paper Company for six years, four of which were spent in the various mills and two in the New York Sales offices of that company, will be connected with the Nuera Paper Company, Hadley, N. Y., as eastern representative after April 16. The Nuera Paper Company is manufacturing all kinds of paper specialties, including photo mounts, calendar backs, box covering, regular cover paper, cover specialties, jute and manila tag, and box boards. His office will be at 200 Fifth Avenue in the same offices which the Nuera now occupies and the telephone number will be the same as at present.

Whitaker Paper Co. in New Building

Boston, Mass., April 4, 1921.—On April 2 the Whitaker Paper Company, Boston division, moved into its new concrete-steel, fireproof warehouse located at 100-112 Shawmut avenue, Boston, Mass. This building, four times as large as the one at the old location, is brand new and modern in every detail, flooded with sunlight and perfectly adapted to use as a paper warehouse.

The large development that has taken place in the business of the Boston division of the Whitaker Paper Company within the last few years has made it necessary to move to these larger quarters. It will now be possible for the Whitaker Paper Company to carry a complete line with full stocks of not only fine papers but also coarse papers and cordage. This will permit service (the slogan of Whitaker) to all of the trade not only in New England but also upper New York State.

At present the sales offices located in the Boston Division number seven, as follows: A. L. Bartlett, 104 Asylum street, Hartford, Conn.; B. B. Bengé, 403 State Mutual Building, Worcester, Mass.; R. H. Campbell, 85 Exchange street, Portland, Me.; Rush Clarke, 710 City Bank Building, Syracuse, N. Y.; R. H. Gay, 86 Weybosset street, Providence, R. I.; H. R. Harris, 414 First National Bank Building, New Haven, Conn.; S. F. Roberts, 25 Harrison avenue, Springfield, Mass.

The management of the Boston division of the Whitaker Paper Company is lodged in Thomas Fox, who brings to his task the experience and training of years in the parent house at Cincinnati. John Appell, assistant manager, in charge of the fine paper section, including cardboards and covers, is well known as one of the most expert fine paper men in New England. Robert A. Wright is responsible for the conduct of the book paper department and William P. Morrison for the envelope department. The coarse paper section is administered by Harvey L. Seybold. Russell R. Grant is in charge of cordage and water-proof papers. H. P. Hewitt is in charge of credits and accounts.

The sales force consists of the following: A. M. Barnard, A. L. Bartlett, B. B. Bengé, G. W. Buckingham, M. A. Buxton, R. H. Campbell, Rush Clarke, E. P. Clausmeyer, Theodore Fennessy, A. S. Flinn, Henry Ford, R. H. Gay, R. E. Hamilton, H. R. Harris, H. V. Lovering, S. F. Roberts, A. L. Shepard, H. A. Stevenson.

To Do Research Work for Paper Firms

Skinner, Sherman and Esselen, Inc., composed of Harvey J. Skinner, Herbert L. Sherman, Gustavus J. Esselen, Jr., announce the organization of a firm of chemists and engineers. The new firm has acquired the business and good will of The Boston Bio-Chemical Laboratory and accordingly they are in a position to furnish counsel on all matters relating to the application of chemistry and biology to industrial operations.

Mr. Skinner is well known to the paper industry. For many years he was vice-president of Arthur D. Little, Inc., and in immediate charge of pulp and paper work. For the past two years he has maintained a consulting office in Boston.

Dr. Esselen is known to the cellulose industry as the Secretary of the Cellulose Section of the American Chemical Society, and for his work on cellulose esters and cellulose acetate silk. The combination of Skinner and Esselen renders the new firm particularly qualified to be of assistance to the cellulose industries.

Mr. Sherman for many years was president of the New England Bureau of Tests and has extended experience in cement and other structural material problems.

The pulp and paper industry is to be congratulated on this new addition to the list of firms who are in a position to be of assistance to them in matters relating both to research and development.

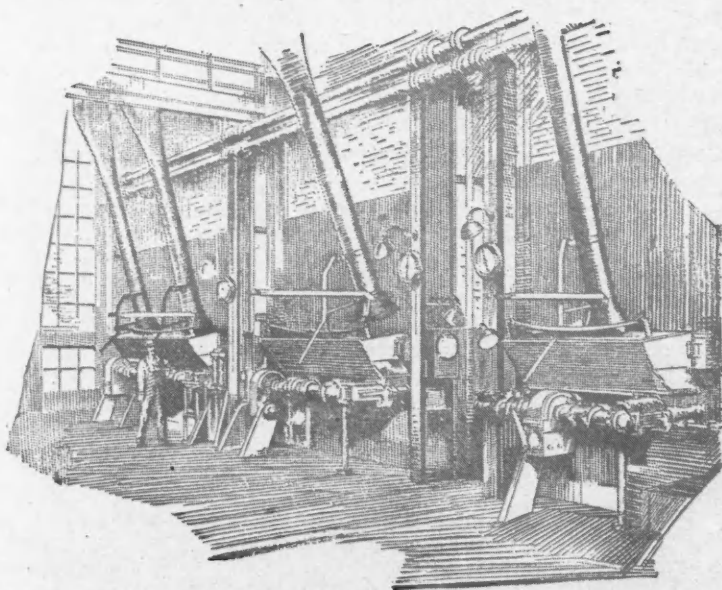
The address of the new firm is 248 Boylston street, Boston, 17, Mass.

Worthington satisfies every power plant pumping need

IMMENSE shop facilities, standardized manufacturing plus over 81 years of designing, improving and manufacturing pumps and pumping machinery have resulted in apparatus of suitable design for every power plant pumping duty.

This broad range and varied choice of apparatus together with over 200,000,000 boiler horse power successfully satisfied since 1840 justifies specifying Worthington for power plant apparatus. The Worthington engineering corps always stand ready to co-operate in order to obtain greatest possible results from apparatus selected.

WORTHINGTON PUMP AND MACHINERY CORPORATION
 Executive Offices: 115 Broadway, New York City
 Branch Offices in 24 Large Cities



Pot valve Boiler Feed Pump

Duplex Packed Piston Pump

Split Casting Double Suction Volute Pump

Worthington Double Suction Centrifugal Boiler Feed Pump

Centrifugal pumps often become steam bound while handling hot water. Under such conditions the rotating element of the average pump may seize at close clearance points. Worthington double suction centrifugal boiler feeder is equipped with a special floating sealing ring device which prevents this binding.

PUMPS—COMPRESSORS—CONDENSERS—OIL & GAS ENGINES—METERS—MINING—ROCK CRUSHING & CEMENT MACHINERY

WORTHINGTON

Deane Works, Holyoke, Mass.
 Blake & Knowles Works
 East Cambridge, Mass.
 Worthington Works
 Harrison, N. J.
 Laidlaw Works, Cincinnati, Ohio.

Hazleton Works,

Hazleton, Pa.

Gas Engine Works, Cudahy, Wis.
 Power & Mining Works
 Cudahy, Wis.
 Snow-Holly Works
 Buffalo, N. Y.
 Epping-Carpenter, Pittsburgh, Pa.



Editorial

Vol. LXXII New York, April 7, 1921 No. 15
 FORTY-NINTH YEAR

Paper and Advertising

No agency probably can be made to play a more important part in restoring business conditions to something approaching normal, than advertising.

This proposition seems so obvious that it would not seem to require demonstration at great length. Just as the business depression through which we are just now passing, was largely brought about by psychological influences, and it is now pretty generally agreed, was not warranted by inherent conditions, so advertising can help more than any other single factor in speeding up the wheels of Industry and bringing about a return of the prosperity of a year or two ago.

Paper plays such an important part in the commercial life of the nation that paper men, especially, should appreciate the importance of stimulating and increasing interest in advertising.

The use of this greatest of all economic powers—advertising—should be agitated just now by direct methods, through newspapers, magazines or in any of the other recognized methods. As showing how this may be expected to have a helpful psychological influence on business, it may be mentioned that a prominent paper manufacturer from Europe, at luncheon recently with some paper men mentioned that the prosperity of America was gauged by the number of pages in a certain periodical which, of course, increased or decreased according to the volume of advertising carried. As the pages in this periodical had decreased very greatly, of late, it was assumed in his country, he said, that we were not as prosperous as we had been and he had experienced, he said, since his arrival here, that this assumption was well founded.

Paper men especially, should be interested in increasing the volume of advertising, because this increase will bring a betterment in their own business immediately, first by expanding the demands for all kinds of printing paper, and later on by increasing the demands for the different varieties of paper and paper board used in different lines of business.

Never perhaps has the old slogan "Work Like H—I and Advertise," been as timely as just now.

If paper men will work along these lines, and influence others to do likewise, they will help most effectively in lifting the present business depression and bring about a return to old time prosperity at the earliest possible moment.

Economic Structure Sound

According to so good an authority as Mr. Archer Wall Douglas, chairman of the Committee on Statistics and Standards of the Chamber of Commerce of the United States, the widespread optimism and confidence that marks the present business situation is founded upon a knowledge of the inherent strength and soundness of the nation's economic structure.

"Nothing is more significant and encouraging at this time," says

Mr. Douglas in the *Nation's Business*, "than the belief in many quarters that better conditions will prevail as the season advances. As a natural consequence of growing cheerfulness there is actually more business being done today, both materially and mentally, as it entails the buying of seasonable goods.

"A general decline in prices is realized to be the only way out of the existing unnatural situation, and while it is a painful process, it is none the less essential. The sooner it is over, the sooner we shall arrive at an enduring basis.

"The almost forgotten slogan 'back to the farm' is being heard once again. This means that farm labor will not be so scarce as a year ago, nor will the hired man command such high wages. Also it now seems very sure that there will not be such acreage of staple farm products as last spring. For there is not the same incentive. Nor will the cost of production be so great. Thus the farmer's problem of the relation of his cost and selling prices seems likely to be solved by a supply which will ultimately tend to bring about higher prices, and decreased cost of production matching itself with demand. Decreased production insures a better margin of profit. This is the way the natural laws of trade take care of such problems.

"Resumption in industrial life is usually accompanied by reductions in wages. Farmers are gradually selling their products as they find a demand, or as necessity compels. Movements of corn and wheat are larger than generally supposed.

"There is a steadily growing interest in the European situation as the conviction deepens that there can be no permanent nor lasting prosperity in this country until the political and economic status of Europe is upon a firm basis. In every productive activity in the United States of great moment we produce more than the domestic demand can possibly consume. So we must needs find a market for this surplus if production is to continue on an efficient and economic basis.

"Europe is our 'best bet' in this regard, and will be so for a long time to come because of her great consuming population whose need of articles of every-day life corresponds closely to our own. Moreover, if Europe is ever to pay the huge debt she owes us we must take her goods chiefly in payment. Nor can we expect her to buy our surplus of production unless we resort to the elemental methods of barter and exchange, and take her goods in return."

Favorable Canadian Situation

Although Canada's exports of pulp and paper for the month of February were valued at \$8,668,815 as compared with \$9,391,927 in 1920, a loss of \$723,112 and were \$994,236 below those of the preceding month this showing is favorably commented upon by financiers in Montreal who are interested in the pulp and paper industry. They say that there was an impression abroad that a combination of high prices and general business depression had resulted in practically nothing going forward from the Canadian mills, but the returns for February exports show a total of exports of news print to the value of \$6,255,050. Added to the January exports, valued at \$6,532,034, the total makes a fairly substantial showing considering the forces which are at present working in the business world.

It is considered quite natural that news print consumers would

call on their contractors for as small an amount as they could possibly get along with pending the reduced rate to be made effective for the second quarter of the year at a reduction of \$20 per ton. This can be done only up to a certain point so that the returns for the first two months of the year at peak prices might be assumed to represent the minimum requirements of the principal consumers in the United States.

Close familiarity with the progress of the industry and an intimate knowledge of the status of production and consumption, associated with the contract prices such as have been in vogue so far this year, appears to have made it difficult for those officially connected with the pulp and paper industry as a whole to accept the viewpoint of the market, faced as it has been in the past ten or twelve months by such a variety of depressing and confusing incidents. In the words of a Montreal financial writer, "Perhaps the manufacturers have been over optimistic and the 'Street' rather too pessimistic."

Technical Methods of Analysis

The Committee on Bibliography of the Technical Association, Clarence J. West, chairman, desires to direct the attention of members of the association to a recent valuable book of analytical methods edited by Roger C. Griffin which is entitled *Technical Methods of Analysis as Employed in the Laboratories of Arthur D. Little, Inc., Cambridge, Mass.*

This book, which is published by McGraw-Hill Book Company, New York, contains a representative selection of the analytical methods that have been adopted as standard procedures in a large commercial laboratory engaged in technical analysis.

With few exceptions the methods described in *Technical Methods of Analysis* have been used many times in the laboratory and have been proved to give satisfactory results in the hands of different analysts. No attempt has been made to give the experimental data to show the accuracy of the method nor to enter into the theory of the procedure. On the other hand in many cases it has seemed advisable to give brief descriptions of the properties which a given material should normally possess and sufficient other information to enable the analyst to translate his results into practical language. Certain specifications and requirements of an authoritative nature have also been included.

An idea of the scope of the book may be gained from the Table of Contents, which includes, Reagents, General Inorganic Analysis, General Organic Analysis, Analysis of Metals, Analysis of Fuels, Analysis of Paints and Paint Materials, Analysis of Oils, Fats, Waxes, and Soaps, Analysis of Wood, Paper and Papermaking Chemicals, Analysis of Textiles and Textile Fabrics, Analysis of Foodstuffs, Miscellaneous Analyses.

Members of T. A. P. I. and others will be especially interested in Chapter VIII, Analysis of Wood, Paper and Papermaking Chemicals, though there will be much of interest in the other chapters. This chapter contains the following methods of analysis: Cellulose in wood, woodpulp sampling and testing, sulphate cook liquor, sulphite acid, alum, aniline dyes, blanc fixe, bleach (bleaching powder), bleach consumption of pulp, casein, clay for paper filler, crown filler, glue, lime, limestone, rosin, rosin size, satin white, talc for paper filler, ultramarine fibers in papers, standard papers for fiber analysis, chemical analysis of paper, physical testing of paper, sizing in paper, tarnishing test for paper, cotton cellulose (cotton linters) for nitration, wood distillation products. Three plates, showing the appearance of variously sized paper, are included as well as certain paper testing apparatus, taken from Clarke's Report.

The chapter contains all the methods needed in the routine testing of paper, and covers much the same ground as that transversed by

Sutermeister in his chapters on testing. The one advantage of the book is that the methods have been used over a period of years and are known to give results.

Cost Association at A. P. & P. A. Convention

For the first time the Cost Association of the Paper Industry has arranged to hold a meeting during convention week of the American Paper and Pulp Association due to the greatly increased interest which has been taken in cost matters generally during the past few months.

Durward E. Burchell, professor of industrial accounting at Harvard, who is on the Executive Committee of the Cost Association and has, during the last year, installed several cost accounting systems in pulp and paper mills, will first address the meeting and will be followed by Ellery A. Baker, assistant vice-president of the National City Bank of New York, who will speak on "The Importance of a Cost System from a Banker's Standpoint." Mr. Baker is a director of C. H. Dexter & Sons, Inc., Windsor Locks, Conn., in which company he installed a cost system some years ago. It is well known that, at that time, Messrs. Dexter did not occupy the strong financial position they do today, but that, in fact, this position has been built up gradually as a result of better management made possible by the cost system installed by Mr. Baker. This gentleman is well qualified, therefore, to speak on the topic selected and it is hoped that as many executives as possible will arrange to attend this luncheon and meeting, which will be held at 1 P. M. in Room 151, at the Waldorf-Astoria Hotel, on Wednesday, April 13, 1921.

Tickets (\$3 each) may be obtained from the secretary-treasurer, Thomas J. Burke, 18 East 41st street, New York City.

Several prominent public accountants will also address the meeting on different phases of cost accounting procedure and it is confidently expected that this will be one of the strongest meetings ever arranged by the Cost Association.

Diamond Mills Paper Co. Awarded \$90,000

HUDSON, N. Y., April 1, 1921.—The Ashokan damage commission composed of Frank Deal of Troy, Roscoe Irwin of Kingston and Francis J. Lantry of New York city have filed their report on the claim of the Diamond Mills Paper Company of Saugerties, making an award to the company for \$90,000, for the taking of the waters of the Esopus creek.

The claim of the Diamond Mills Paper Company was tried originally before the commission composed of Philip Elting of Kingston, the late George Deyo of Napanoch and Abel I. Smith of New York city who made an award to the paper company of \$205,000. The city objected to confirmation of that award, and also the other awards which had been made by the same commission of the Martin Cantine Company, the Sheffield estate. The award to the Cantine Company had been \$165,000, and the award to the Sheffield estate had been \$25,000. Judge Howard set aside the three awards on the ground that they were excessive and in no respect supported by the evidence before the commission and his decision was unanimously affirmed by the appellate division of the Supreme court. The commission composed of Messrs. Deal, Irwin and Lantry was then appointed and the three claims referred to them. Trial of the Diamond Mills Company's claim was finished some time ago and the other claims have not yet been completed.

Toledo to Have Envelope Factory

TOLEDO, Ohio, April 4, 1921.—The Fort Meigs Envelope Manufacturing Company will start operation at 223 Michigan street about April 15. A. L. Ungewitter, who with W. W. Blowney, incorporated the new concern for \$20,000, says this will be Toledo's first envelope factory.

CURRENT PAPER TRADE LITERATURE

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Coloring Paper Pulp with Sulphur Dyestuffs (thiophor dyestuffs).—Ger. patent No. 298,826, C. Jager, G. m. b. H., Dusseldorf, March 17, 1916. *J. Soc. Chem. Ind.*, xxxix, 60A (Jan. 31, 1920).—A colloidal suspension of a sulphur dyestuff, which may be prepared by boiling the dyestuff with turkey-red oil, or "monopol oil," is reduced by an alkaline solution of hydrosulphite, and the leuco compound so obtained is added to the pulp in the course of manufacture; it has a strong affinity for the pulp and the coloring re-oxidation and fixation takes place in the cold, the pulp being sized at the same time. If H_2O_2 be used as the oxidizing agent and $Al_2(SO_4)_3$ as the fixing agent, very brilliant shades are obtained.—A. P.-C.

Manufacture of Pulp from Wood or Other Cellulosic Material.—Ger. patent No. 304,214, Zellstoffabrik Waldhof, and H. Clemm, Mannheim, and R. Willstatter, Munich, Oct. 20, 1916. *J. Soc. Chem. Ind.*, xxxix, 60A (Jan. 31, 1920).—The material is treated with liquid or gaseous reagents at a comparatively moderate temperature, but at a greatly increased pressure created not entirely by heating the liquid, but largely by forcing in liquid or gas. The digestion may be carried out under a pressure of fifty atmospheres in order to obtain a good penetration of coarser material and a more complete digestion. The avoidance of high temperatures while maintaining all the advantages of high pressure gives a cellulose fibre in a better state of preservation than by the usual process, and the constituents of the spent liquors are less profoundly decomposed, so that the by-products may be more advantageously utilized. The process may also be employed in the saccharification of cellulose.—A. P.-C.

Wood Cellulose as a Substitute for Cotton.—Ger. patent No. 306,366, W. Schacht, Weissenfels, March 14, 1918. *J. Soc. Chem. Ind.*, xxxix, 60A (Jan. 31, 1920).—Wood pulp prepared by any of the alkaline processes is further digested by boiling with a sulphite solution. The gelatinous substances (hemicelluloses) which are present in soda wood pulps are removed by the sulphite treatment, and a highly purified cellulose is obtained, suitable for use as a substitute for cotton in the chemical and papermaking industries.—A. P.-C.

Continuous Beating and Refining Engine.—Br. patent No. 135,733, T. H. Nash, St. Paul's Cary, March 15, 1919. *J. Soc. Chem. Ind.*, xxxix, 60A (Jan. 31, 1920).—A series of beating rolls is mounted in a common trough, the bottom of which is so constructed that the pulp or the like gradually ascends while passing under the rolls, and is thereafter returned by pipes or ducts passing through or beneath the bottom, to an opening in the feed plate, by means of which the stream of pulp passing from the feed plate may be narrowed, thereby causing the pulp to pass under the rolls a greater number of times.—A. P.-C.

Process of Sizing Paper.—Ger. patent No. 314,146. H. Wandrowsky, Berlin, Nov. 30, 1917. *J. Soc. Chem. Ind.*, xxxix, 60A (Jan. 31, 1920).—Sizing is effected by means of the natural resins present in the pulp by adding substances having an alkaline reaction to the pulp during the beating in order to convert the resin into a resinate, which is then precipitated on the fibres by $Al_2(SO_4)_3$.—A. P.-C.

New Sizing Agent for Paper.—Ger. patent No. 303,925, Holzkohlungs-Ind., A.-G., Konstanz, Feb. 24, 1916. *J. Soc. Chem. Ind.*, xxxix, 60A (Jan. 31, 1920).—Alkaline solutions or suspensions containing products of the condensation of tar and aldehydes in the presence of alkalies are added to the paper pulp, and the sizing constituent is precipitated by substances with an acid reaction. Example: Beechwood tar is freed from acetic and other acid substances

and then condensed with formaldehyde in the presence of alkali. The quantity of formaldehyde is so chosen that it is not sufficient to condense the whole of the tar constituents. Paper can be satisfactorily sized with 1 per cent of the product. The product may also be mixed with bakelite resins soluble in alkalies.—A. P.-C.

Utilization of the Spent Lime Liquors from Straw Paper and Strawboard Mills.—Ger. patent No. 314,054, R. Adam, Bremen, March 28, 1917. *J. Soc. Chem. Ind.*, xxxix, 60A (Jan. 31, 1920).—The spent liquor separated from the straw pulp by mechanical means, is evaporated, dried, and the residue subjected to destructive distillation. The products resemble those from the distillation of wood and comprise acetone and MeOH.—A. P.-C.

Durable Textile Yarns from Paper.—Ger. patent No. 313,520, M. Muller, Limbach, and S. Herzberg, Charlottenburg, Jan. 15, 1918. *J. Soc. Chem. Ind.*, xxxix, 103A (Feb. 16, 1920).—String, rope, etc., or the constituents used in preparing them, particularly materials composed of paper yarn, are coated with metal by the spraying process. The metal-coated textiles are distinguished by a high tensile strength and resistance to external influences.—A. P.-C.

Textile Fibre from Wood.—Ger. patent No. 305,141, K. Mutter, Triptis, Nov. 11, 1917. *J. Soc. Chem. Ind.*, 102A (Feb. 16, 1920).—The fibres are isolated only from the summer wood portions of the annual rings, which contain the strongest fibres. The annual rings are peeled off from the woody stem and are freed from the soft fibreless layers of the spring growth. The coherent layer of summer growth is treated chemically for the removal of the whole or part of the lignin and resins, and the resulting cellulose fibres are separated by mechanical treatment.—A. P.-C.

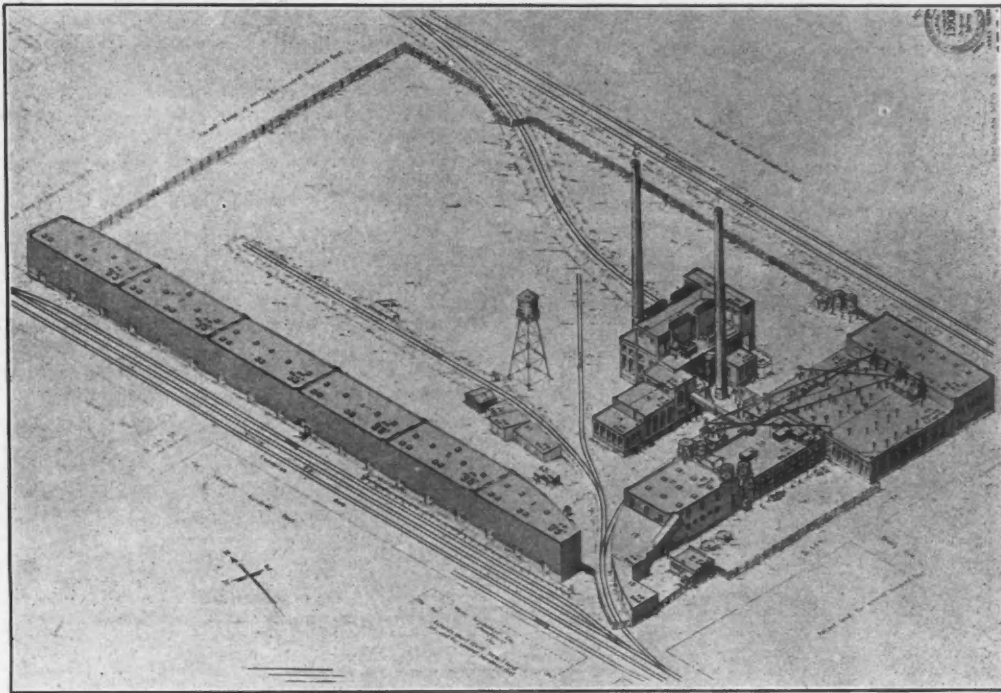
Spinning, Washing, and Drying Viscose Thread.—Br. patent No. 125,394, M. Denis, Mons, Belgium, April 8, 1919. *J. Soc. Chem. Ind.*, xxxix, 103A (Feb. 16, 1920).—The viscose is fed through one of a pair of interchangeable filter boxes into a bent glass tube which delivers it to the squirting nozzle directed upward. The coagulating liquid is contained in a vessel shaped like a test tube which can be adjusted vertically in any desired position to afford a suitable immersion of the nozzle in the bath. The coagulating liquid is continuously circulated through inlet and overflow pipes with flexible connections. The thread passes upward out of the bath and is caught by hooks attached to an endless traveling metallic web, preferably of aluminum, on which it travels downward in an inclined path. During its passage in contact with the web the thread is sprayed by various suitable liquids, e.g., a fixing and a washing liquid, which are collected in troughs arranged behind the wire-cloth support. At the bottom the thread is detached from the web by a jet of liquid directed through the latter in reverse direction and is passed through a drying chamber while supported by a similar web traveling upward through a current of hot air.—A. P.-C.

Container Board Substitute for Cedar Wood.—Br. patent No. 133,732, E. C. R. Marks, London, assignee of Cedaroid Company, Inc., Rochester, N. Y., U. S. A., Sept. 11, 1918. *J. Soc. Chem. Ind.*, xxxix, 103A (Feb. 16, 1920).—Same as Fr. patent No. 491,778. See *Chimie & Industrie*, iii, 74 (January, 1920).—*Pulp and Paper*, xviii, 757 (July 15, 1920).—A. P.-C.

Paper Size.—U. S. patent No. 1,317,616, J. A. DeCew, Montreal, Canada, Sept. 30, 1919. *J. Soc. Chem. Ind.*, xxxix, 103A (Feb. 16, 1920).—Rosin soap containing over 25 per cent of free rosin is diluted and then discharged into a cold solution of sodium silicate until the total dilution corresponds approximately to 2 per cent of total solids. (See also Fr. patent No. 499,415, *Papeterie*,

(Continued on page 46)

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CURRENT PAPER TRADE LITERATURE

(Continued from page 44)

xlii, 269-70, March 25, 1920; *Pulp and Paper*, xviii, 756 (July 15, 1920).—A. P.-C.

Waterproofing Process.—U. S. patent No. 1,317,618, J. A. DeCew, Montreal, Canada, Sept. 30, 1919. *J. Soc. Chem. Ind.*, xxxix, 103A (Feb. 16, 1920).—Waterproof paper is made by incorporating with the paper stock a sizing agent, a precipitated mixture of wax, rosin and alumina, then drying the product and heating to the fusing point of the sizing mixture.—A. P.-C.

Process of Treating Paper Size.—U. S. patent No. 1,317,619, J. A. DeCew, Montreal, Canada, Sept. 30, 1919. *J. Soc. Chem. Ind.*, xxxix, 103A (Feb. 16, 1920).—A sufficient quantity of alkali is added to the paper stock in the beaters or mixers so that the concentration of the basic ions will prevent the formation of alkaline-earth resins by the salts existing in solution; a resin size is then added and precipitated by $Al_2(SO_4)_3$.—A. P.-C.

Process for Softening Paper for Spinning, Paper Yarns, and Fabrics.—Ger. patent No. 300,695, C. Hasenbring, Hamburg, Jan. 6, 1917. *J. Soc. Chem. Ind.*, xxxix, 103A (Feb. 16, 1920).—The goods are treated with a relatively strong solution of calcium chloride and then rinsed in such a manner that the calcium chloride is not all rinsed out.—Alternatively the goods may be impregnated with a smaller quantity of a dilute solution of calcium chloride and then stored without washing. The treated material has a soft and slightly soapy feel, and the tensile strength is scarcely affected.—A. P.-C.

Process for Compacting Paper Yarn Fabrics.—Ger. patent No. 301,361, F. Rawitscher, Berlin, May 3, 1917. *J. Soc. Chem. Ind.*, xxxix, 103A (Feb. 16, 1920).—The finished fabric is subjected to a prolonged boiling treatment in order to convert its constituent yarns into a permanently swollen condition. If the boiling be continued for a sufficient length of time, the swollen condition of the individual fibres becomes fixed without destroying their twist. Even if the strength of the single thread is diminished by this treatment, that of the complete fabric is rather increased thereby, owing to the fact that the yarns of the fabric are considerably compacted. If it be desired to compact the fabric without making it more absorbent, the treated fabric may be impregnated with some water repellent substance.—A. P.-C.

Process for Impregnating Paper Fabrics.—Ger. patent No. 307,771, Gebr. Heyl and Co., A.-G., Charlottenburg, Aug. 14, 1917. *J. Soc. Chem. Ind.*, xxxix, 104A (Feb. 16, 1920).—The goods are impregnated with mixtures containing wood tar or wood tar oils and cellulose esters, particularly in combination with amyl acetate. The impregnated fabric may be used as a material for water buckets, tent covers, ground cloths, wagon sheets, etc.—A. P.-C.

Waterproof Impregnation of Paper Textiles.—Ger. patent No. 305,024, M. Linke, Remscheid, June 26, 1917. *J. Soc. Chem. Ind.*, xxxix, 103A (Feb. 16, 1920).—Paper fabrics or the stitched articles made from them are steeped in water until they show no further shrinkage, and are then treated, slightly damp or after drying, with brushes, being subsequently painted in the same condition on one or both sides with a water repellent impregnating material which also makes them pliable. The impregnating material may be composed of chalk, lithopone, a binder consisting of an oil lacquer containing fatty matter and a thinner such as oil of turpentine or a substitute. The brushing treatment must always be performed in the same direction in order to make the surface of the paper fabric uniform and flat and to smooth down the fibres which have been raised by the steeping, also to allow of a uniform distribution of the impregnating material.—A. P.-C.

Treating Waste Sulphite Liquor for the Recovery of SO_2 .—U. S. patent No. 1,342,721, August Schaefer, Portland, Ore., U. S. A., assignor to Northwest Process Company, June 8, 1920. *Chem.*

Met. Eng., xxiii, 301 (Aug. 18, 1920).—The SO_2 is recovered from the waste sulphite liquor in such a way as to leave the liquor in a favorable condition for fermentation, etc. The waste liquor is discharged from the blow-pit of the digester flows in a thin film over a series of vertically stacked steam-heated coils contained in a chamber in which a vacuum of 5 to 6 inches is maintained by a barometric jet condenser. The heat and diminished pressure facilitate the escape of SO_2 , which is recovered by absorption in water in a suitable tank situated between the evaporating chamber and the condenser. The remainder of the liquor is discharged through the bottom of the evaporating chamber, neutralized and cooled. It may then be fermented for the production of alcohol.—A. P.-C.

Parchment Making.—*World's Paper Trade Review*, lxxiv, 26 (Dec. 24, 1920).—A short account of the process of making parchment and uses made of the margins left after cutting.—A. C.

Examination of China Clay.—*China Clay Review*, ii (Dec. 1920).—A typical chemical analysis of china given by Heath.—A. C.

Treating Typhaceæ to Obtain Fibrous Material.—Ger. patent No. 303,933, P. Horing, Nov. 2, 1917. *J. Soc. Chem. Ind.*, xxxix, 568A (Aug. 31, 1920).—Reeds such as *Typhaceæ* before treatment with liquor to separate the fibrous matter, are boiled exhaustively with water, and, after removal of the undissolved residue, the aqueous solution is evaporated to dryness under reduced pressure. A yellowish brown, hygroscopic product is obtained which contains 20 per cent of ash, chiefly CaO and P_2O_5 , nitrogenous matter, hexoses and pentoses, it possesses nutrient and therapeutic properties.—A. P.-C.

News of the Boston Paper Trade

[FROM OUR REGULAR CORRESPONDENT.]

BOSTON, Mass., April 5, 1921.—There was little change in the paper trade situation in Boston during the past week. Buyers are still holding off, in anticipation of a further drop in price, which jobbers are trying to put off as long as possible.

Even the most optimistic of paper dealers here, who a short time ago were predicting an early revival of business, are now pessimistic and look for no material change for the better in the near future.

Charles A. Young, of Carter, Rice & Co., Devonshire street, one of the best informed paper men in the district, told the Boston correspondent of the *PAPER TRADE JOURNAL* that in his opinion, the Boston market will show no improvement for several months. The trade faces a crisis and paper men must stand severe losses, in many cases. Mr. Young's views of the situation are entertained generally in the trade here.

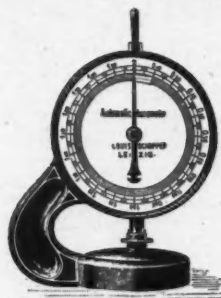
National Commander Frederick W. Galbraith of the American Legion, and secretary of the Western Paper Goods Company, of Cincinnati, Ohio, who was expected to be present at the first "get together" banquet of the Massachusetts department of the Legion, held at the City Club, Saturday evening, was unable to attend.

At the last moment, a telegram was received from him stating that he was detained in Washington by conferences with government officials which were of vital importance to the American Legion. He sent his best wishes and congratulations on the fine spirit of the Massachusetts department. Governor Channing H. Cox gave a brief address to 225 commanders of American Legion posts in Massachusetts.

A reduction averaging two cents a pound in many grades of writings went into effect in the Boston field April 1. This was a cut of more than 10 per cent., and followed one of similar proportions some weeks ago.

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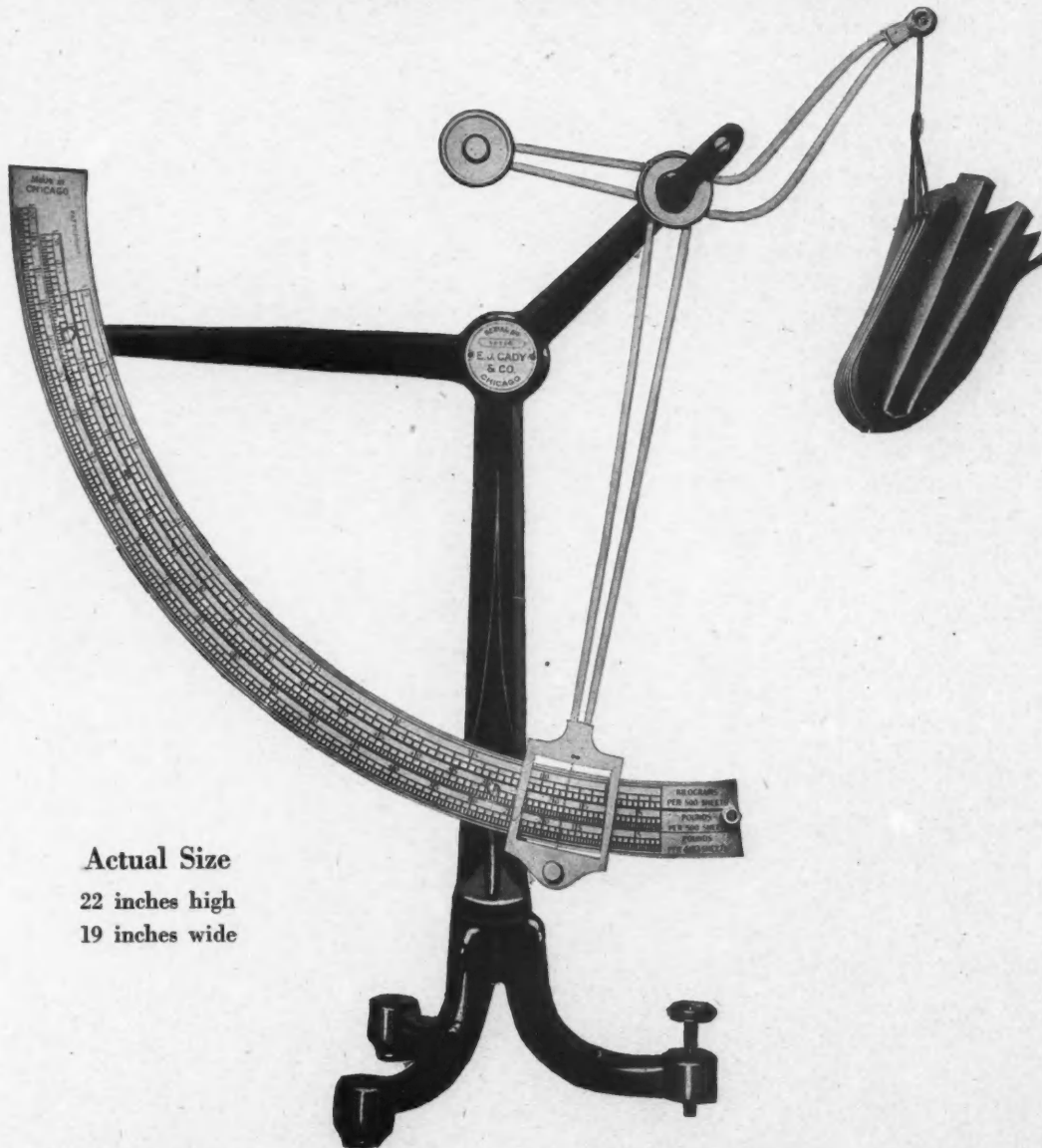
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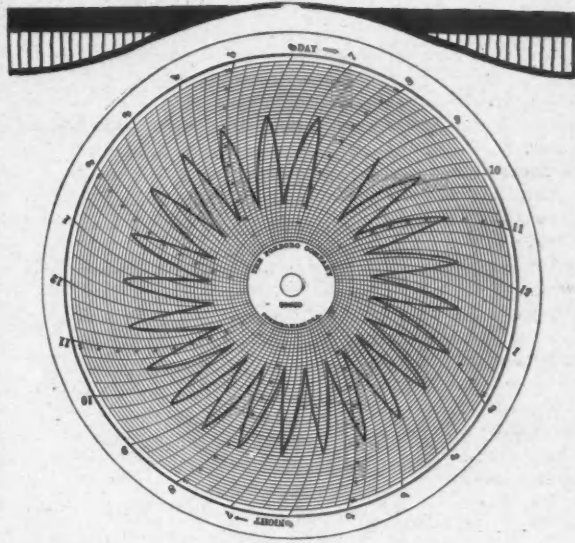
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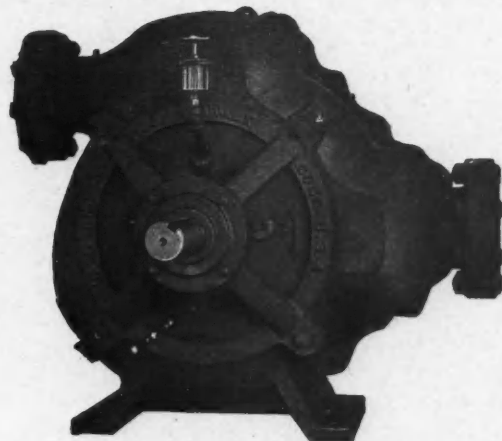
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- Paper and ink, 33 West 42d St., New York City.
- Lithographic edition. Printing edition.
- Pulp and paper magazine of Canada. Ste. Anne de Bellevue, Quebec, Canada.
- Paper box maker, Tribune Building, New York City.
- Paper box and bagmaker and book binders' journal, 47 Cannon St., E. C., London, England.
- Paper bulletin, 33 West 42d St., New York City.
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- Paper maker and British paper trade journal, 47 Cannon St., E. C., London, England.
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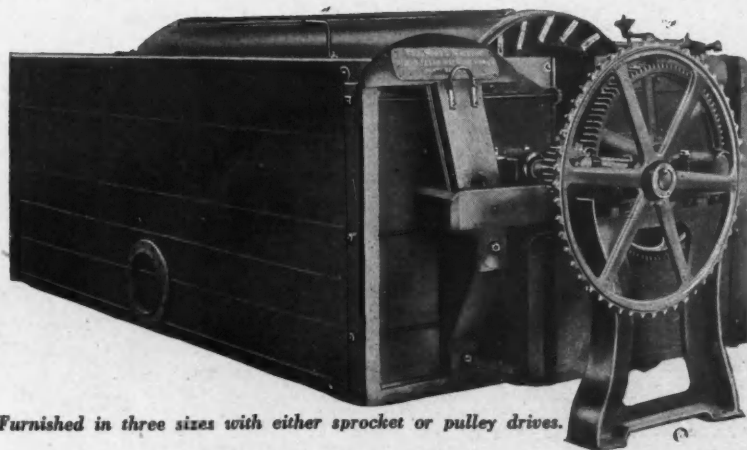
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(Continued from page 38)

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Machine Production Report

From the machine room inspector comes the machine production report, giving the kind of board, formula number of run, caliper, test, per cent of moisture, size of sheets or rolls, customer's name and order number, pounds made and the total time of run, as well as lost time. Accurate inspection is obtained as to the percentage of moisture in board by taking square foot samples and weighing before and after drying. These samples are cut at regular intervals during the run. The scope of inspection of finished board comprises caliper, obtaining percentage of moisture, Mullen test, average speed as well as examination of board in regard to finish and quality.

The material cost is shown separately from productive labor, burden and machine charges. These three latter charges (as far as the Richardson Company is concerned) are based on the productive hours, that is, total time of run less lost time. This means a productive hour cost is obtained for each.

Productive Labor and Machine Costs

Productive labor comprises all machine and beater room wages. Burden includes superintendent's salary, taxes, liability and fire insurance, power, light and heat, depreciation and interest on buildings and equipment other than productive machinery, supplies and wages for repairs and upkeep on the aforementioned buildings and equipment, receiving and shipping expenses and a portion of administrative expense.

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productive machinery, meaning the re-productive or cost value of paper machine and its beater and jordon group, as a basis on which percents of depreciation and interest are figured.

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It is evident that the two important variables are material and time taken to make board on the paper machine. The material furnished will vary depending upon whether the board is plain chip or patent coated. While the hour cost on the board machine is the same for any one month, the resulting ton cost of board processed on this machine depends entirely upon the speed (and consequently the tonnage) with which this board is run over the machine.

At the end of every closing period the amount of material used (as shown on cost sheets) is checked with the stock clerk's disbursement of materials into the beater room, an inventory, of course, being taken of stocks on hand at the end of the month in the beater room. Almost every month gives a pretty close check, and we are prepared to say any time during the month whether we are selling board at a profit. If in dull times we feel obliged to take orders at less than cost we can judge just how far below cost we can go before the total loss exceeds the overhead or fixed charges. By this I mean, it is possible for purposes of keeping the organization together to run part time and absorb a certain amount of overhead. However, should orders be taken at too low a cost, it is evident that the loss on raw materials in the board made will more than offset the gain in running at least part time, the purpose of the latter being to absorb certain fixed expenses such as depreciation, executive salaries, taxes and so on.

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 Revue de la papeterie française et étrangère, 20 rue Turgot, Paris, France.
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 Tapeten-Zeitung, Alex. Koch, Darmstadt, Germany.
 United States paper maker, 41 Park Row, New York City.
 Wochenschrift f. d. Papier- und Schreibwarenhandel und die Papier verarvet. Industrie, Verlag Carl Marfels, Berlin, Germany.
 Zentralblatt f. d. osterr-ungar. Papier industrie, G. Hedeler, Leipzig, Germany.

CONSOLIDATED PAPER BAG CO.

General Offices:

125 Merrimac St., Boston, Mass.

Factory:

Somerville, Mass.



Manufacturers of

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Samples submitted on request

Inquiries Solicited

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Sacks and Specialties

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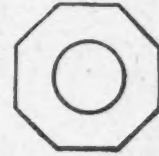
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500 East 133d Street : New York



FACTORY
132ND TO 133RD ST & BROOK AVE

This Registered Trade
Mark Octagon



on a Paper
Bag Vouches for
Its Good Quality

Blotting Paper of the Best Quality

MANUFACTURED BY

THE EATON-DIKEMAN COMPANY LEE, MASS.

Manufacturers of Blotting, Matrix, Filter and all other grades of absorbent papers.

Registered brands Magnet and Columbian, also Lenox and Arlington.

SEND FOR SAMPLES AND PRICES

Missisquoi Pulp and Paper Company

SHELDON SPRINGS VERMONT

White and Tinted Bristols—White
Blanks—Index Bristol and Special-
ties in Card Boards.



We announce the completion at Cincinnati, Ohio, of the most modern plant, built and operated by practical experts of the highest standing in the manufacture of Silicate of Soda.

It is our purpose to merit your business on the basis of standard quality and dependable service.

Inquiries are solicited for spot and contract deliveries.

THE STANDARD SILICATE COMPANY

MANUFACTURERS OF

SILICATE OF SODA

CINCINNATI, OHIO.

New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, April 6, 1921.

The shake down in business and the readjustment of prices appears slowly to be reaching a settlement. During the past week further reductions in prices on a number of different commodities in the paper market were noted, particularly in paper stock, tissues one or two of the boards and pulp. A spirit of cheerfulness pervades the entire trade and all seem to believe that this prolonged lull is drawing to a close and one man who is prominent in his line prophesied that things would be pretty well adjusted by the middle of the summer although the opinion of most is that we shall not see normal business again much before fall and some place it as late as the middle of November.

The open market on news print is still in rather a slow condition, but it is not expected that this field will improve until the small publisher recovers from his extreme caution and comes back into the market once more. One can scarcely blame him for being rather timid after the extremely high prices which he had to pay last year, but sooner or later he will have to enter the market again and all the indications are that it is going to be sooner rather than later. A few good sized transactions in spot goods were reported, however, and this is a hopeful sign. Contract material is moving with the same regularity that it has been for the past few months and prices on the whole have remained fairly firm with a few small declines reported in rolls and side runs.

Business in fine paper is still improving although this betterment is gradual and is sometimes scarcely perceptible from one week to the next. Although some of the small dealers and mills here and there have reduced their prices on the whole they are fairly steady and are unchanged since last week. Goods on the open market are moving a little better and contracts are being filled with increasing regularity, most of the manufacturers and jobbers are optimistic and say that this hold off in buying cannot continue much longer.

The big manufacturers of book papers are still keeping their prices at the same level and only insignificant reductions have been made. Spot book is very slow and few really large orders have been placed in the open market. The mills, however, have increased their production slightly during the past month and most of the mills which shut down temporarily are now open again. Manufacturers say that they have orders enough to keep them going along in good shape and book is probably better than some of the other articles in the paper market.

Wrapping papers are picking up slightly after their long period of extreme dullness. This can be ascribed more than anything else to the freshening of business conditions all over the country, particularly among the retailers to whom most of the wrapping men sell large quantities. This market always is closely in harmony with the general commodity market and a real return to good business cannot be expected until things all over the country are back to normal.

The tissue market has not improved greatly in the past week, although things are reported as a little better. Stocks have run pretty low both among the large consumers of tissue and among the jobbers of this product and a sudden demand might send the price soaring again. The general tone of the market is good and when the clothing manufacturers begin to buy again there is little doubt that tissue will be quite normal once more.

Board seems to have slumped off a little more during the week after the slight increase in demand. Buyers are once more reluctant to take any large orders and chip, container and coated board have all gone down a little in price. It is said that even with this slump things are on the whole much improved compared to what they were a few months ago and dealers declare that there is some business floating about for those who are energetic enough to go out and look for it. This product, like wrapping papers, is quite

dependent upon the general condition of business all over the country and no real betterment can be expected until the readjustment in other fields is complete.

Mechanical Pulp

Mechanical pulp continues to fall off in price but conditions are such that it is almost impossible to give any accurate range of prices since each deal sets its own price. There has been no change since last week in the general condition.

Chemical Pulp

Chemical pulp also continues to decline and it is difficult to say just when rock bottom will be reached. Buyers are waiting until they can procure this article at the lowest possible quotation and manufacturers each time a price cut is made say that they cannot reduce much lower. The price has declined a little more this week.

Old Rope and Bagging

Old rope was a little better in the open market during the week and it was said that goods were moving with a little more rapidity, although no large orders have come to the surface. Bagging is still dormant and there seems to be little demand.

Rags

There has been little change in rags during the past week. The demand is absolutely flat and the supply is large, although collections and importations have fallen off owing to the general slowness in business. Little of the stock is moving and contracts are coming in slowly.

Waste Paper

Paper tock has been quiet during the past week and there has been a slight decline in price on some of the grades. This was to be expected since the board market has fallen off also and the two are close together, always rising and falling with each other.

Twine

The freshening of the demand for twine still continues until business is getting rapidly back to normal. There seems now to be no doubt that this period of readjustment is about complete in twine.

T. A. P. P. I. PROGRAM

(Continued from page 32)

ROBERT B. WOLF, Vice-President of T. A. P. P. I., and the American Society of Mechanical Engineers, New York.

CALVIN W. RICE, Secretary, American Society of Mechanical Engineers, New York.

CALVERT TOWNLEY, Assistant to President, Westinghouse Electric & Manufacturing Company, New York.

LESLIE R. PALMER, President, Lockwood Trade Journal Company, New York.

GEORGE CARRUTHERS, Chairman, Technical Section, Canadian Pulp and Paper Association, Toronto.

CARLILE P. WINSLOW, Director of the Forest Products Laboratory, Madison, Wis.

D. CLARK EVEREST, Secretary and General Manager, Marathon Paper Mills Company, Rothschild, Wis.

FREAS B. SNYDER, President, W. C. Hamilton & Sons, Inc., Philadelphia.

JOSEPH B. SEAMAN, Vice-President, Seaman Paper Company, New York.

JOHN C. SCHMIDT, President, Schmidt & Ault Paper Company, York, Pa.

ARTHUR L. DAWE, Secretary, Canadian Pulp and Paper Association, Montreal.

J. NEWHALL STEPHENSON, Editor, Vocational Education Text-books.

ROBERT WILLIS, New York.

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations April 5, 1921:

Table of Paper Company Securities including American Writing Paper Company, International Paper Company, etc.

Because of the unusual conditions prevailing in the various markets quotations are more or less nominal.

Paper

Table of Paper products including Bonds, Writing, Extra Superfine, etc.

Table of Paper products including New Black Soft, New Light Sec., etc.

Table of Paper products including White, No. 1, Repacked, etc.

Foreign Rags

Table of Foreign Rags including New Light Silesias, Light Flannelettes, etc.

Bagging

Table of Bagging products including Prices to Mill, Foreign, Domestic, etc.

Twines

Table of Twines including Cotton, No. 1, No. 2, etc.

Mechanical Pulp

Table of Mechanical Pulp including No. 1 f. o. b. Mill.

Chemical Pulp

Table of Chemical Pulp including Sulphite (Foreign), Bleached, etc.

Domestic Rags

Table of Domestic Rags including Prices to Mill, New, etc.

Table of Paper products including No. 1, No. 2, Tube Rope, etc.

Old Waste Papers

Table of Old Waste Papers including Hard White, No. 1.

Table of Paper products including Hard White No. 2, Soft White, etc.

CHICAGO

[FROM OUR REGULAR CORRESPONDENT.]

Table of Paper products including Paper, F. o. b. Mill, All Rag Bond, etc.

Table of Paper products including Solid Wood Pulp, Old Papers, Shavings, etc.

PHILADELPHIA

[BY OUR REGULAR CORRESPONDENT.]

Table of Paper products including Paper, Bonds, Ledgers, etc.

Table of Paper products including Best Tarred, Bagging, Twines, etc.

(Continued on page 66)

Imports and Exports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING APRIL 2, 1921

News print2,381 reels
Wrapping paper112 bls.
Cigarette paper72 cs.
Wall paper1,084 rolls, 13 bls., 3 cs.
Hangings21 cs., 9 bls.
Filter paper75 cs.
Drawing paper26 cs.
Blue print paper101 rolls
Tracing paper15 cs.
Surface coated paper18 cs.
Carbon tissue45 cs.
Tissue paper1 cs., 1,028 rolls
Printing paper5 cs., 1,028 rolls
Miscellaneous paper76 cs., 38 bls.

CIGARETTE PAPER.

Liggett & Myers Tobacco Company, Chicago, Havre, 23 cs.
The Surbrug Company, by same, 14 cs.
Wilkinson Brothers & Co., by same, 5 cs.
Liggett & Myers Tobacco Company, Burmese Prince, Havre, 30 cs.

WALL PAPER.

National Bank of Commerce, Rotterdam, Rotterdam, 1,084 rolls.
R. F. Downing & Co., Inc., Montana, London, 9 bls.
Wormser Hat Stores, Lapland, Antwerp, 2 cs.
F. A. Bruder, New Rochelle, Bremen, 4 bls.
Thomas & Pierson, Montana, London, 1 cs.

PAPER HANGINGS.

W. H. S. Lloyd & Co., Maine, London, 16 cs., 6 bls.
W. H. S. Lloyd & Co., Montana, London, 3 bls., 5 cs.

FILTER PAPER.

H. Reeve, Angel & Co., Inc., Montana, London, 8 cs.
H. Reeve, Angel & Co., Inc., Maine, London, 13 cs.
Orbis Products Company, Hannington Court, Bordeaux, 8 cs.
E. Fougere, by same, 28 cs.

DRAWING PAPER.

H. Reeve, Angel & Co., Inc., Montana, London, 4 cs.
H. Reeve, Angel & Co., Inc., Maine, London, 9 cs.
Keuffel & Esser, American, Hamburg, 13 cs.

BLUE PRINT PAPER.

Keuffel & Esser, American, Hamburg, 101 rolls.

TRACING PAPER.

Keuffel & Esser, American, Hamburg, 15 cs.

SURFACE COATED PAPER.

R. F. Lang, American, Hamburg, 4 cs.
P. Puttmann, Lapland, Antwerp, 14 cs.

WRAPPING PAPER.

R. F. Lang, American, Hamburg, 6 bls.
Japan Paper Company, Haimon, Hamburg, 106 bls.

CARBON TISSUE.

H. Reeve, Angel & Co., Inc., Vincennes Bridge, Haugo, 21 cs.
Columbia Ribbon & Carbon Mfg. Co., by same, 12 cs.
Ault & Wiborg Co., by same, 2 cs.
Mittag & Volger, by same, 10 cs.

TISSUE PAPER.

R. Hoe & Co., Montana, London, 1 cs.

PRINTING PAPER.

L. A. Consmiller, Rotterdam, Rotterdam, 5 cs.
Roncomni & Millar, Haimon, Hamburg, 1,028 rolls.

NEWS PRINT.

Finnish Federal Foreign Banking Corporation, Vincennes Bridge, Haugo, 1,746 reels.
National Bank of Commerce, Drammensfjord, Kristiansand, 466 reels.
New York Overseas Company, Inc., Drammensfjord, Brevik, 169 reels.
Hudson Trading Company, Milwaukee Bridge, 445 rolls.
Hudson Trading Company, Bergensfjord, 346 rolls.
Hudson Trading Company, United States, 188 rolls.

PAPER.

Tokstad & Co., Drammensfjord, Stavanger, 2 cs.
Birn & Wachenheim, Noordam, Rotterdam, 8 cs.
Tamm & Co., American, Hamburg, 3 cs.
H. Lindenmeyr & Son, by same, 45 cs.
Japan Paper Company, Trecarne, Leghorn, 38 bls.
Japan-Paper Company, La Lorraine, Havre, 5 cs.
D. J. Coenca & Co., by same, 6 cs.
National Gum & Mica Company, by same, 3 cs.
Parsons Trading Company, Maine, London, 13 cs.

H. D. Cathy & Co., Chicago, Havre, 5 cs.
R. F. Lang, Haimon, Hamburg, 16 cs.

IN TRANSIT TO CLEVELAND, O.

H. W. Kemmerling & Son, Lapland, Antwerp, 1 cs. wall paper.

RAGS, BAGGINGS, ETC.

Albion Trading Company, Noordam, Rotterdam, 21 bls. paper stock.
Castle, Gottheil & Overton, Trecarne, Leghorn, 27 bls. old waste.
Railway Manufacturers' Supply Company, by same, 153 bls. old waste.
W. Schall & Co., by same, 74 bls. old waste.
A. Salomon, Inc., Chicago, Havre, 308 bls. rags.
E. Butterworth & Co., by same, 111 bls. bagging.
Leshner Paperstock Company, Valacia, London, 293 bls. paper stock.
Albion Trading Company, by same, 371 bls. rags.
Guaranty Trust Company, Lepanto, Hull, 63 bls. cotton waste.
Castle, Gottheil & Overton, Hannington Court, Bordeaux, 198 bls. rags.
Salomon Brothers & Co., Haimon, Hamburg, 162 bls. rags.
American Wood Pulp Corporation, by same, 424 bls. rags.
Castle, Gottheil & Overton, Chicago, Havre, 211 bls. new cuttings, 746 bls. rags, 557 bls. bagging.
Castle, Gottheil & Overton, Hannington Court, Bordeaux, 198 bls. rags, 246 bls. bagging.

OLD ROPE.

International Purchasing Company, Burmese Prince, Havre, 78 coils.
W. H. Cummings & Son, United States, Copenhagen, 153 coils.
Brown Brothers & Co., N. Y. City, Bristol, 17 coils.

CASEIN.

Kalbfleisch Corporation, Suneric, Buenos Aires, 833 bags.
T. M. Duche & Sons, by same, 6,591 bags.

WOOD PULP.

Tidewater Papermills Company, Flavonian, Liverpool, N. S., 6,433 bls., 643 tons, ground.
Brown Brothers & Co., American, Hamburg, 212 bls., 32 tons.

TO BOSTON.

Atterbury Brothers, Suneric, Buenos Aires, 966 bags casein.
Kalbfleisch Corporation, by same, 833 bags casein.
T. S. Todd, by same, 1,050 bags casein.

PRICES IN PHILADELPHIA

(Continued from page 20)

care to establish a collection route even though waste papers were furnished for nothing. The Typothetae is desirous of working out arrangements for a regular collection service on which the printers can depend and is not desirous of increasing prices. The Typothetae during the week removed from the quarters long occupied on the sixth floor of 929 Chestnut street to the second and third floors of 925 Walnut street. Its assembly room is the regular meeting place of the Paper Trade Association. In the new quarters there are accommodations for over 100 persons or almost double the number which could be crowded into the Chestnut street headquarters.

General News of the Trade

James M. Miller has been elected vice-president and general manager of the Reading Paper Mills succeeding the late James N. Mohr.

Nearly every member of the fine paper department sales force of the D. L. Ward Company has made application for charter membership in the Guild of Printers' Supplies Salesmen which formally

will be organized on Friday evening, April 22 at 7:30 o'clock sharp in the Arcadia Cafe. Thomas J. Curry of the D. L. Ward Company last week was elected chairman of the paper salesmen's group in the membership campaign now being conducted by the temporary Committee on Membership and Publicity whose chairman is E. R. Gudhus, 717 Walnut street. All salesmen selling the printing trade are eligible to membership.

The R. T. Moorehouse mills opened today after a close down of several months. During the idleness the machinery was thoroughly overhauled. The firm has many orders for Kraft, manila cover and wrapping papers booked.

The plant of the Russell Products Company, Camden, recently destroyed by fire, is being reconstructed. The former structure will be duplicated.

A report was received in the city during the week that the wholesale paper warehouse of M. S. Reilly at Easton, Pa., had been damaged by fire to the extent of \$50,000.

W. Harry Goebel of the Garrett-Buchanan Company has returned to his duties after an illness of four weeks, suffering from an abscess of the ear.

RIORDON SALES COMPANY

LIMITED

367 BEAVERHALL SQ.

MONTREAL, CANADA



The operation at "KIPAWA" mill of
TWO ADDITIONAL DIGESTERS
now provides an
EXCEPTIONALLY STRONG FIBRE
**HIGH GRADE ELECTROLYTIC BLEACHED
SULPHITE WOOD PULP**
for
IMMEDIATE AND FUTURE DELIVERY
AT PREVAILING MARKET PRICES
INQUIRIES WILL RECEIVE PROMPT ATTENTION

T. J. STEVENSON

Sales Managers

GEO. E. CHALLES

Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, April 6, 1921.

Definite indications are now noticeable throughout the chemical market which tend to show that business is going to pick up in the near future. In fact the number of orders is increasing gradually in all varieties and although this increase is not rapid still it is a good omen that they are increasing at all. Some of the chemicals are very slow as yet, but none of them seem to be as bad as they were a few months ago. Prices are remaining remarkably firm and there is not likely to be any further drop in prices until costs, particularly freight and labor, go down. It appears now as though this period of readjustment were drawing to a close and the next few months will probably see a definite return to normal.

ALUM.—Alum is still rather slack in the open market and most of the deals that are made are in small quantities for immediate shipment. Few large orders have come to the surface and most of the buyers who find themselves in instant need of alum go into the open market and buy a small amount. Contract goods are moving with considerably more facility and manufacturers are optimistic and say that they believe they will have no trouble in disposing of their production. The price on the ground is still between 4.50 and 5.00 cents per pound, 4.00 to 4.50 cents per pound for the lump, and 5.00 to 5.50 cents per pound for the powdered.

BLANC FIXE.—Blanc fixe is a trifle better than it has been and the movement of goods on the open market is somewhat better although of course it is not yet normal. The price on the paste remains at about 2.25 cents per pound and on the powdered 3.75 cents per pound.

BRIMSTONE.—Brimstone is reported as improving slightly, but orders are slow in coming in and there is little trading on the open market. The price remains firm at about \$16 per ton.

CAUSTIC SODA.—Caustic is still in poor demand on the open market, but some good sized orders have been placed and the manufacturers seem to be getting rid of their production. The price is about 3.50 to 3.60 cents per pound on a 60 per cent basis.

CHINA CLAY.—The china clay market is still quiet and is likely to remain so until the readjustment in some of the other commodities is more nearly complete. The price is firm at \$6.00 to \$7.00 per ton for the unwashed domestic, \$9.00 to \$10.00 per ton for the domestic washed, and the imported is selling at anywhere from \$13.00 to \$20.00 per ton depending upon the grade required.

ROSIN.—Rosin is still improving the drop in price having at last attracted the attention of some buyers. The price is firm at 6.25 for grades E, F and G.

SALTCAKE.—Saltcake has shown no change worthy of note during the past week. Natural grade is selling for about \$20 per ton and the manufactured grade is at about \$22 to \$25 per ton.

STARCH.—There has been a further slight drop in the price of starch and the demand is reported as a little better. Paper starch is selling for 2.43 to 2.81 at the present time.

SODA ASH.—Although soda ash is not moving very rapidly it is reported as slightly better than it was last week. The price is still firm at 1.90 to 2.15 on the basis of 58 per cent.

SULPHATE OF ALUMINA.—Alumina sulphate is still slack and there has been little change over conditions as they were last week. The Commercial grade is selling for about 2.25 cents per pound and the iron free at about 3.30 cents.

Yellow Pine Paper Mill Resumes

ORANGE, Tex., April 1, 1921.—The plant of the Yellow Pine Paper Mill Company, which employs 350 men and which has been idle for some time past, has resumed operations. The men returned to work with a reduction of 20 per cent in wages.

Market Quotations

(Continued from page 63)

Solid Ledger Stock. 2.50 @ 2.75	New Black Soft .04% @ .04%
Writing Paper 2.00 @ 2.25	New Light Sec- onds03 @ .03%
No. 1 Books, heavy 1.50 @ 1.75	Khaki Cuttings.04 @ .04%
No. 2 Books, light. 1.00 @ 1.25	Corduroy02% @ .03
No. 1 New Manila. 3.00 @ 3.25	New Canvas08 @ .08%
No. 1 Old Manila. 1.25 @ 1.50	New Black Mixed 4.15 @ 4.25
Container Manila.75 @ .80	
Old Kraft 2.50 @ 3.00	
Overissue News.90 @ 1.00	
Old Newspaper50 @ .60	
No. 1 Mixed Paper.50 @ .60	
Common Paper35 @ .40	
Straw Board, Chip.50 @ .60	
Binders' Bd. Chip.50 @ .60	
Domestic Rags—New	
Price to Mill, f. o. b. Phila.	
Shirt Cuttings—	
New White, No. 1 .10 @ .11	
New White, No. 2 .08 @ .08%	
Silicias, No. 1.07% @ .07%	
New unbleached.08% @ .09%	
Washables04% @ .05	
Fancy07% @ .07%	
Cottons—according to grades—	
Blue Overall06% @ .07	
New Blue03% @ .03%	
	White, No. 1— Repacked06 @ .07%
	Miscellaneous06% @ .07%
	White, No. 2— Repacked04% @ .04%
	Miscellaneous03% @ .04
	Thirds and Blues— Repacked02% @ .02%
	Miscellaneous01% @ .01%
	Black stockings. 2.50 @ 2.75
	Roofing Stock—
	No. 1.90 @ 1.00
	No. 2.80 @ .90
	No. 3.70 @ .80
	No. 4.75 @ .85
	No. 5A. Nominal
	B. Nominal
	C. Nominal

BOSTON

[FROM OUR REGULAR CORRESPONDENT.]

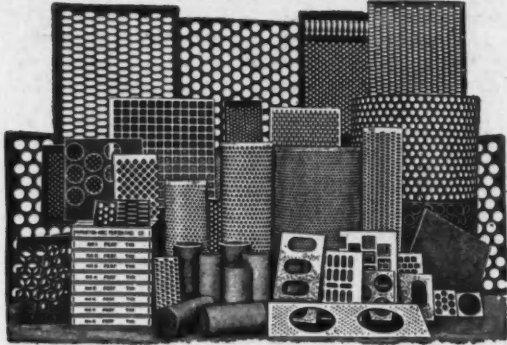
Paper		Wood, Vat Lined. .47.50 @ —
Bonds 11 @ —	Ledgers 13 @ —	Filled News Board.40.00 @ —
Writing—	Superfine09 @ —	Solid News Board.45.00 @ —
Fine 11 @ —	Books, S. & S. C.09 @ —	S. Manila Chip.55.00 @ —
Books, M. F.08% @ —	Books, Coated13 @ —	Pat. Coated80.00 @ —
Label12 @ —	News, sheets04% @ —	
News, rolls.07 @ .07%	Manila—	
No. 1 Manila.08 @ —	No. 1 Fibre.08 @ —	
No. 1 Jute.09 @ —	Kraft Wrapping.08 @ —	
Common Bogus.04% @ .05		
Boards		
(Per ton f. o. b. mill.)		
Chip30.00 @ 35.00	News, Vat Lined. .37.50 @ —	
		Old Papers
		Shavings—
		No. 1 Hard White .03 @ —
		No. 1 Soft White .02% @ —
		No. 1 Mixed.01% @ —
		Ledger & Writings. .01% @ —
		Solid Books01 @ —
		Blanks, News01% @ —
		No. 2 Books, light. .80 @ —
		No. 1 Manila.75 @ —
		Folded News (over-
		issues) \$12.00 @ —
		Mixed Paper 7.00 @ —
		Gunny Bagging90 @ —
		Manila Rope03% @ .04
		Container Manila00% @ .04
		Old News. 8.00 @ —
		Old Kraft14.00 @ —

TORONTO

[FROM OUR REGULAR CORRESPONDENT.]

Paper		Sulphite, bleached. .125.00 @ 130.00
(Mill Prices to Jobbers f. o. b. Mill)		Sulphate 80.00 @ —
Bond—		
Sulphite 18 @ —	Light tinted 19 @ —	
Dark tinted 20% @ —	Ledgers 18% @ —	
Writing 15% @ —		
News, f. o. b. Mills—		
Rolls (carloads). 5.50 @ —	Sheets (2 tons or over) 6.00 @ —	
Sheets (less than 2 tons) 6.25 @ —		
Book—		
No. 1 M. F. (car-	loads)14.50 @ —	
No. 2 M. F. (car-	loads)12.85 @ —	
No. 3 M. F. (car-	loads)11.75 @ —	
No. 1 S. C. (car-	loads)14.50 @ —	
No. 2 S. C. (car-	loads)13.35 @ —	
No. 1 Coated and litho.17.85 @ —	No. 2 Coated and litho.16.85 @ —	
No. 3 Coated and litho.16.25 @ —	Coated and litho., colored18.25 @ —	
Wrapping—		
Grey 7.00 @ —	"B" Manila 7.50 @ —	
No. 1 Manila. 9.00 @ —	Fibre 8.50 @ —	
Kraft, M. F. or M. G.10.00 @ —		
Pulp		
(F. o. b. Mill)		
Ground Wood \$35.00 @ 50.00	Sulphite, easy bleach-	ing 95.00 @ 100.00
	Sulphite, new grade. . 65.00 @ 75.00	
		Old Waste Papers
		(In carload lots, f. o. b. Toronto)
		Shavings—
		White Env. Cut. 3.50 @ —
		Soft White Book Shavings 3.50 @ —
		White Bk News. 1.75 @ —
		Book and Ledger—
		Flat Magazine and Book Stock (old) 1.40 @ —
		Light and Crumpled Book Stock 1.20 @ —
		Ledgers and Writings 2.50 @ —
		Solid Ledgers. 2.50 @ —
		Manila—
		New Manila Cut. 2.50 @ —
		Printed Manilas. 1.00 @ —
		Kraft 2.75 @ —
		News and Scrap—
		Strictly Overissue 1.25 @ —
		Folded News.87% @ —
		No. 1 Mixed Pa-
		pers60 @ —
		Domestic Rags—
		Price to mills, f. o. b. Toronto.
		Per lb.
		No. 1 White shirt cuttings15 @ —
		No. 2 White shirt cuttings07% @ .08
		Fancy shirt cuttings07% @ .08
		No. 1 Old whites .04% @ —
		Thirds and blues .02 @ —
		Black stockings. 2.00 @ —
		Roofing stock
		No. 1 1.25 @ —
		No. 2 1.10 @ —
		Roofing stock
		Manila rope03% @ .04
		Gunny bagging02% @ .03
		No. 201% @ —

PERFORATED METALS



Paper and Pulp Mill Screens.
Steel, Iron, Copper, Brass, Bronze
FOR

Centrifugal and Rotary Screens, Drainer
Bottoms, Filter Plates, Pulp Washers, etc.

All sizes and shapes of holes in many
thicknesses and dimensions of sheets.

Accuracy in all details and excellence
of quality at lowest consistent prices.

THE HARRINGTON & KING PERFORATING CO.

618 North Union Ave., Chicago, Ill.
114 Liberty St., New York, N. Y.

Diamond Mills Paper Company

44 Murray Street
New York

Est. 1872

Barclay 6139

Manufacturers of High Grade Tissue,
including the following:

- Grass Bleached Tissues
- Silk Repp
- Plain and Ribbed Cigarette
- Train Order Tissue for oiling
- White and Colored Carbon Papers
- Manila Stereotype
- Papers for Nitrating
- White, Manila, and Buff Copyings
- Manila Tracing Paper
- High Grade Sulphite Tissues
- Tissues in rolls a specialty

We also operate **The American Novelty
Paper Co.**

Manufacturers of:

- Plain and Decorated Crepe Papers
- Plain and Decorated Crepe Napkins

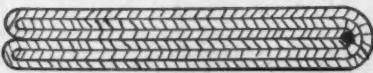


CROSS SECTION VIEWS
NOTE THE COPPER WIRE



REG. U. S. PAT. OFF.

**DURBAR
BELTING**



**SENEGAL
SPECIALTY CANVAS
BELTING**

**SEMINOLE
RED STITCHED CANVAS
BELTING**

FOR YOUR PROTECTION

A copper wire is built into *all* Daleway belts. It is a
copyrighted mark, found in no other belting.

This distinguishing trademark assures you of well made
goods and good service. Be sure the belt you buy con-
tains the *copper wire*. We stand behind it.

Rossendale-Reddaway
BELTING AND HOSE COMPANY, NEWARK, N.J.



WANT AND FOR SALE ADVERTISEMENTS

CLASSIFIED RATES

Minimum rate for advertisements of 25 words or less, first insertion, \$1.00.

SITUATION WANTED, 4 cents a word for first insertion and 2 cents a word for each subsequent insertion of same ad. No ad of less than 25 words accepted.

HELP AND MISCELLANEOUS WANTS, and small For Sale Ads, 4 cents a word for each and every insertion. No ads of less than 25 words accepted.

When answering advertisements, please address the Box Number given in ad.

Answers can be forwarded care Paper Trade Journal, and will be promptly forwarded without extra charge. All should be sent to the New York office, 10 East 39th street. And all should be addressed as the advertisement directs in every case and not simply to the paper.

All classified ads for the current issue must be in hand not later than Monday preceding date of publication.

HELP WANTED

SPECIALIST AGENTS wanted to represent us in U. S. A. Bronze Powders and Imitation Gold Leaves. Caplain Saint Andre Fils & Cie., 8-10-12, Rue Portefoin, Paris, France.

WANTED—Three good Machine Tenders and Back Tenders for 120" six cylinder Board Machine. Men familiar with running Test Board, eight hours. Address, Box 4005, care Paper Trade Journal. tf

SULPHITE MILL SUPERINTENDENT—Mill manufacturing Bleached Sulphite wants services of man capable of handling same. New mill, modern in every respect. Good salary, permanent engagement. Applications treated confidentially. Address, Box 4019, care Paper Trade Journal. A-7

WANTED—A salesman to represent an old established wholesale paper warehouse, one who has had experience in fine papers. All communications strictly confidential. Address, Box 4046, care Paper Trade Journal. A-7

WANTED—An experienced twine, cardboard and paper salesman for a large New York City paper dealer. Salary or commission basis. Address, Box 4047, care Paper Trade Journal. tf

SUPERINTENDENT to run cylinder machine on Asbestos. Steady position, Middle West. Give references, state salary expected, age, married or single, size family. Address, Box 4024, care Paper Trade Journal. A-14

WANTED—Machine Tenders (2) Binders Board Mill located near New York City. Address, Box 4062, care Paper Trade Journal. Apr.

WANTED—Young, energetic American as salesman of Newspaper Supplies, without necessarily any sales experience but with good appearance and preferably a working knowledge of the paper or publishing business. Excellent future for the right man. Address, Box 4063, care Paper Trade Journal. A-21

WANTED FOR NEW KRAFT MILL just starting up, one cook familiar with Morterud heaters, one causticizing man and one diffuser man. Address, Box 4064, care Paper Trade Journal. A-7

SALESMAN WANTED—A large paper firm is open for a number of high grade salesmen with a personal following in the general printing and paper lines. Satisfactory arrangements will be made with those who qualify. Apply by letter giving all details. Address, Box 4065, care Paper Trade Journal. A-14

SITUATIONS WANTED

MECHANICAL AND HYDRAULIC ENGINEER of long experience in Water Power Development and Paper and Pulp Mill work is now open for engagement and would like to hear from responsible parties requiring such services. Address, Box 4029, care Paper Trade Journal. A-14

WANTED—To communicate with responsible mills manufacturing the following: waxed papers, waxed butter dishes, sanitary fibre containers, paper napkins, shelf paper, lunch sets, and any similar paper specialties. Wish to hear from those who can offer exclusive sales agency in the New England States. All replies treated confidentially. References exchanged. Address, Box 4050, care Paper Trade Journal. A-28

A SUPERINTENDENT with twenty years' experience on Kraft, Express Board-wrapping, Flour, Cement Papers, wants to make change. Can furnish best of references. Address, Box 4051, care Paper Trade Journal. A-14

MECHANICAL ENGINEER, experienced in Pulp and Paper Mill layout and construction is open for position. Address, Box 1052, care Paper Trade Journal. A-7

ASSISTANT SUPERINTENDENT, 27, B.S. in Chemistry. Three years' experience in rag paper mill. Will take anything as long as there is chance for advancement. Address, Box 4048, care Paper Trade Journal. M-1

PAPER EXPERT AVAILABLE FOR MILL CONNECTION. Ten years' experience, direct mill buying and selling paper and pulp. Wide acquaintance, local trade. At present manager Paper Department, large exporter. Address, Box 4027, care Paper Trade Journal. A-7

BOSS FINISHER WANTS POSITION. Thirty years' experience, all grades Writing, Envelope, Cover and Board papers. Competent to take full charge of work. Best of references. Address, Box 4023, care Paper Trade Journal. Apr.

SUPERINTENDENT wants position in mill making chip boards or wrappers. Experienced at construction and remodeling. Middle-aged. Eastern States preferred. Address, Box 3020, care Paper Trade Journal. tf

POSITION AS SUPERINTENDENT or Assistant. Eight years' experience as Superintendent in tub-sized loft dried mill making high grade Bond and Typewriter papers. Best references. Address, Box 4009, care Paper Trade Journal. A-7

BEATER ENGINEER WANTS POSITION. Experienced on fine papers—Book, Bonds, Ledgers and all grades of Box Boards, Containers, etc. Married, steady. Address, Box 4035, care Paper Trade Journal. A-7

SUPERINTENDENT desires position. 18 years' experience on Tissues, Crepe, Semi-Crepe, Toilet, Towels, Napkins and Colored Crepe Tissues, Pattern and Fruit Wraps. High grade man on Kraft and Waxing Tissue, Twine and Carpet Fillers. All on colors; first class references. Samples showing my work can be submitted if desired. Address, Box 3081, care Paper Trade Journal. tf

PULP AND PAPER EXECUTIVE, fifteen years' practical experience manufacturing, managing, selling, importing and exporting. Thorough business training. Capable of producing results. Desires connection with reputable manufacturer or house. A-1 references. Address, Box 4015, care Paper Trade Journal. A-7

ACCOUNTANT, twelve years' experience both General and Costs in large Board mill capable of installing and directing operation of an accurate Cost system, desires position. Address, Box 4053, care Paper Trade Journal. A-14

SITUATIONS WANTED

WANTED—Position as Machine Tender, Fourdrinier or Cylinder, 26 years' experience on high grade papers; heavy or light weight, Papers. Am used to tub sized. Address, Box 4054, care Paper Trade Journal. A-14

SUPERINTENDENT DESIRES POSITION. Eighteen years' experience on all the better grades of combination board and high test container. I am thoroughly familiar with all repairs and general upkeep of mill and possess a knowledge of steam and power plant operation. I can furnish the very best of references. Address, Box 4067, care Paper Trade Journal. tf

POSITION WANTED—As Superintendent who has had a life time of thorough, practical experience in the manufacture of all grades of Tissue, Crepe, Boxboards, Kraft, Roofing Felt. Address, Box 4068, care Paper Trade Journal. A-21

SUPERINTENDENT at present employed, desires to make a change. Eighteen years' practical experience in the manufacturing and conversion of specialties, specializing in Wax and Waxing Papers, Plain and Printed, Duplex Papers, Waxed and Coated, Soap and Varnish Coated, Water and Fire-proof Papers, Crepe and Semi-crepe, specialties in colored crepe papers. High grade man on Kraft and all test papers for twisting, Kraft Specialties. All on colors. Address, Box 4069, care Paper Trade Journal. A-21

WANT CONNECTIONS as Manager's Assistant or similar berth where requirements demand a man familiar with the manufacture of Paper and Fibres, and possessing qualifications of the highest type concerning Accounting matters. Address, Box 4070, care Paper Trade Journal. A-14

BUYER—Paper and Cardboard, twenty years' experience selling and buying all grades. Known to and by most mills. Best of references. Know where and how to buy. Address, Box 4071, care Paper Trade Journal. A-14

STENOGRAPHER six years Paper Mill Office experience, desires position. References. Address, Box 4072, care Paper Trade Journal. A-14

PRACTICAL PAPER MAKER, 36 years of age, of real mechanical ability, resourceful and up-to-date, wishes position with reliable mill where good work and results are appreciated. Twelve years of experience running on Fourdrinier Machines. Book, Bond, News, Kraft and similar grades. Three years Cylinder Machines, Tag, Bristol, Boards. At present employed as assistant Superintendent and Master Mechanic in Book Mill. Address, Box 4073, care Paper Trade Journal. A-21

MECHANICAL ENGINEER emigrant, with 5 years experience as managing engineer with Sulphite Pulp Mill, three years as designer. Good references. Speak English, German, Hungarian and Slavish. Address, Box 4074, care Paper Trade Journal. A-7

BOSS FINISHER wants position. Ten years experience all grades Writing, Bond, Envelope and Wrapping Papers. Can handle large finishing department. Employed at present. Address, Box 4075, care Paper Trade Journal. A-21

SUPERINTENDENT is open for engagement. Have worked at all branches of business, and can make most all grades of pulp and paper. Eighteen years as superintendent. Address, Box 4076, care Paper Trade Journal. A-21

SALESMAN, several years experience in mills and selling to the trade, well acquainted with Buyers in Eastern States, desires new connection. Practical knowledge of paper manufacture. Excellent references. Address, Box 4077, care Paper Trade Journal. A-14

SITUATIONS WANTED

EXECUTIVE POSITION WANTED. Nine years practical experience, as Mill Operative, and Foreman of various departments of large paper plant. Mill experience supplemented by technical Accounting training, and twelve years practical paper mill accounting experience in Executive capacities. Expert on Costs; capable of installing and operating most efficient Cost and General Accounting systems. Qualifications for position as Assistant to Busy Executive, or as Comptroller, Auditor, Accountant, or Cost Accountant. Address, Box 4078, care Paper Trade Journal. A-14

POSITION WANTED by a Cylinder Machine Tender. Am up on all grades of paper such as Container, Box Board and Lightweight papers. Steady. Address, Box 4032, care Paper Trade Journal. A-7

FOR SALE

FOR SALE—Ground Wood Pulp Mill in Canada. Want contract for ten tons daily. Address, Box 4079, care Paper Trade Journal. A-7

FOR SALE—Used 40" Kidder Slitter and Rewinder in good condition. Complete with mill and collapsible rewind shafts. One set side arms. Fifty-two cutter Knives, 162 Knife Rings. 81- $\frac{1}{2}$ ", 98- $\frac{3}{4}$ ", 49- $\frac{1}{4}$ ", 10-1", 10-2" Spacers. Address, Box 4055, care Paper Trade Journal. A-14

FOR SALE—Four Lefel horizontal hydraulic Turbines each consisting of a pair of 35 in. runners. Two Lefel horizontal hydraulic turbines each consisting of a pair of 23 in. runners. Cheboygan Electric Light & Power Co., Cheboygan, Mich. A-7

FOR SALE—One new modern Iron Tub Beating Engine with roll 62" diameter by 50" face. Never used. Available immediately. Address, Box 4037, care Paper Trade Journal. A-14

FOR SALE

130 SHARES, OR ANY PORTION THEREOF, CANADIAN VEGETABLE PARCHMENT STOCK. MILL LOCATED AT MERRITTON, ONTARIO. THE ONLY PAPER MILL OF ITS KIND IN CANADA. EXCELLENT INVESTMENT. STOCK VERY PROMISING. 130 SHARES REPRESENTS DIRECTORSHIP AND 13% OF STOCK. H. ZIMMERMAN, TURNER STREET, MERRITTON, ONTARIO, CANADA. A-21

FOR SALE

News print mill, capacity, 15 tons news print, 5 tons ground wood. Excellent water power and location. For full particulars, inquire Box 4059, care Paper Trade Journal.

M-31

MISCELLANEOUS

WANT TO PURCHASE Paper Jobbing House in a city near New York. Give full particulars. Address, Box 4080, care Paper Trade Journal. A-7

WANTED—Second Hand 110" to 120" Cylinder Paper Machine in good condition. We mean business. Address, Box 4081, care Paper Trade Journal. eow-tf

WANTED—Established Paper Specialty Business by two young business men, with manufacturing and sales-training respectively. Address, Box 4066, care Paper Trade Journal. A-14

SELLING AGENCY will loan or invest in growing Pulp or Paper Mill with view of handling sales. Organization covers U. S. A. Correspondence confidential. Address, Box 4082, care Paper Trade Journal. A-7

WANTED—120" Bar Creaser, Knowlton or Robinson type. State age, condition, full description and best price. Fort Wayne Corrugated Paper Co., Fort Wayne, Ind. A-14

Treasury Department, Bureau of Engraving and Printing, Washington, D. C., April 4, 1921. Sealed proposals are invited to furnish Postage Stamp Paper and Internal Revenue Paper, Castings, and for the sale of Pulp, Shredded Trimmings, Ink Scrapings, and for the Cleaning of Windows during the fiscal year beginning July 1, 1921. The right is reserved to reject any or all bids or parts of bids. Blank forms with specifications for proposals, giving dates on which the bids for the several schedules will be opened and further information will be furnished on application to James L. Wilmet, Director. Proposals for Postage Stamp Paper and Internal Revenue Paper must be received not later than 2 P. M., May 23rd. Proposals for Castings, sale of Pulp, Shredded Trimmings, Ink Scrapings, and the Cleaning of Windows must be received before 2 P. M., May 16, 1921. A-14

WANTED—Several second hand square bag machines. State condition and price. Address, Box 4056, care Paper Trade Journal. A-7

British Firm of Merchants

Intend to represent

American Paper Mills & Paper Manufactured Goods

in British Isles and Colonies. Will firms interested write, giving full information or manufactures, to

The Products Corporation, Ltd.

24 Holborn London, E. C. 1

MISCELLANEOUS

WANTED TO BUY—Board Machine 62" to 72" with thirty dryers. Must be complete with drive and in good condition. Also beaters, jordans, etc., for operating four-cylinder board mill. Quote full particulars in first letter. Address, Box 4039, care Paper Trade Journal. A-21

WANTED TO LEASE, with option to purchase, ground wood and paper mill, forming single or two separate plants, or would entertain investment proposition. Address, Box 4018, care Paper Trade Journal. A-7

WANTED TO BUY—One Harper Fourdrinier 60" to 80" trim including first press rolls. State condition fully and advise where machine can be seen. Address, Box 4057, care Paper Trade Journal. A-14

EXPERIENCED SALES ORGANIZATION of three men with established following among the Jobbers of New England Territory desire additional lines of Paper or Paper Products. Address, Box 4017, care Paper Trade Journal. A-7

PAPER MILL MACHINERY

In Good Operating Condition and Ready for Immediate Delivery.

- 2—Variable Speed Engines, Brownell, 250 H.P., each size 16x16 twin, speed 50-250 R.P.M.
- 2—Fulmer Savealls, 108".
- 2—Atlas Slide Valve Engines, 14x20.
- 4—Jordans, Pony Monarch.
- 6—Beaters, Noble & Wood, 72"x44".
- 1—Beater, Dilts 62x50, iron tub.
- 1—No. 2 Claffin, motor driven.
- 1—Stack Machine Calenders, 112", 10 rolls.
- 1—Super Calender 40" Holyoke, 7 rolls.
- 1—Duplex Cutter with layboy, Moore & White, 122".
- 1—Layboy, Erie, 91".
- 1—Ream Cutter, Seybold 20th Century, 55".
- 1—Ream Cutter, Acme, 50".
- 1—Ream Cutter, Holyoke, 45".
- 1—Marshall Drive complete, containing 5 sets of B & C self-contained type 6" mortise gear.

FRANK H. DAVIS COMPANY
175 Richdale Ave., Cambridge 40, Mass.

M. F. WHITE BOOK PAPER

Approximately 70 tons—in sheets 34 $\frac{1}{2}$ x 47—85 lb base 50 lb. In two ream interlapped bundles.

- Bundle Lots..... 10 $\frac{1}{2}$ c per lb.
- Ton Lots..... 9 $\frac{1}{2}$ c " "
- 5 Ton Lots..... 9c " "
- Car Lots..... 8 $\frac{1}{2}$ c " "

F. O. B. Cars Boston

This paper is available for shipment at once

H. D. ELIASON

239 West 39th Street New York City
Phone: Bryant 8760 A-7

GIBBS-BROWER BULLETIN MILLS FOR SALE

Book, Writings and Ledger Mill—10 Tons Capacity.
Tissue Mills, Toilet, Crepe, Twisting, Copying, Pattern, and Carbon—5 to 15 tons capacity.
Large Water Finished Fibre, Kraft, Mill Wrappers and Board Mill—4 machines, 2 Fourdriniers and 2 Cylinders, 110 tons capacity. Also Sulphite Pulp Mill—35 tons capacity.
Bag Mill, 2 Fourdrinier Machines. Unsurpassed water power, 20 tons production. Also Ground Wood Pulp Mill—7 tons production.
Straw Kraft, Butcher's Fibre, Sulphite Wrapper Mill—10 tons capacity.
Carpet and Car Lining, Bogus and Colored Wrappings Mill—18 tons capacity.
Water Finish Fibre Mill—27 tons capacity. Pulp Mill—Dry Ground—12 tons. Sulphite Fibre—15 tons capacity.
Binder's Board Mill—15 tons capacity.
Chipboard and Sheathing Specialties Mill—5 tons capacity.
Container, set up Box Board and Folding Box Board Mill—50 tons capacity.
Boxboard and Newsboard Mill—50 tons capacity.
Container Jute, Test Kraft and Special Kraft Board Mill—20 tons capacity. Pulp Mill, Ground Wood—10 tons capacity. Excellent water power.
Felt roofing mill—10 tons capacity.
Small ground wood mill.

GIBBS-BROWER COMPANY

Paper and Pulp Mill Brokers

261 Broadway, New York City

Telephone—Barclay 6223

OUR MOTTO—"Service First"

J-20

335,000,000 CUBIC FEET NATIONAL FOREST TIMBER AND PULPWOOD FOR SALE

LOCATION AND AMOUNT—All the merchantable dead timber standing or down, and all the live timber marked or designated for cutting on an area embracing about 150,000 acres on the west side of Admiralty Island, extending from Young Bay on the northeast side of the island across to the head of Hawk Inlet, and thence southerly along the west side of the island to Kootsnahoo Inlet and Mitchell Bay, Tongass National Forest, Alaska, estimated to be 335,000,000 cubic feet, approximately equivalent to 3,350,000 cords, more or less, of Sitka spruce, hemlock and other species of timber, approximately 85 per cent hemlock.

STUMPAGE PRICES—Lowest rates considered, \$.60 per 100 cubic feet for Sitka spruce and Alaska cedar and \$.30 per 100 cubic feet for hemlock and other species. Rates to be readjusted every five years.

DEPOSIT—With bid \$10,000 to be applied on the purchase price, refunded, or retained in part as liquidated damages, according to the conditions of sale.

FINAL DATE FOR BIDS—Sealed bids will be received by the District Forester, Portland, Oregon, up to and including June 30, 1921.

The right to reject any and all bids is reserved.

Before bids are submitted full information concerning the character of the timber, conditions of sale, deposits, and the submission of bids should be obtained from the District Forester, Portland, Oregon, or the District Forester, Ketchikan, Alaska.

M-24-A7

Perforated Metal Screens

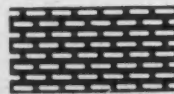
FOR

PULP AND PAPER MILLS

STEEL, COPPER
BRASS, BRONZE
and other Alloys



.065 Inch Round



1/8 x 1/8 Inch Slots



3/32 Inch Round

punched for Centrifugal
and Rotary Screens,
Pulp Washers, Drainer
Bottoms, Filter Plates,
etc.

CHARLES MUNDT & SONS

53-65 Fairmount Ave.,

Jersey City, N. J.

PAPER MAKERS'

ALUM

(Both Commercial and Free from Iron)

Casein, Satin White, English China Clay,
Crystal Boro Phosphate

(A solvent for Casein)

THE KALBFLEISCH CORPORATION

31 UNION SQ. WEST, NEW YORK, N. Y.

FOR SALE

FOURDRINER PART—One 90° P & J Fourdriner part with Millsapugh suction couch roll and pump, 40 ft. wire.

JORDANS—Several Horne and Emerson on way to our works. One Noble & Wood; two No. 1 Claflins.

KOLLERGANGS—One kollergang; size of stone 56" x 15" face.

FULLEYS—One 97" dia. x 34", double arm, modern pulley. Large cone pulleys. Large stock of iron pulleys, including some cone pulleys for Marshall drives. New wood pulleys with friction clutches. Also steel pulleys.

PUMPS—One dry suction, single vacuum, 12 x 22 x 18 Knowles; one 1,000-gallon Blake Tank Pump; several 7" and 8" Lawrence Machine Company, Class A, High Duty Pumps; Fan Pumps; new stock pumps, single and double.

PRESS ROLLS—Large number of different sizes on hand. Some suitable for rubber covering. Six rolls about 15" x 98" just received. Some brass and some rubber covered.

ROTARIES—Two 84" x 22" horizontal.

REELS—One two-bowl 58" face. Several new ones going through works. State which you desire.

RAG CUTTERS—One Daniels No. 2; one Taylor & Sciles.

SLITTERS—Two Dietz Slitters.

SCREENS—One 10-plate open side Packer with plates; one 12-plate open side Packer with practically new plates. Three Ruth centrifugal.

WINDERS—One 80" single drum P & J make; one 100" double drum, P. & J make.

Advise us of your wants.

MILLS MACHINE COMPANY
LAWRENCE, MASS.

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NAPKINS**
ANY QUANTITY

Hilltop Company
25 West 42d Street
New York City

Telephone, Vanderbilt 9561

Architects and Engineers

CAREY, JAMES L., Paper Mill Architect and Engineer, 268 North Laramie avenue, Chicago, Ill.

CHAPMAN, C. A., Inc., Paper Mill Architects and Engineers, 28 Jackson Boulevard E., Chicago, Ill.

SNOW, S. M., Mill Architect, Engineer, Paper and Pulp Mills. Steam and Water Power Plants. 65 Kilby street, Boston, Mass.

Rags, Paper Stock, Etc.

BERLOWITZ, PAUL, 132 Nassau street, New York. Importer of Rags, Bagging, New Cuttings.

CHASE & NORTON, High Grade Savings and Book Stock a specialty. 277 Water street, New York.

FLYNN, MICHAEL, 54 Columbia street, Brooklyn, N. Y.

GOLDSTEIN, R., & SON, 1162 Scott Street, Baltimore, Md. Cotton Rags and Paper Stock.

JACOB & CO., Alexander, Wrapping, London, England. Supply all Classes Waste Papers and Shavings, Paper Making, Rags, etc. Correspondence solicited. Paris Office, 3 Cite d'Hauteville.

HILLS, GEO. F., 236 South Street. Branch House, 276 W. 25th street, N.Y.C.

LIVERPOOL MARINE STORE CO., Liverpool, England. L.M.S. Wood Tag, Manila, Rope and Star Brands (Registered).

ROSENBAUM, INC., L., Lafayette street, New York City. Packers exclusively of new cuttings.

SIMMON'S, JOHN, SONS, Paper and Paper Stock, 28 and 30 South Marshall street, Philadelphia, Pa.

MISCELLANEOUS

Bale Ties

WILSON, H. P. & H. F., Manufacturers of Steel Wire Bale Ties, for baling all compressible material. 544 West 22nd street, New York City.

Boards

MILLER PAPER CO., FRANK P., high grade specialties. Boards. East Downingtown, Pa.

Special Machinery

SWIFT, GEORGE W., JR., Designer and Manufacturer of Special Machinery for Manufacturing and Printing Paper Goods. Bordertown, N. J.

A. SALOMON, Inc.
15 PARK ROW NEW YORK

Consult us if you are looking
for Foreign Rags

PAPER MAKERS' SUPPLIES

The Union Sulphur Company
Producers of the Highest Grade
Brimstone on the Market . . .

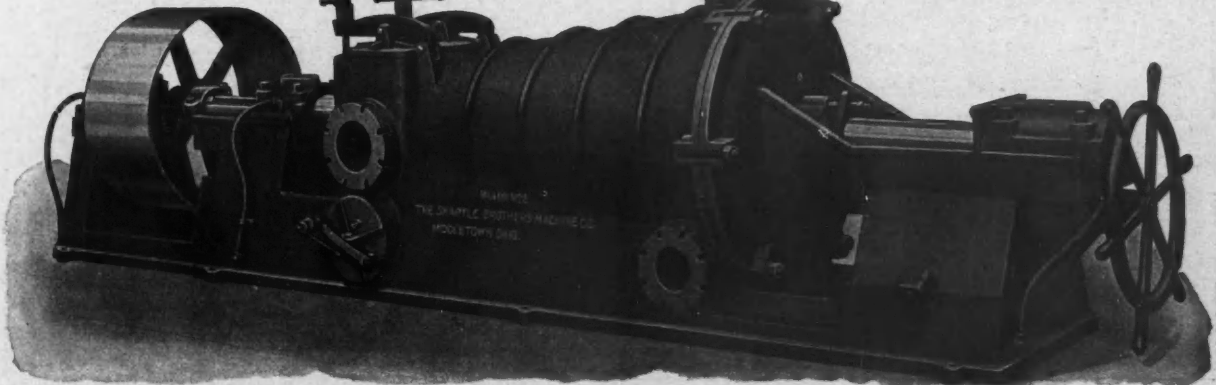
ABSOLUTELY FREE FROM ARSENIC OR SELENIUM

The Largest Sulphur Mine in the World

CALCASIEU PARISH, LOUISIANA

Main Offices: Whitehall Bldg., 17 Battery Place, New York

The Shartle Bros. Machine Co. Middletown, Ohio



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21 EAST 40TH STREET, NEW YORK
**PULP AND PAPER MILL
 ENGINEER**

V. D. SIMONS

INDUSTRIAL ENGINEER
 Pulp and Paper Mills, Hydro-Electric and Steam Power Plants
 Electrification Paper Mill Properties
 39 S. La Salle St., Chicago

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Member AM. SOC. C. E., Member AM. SOC. M. E.,
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 Paper, Pulp and Fibre Mills, Including Building and Complete
 Mechanical Equipment, Water Power Development, Dams,
 Storage Reservoirs and Other Hydraulic Structures
 Examinations, Reports, Estimates of Cost, Designs,
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 SPECIALTY: Paper, Pulp and Fibre Mills, Water Power Develop-
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 & COMPANY.**
 TEMPLE COURT BUILDING
 NEW YORK CITY, U.S.A.
 CABLES. TRIPLEX. N.Y.

**PULP
 AND
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 PLANTS**

**ENGINEERS
 & CHEMISTS**
 INDUSTRIAL DESIGN
 PLANT IMPROVEMENT
 LABORATORY TESTS

JOHN F. CARRIGAN ENGINEERING

Consulting and Sales Engineering
POWER IS OUR SPECIALTY
 Estimates, Reports, Detail Plans of Power Plants.
 CARRIGAN STOKERS for any BOILER, 50 to 300 H. P.
 AUTOMATIC HOT WELLS specially designed for PAPER MILLS.
 504 CUNARD BLDG., CHICAGO, ILL.

**Timber Lands Bought and Sold.
 Timber and Pulp Wood Estimates.**

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Consulting Forester
 58 Telegraph Building, Hospital St., Montreal, P. Q.

HERBERT S. KIMBALL

M. Am. Soc. C. E.
Chemical Plant and Mill Engineer
 75 State St., Boston, Mass.
 Pulp, Paper and Fibre Mills, including Buildings and Machinery layout. Special
 attention to the designing of chemical equipment in Sulphite and Soda Mills; paper
 machine room construction and ventilation.

THOMAS L. TOMLINES & SON

CONSULTING ENGINEERS
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 Paper, Pulp and Fibre Mills, Hy- Steam Power Plants, Plans and
 draulic Developments, Hydro- Specifications, Efficiency Engi-
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CONSULTATIONS REPORTS ESTIMATES
 Complete Designs Pulp and Paper Mills—Steam and Electric
 Power Plants—Equipments
 600 ROCKEFELLER BLDG., CLEVELAND, OHIO

WILLIAM T. FIELD

Consulting Engineer
 296 Broadway, Flower Bldg.,
 New York, N. Y. Watertown, N. Y.
DESIGNS ESTIMATES REPORTS

VITALE & ROTHERY

FOREST ENGINEERS
 527 Fifth Avenue New York, N. Y.

TIMBERLAND SERVICE

Estimates Maps Graphic Methods
JAMES W. SEWALL, Forest Engineer
 Old Town, Me. Sanford, Fla. Munsey Bldg., Washington, D. C.
Largest Cruising House in America

GEORGE F. DREW

MILL ARCHITECT AND ENGINEER
 BRUNSWICK, MAINE
 For the past 22 years Chief Engineer for the Pejepocot Paper Co.
SPECIALTY: Pulp, Paper and Saw Mills
 Cotton, woolen, worsted, cordage, silk mills, and their equipment.
 Appraisals, adjustments.

The
Paper Trade Journal

is the largest circulated and best read
 medium in its field.

A circulation greater than the circulations of
 all other mediums combined.

The only medium a member of A. B. C.

WOOD FLOUR

Various degrees of fineness, and either fibrous or granular. Made from first growth Spruce and Pine, by approved processes.

UNION WOOD FLOUR CO., INC.
Hudson Falls, N. Y.

Samuel M. Green Company

Engineers

**CHLORINE and BLEACH
SPECIALISTS**



SPRINGFIELD

MASS.

Manufacturers
of
All Special
Small Roll
Products

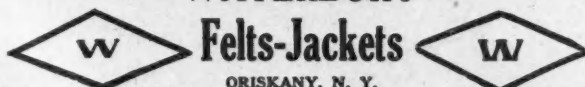


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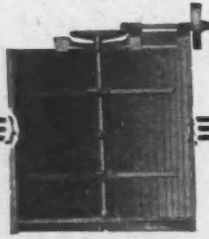
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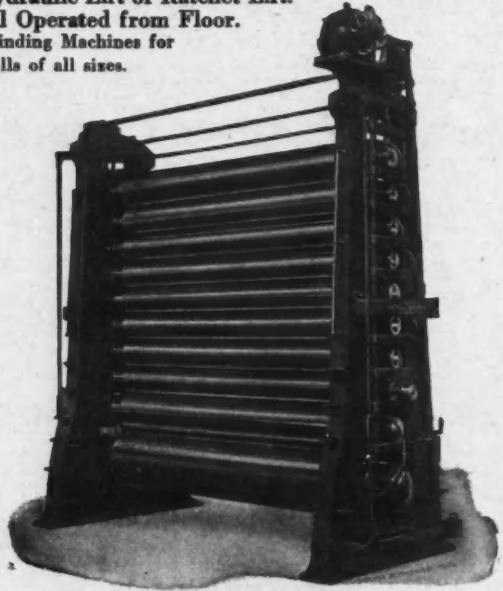
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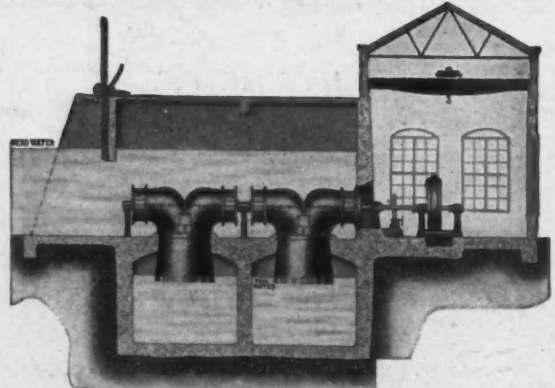
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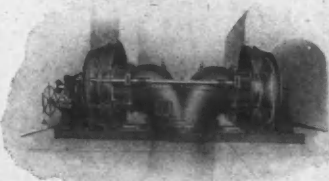
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Rags, New Cuttings, Bagging, Etc.
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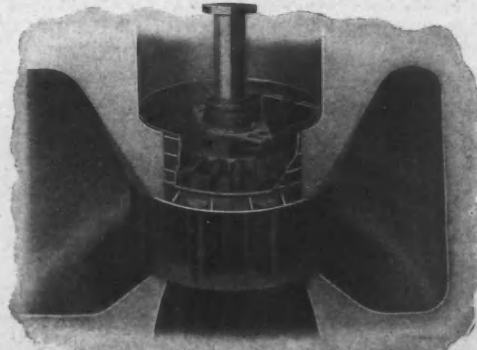
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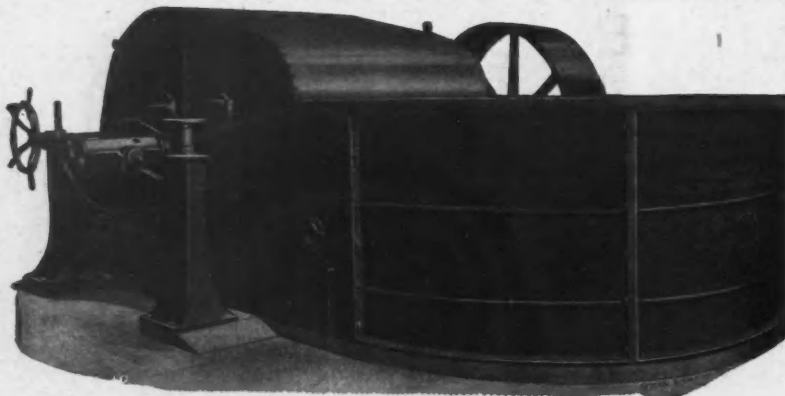


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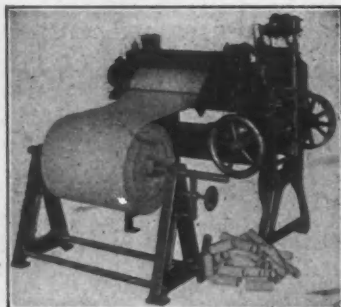
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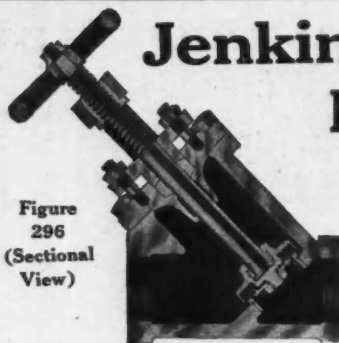


Figure 296 (Sectional View)

Iron Body Standard Pattern



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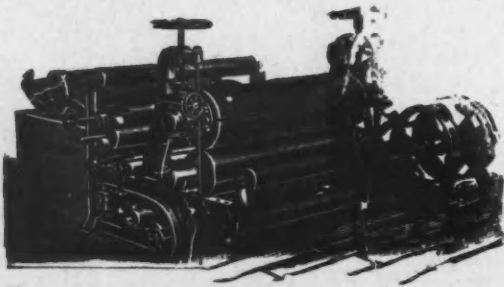
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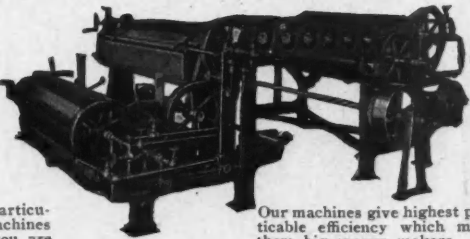


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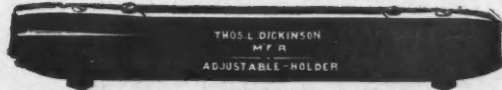
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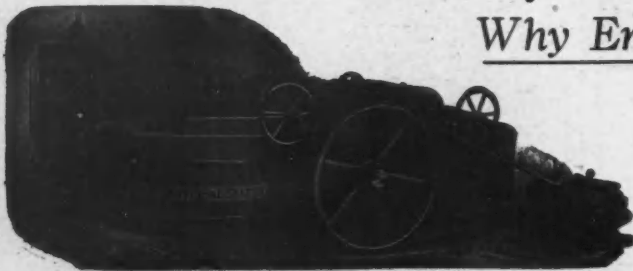
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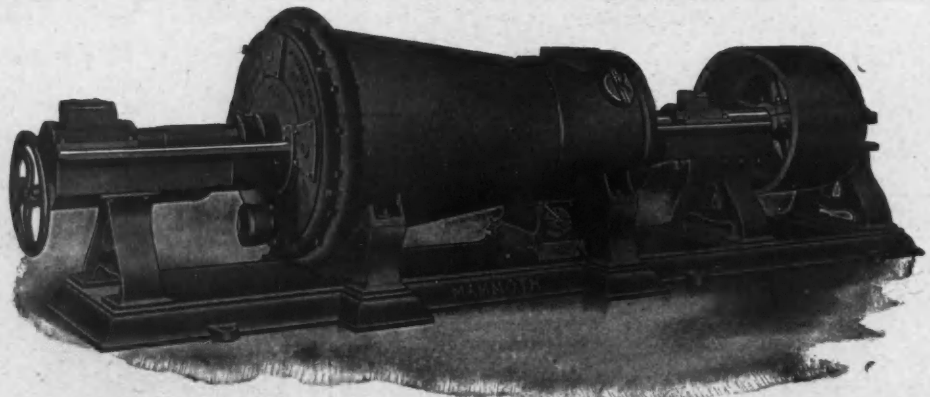
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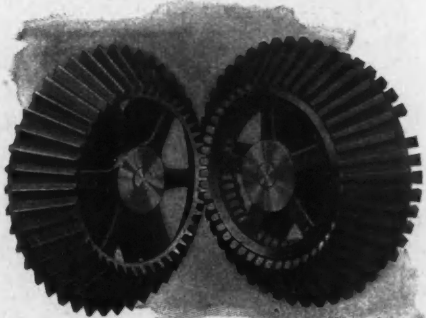
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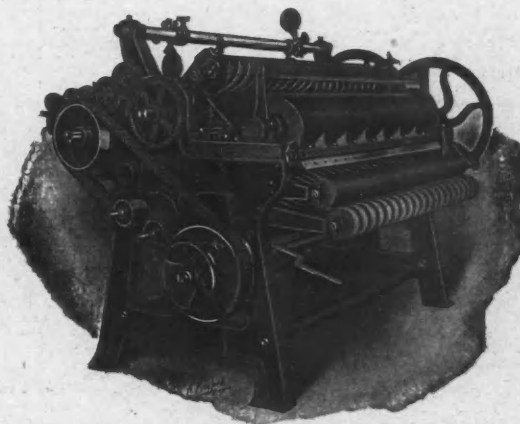
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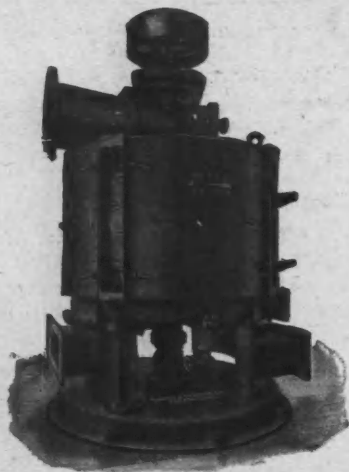
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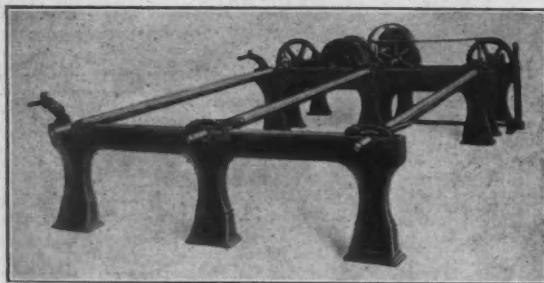
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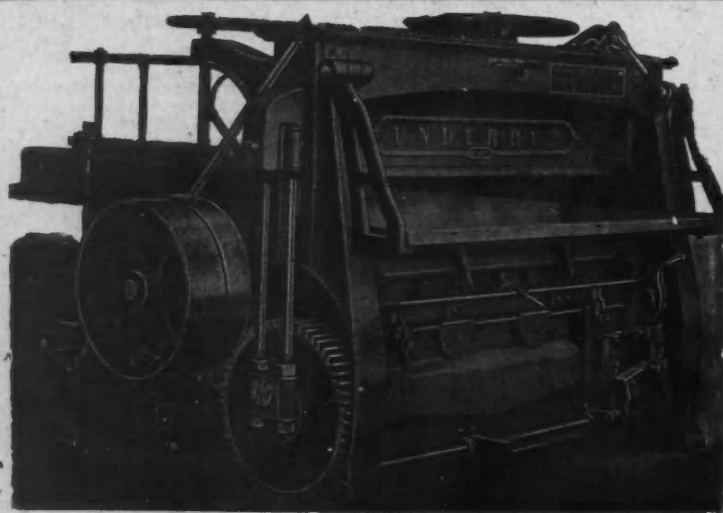
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