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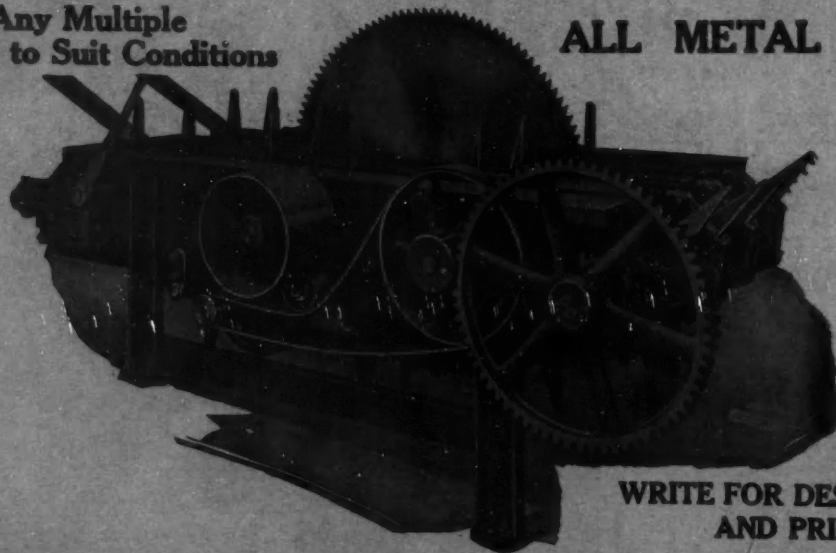
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ESTABLISHED IN 1872

PAPER TRADE JOURNAL

The International Weekly of the Paper and Pulp Industry and the Pioneer Publication in its field

FIFTY-FIRST YEAR

Published Every Thursday by the

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Thursday, March 29, 1923

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PRODUCTION OF NEWS PRINT FOR MONTH OF FEBRUARY

According to Statistics Just Issued by the Federal Trade Commission the Production of News Print for February, 1923, Compared With February, 1922, Shows an Increase of 17 Per Cent for Total News Print and 15 Per Cent for Standard News—Publishers' Stock Decreased 512 Tons During the Month—Average Price for Month in Car-load Lots Was \$3.80 Per 100 Pounds.

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 28, 1923.—The following is a tabulation of the reports received by the Federal Trade Commission from domestic manufacturers of news print paper from jobbers buying and selling news print paper, and from publishers using news print paper. Import and export statistics of the Department of Commerce for November, 1922, are also included in this review. Whenever possible the figures for 1923 are compared with those for the corresponding period of 1922, 1921, 1919, and 1918.

The figures which follow show the results of the Commission's tabulation for February, 1918, to 1923, inclusive.

	Number of Mills	Stocks on hand first of period Net tons	Production Net tons	Shipments Net tons	Stocks on hand end of period Net tons
TOTAL NEWS PRINT					
February, 1923.....	74	23,004	114,611	114,415	23,200
February, 1922.....	78	26,550	97,786	96,521	27,815
February, 1921.....	85	32,417	103,040	96,281	39,176
February, 1920.....	84	16,934	114,235	103,214	27,955
February, 1919.....	66	21,219	103,248	98,996	25,471
February, 1918.....	66	28,928	93,504	94,418	28,014
Total (2 mos.), 1923.....	..	19,208	242,063	238,071	23,200
Total (2 mos.), 1922.....	..	23,934	203,594	199,713	27,815
Total (2 mos.), 1921.....	..	24,763	226,870	212,457	39,176
Total (2 mos.), 1920.....	..	15,369	243,898	231,312	27,955
Total (2 mos.), 1919.....	..	19,408	219,402	213,339	25,471
Total (2 mos.), 1918.....	..	31,713	199,204	202,903	28,014
STANDARD NEWS:					
February, 1923.....	66	18,457	104,683	104,949	18,191
February, 1922.....	65	21,784	91,050	89,936	22,898
February, 1921.....	67	27,109	94,823	88,639	33,293
February, 1920.....	59	14,576	105,342	95,123	24,795
February, 1919.....	51	16,489	94,224	91,170	19,543
February, 1918.....	50	27,232	83,474	85,820	24,886
Total (2 mos.), 1923.....	..	15,128	222,180	219,117	18,191
Total (2 mos.), 1922.....	..	19,607	189,752	186,461	22,898
Total (2 mos.), 1921.....	..	19,573	208,587	194,867	33,293
Total (2 mos.), 1920.....	..	12,338	220,299	207,842	24,795
Total (2 mos.), 1919.....	..	15,656	200,226	196,339	19,543
Total (2 mos.), 1918.....	..	26,482	180,560	182,156	24,886

NOTE: Above figures for total news print do not include hanging paper.

The average production of total news print and standard news, based upon the total combined production for the years 1918 to 1922, inclusive, amounted to 102,534 tons for the total news print, and 93,288 tons for standard news for a period corresponding to February. The actual production for February, 1923, amounted to 114,611 tons of total news print and 104,683 tons of standard news, which was 12 per cent above the average for the five-year period for both news print and standard news.

The production of newsprint for February, 1923, compared with February, 1922, shows an increase amounting to 17 per cent for total news print and 15 per cent for standard news.

The production for February, 1923, compared with February, 1921, shows an increase of 11 per cent for total news print, and 10 per cent for standard news.

The production of total news print for February, 1923, was practically the same as for February, 1920, but that of standard news shows about 1 per cent decrease.

The production for February, 1923, compared with February, 1919, shows an increase of 11 per cent for both total news print and standard news.

The production for February, 1923, compared with February, 1918, shows an increase of 23 per cent for total news print, and 25 per cent for standard news.

Loss of Production

The following tabulation shows idle machine time report to the Commission for the month of February, 1923. This does not include mills shut down during the entire month.

Reasons	No. of Machines	Hours Idle
Lack of orders	0	0
Repairs	2	57
Other reasons	9	1,832

Imports and Exports

The imports and exports of printing paper not dutiable (practically all news print) and of wood pulp for the month of November, 1922, compared with the month of November, 1921, as shown by the records of the Department of Commerce were as follows:

	November, 1922 Net tons	November, 1921 Net tons
Imports of news print (total)	98,115	74,544
From Canada	82,527	63,267
Germany	4,280	2,295
Sweden	6,057	5,416
Finland	1,099	1,110
Norway	2,437	1,736
Other countries	1,715	720
Exports of news print (total)	1,280	1,206
To Canada	87	163
Mexico	64	116
Cuba	291	61
Colombia	100	29
Philippine Islands	284	31
Japan	159	3
Other countries	295	803
Imports of ground wood pulp (total)	27,475	33,824
Imports of chemical wood pulp (total)	126,829	42,537
Unbleached sulphite	63,790	29,263
Bleached sulphite	27,702	10,130
Unbleached sulphite	1,229	0
Paper stock other than wood pulp	26,980	16,515
Exports of domestic wood pulp	1,712	2,188
Exports of rags and other material made from vegetable fibre	2,690	2,883

The imports of news print for November, 1922, were 23,571 tons more than for November, 1921. The exports of news print for November, 1922, were 74 tons more than for November, 1921.

The tonnage to "other countries" under "Exports of News Print" for November, 1922, includes 123 tons to Argentina, 40 tons to China, 35 tons to Brazil, 29 tons to Venezuela, 26 tons to Australia, and 17 tons to Costa Rica.

Jobbers' Tonnage

The following tabulation shows the news print tonnage reported by jobbers during the month of February, 1923, compared with February, 1922, 1921, 1920, 1919, and 1918, together with commitments to buy and sell.

	On hand first of month Net tons	Received during month Net tons	Shipped during month Net tons	On hand end of month Net tons	Commitments to buy Net tons	Commitments to sell Net tons
Rolls, February, 1923...	1,705	10,648	10,510	1,843	34,445	38,160
Rolls, February, 1922...	1,883	9,560	10,200	1,642	38,344	41,685
Rolls, February, 1921...	2,913	5,397	5,779	2,531	25,355	32,407
Rolls, February, 1920...	1,718	6,166	5,905	1,979	43,829	53,796
Rolls, February, 1919...	3,375	2,566	2,569	3,372	55,054	65,769
Rolls, February, 1918...	2,922	3,368	3,418	2,872	53,133	78,532
Sheets, February, 1923...	6,015	2,450	2,518	5,957	3,105	1,758
Sheets, February, 1922...	4,111	2,372	2,441	4,242	1,875	1,398
Sheets, February, 1921...	6,321	1,480	2,038	5,763	2,969	2,303
Sheets, February, 1920...	3,701	2,914	2,946	3,669	5,844	4,078
Sheets, February, 1919...	8,261	1,821	2,148	7,934	1,534	1,646
Sheets, February, 1918...	6,372	2,730	2,742	6,360	5,214	4,324
Total news print:						
February, 1923.....	7,720	13,108	13,028	7,800	37,550	39,918
February, 1922.....	5,993	12,532	12,641	5,584	40,219	43,083
February, 1921.....	9,234	6,877	7,817	8,294	28,324	34,710
February, 1920.....	5,419	9,080	8,851	5,648	49,673	57,874
February, 1919.....	11,636	4,387	4,717	11,306	56,588	67,415
February, 1918.....	9,294	6,098	6,166	9,232	58,347	82,866

Stocks of rolls in the hands of jobbers at the end of February were 138 tons more than the stocks in the hands of the same jobber at the beginning of the month. Stocks of sheets were 58 tons less.

at the end of February than at the beginning of the month. The net increase in the total stocks of news print in the hands of jobbers at the end of February amounted to 80 tons.

Commitments to sell roll news were 3,715 tons greater than commitments to buy. Commitments to sell sheet news were 1,347 tons less than commitments to buy. Total commitments to sell both rolls and sheets were 2,368 tons greater than commitments to buy.

Publishers' Tonnage

Monthly tonnage reports from 680 (a) of the most important newspaper publishing concerns and association grouped according to the principal business sections of the United States, together with a separate tabulation for the agricultural publications, show the following results for February, 1923.

Location of publishers (b)	Number of concerns	On hand 1st of month Net tons	Received during month Net tons	Used and sold during month Net tons	On hand end of month Net tons	In transit end of month Net tons
New England	77	22,611	14,432	16,079	20,964	3,731
Eastern States	176	56,268	59,946	60,325	55,884	16,859
Northern States	133	40,661	38,125	39,669	39,057	17,735
Southern States	79	9,183	9,486	9,382	9,287	4,803
Middle West	152	26,004	24,331	24,369	25,966	7,536
Pacific Coast	38	15,615	16,518	13,599	18,434	3,900
Farm papers (c)	25	2,037	1,798	1,625	2,210	487
Total	680	172,319	164,636	165,148	171,807	55,051

(a) This number represents a larger number of publications.

(b) New England includes Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont; the Eastern States include Delaware, the District of Columbia, Maryland, New Jersey, New York and Pennsylvania; the Northern States include Illinois, Indiana, Michigan and Ohio; the Southern States include Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia; the Middle West includes Arizona, Arkansas, Colorado, Idaho, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, Wisconsin and Wyoming; the Pacific Coast includes California, Oregon and Washington.

(c) The farm papers for the most part use special grades of news print instead of standard news.

Stocks Decrease During Month

Publishers' stock decreased 512 tons during the month. Average daily tonnage used during February was 232 tons more than the average used during January.

Publishers' stocks and transit tonnage on February 28th represented 39 days supply at the existing rate of consumption.

Publishers' and Jobbers' total stocks and tonnage in transit on February 28th aggregated 234,658 tons.

The domestic consumption of standard news by metropolitan dailies using between one-half and three-fourths of a million tons annually for February, 1923, when compared with February, 1922, shows an increase of 16 per cent and an increase of 32 per cent when compared with February 1921.

The above metropolitan dailies held about 60 per cent of the tonnage on hand at the end of the month.

Average Prices Paid by Publishers

The weighted average price of contract deliveries from domestic mills to publishers during February, 1923, f. o. b. mill, in carload lots, for standard news in rolls was \$3,717 per 100 pounds. This weighted average is based upon February deliveries of about 68,000 tons on contracts involving a total tonnage of approximately 858,000 tons of undelivered paper manufactured in the United States.

The weighted average contract price based on deliveries from Canadian mills of about 44,000 tons of standard roll news in carload lots, f. o. b. mill in February, 1923, was \$3,785 per 100 pounds. This weighted average is based upon the February deliveries on contracts involving about 334,000 tons of undelivered Canadian paper.

The weighted average market price for February, 1923 of standard roll news in carload lots f. o. b. mill, based upon domestic purchases totalling about 12,000 tons was \$3.80 per 100 pounds.

Building of Garrett-Buchanan Co. Burned

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, Pa., March 26, 1923.—Almost complete destruction of the fine paper stock of the Garrett-Buchanan Company, Philadelphia, the largest under one roof in that city, and virtually complete destruction of the buildings 16-18-20 S. 6th street, were suffered as a result of one of the worst fires in the local history of the paper industry on Sunday.

While in all the public press there were attributed to President John A. Sinex an estimate of loss of over \$1,000,000, both he and Vice-President Morgan H. Thomas asserted to a representative of the PAPER TRADE JOURNAL that no estimate of loss had been given and that none would be given until definite facts were known. In trade circles it is roughly estimated that the loss on building and contents is in the neighborhood of \$500,000. Insurance is believed fully to cover the loss.

Despite the destruction of so large a portion of its plant, the Garrett-Buchanan Company was able to continue business on Monday the day after the fire, its executive officers using temporary homes placed at their disposal by the Charles Beck Paper Company, D. L. Ward Company and the Franklin Printing Company, and on Tuesday re-occupancy was taken of the principal offices in the double building 12 and 14 S. 6th street which escaped damage save by smoke and water. On Tuesday noon also the Paper Trade Association of Philadelphia met in special session in order to discuss ways and means of assisting the Garrett-Buchanan Company. Previous to that meeting, however, representatives of every paper distributing house in Philadelphia called on the company to extend offers of help; all the mills whose lines the company carries telegraphed their willingness to make shipments direct in any amounts to their patrons and the distributing firm of Miller & Wright, New York, placed its entire stock at the disposal of Garrett-Buchanan Company to be drawn on at cost. Even on Monday the Garrett-Buchanan Company fleet was engaged in making deliveries to patrons.

Discussing the fire, President John H. Sinex said, as tears glistened in his eyes: "I can stand a fight I think as well as any man, but when I experience as I have in the last day such expressions of sympathy and such real earnest offers of help as have come to me and to this firm I cannot control myself. Everyone acted fine. Nothing that any one could do was left undone. Our competitors, the mills, our customers all sent to us their declaration that we could call upon them for any requirement.

"We propose to continue right on as we have been. All our books and records escaped and our clerical forces are busy on the third floor of the D. L. Ward Company property and the Beck Company and both in the main building and the Sixth street addition of the Franklin Printing Company, although we hope to gather them all together Tuesday afternoon if the firemen by that time are through pumping water and we can get a little heat in the building. So far as loss on building and equipment is concerned, that readily can be determined on a survey because only last week did we complete an inventory of the realty and of its equipment. Our records of stocks on hand are complete and we shall be able to determine our loss when we know what amount can be salvaged."

Wausau Paper Mills to Build Dam

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., March 26, 1923.—Preparations are being made by the Wausau Paper Mills Company of Brokaw to construct a new dam, some distance below the one now in use, in the next few months. The old dam probably will be used as a cofferdam while the new one is being constructed. The Wausau mills are operating at capacity, it is reported and orders are being received at a rate which may force the mill to operate on Sundays.

LEADING BOX BOARD MILLS REVISE WORKING SCHEDULE

New Arrangement Provides for at Least One Full Day's Rest Every Week for Every Employee and the Shortening of Working Shifts Wherever Possible—Action Is Commended by President Harding and Secretary of Labor James J. Davis—Active Demand Is Reported for Practically All Varieties of Paper—Some Undesirable Competition, However, Is Reported in Coarse Papers.

[FROM OUR REGULAR CORRESPONDENT.]

CHICAGO, March 26, 1923.—Manufacturers of box board who have revised their working schedules so as to provide at least one full day's rest each week for every employee and who have also shortened working shifts wherever possible have received messages of congratulations and commendation from various government officials and others who have made a study of working conditions and their effect on the workmen.

Of their own volition, a number of the box board manufacturers made a study of working conditions in their industry. This study included a careful investigation and analysis of world-wide experience in the effect of long work shifts and weeks without at least one day of rest. For many years the box board industry of the United States has operated on a basis which included Sunday work by many employees. Two shifts of eleven and thirteen hours, respectively, have also been the rule rather than the exception. This careful investigation led to the belief that the modern tendency to revise working schedules spells higher manufacturing efficiency. It is beyond argument that such revision helps to make better citizens of those in the industry.

The action of these box board manufacturers was entirely voluntary. There was no labor trouble nor government interference to influence this decision. The conclusions of the manufacturers has received the whole-hearted support of Commissioner Ethelbert Stewart of the Department of Labor and that of President Harding. Secretary of Labor James J. Davis has written his opinion of this voluntary action to Mr. Montague Ferry, of the Armstrong Bureau of Related Industries, who handled the investigation and is now conducting the joint advertising campaign of the box board firms industry.

Plants in the New Arrangement

The box board manufacturers who joined in the investigation and unitedly agreed to eliminate Sunday work in their attempt to humanize a great industry are as follows: Alton Box Board and Paper Company, Alton, Ill.; American Box Board Company, Grand Rapids, Mich.; Chesapeake Paper Board Company, Baltimore, Md.; Chicago Mill and Lumber Company, Chicago, Ill.; Consolidated Paper Company, Monroe, Mich.; Continental Paper Company, Bogota, N. J.; Robert Gair Company, New York and Chicago; La Fayette Box Board and Paper Company, La Fayette, Ind.; McEwan Brothers, Whippany, N. J.; R. B. McEwan & Son, Whippany, N. J.; Monroe Paper Products Company, Monroe, Mich.; The B. F. Nelson Manufacturing Company, Minneapolis, Minn.; Philadelphia Paper Manufacturing Company, Philadelphia, Pa.; The Richardson Company, Lockland, Ohio; River Raisin Paper Company, Monroe, Mich.; Rockford Paper Box Board Company, Rockford, Ill.; John Strange Paper Company, Menasha, Wis.; Midwest Box Company, Chicago, Ill.

Good Demand for Paper

Reports from various branches of the paper trade are to the effect that the improved demand for various items of paper, developed in February and carried over into March, continues.

March will close as one of the best months in the history of the Chicago paper trade.

The present demand is for all varieties, grades and sizes of paper and paperboard. Manufacturers and merchants specializing in book papers are exceptionally active. The call is largely for machine finished stock, but coated book and super-calendered paper is not at all sluggish. Cover stock keeps up with the pace set by book papers.

Ledgers, bonds and writing papers are likewise active. The call is for the medium grade in these papers, but numerous inquiries are reported for good ledgers and bonds, while the entire list of writings is receiving unusual attention.

Reports differ on the demand for straw and bristol board, but the general report is that the demand is good, while in some quarters it is said to be heavy.

Merchants catering to the coarse paper trade state that the only trouble with this branch of the industry is the keen competition. Inquiries and orders are numerous and sales are above normal for this time of the year. But every sale carries with it more or less argument relative to price. Krafts and manilas are both in demand. While stores and small establishments using wrapping paper, bags, etc., are heavy buyers, the big trade is coming from manufacturers whose products need especial care in shipment.

Envelopes and blotting papers are in active demand, indicating an increase in the printing of advertising matter.

As a whole, the market is healthy, firm and steady. Prices are firm, with a tendency to strengthen. Predictions are to the effect that April 1 will see an advance in numerous items, if not all the way up and down the list.

There is a little more activity in the old paper stock market than has been evidenced since February 1. Prices are unchanged and somewhat lower than prevailed earlier in the year. Even at the decreased prices, the gathering of old paper in the Chicago market goes on with a spirit that is usually coincident with a rising market.

General News of the Trade

George M. Seaman, president of the Seaman Paper Company, has announced that Louis H. Bigelow, who has been associated with the company for nineteen years, has resigned as secretary and a director of the company. Frank A. Borchers has been elected vice-president and secretary of the company.

The Congress Paper Box Company, 1222 West Madison street, Chicago, has increased its capital stock from \$25,000 to \$50,000.

The new building of the Swigart Paper Company at the corner of South Wells and Polk streets is finished and arrangements are being completed for the removal of office equipment, supplies and stocks from the present location at 653 South Wells street, just two doors north of the new building, which was constructed of fireproof materials and is up-to-date in every respect.

J. S. McElwain Celebrates 95th Birthday

[FROM OUR REGULAR CORRESPONDENT.]

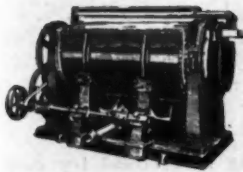
HOLYOKE, Mass., March 24, 1923.—John S. McElwain, retired, Holyoke's oldest living paper manufacturer, celebrated his 95th birthday at his home on Linden street Saturday. Mr. McElwain was a leading spirit in the early days of the Parsons Paper Company and was connected for years later with other mills. He built the Linden paper mill in 1892, one of the last paper mills to be erected in Holyoke selling it to the American Writing Paper Company when that concern bought up the majority of the paper mills in this vicinity.

Mr. McElwain is in good health and takes an active interest in the affairs of the day and is an active director of the City National Bank. There was a family gathering at his home to celebrate the day, his advanced age precluding other than a quiet observance.

*Our Booth
Numbers are
6 and 7*

**Paper Industries
Exposition**

*We shall be glad to
tell you how—*



BIRD SCREENS

- Increase production
- Improve quality of stock
- Save operating expense
- Save labor



BIRD SAVE - ALLS

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- Filter White Water



BIRD ^{SELF} CLEANING SHOWER PIPES

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Canadian Builders of Bird Machinery
Canadian Ingersoll-Rand Co., Ltd.
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BIRD MACHINERY

BOSTON PAPER MERCHANTS MEET AT ALGONQUIN CLUB.

W. J. Raybold, President of the American Paper and Pulp Association Speaks on Association Work and Pays Special Compliment to W. F. McQuillen for Solving Problems That Have Confronted Both Paper Manufacturers and Paper Merchants—Hon. W. W. Lufkin, Collector of the Boston Port Makes Interesting Address on Duties Connected With His Office.

[FROM OUR REGULAR CORRESPONDENT.]

BOSTON, Mass., March 22, 1923.—The annual meeting of the Boston Paper Trade Association held at the Algonquin Club last evening, though not as largely attended as some of those of past years, made up in its quality of entertainment for what was lacking in attendance. The Algonquin dinner, always a treat in itself, seemed better than any club's culinary department has ever previously provided.

W. J. Raybold on Association Work

The two speakers of the evening, W. J. Raybold, president of the American Paper and Pulp Association and collector of the Boston Port, and Hon. W. W. Lufkin delivered talks which held the close attention of their audience. Mr. Raybold spoke on the value of association work, mentioning particularly what the co-operation of the Boston Association had accomplished for the paper industry and referring especially to the wise counsel of W. F. McQuillen in solving problems which have confronted both the paper manufacturers and paper merchants.

Mr. Lufkin Speaks

Mr. Lufkin stated trade associations had come to be recognized as the "safety valve" for both government and industry and through them is being founded a sound American business. He said that the industrial supremacy of New England depended on the effort of its trade organizations.

Discussing the duties of his office, he enlightened those present with the fact that the largest custom house in the United States was at one time located at Salem, Mass. Relating the growth of duties collected at the Boston port, which indicated the prosperity of the country, he said the amount of duties collected had increased from one million dollars a month two years ago, to two million dollars weekly at present time and was confident the Boston port this year would turn over to the United States Treasury over seventy million dollars of collected duties. While this would show a remarkable gain in the volume of imported merchandise for the Boston port he emphasized that in order for Boston to maintain this business it would be necessary for the New England manufacturers to see that their exported products were cleared through Boston. Foreign ships, he added must have returning cargoes otherwise they will seek ports of entry where such cargoes are assured them.

Touching on the enforcement of the Volstead laws he cited the extensive territory under his jurisdiction and the inadequate force with which he is supplied to prevent the smuggling of liquor. One hundred per cent enforcement of the law was physically impossible under present conditions, he stated.

Election of Officers

Prior to the speaking a business session of the Association was held at which the following officers were elected for the ensuing year:

John A. Andrew, president; William B. Stevenson, first vice-president; Norman Harrower, second vice-president; T. Harry Casey, treasurer; Joseph D. Snell, secretary.

The following were elected new members: Wm. L. Bigley of Casey & Bigley Company, W. J. Barnes of Warren Manufacturing Company, Matthew O. Byine of Whitney Brothers and Chas. A. Shaw of Whitney Brothers, making a total of two hundred and ten active members of the association.

Those Who Attended

Among those present were the following:

Hon. W. W. Lufkin, John A. Andrew, W. B. Stevenson, Capt. Norman Harrower, Thos. H. Casey, W. J. Raybold, Frank W. Power, Joseph D. Snell, P. B. Von Olker, W. J. Barnes, Major Walter M. Pratt, Asaph Churchill, Royden Loring, Waldo E. Pratt, Herbert E. Fales, John E. A. Hussey, George E. Hall, W. F. McQuillen, Col. Charles S. Proctor, Fred T. Dolbeare, Carl E. Lincoln, Randolph Frothingham, Walter Temple, William Walpole, Charles T. Dole, John W. Vivian, J. C. DeCoster, Wm. Ross, W. E. Porter, Arthur C. Hall, R. C. Chapin, Max Frank, C. S. Hall, E. H. Little, H. E. Waite, C. T. Waite, R. B. Pierpont, Edward D. Bement, Graham Blandy, 2nd., E. P. Archibold, Hubert L. Carter, H. W. Morgan, F. W. Main, George F. Trenchholm, Charles A. Young, Charles Charnella, F. A. Juckett, F. B. Cummings, W. N. Stetson, Jr., M. H. Warren, E. R. Lyman, C. S. Burgoyne, F. Bendel Tracy, George C. Prior, H. H. MacGilpin, Wm. H. Hilton, F. H. Sellars, Jr., Wm. B. Livermore, M. H. Grassly, Herbert A. Lindenberg, Walter P. Simonds, Col. J. P. Jordan, T. H. Hubbard, George D. Allen, Carleton Knight, Percy E. Weston, Herbert Weston, A. A. Tanyane of the PAPER TRADE JOURNAL, R. M. Stone, W. C. Van Horne, Edward H. Stone, D. F. W. Johnson, J. L. Munroe, W. J. Bigley, W. L. Bigley, Herbert J. Casey, John F. Sullivan, G. H. Gleason, George W. Sheridan, Thos. Compton Walsh, John F. Kuster, Francis L. Andrews, Edmund G. Sullivan, Frank H. Merrill, Frank C. Cate, J. D. Hefernan, J. M. Robertson, Lionel A. Walden, G. T. Standbridge, F. H. Savage, W. J. McLean, Edgar P. Hay, Arthur E. Ham, Walter L. Muzzey, Charles H. Wood, Arthur F. Fay, F. H. Blackman, Arthur M. Burr, Albert M. Eaton, P. K. Mohun, John B. Reig.

Pulp Timber in Alaska Advertised for Sale

WASHINGTON, March 28, 1923.—Pulp timber on the Tongass National Forest, Alaska, amounting to 334,000,000 cubic feet is being advertised for sale, according to the Forest Service, United States Department of Agriculture.

Alaska, the report states, can supply one-third of the paper needs of the United States, and our paper consumption is growing each year.

Two large bodies, one of 260,000,000, the other 74,000,000 cubic feet, are involved. The smaller body is within a few miles of Cascade Creek, one of the best waterpower streams in Alaska; the other is 40 miles distant on Kupreanof and Kuiu Islands. Navigable and sheltered waterways furnish a cheap and easy way for towing the logs to Cascade Creek power site on Thomas Bay.

The advertisement states that the lowest bids that can be considered are 60 cents per hundred cubic feet for Sitka spruce and 30 cents per hundred for hemlock and other species. Three-fourths of the pulpwood is western hemlock, but one-fourth Sitka spruce. The final date for receipt of bids by the District Forester at Juneau, Alaska, is July 31, 1923. The bidder is assured that accepted prices will hold good until 1930, with possible adjustments every five years thereafter.

German Paper Prices Higher, Sales Slower

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 28, 1923.—The Department of Commerce has a recent cablegram from the American Commercial Attache in Berlin stating that paper prices in Germany continue to rise with a consequent slackening in sales.

Why You Should Buy Niagara Beaters

PITSTON PAPER CORPORATION

WILLIAM J. GOMER—President GEORGE W. THOMAS—STEWART J. KUSHNER
 OFFICE: 90 WEST ST. NEW YORK, N.Y. MILL PITSTON, PA.
TELEPHONE BRUNN 1-2 401-1017. CABLE ADDRESS: PAPER CORP. PITSTON, PA. REGISTERED U.S. PATENT OFFICE

Pittston, Pa., June 2, 1923

Valley Iron Works,
 Appleton, Wisconsin

Gentlemen:

In reply to your kind favor of May 17th, inquiring as to the results that we are getting from our Niagara Beater bag to advise that same has proven satisfactory in every respect, in so much as it has taken the place of two (2) fifteen hundred (1500) pound beaters and one (1) eight hundred (800) pound beater, and it is doing equally as good work.

This surely speaks for itself.

Yours very truly,
 Pittston Paper Corporation,

Supt.

E. C. Rausch

GR/MS

Reason No. 2

One Niagara does the Work of Two and Sometimes Three Holland Beaters

Above is reproduced a letter from the Pittston Paper Corporation in which they state that one Niagara takes the place of three Holland beaters. This is not the exception, but the rule.

Niagara beaters are very compact and deep, occupying the floor space of a 1000 lb. engine, 20 ft. x 15½ ft. They take in over 2000 lb. of dry stock, circulating it at a consistency of 7 or 8% at the rate of 95 feet per minute. The Niagara is therefore six times as fast as the ordinary beater.

We can demonstrate to you convincingly how Niagaras not only give you greater production but also cut costs for you in many other ways.

Write for further information today.

Valley Iron Works Company

Plant, Appleton, Wis.
 New York Office, 350 Madison Ave.

Here are 7 Others

- 1 Niagaras use less power per ton of stock produced.
- 2 Niagaras shorten beating time.
- 3 Niagaras save tremendously in floor space
- 4 Niagaras lower labor costs by making fewer men necessary in the beater room.
- 5 The beating is more uniform. The stock is thoroughly mixed and all dead spots are eliminated.
- 6 The initial investment is lower.
- 7 Niagaras save on motors, power and belting.

PAPER MILL WORKERS VOTE TO DEMAND WAGE INCREASE

Decide at Meeting in Montreal to Ask for Return to Scale of Wages Given to All Grades of Workers Prior to May 1, 1922—Important Contract Entered Into With Quebec Government for Development and Operation of Another of the Great Water Powers of the North Shore of the Gulf of St. Lawrence—J. D. McArthur & Co. to Erect Pulp and Paper Mill at Fort Alexander.

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., March 26, 1923.—During the past week representatives of paper trade unions from most of the paper making centres on the continent have been attending a conference of the Brotherhood of Pulp, Sulphite, and Paper Mill Workers in Montreal. The chief decision arrived at was to demand a return to the scale of wages given to all grades of workers prior to May 1, 1922, when a lower scale was accepted on an agreement which expires on May 1 next. In May, 1921, the workers claim they were locked out by their employers and remained so for about six weeks, the workers accepting a general cut in wages until May 1, 1923. Claiming now that the cost of living has increased during the past year, they have decided to try to secure a return to the previous scale of wages. Another important feature considered was a policy for co-operation between all grades which include papermakers, pulp and sulphite workers, stationary machinists, all of whom are represented by their own trade unions. It was pointed out that some unions covering the various sections of the industry declined last year to sign agreements with certain companies because the latter desired to exclude laborers and semi-skilled men from such agreements. The Conference decided to urge that all the organizations of the brotherhood co-operate and insist on joint agreements in future. Attention was given to the conditions of the trade, which, it was declared, was in a decidedly better state than last year, regard being also had to the hours and working conditions of the various grades.

Back River Paper Mills

Arrangements are well on the way to completion for the construction of a 45,000 h.p. dam and power plant on the Back River, between the Island of Montreal and the mainland. J. R. Walker of the Back River Paper Mills, Montreal, and other parties are working out the details. There is at present a small power development on the spot which provides power for the paper mill, up to 1,200 h.p. at some seasons of the year. The river divides at the point where the larger development is planned, and the new dam it is expected can be made to produce from 45,000 to 50,000 h.p. It is anticipated that the cost of the dam and plant will be about \$6,000,000 while with allowances for damages and other costs the company is likely to require close to \$8,000,000. This works out at around \$150 per h.p. which is very high, but in this development there will not be expensive installations for transmission lines, transformer units, etc., which must be installed in most power schemes. The dam will be practically within the city of Montreal.

February Exports of News Print Gained

Canadian exports of news print paper for February were considerably larger than for the same month a year ago. This was also true of book and writing paper and of wrapping paper. The total exports of news print during February, according to the Dominion Bureau of Statistics, amounted to 1,687,903 cwt. value \$6,360,140 compared with \$1,414,383 cwt. value \$5,040,244 in February, 1922. Exports to the United States amounted to 1,572,439 cwt. Australia took 62,522 cwt. New Zealand 37,449 cwt. and British South Africa 13,927 cwt. Australia and New Zealand took most of

Canada's export of book paper amounting for the month of February to 3,259 cwt. Of 755 cwt. of writing paper exported 527 cwt. went to Australia and 155 cwt. to Japan. The United Kingdom was the largest customer for wrapping paper (kraft) taking 19,727 cwt. of a total export for the month of 38,692 cwt. Australia and New Zealand were the other large customers.

Big Scheme for Lower St. Lawrence

Official announcement is made of an important contract just entered into with the Quebec Government which includes both the development and operation of another of the great waterpowers of the North Shore of the Gulf of St. Lawrence. The privileges and obligations involved in this contract were put up at public auction January 20 last after proper advertising and the result was an interesting competition between three important companies, namely: The Gulf Port and Paper Company, the Industrial Development and Service Corporation, and the Ontario Paper Company. The transaction involved the lease of 2,000 square miles of timber limits upon the west branch of the Manicouagan River and its tributaries, and also for 75 years that of the water-powers at the first falls of the Outardes River, where there is a drop of 190 feet within a distance of two to three miles from which an annual rental of \$6,000 is paid. The sum of \$400 per square mile has to be paid as bonus for the 2,000 miles of limits, and the successful tenderer is not only bound to develop at least 15,000 h. p., but to construct and operate within seven years a pulp or paper mill producing at least 100 tons of pulp per day, which means a consumption of at least 30,000 cords of wood per year. Besides the annual rental of \$6,000 for the water-power, he must also pay a supplementary royalty of 50 cents during the first ten year period, for each h. p. developed, \$1.50 per h.p. during the next ten-year period, and \$2.50 for each h.p. thereafter, subject to revision after twenty-five years. This transaction is very much more favorable to the Province than it otherwise would be from the fact that the Government still reserves all the water powers of the Outardes River above that leased to the Ontario Paper Company.

Fumes from Pulp Plants

There is a determined movement among ocean shipping men here to do away with the sulphite fumes from pulp and paper plants which often cloud the St. Lawrence at Three Rivers and which were the cause of two accidents there last year. The matter has been referred to by the Shipping Federation in several communications with the Minister of Marine in which it is asked that steps be taken to have the fog removed from those waters.

Returns from Japan

Invitation has been extended by Japanese chambers of commerce for a delegation of Canadian manufacturers and producers to visit Japan next fall. C. Howard Smith, president of the Howard-Smith Paper Mills, disclosed at a luncheon of the Paper Club in the Queen's Hotel, Montreal. Mr. Smith urged that something should be done in connection with this invitation, as trade possibilities with Japan were encouraging.

Another New Paper Mill

The erection of a pulp and paper mill at Fort Alexander, about 70 miles from Winnipeg, will be started this spring by J. D. McArthur & Co., Ltd., according to information received here. The scheme also provides for the construction of a railroad 20 miles long from Beaconia to Fort Alexander, and the total expenditure will amount to \$3,000,000. The plant, which will have a capacity of 120 tons a day is expected to be complete within two years.

Chas. Stuart to Go With Pejepscot Paper Co.

NEWTON FALLS, N. Y., March 26, 1923.—Charles Stuart, at present superintendent of Newton Falls Paper Company, is to become associated with the Pejepscot Paper Company of Brunswick, Me., April 1.

Established 1886

Silence

Sometimes

Silver

The habit of not speaking at all grows as fast as the habit of speaking ill, and is as great a misfortune. To avoid both pitfalls we advertise to remind you that we offer the Services of a highly specialized organization whose accurate Knowledge and Experience cover a period of thirty-seven years of steady progress consistent with sound business methods, in addition to strong financial Responsibility.

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\$1,750,000 K. V. P. BONDS OFFERED BY UNION TRUST CO.

When This Financing of Well Known Kalamazoo Concern Is Completed the Tangible Assets of the Company Will Be \$3,100 for Each \$1,000 of Bonds Now Being Issued—Standard Paper Co. Raises Wages of All Employees Averaging About 10 Per Cent.—E. T. A. Coughlin Is Elected President of Dependable Club of the Allied Paper Mills—Gets Leave of Absence.

[FROM OUR REGULAR CORRESPONDENT.]

KALAMAZOO, Mich., March 26, 1923.—The Union Trust Company, Chicago, and associated concerns are now offering \$1,750,000 of Kalamazoo Vegetable Parchment Company's 6 per cent bonds dated March 1, 1923, and due March 1, 1938. The price is 98.50 and accrued interest and will pay 6.15 per cent interest. The bonds are \$500 and \$1,000 denominations.

When this financing is made effective the tangible assets of the company will be \$3,100 for each \$1,000 of bonds now being issued. Provision is made for a sinking fund, whereby the bonds can be retired at the rate of \$25,000 each six months' period beginning September 1, 1923, until March 1, 1923, inclusive; \$50,000 each six months from September 1, 1928, to September 1, 1937, inclusive, the balance, if any, payable March 1, 1938.

The company covenants that during the life of these bonds, net current assets shall be maintained to the amount of at least 60 per cent of the bonds outstanding; current assets shall be maintained at twice the amount of current liabilities, and cash dividends, after December 31, 1923, shall be paid only out of current earnings or surplus accumulated in excess of \$500,000.

The Kalamazoo Vegetable Parchment Company was organized in 1909 under the laws of Michigan, with a paid in capital of \$50,000. Its present paid in capital of \$3,000,000, has been created through the declaration of stock dividends in the amount of \$876,755 and the sale of \$2,123,245 in stock at par.

Provision is also made for the issuance of series B bonds to the amount of \$1,250,000, bringing the total issue under the present mortgage of \$3,000,000. Of this amount not over \$500,000 can be used for the installation of a second high speed paper machine, thereby increasing the company's program for increased production and more efficient operation.

Standard Paper Co. Increases Wages

The Standard Paper Company, of this city, has granted a voluntary increase in wages to all employees, averaging about 10 per cent.

This concern, in common with a large number of other board mills throughout the country, is operating on a 40-hour week basis, or five 8-hour days for the tour workers and nine hours a day for the unskilled labor. All mill and machinery repairs are now made on Saturday, instead of Sunday as in the past.

The general increase in pay granted about equals the otherwise loss in time as result of the shortening of the weekly work schedule.

E. T. A. Coughlin Heads Dependable Club

E. T. A. Coughlin, technical director, was elected president of the Dependable Club of the Allied Paper Mills, at the regular monthly dinner, held Tuesday evening, at the New Burdick Hotel. Homer Oliver, chief accountant, was named vice-president and Sam Van Hout, of the sales department, secretary. John W. Powell, Samuel A. Simpson and W. M. Rapley comprised the nominating committee which supervised the election of permanent officers for the ensuing year.

The club picked the third Tuesday of each month as the meeting

night, and a committee composed of George B. Davis, Clare Crossley and Don Nisbett was named to plan for the next meeting.

Frank Jessup, chairman of Tuesday night's meeting, presided over an interesting series of talks on inventory, cost accounting and positive scientific methods employed in keeping Allied papers up to the dependable standard. Ed Coughlin, Paul Broesamle, William Carroll and Mr. Oliver were speakers.

A. G. Gilman, president of the Allied Paper Mills, spoke briefly on the constructive policy which the club could develop and John Pyl, vice-president, urged the injection of personality and the democratic element into dealings between department heads and members of the departments.

William Thomas Gets Leave of Absence

William Thomas, superintendent of the Michigan Paper Company, Plainwell, and who has devoted nearly his whole life in the employ of that concern, is now recovering from a recent severe illness and has just been granted six months' leave of absence with full pay.

This was in recognition of his faithful services. The action of the directors was accompanied by adoption of the following resolution:

WHEREAS: William Thomas has devoted the best part of his life in the Michigan Paper Company and

WHEREAS: The almost unparalleled success of the company is due largely to the expert knowledge and faithful service he has given to the mill for nearly forty years, and

WHEREAS: His physician informs us that he must have complete immunity from care and anxiety for several months in order to regain his former strength and energy, therefore be it

RESOLVED: That the directors of the Michigan Paper Company show our appreciation of Mr. Thomas' lifelong service in our behalf by granting him a six months' vacation with pay.

RESOLVED: That we express the earnest hope that such respite from business cares may result in the complete restoration of the health of our longtime associate and co-worker.

Reorganization Bay Sulphite Co.

A. H. Irvine, chairman of the director's executive committee of Bay Sulphite Company, announces that arrangements are now complete for the reorganization of the board of the Bay Sulphite Company. The new directors will be John W. Ross and J. H. Gundy. Mr. Ross is a director of the Molsons Bank and the Sun Life Assurance Company. He is also prominent in connection with the activities of his own firm, P. S. Ross & Sons. His election to the Board, together with that of Mr. Gundy, of Wood, Gundy & Co., will add materially to the strength of the financial section of the company's directorate. The board of directors will be as follows: Sir Frederick Becker, president, London, England; Victor E. Mitchell, K. C., vice-president, and general counsel, Montreal; Arthur C. Hastings, vice-president and member of the executive committee, New York; G. R. Hall Caine, M.P., vice-president, London, England; John W. Ross, director, Montreal, J. H. Gundy, director, Toronto; R. O. Swezey, B.Sc., M. E. I. C., member executive committee, Montreal; A. M. Irvine, chairman, executive committee, Montreal; G. Sureth, member executive committee, Montreal. Now that final announcements regarding the organization of the board have been made, it is expected that details of the Company's proposed financing will soon be forthcoming.

Hercules Mill at Rock City Falls Sold

ROCK CITY FALLS, N. Y., March 26, 1923.—The mill of the Hercules Paper Corporation has been purchased by a new organization known as the Rock City Mills, Inc. E. E. Elsworth, formerly president of the Riverton Paper Company, Riverton, Conn., has been named general manager. It is planned to operate the mill on chip and mill lined boards as heretofore.

FOR QUALITY PAPERS
USE

A-1 Bleached Sulphite Pulp

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Kellner-Partington Paper Pulp Co., Ltd.
Borregaard Norway

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KRAFT PULP

Uniform in Quality
Essential for Strength Requirement

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Sole Agents for United States for

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Three Rivers, CANADA

PAPER DEMAND IN TORONTO IS SOMEWHAT UNSTEADY

Mills Report Some Falling Off in Orders and Business with Paper Merchants Has Been Rather Spotty—Conditions Fundamentally, However, Are Said to Be Sound and an Improvement Is Looked for Soon—F. N. Burt Co. Which Has Lately Entered the Drinking Cup Field Reports a Good Year—Thunder Bay Paper Co., Ltd., Doubles Capacity of Ground Wood Mill at Port Arthur.

[FROM OUR REGULAR CORRESPONDENT.]

TORONTO, Ont., March 26, 1923.—Business in the paper line has not been so good during the past few days and some of the mills report a falling off in orders. March trade so far has been rather spotty and wholesalers are at a loss to account for it unless it be the changeability of the weather and the disposition to hold back a little longer to see how spring activity in other lines opens up. News print plants are busy and book papers are in fair demand. It is expected that the present week will be rather quiet as the Easter holiday period will interfere with the regular routine. Toilet and tissue plants are busy. The pulp market remains fairly active although ground wood prices have eased off quite a bit during the past few days. One thing, that continues quite noticeable, is the quietness of the printing trade in Toronto and other cities and it is having its effect on the consumption of paper, most orders being for small amounts. Yet in spite of the fluctuating character of the market every one believes that conditions are fundamentally and basically sound. There is ample evidence of this in the constant rise in quotations on many lines on the other side of the border and this state of affairs is sooner or later reflected in the Canadian market. Prices remain firm and there is a healthy tone at the back of the business generally but for the present no buyers are putting in stocks of any large size. The whole situation is a rather difficult one to analyze but it is expected that the atmosphere will clear before many weeks.

Burt Company Had Good Year

The annual meeting of the F. N. Burt Company, Limited, Toronto, of which S. J. Moore is president, took place last week and a satisfactory report was presented on the operations of the year. It was stated that business for 1923 had opened out on a good scale and that the prospects were bright. During 1922 the company entered the paper drinking cup field and established branch offices in connection with this department in a number of the principal cities of the United States. It is expected that the manufacture of drinking cups will form a profitable branch of the operations in addition to the other lines. Miss M. R. Cass, manager of the United States division of the F. N. Burt Company, spoke of good progress being made on the other side. The former officers and directors were re-elected.

Reaching Capacity of Production

The Spruce Falls Company, Limited, which operates a sulphite pulp mill at Kapuskasing, Ont., is now running to capacity and turning out over one hundred tons daily of sulphite. The entire output of the plant is at present taken by the Kimberly-Clark Company, Inc., of Neenah, Wis., for its various mills. E. J. Jones, late of Bradford, Pa., has been appointed general manager of the Spruce Falls Company and now has his headquarters at Kapuskasing.

Mr. Ratcliff Retires as President

Fred L. Ratcliff, president of the Ratcliff Paper Company, Toronto, who for the past year has been the energetic president of the Toronto Rotary Club, has retired. He presided recently over a large district gathering which was attended by hundreds of

delegates. Mr. Ratcliff has left for Atlantic City where he will enjoy a well earned rest.

New Industry for Hamilton

A charter has been granted to the Dominion Sales Book Company, Limited, with a share capital of \$100,000 and will start a new factory for the making of counter check books and other lines. Among the incorporators are L. M. Appleford, W. J. Moffat, Allan T. Enlow, F. A. Magee and F. T. Smye, all of Hamilton.

Extension to Port Arthur Plant

Considerable new equipment has recently been installed in the plant of the Thunder Bay Paper Company, Limited, of Port Arthur, Ont. The mill is now turning out about sixty tons daily of ground wood pulp which is double the former production. F. N. Youngman is the manager and the company had a good winter in its pulpwood operations.

Mr. Church's Proposal on News Print

T. L. Church, who is a member of the Canadian House of Commons, and was for six years Mayor of Toronto, recently introduced a resolution at Ottawa in favor of the Federal Government taking action in reference to Canada developing its coal resources so as to be free from dependence on the United States. In order to meet the expense of such development and reduce the rate of haulage, he suggested that a levy of ten per cent ad valorem be made on news print exported from the Dominion. He declared that this would produce a revenue of six million dollars per annum. Mr. Church's proposal is not taken very seriously by the news print producers of the Dominion, and is not causing them any uneasiness. If an export duty were imposed it would put such a restriction on the export of news that many mills would have shut down as nearly ninety per cent of the total output of Canadian plants is sold to the United States and other countries.

Notes and Jottings of the Industry

Howard Smith of the Howard Smith Paper Mills, Montreal, and Harold Crabtree, a director of the company, were recent callers on the trade in Toronto.

James Weldon of St. James, Ont., passed away recently in that city. He was nearly a hundred years old and was the father of I. H. Weldon, president, and T. A. Weldon, vice-president of the Provincial Paper Mills, Limited, Toronto. The wife of Mr. Weldon, Sr., died only a few weeks ago as the result of an accident in her home.

The Wilkinson Paper Company, 76 Bay street, Toronto, has sent out to its customers a splendid map showing the streets of Greater Toronto.

Mrs. Mary Berhalter died recently in Tonawanda, N. Y. She was the mother of John Berhalter of the sales staff of the Interlake Tissue Paper Mills, Limited.

The second machine being installed in the new news print plant of the Fort William Paper Company, at Fort William, Ont., is nearly ready for operation and will be started up next month.

R. A. McInnis, manager of the Abitibi Power and Paper Company, who has been spending some weeks in the sunny south, has returned to Iroquois Falls. He was warmly welcomed back and was tendered a public dinner by the town council.

H. G. Schanche, who is manager of the Forestry Department of the Abitibi Power and Paper Company, Iroquois Falls, Ont., has also been placed in charge of the Woods branch, succeeding A. W. Hennessy, who has resigned to look after his private business connections which will include a large number of pulpwood logging contracts.

L. E. Kauffman Goes With Paper Products Co.

SWARTHMORE, Pa., March 26, 1923.—L. E. Kauffman, formerly with the Superior Paper Company of Franklin, Ohio, is now superintendent of the Paper Products Manufacturing Company.



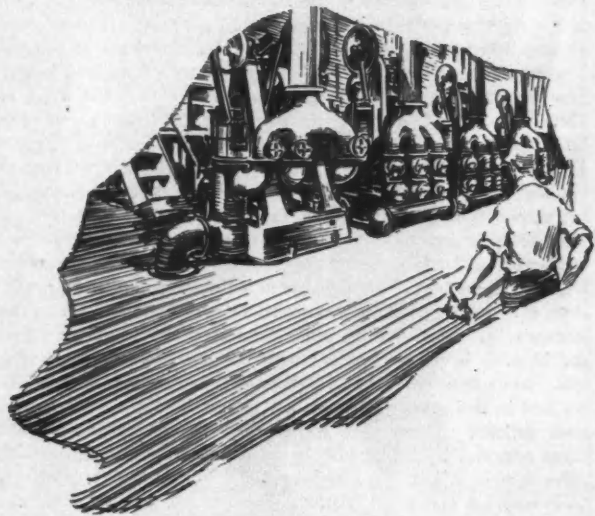
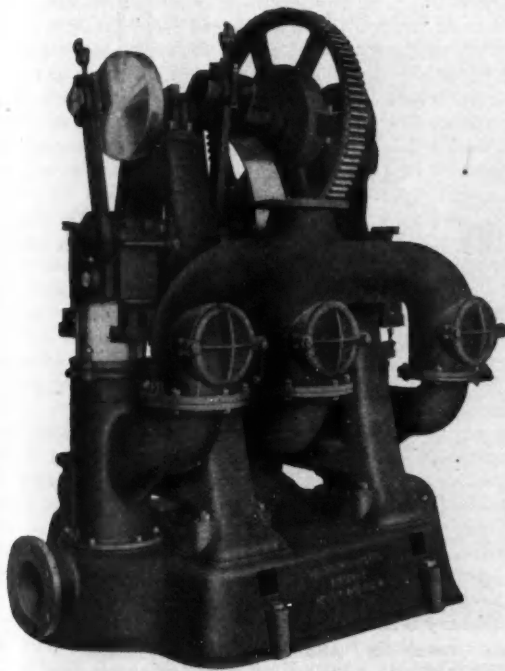
You Can Operate Beloit Pumps at Top Efficiency

THE BELOIT stuff pump of today is a striking example of engineering skill. You can operate BELOIT pumps at top efficiency in continuous 24-hour service with the complete assurance that they will stand up under the load—perfectly.

The heavy, sturdy construction insures lasting wear. Simplification of design has been perfected to the point where the fewest possible number of working parts are required. This greatly elim-

inates repair, wearage and breakage difficulties. If a part becomes worn or broken it is quickly replaced without the necessity of buying practically a new pump.

Send us your specifications.



No. 84—Beloit Discharge Side, Heavy Triplex Stuff Pump

MADE in sizes, 8"x10", 10"x10", 11"x10".
SPECIFICATIONS — machine-cut gears, self-oiling guides, forged steel crank shaft, bronze plunger, ball valves and seats; crank-pin boxes bronze brushed; guides built to take up wear, easy of access; ring oil bearings on crank and pulley shafts. Weights vary from 8,000 to 9,250 lbs. without motor. Belt or Motor Driven.

Beloit Iron Works



Beloit, Wis., U. S. A.

STEADY DEMAND FOR PAPER IN PHILADELPHIA MARKET

Individual Orders of Larger Size Than Recently and Orders in the Aggregate Make Very Satisfactory Showing—Prices in General Are Firm and Increases Are Expected in Some Lines—Philadelphia Paper Trade Association Meets and Discusses Trade Conditions—McDowell Paper Mills Saved From Serious Damage by Fire—Universal Paper & Twine Co. Acquires Four-Story Building.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, March 27, 1923.—The even stride into which the paper distributing business of Philadelphia both coarse and fine lately has turned, continued apace during the last week, making perhaps not much greater speed than during the preceding period, but being freer from days or half days of uncertainty and consequently of what the trade called spottiness.

Just, however, as the aggregate of the trading two weeks ago was entirely satisfactory, so during the past week of course, there was a repetition of the favorable financial showing. If there is one element which most of the distributors would like to see still further improved, it is the size of orders. It is true that big orders are now making a much more frequent appearance than they have for some time, but it is likewise true that there still exists a very much larger percentage of the small orders than most of the distributors approve of. However, there are at least two organizations, one holding membership in the Paper Trade Association and one not yet within its ranks, which cater particularly to the small order or store business and these of course have no complaint to make over this aspect of business conditions. In the fine paper division there was daily expected a slight advance in book papers, but at the week's close it had not yet manifested itself, although it is still anticipated momentarily. Values in all other grades of fine papers held firm and likewise in printing papers with the exceptions of news print which has a position in the twilight zone between the coarse and the fine and in this grade prices are not steady at least for the foreign made articles. There were reported by a New York importing house offerings of the Finnish products in sheet form for a trifle under 4 cents c. i. f. Philadelphia. On the other hand most of the trade reported that while visiting representatives of news mills and of importing houses were eager to get desirable orders, they were not at all inclined to make price concessions in order to secure them.

In the strictly coarse paper business conditions have now become stabilized and are satisfactory. There is no general oversupply of any brand and dealers' shelves and storerooms are merely normally stocked or slightly less than that. Screenings are approaching the point of scarcity and some of the distributors are short on stocks. Silk fibers are more plentiful and a few in the trade have over-supplies. Tissues are abundant, but there is no glut of these and corrugated products are firmly held in price with a good market maintained. Crafts are more plentiful but are moving most satisfactorily. With the lowering of coal prices and the opening of rail transportation it is expected that larger shipment will come into the city shortly.

All the paper stock lines are moving along freely from warehouses to mills and prices are firm to steady on all grades save old and crumpled news in which towards the end of the week there was softening, but not enough to cause a revision of existing quotations.

Paper Trade Association Meets

The Philadelphia Paper Trade Association gathered last week in their meeting room in the Chamber of Commerce, 12th and Walnut streets in quarterly conference. Trade conditions were in-

formally discussed and the consensus of opinion advanced by both the fine and the coarse interests was that business was on a sound and healthful status with every indication of continuance until the regular summer ease off. The Association went on record as favoring the daylight saving law and in the event of passage by the Legislature now in session of the Decker Act which abolishes daylight saving at the behest of the country districts, the Association favors the exception of Philadelphia from its provisions. A new and much welcomed accession to the ranks was secured by the election to membership of the H. J. Fleming Paper Company which specializes in die-wiping, and mining papers and small roll products and carries a general line of coarse papers.

Stock Men Banquet April 18

The committee appointed to take charge of the forthcoming banquet of the Philadelphia Paper Stock Dealer's Association definitely decided during the week to hold that event on the night of April 18 at the Adelphia Hotel. There are to be no formal addresses, but an elaborate vaudeville program at a cost of several hundred dollars is being arranged.

American Ingenuity Triumphs

American enterprise now almost has equalled and is expected shortly to surpass the skill of those Germans whose product was used by the Farm Journal Company as substitute for the costly offset rolls ordinarily used and which was described recently in the PAPER TRADE JOURNAL. Indeed it was the news article in these columns which gave the impetus to the American effort to equal the German product. Upon publication of the fact in the Philadelphia correspondence that head pressman Lafayette Cates of the Farm Journal pressroom was using a paper imported from Belgium but believed to be made in Germany and which for want of a better name, he christened, "The Wonder Paper," the New York representative of a paper specialties manufacturing concern near Philadelphia was called upon and was shown the clipping from the PAPER TRADE JOURNAL and was asked whether his firm could duplicate the product. Thereupon he called up Mr. Cates on the long distance, secured his assent to a try-out of an American-made article and then the mill was set to work producing it. Several sample rolls was sent to the Farm Journal Company and the American product was used entirely for the April issue. The American-made paper is a pure linen and fiber product, much heavier in weight and thickness than the German, but the first roll came highly calendered. The added thickness was found to be of some advantage in printing, but there was a slight trace of offset, which, however, was readily eliminated by the application to the paper of a rag moistened in benzine, coal oil or wood alcohol, the added thickness and higher finish of the domestic product making that after treatment possible.

The mill which produced the new product is now manufacturing more, but this is not to be calendered as was the first and Mr. Cates believes that it will completely equal and perhaps even surpass the German made paper. The company has on order a large shipment of the imported product placed before the American paper was made and this of course, will be used, but the indications are that thereafter America will be called on to supply what Germany previously did. Even at the present stage of development the new paper is of so satisfactory a character that use of the regular and very costly offset roll completely has been eliminated. As high as 350,000 impressions have been made on the American sample furnished and after it was washed off with the moistened oily rag showed no appreciable wear.

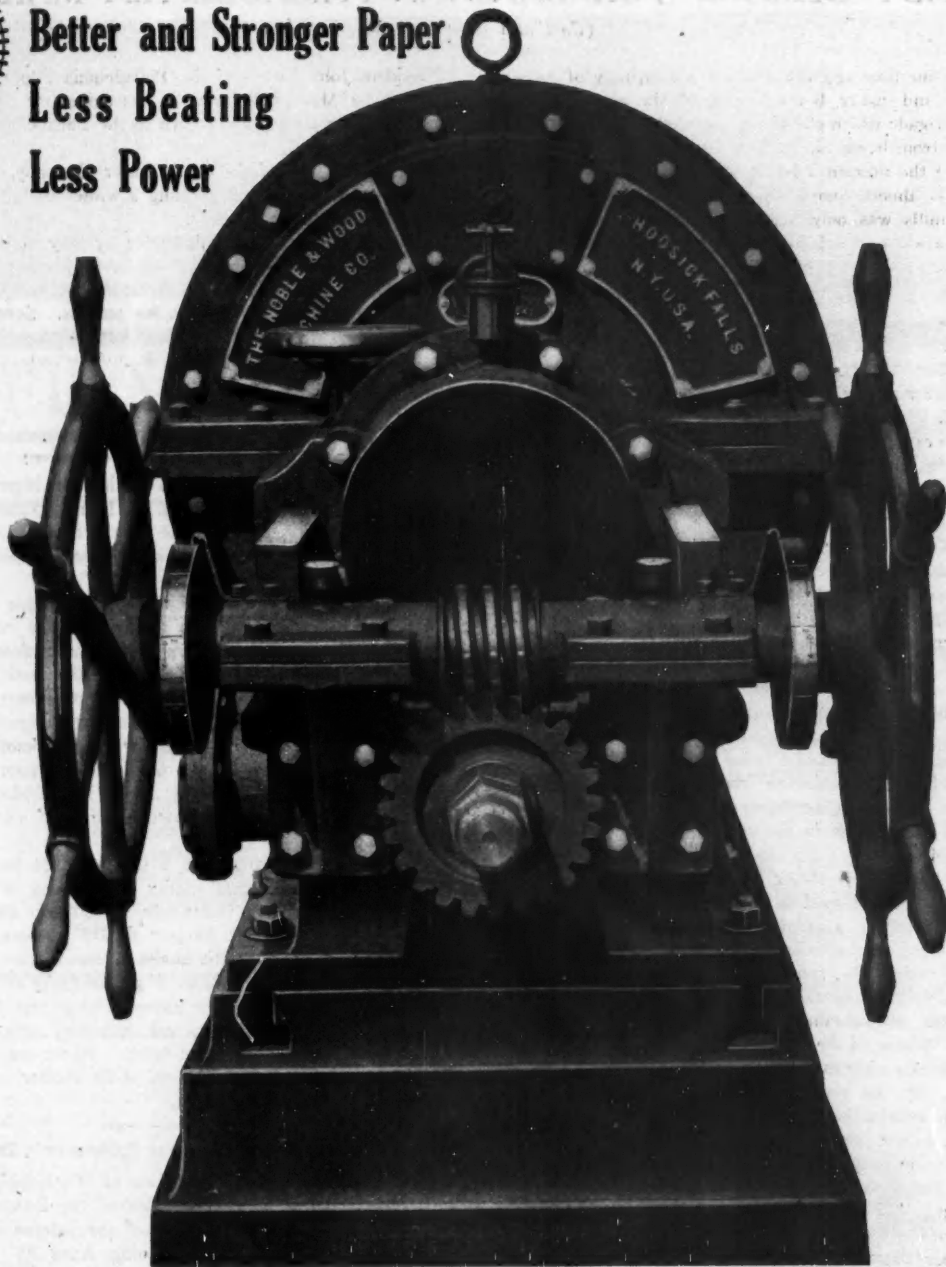
Fire Threatens McDowell Mill

The McDowell Paper Mills in Manayunk were saved from almost certain destruction by fire during the week by a combination of the immense fire wall which separates the mill from the adjoining plant of George W. Davis & Co., where the flames originated; by the protection given by the fire sprinkling system installed at

(Continued on page 36)



Better and Stronger Paper
Less Beating
Less Power



Adjustment for Precision Jordan Plug, Showing Handwheels, Dials and Worm and Gear. One Complete Revolution of the Handwheels Moves the Plug One Hundredth of an Inch. This Movement is Gauged on the Dials and Gives the Operator Absolute Control Over the Stock Passing Through the Jordan.

THE PRECISION JORDAN

will give you these because: IT HAS A PERFECTLY BALANCED PLUG; A POSITIVE MICROMETER ADJUSTMENT; PROPERLY DESIGNED ANTI-FRICTION BEARINGS, CONTROLLED ADJUSTMENT, PERFECT CONTACT OF PLUG AND SHELL BARS.

THE NOBLE & WOOD MACHINE CO., Hoosick Falls, N. Y., U. S. A.

STEADY DEMAND FOR PAPER IN PHILADELPHIA MARKET

(Continued from page 34)

the paper mill some time ago and which has a capacity of 500 gallons per minute and finally, but not least, by the activities of the McDowell fire brigade which effectually operated the fire system and saved the plant from being caught in a fire which called out three alarms and gave the firemen a battle for several hours. The adjoining plant was almost completely destroyed, but the damage to the McDowell mills was only nominal. Proprietor Charles McDowell was homeward bound from Florida while the fire was in progress arriving at the close of last week.

M. B. Lowe Takes New Quarters

Morris B. Lowe, trading as the Universal Paper and Twine Company and formerly located in the building at Delaware avenue and Poplar street where he engaged in the coarse paper and specialty business a little over a year ago, has acquired the four-story building at 118 North Water street. In the new home Mr. Lowe plans to enlarge his wrapping paper and specialty business. With the taking over of the new quarters, a complete stock of paper, twine and specialties will be carried and the enlarged facilities will enable the firm to improve service in the shipment of stock.

Trade Personals and News Items

Vernon R. Schroff, widely known through long service in the paper trade is now associated with the sales organization of the Charles Beck Paper Company. Mr. Schroff served for many years in the book paper department of the Megargee Hare Company and subsequently and also for a considerable period with the Whiting-Patterson Company withdrawing from it at the beginning of the year to re-establish himself on his own account with offices in the Drexel Building.

Members of the coarse paper and twine trade in this city received during the week letters of invitation from Manager Loring of the Associated Paper and Twine Merchants of New York inviting their co-operation and membership in the organization which he is endeavoring to build up.

Reports from the Garrett Paper Corporation, Newton Square, Pa., are that the mill is so loaded up with orders that full time operation for several months is assured.

Frank M. Rudolph, who, with his son is operating the century old Eagle Mill at Thorndale, Pa., run for many years by James & Sons, visited the Philadelphia trade during the week. The mills are now producing sheathing and container papers.

Representative Wilcox of the Smith Paper Company, Lee, Mass., was among the week's visitors to the local trade.

S. S. Shryock, Sr., the veteran binder and boxboard manufacturer whose own relationship with the industry and that of his family runs back to the beginning of the industry in this country, is seriously ill in the hospital at West Chester, Pa. He is now approaching the venerableness of an octogenarian.

Young & Owens, 1215 Filbert street, recently announced to the trade that they are now representing the Hopper interests which include the Hopper Paper Company of Richmond, Va., and Johnsonburg, Pa., and also the Kalamazoo Stationery Company of Kalamazoo, Mich., which took over the Hopper interests in this territory. The territory included covers Wilmington, eastern Pennsylvania, Delaware, Baltimore and the Eastern Shore.

At a meeting of the Scott Paper Company held in Chester, Pa., during the month decision was reached to increase the capital of the corporation as follows: Common stock 15,000 shares to 30,000 shares; preferred from 12,500 to 25,000 shares. It is not expected this liberal increase will be subscribed to for some time but it is thought that a reasonable number of shares should be held in the treasury. Business at the plant is active and orders are being received from all parts of the United States and many foreign countries.

President John Jacobs of the Philadelphia Paper Manufacturing Company of Manayunk is on an extensive trip to Bermuda and southern points planning to return to the Philadelphia headquarters the middle of April.

G. A. Bisler, Sr., of the G. A. Bisler Company, Inc., 6th above Vine street, who has been spending a winter vacation in Asheville, N. C., has returned to his desk.

Word was received in Philadelphia by way of Scranton of the death of Charles Megargee, son of B. B. Megargee, a wholesale paper merchant, who died while on his honeymoon at Orlando, Fla., the message having been sent to his parents. Several weeks ago Mr. Megargee, who was thirty-three years of age, was married to Miss Ann T. McHale of Avoca, Pa. The body was brought to Scranton for burial.

Heads Crane Paper Business

[FROM OUR REGULAR CORRESPONDENT.]

BOSTON, Mass., March 28, 1923.—Winthrop Murray Crane, 43-year old son of the late Senator W. Murray Crane, is now the head of the public-spirited Crane family of Dalton and its vast paper business, which has been in continuous operation for 122 years.

The recent death of Frederick Goodrich Crane brings to the front a new generation of this family, and the responsibility of maintaining the success and prosperity of the business rests on the shoulders of Winthrop Murray Crane. Associated with him will be his cousin Frederick, Jr., who is about 20 years younger, and a fine organization of executive officers and employees, many of whom have been with the concern for years. Another cousin, Z. Marshall Crane, lives in Dalton, but is chiefly interested in stock raising and agriculture at his farm in Windsor. Marshall's brother, Charles K. Crane, married an English woman and now resides in London.

The new paper company head is well qualified for his new title and responsibility, by natural ability and training as well as experience. Upon graduating from Yale, in 1904, he went to work in the mills in overalls and jumper at \$15 a week, and learned thoroughly every phase of the business from the bottom. He was placed more and more in positions of responsibility and he never was wanting. During his years of apprenticeship and later when he assumed charge of departments and individual mills, he was carefully guided by his distinguished father. Never was a pupil more willing to learn, and never did one show greater appreciation of the value of preliminary training.

Sen. Harrison to Speak at Salesmen's Banquet

United States Senator Pat Harrison of Mississippi, probably the leading orator on the democratic side of the Senate, will be the main speaker at the annual banquet of the Salesmen's Association of the Paper Industry, Tuesday evening, April 10. The program for the Salesmen's convention in the forenoon will include two speakers on salesmanship, Dr. Warren M. Persons of the Harvard Committee on Economic Research talking on "Recent Developments in the Paper Industry." Prof. Lawrence W. Rogers of New York University, a specialist on salesmanship, will speak on "The Service Factor in Selling."

The Salesmen's Association will hold a forenoon meeting, these and other addresses to be followed by the annual business meeting, and the afternoon will be devoted to a visit to the Paper Industries Exposition. In the evening the speaking program will be followed by the annual dancing party, which places in the hands of the salesmen of the industry the entertainment of the ladies who accompany their husbands to New York during Paper Week.



PAPER MILL ADVERTISEMENT No. 6

In the Paper Industry

**Farrel Calenders
Farrel Rolls
and
Farrel Roll Grinders**

—have always received preference wherever the reputation of a Paper Mill depends upon high quality of product.

“Broken” is often caused by imperfect rolls.

Then comes excitement—paper piling up—running men—material lost and trouble and expense to follow.

Much of this trouble and expense can be eliminated if you regrind all rolls *promptly* on your own premises.

Install a Farrel Roll Grinding Machine in your own plant as so many other paper mills are doing.

It will pay you to investigate these installations. Let us send you the particulars.

FARREL

Established 1848

**FOUNDRY & MACHINE COMPANY
ANSONIA, CONN.**

Branch Office

802 Swetland Bldg., Cleveland, Ohio

Branch Plant

Buffalo, N.Y.

New York Trade Jottings

Zellerbach Paper Company announces the removal of its office to 15 East 26th street, New York. The new telephone number is Madison Square 3046.

Frank E. Dunaway, formerly connected with the pulp department of Perkins-Goodwin Company, 33 West 42nd street, New York, has severed his connection with this company.

The Detroit Sulphite Pulp and Paper Company announces the opening of an office at 342 Madison avenue, New York, in charge of Theodore H. Donlan. The telephone number is Vanderbilt 8265.

The King Paper Stock Company, of New York City, has been incorporated under the laws of New York State by P. Dellaglio, E. Recca and A. Marinaro. The concern is capitalized at \$6,000.

W. G. MacNaughton, secretary of the Technical Association of the Pulp and Paper Industry, "broke into print" in the columns of the Cornell *Sun* following his recent address before the Sigma Xi Society of the University.

Emanuel Salomon, of Emanuel Salomon Corporation, 300 Madison avenue, New York, returned to the city on the S. S. *Paris* last Saturday. His trip abroad lasted six weeks, during which time he traveled through France, Belgium and England.

T. T. Webster, general traffic manager of the Mead Pulp and Paper Company, dropped in to see R. S. Kellogg, secretary of the News Print Service Bureau while in New York last Saturday, en route from Boston to the home office at Dayton, Ohio.

The Great Notch Paper Company, Inc., of 101 Varick street, New York, of which Sydney S. Speer is president, was elected a member of the Merchants' Association of New York last week, the board of directors of the Association having approved its application.

R. S. Kellogg, secretary of the News Print Service Bureau, Canadian Pacific Building, New York, spoke last week before a meeting of the Nylta Club, an organization of members of the New York Lumber Trade Association, on the subject: "News Print Paper in North America."

Samuel G. Esdale, formerly of J. E. Linde Paper Company, and recently connected with Alexander-Holden Paper Company, together with Stanly C. Roosa, are new additions to the sales force of Boyd & Brainard, Inc., formerly E. W. Scarborough Company, 28 Beekman street, New York.

C. W. Boyce, forest examiner of the Forest Service, who specializes in pulpwood, will attend the annual meeting of the American Paper and Pulp Association, to be held in New York the week of April 9th. Paper and pulp experts from the Forest Products Laboratory, at Madison, Wis., will also attend the convention.

Zelkind Brothers, dealers in paper and twine, of 46 First avenue, New York, have been sued in involuntary bankruptcy by Jack Lip-ton for \$500; Ira Ruderman, \$400; and Alliance Paper Box Company, Inc., \$20. Harold Rudolph was appointed receiver under \$1,000 bond by Judge Augustus N. Hand. Liabilities were estimated at about \$7,500 and assets about \$3,500.

Robert R. Lasher, of Lasher & Lathrop, 29 Lafayette street, New York, has accepted the chairmanship of the paper manufacturing division in the forthcoming Home Service Appeal of the Salvation Army. He is now at work on the organization of an energetic committee through which all firms, individuals and employees in the paper manufacturing field will make their contributions.

Joseph R. Minevitch, industrial research chemist and consulting chemical engineer, of 195 Claremont avenue, New York, announces that a representative of the Russian chemical and paper industries will shortly arrive in the United States for a visit to familiarize himself with the latest developments in the pulp and paper industry, as well as with some branches of the chemical industry in this country. All interested in the development of the chemical and paper industries of Russia and desirous of meeting the Russian representative should communicate in writing with Mr. Minevitch, who is the American representative of the Technic-Economic Council of the Russian Paper Industry.

"Our ancestors used to make money of paper and barrels of wood," says Walter Hicks, of Daniel M. Hicks, Inc., 200 Fifth avenue, New York, "but today they are making paper of wood and barrels of money." Mr. Hicks didn't think this little epigram quite good enough to be incorporated in his Review of the 1922 Paper Stock Market, which will appear in the Convention number of the PAPER TRADE JOURNAL. But rather than allow his quip to be "born to blush unseen" we herewith record it in black and white. Whether you are president of a large concern or a back-tender's helper, you will surely enjoy Mr. Hicks' rare treatment of the raw material markets in his review.

Union Bag & Paper Co. Has Good Year

The Union Bag and Paper Company reports for 1922 net profits of \$1,029,865 after depreciation and interest charges but before Federal taxes, or the equivalent of \$6.88 a share earned on its \$14,977,850 of capital stock, as compared with a net loss at the end of 1921 amounting to \$723,397. The report for the year, compared with the two preceding years, follows:

	1922	1921	1920
Net earnings	\$1,744,389	\$797,192	\$5,046,300
Total income	1,303,145	530,215	2,127,639
Net profits	1,029,865	*723,397	3,474,926
Sur. after div.	162,031	*1,888,263	2,393,030

*Loss.

The profit and loss surplus, as of December 31, was \$1,228,073, against \$1,186,042 at the end of 1921 and \$1,874,305 at the end of 1920.

Yellow Pine Paper Co. to Build at Monroe

MONROE, La., March 23, 1923.—A deal for 70 acres of land within the corporate limits of Bastrop, owned by the Hood interests of that town has been closed and the Yellow Pine Lumber and Paper Company, of Orange, Tex., has taken over the property and will begin the construction on June 1 of a pulp and paper mill at a cost of \$2,000,000.

The officers of the company are H. W. Stark, president; H. L. Brown, vice-president; E. W. Brown, Jr., secretary and treasurer, and George S. Holmes, superintendent.

\$20,000 Blaze in Maine Pulp Mill

LINCOLN, Me., March 26, 1923.—Fire in the pulp mill of the Eastern Manufacturing Company caused damage estimated at \$20,000 Thursday of last week. The flames were confined to the dryer room and chip loft.

EXACT MICROMETER

**Actual
Size**

**Height
6¼ in.**

**Diam.
Dial
5¼ in.**

**Depth
of throat
3⅝ in.**



**Bevel
Plate
Glass**

**Nickel
finish
top**

**Black
enamel
base**

The Exact Micrometer is automatic in its action, and as its name implies, Exact, in recording the thickness, because it is built on the only correct principle. There are no Pinions, no Levers, no Gears of any kind used for transferring the action of the Plunger to the reading Indicator. The Indicator hand is firmly attached to and becomes a part of the measuring Plunger, hence, accuracy.

It contemplates .300, registers .100 around the dial, repeating three times (trip indicator). The graduations are three times as far apart as on any of our previous Micrometers or as on the German Micrometer, hence, are more easily read.

"For Automatic Weighing Scales for giving the weight of 480 sheets or 500 sheets of paper or for ascertaining the weight per M Sq. Ft. of box boards write to us for full description and price."

Write for Life Size Circular

E. J. CADY & COMPANY, 326 West Madison Street, Chicago

These instruments are carried in stock by C. B. Hewitt & Bros., 16-24 Ferry Street, New York

Obituary

D. Albert Waterbury

UTICA, N. Y., March 26, 1923.—D. Albert Waterbury, president of the Waterbury Felt Company since its organization in 1907 at Skaneateles Falls, N. Y., died at his home in Oriskany, Sunday, March 18, after a short illness.

Starting in the business under his father, the late Henry Waterbury, in Rensselaerville, Albany County, N. Y., about 1870 and later locating in Oriskany, N. Y., in 1879, Mr. Waterbury had spent a very active life in the manufacture of papers makers feltings.

He leaves an only son to mourn his loss.

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 28, 1923.—The Government Printing Office will open bids on April 2 for 9,800 pounds (50 reams) of 22 x 28—196, white China cardboard.

The Bureau of Supplies and Accounts, Navy Department, will open bids on April 10 for 1,000 reams of 8 x 13 white laid absorbent mimeograph paper.

The purchasing officer of the Government Printing Office will open bids on April 4 for 1,000,000 pounds of U. S. postal card cream Bristol board in 44½ inch rolls.

The Government Printing Office has received the following paper bids:

36,000 pounds 22½ x 28½—120 white bristol board: The Whitaker Paper Company, at \$1.025 per pound; Old Dominion Paper Company, \$1.449; Dobler & Mudge, \$1.15; R. P. Andrews Paper Company, \$0.89; Whiting-Patterson Company, Inc., \$0.99; Carter, Rice & Co., \$1.0, and Mathers-Lamm Paper Company, \$1.10.

2,552 pounds 17 x 28—No. 20 various colors safety writing paper: George LaMonte & Son, at \$2.38 per pound and Dobler & Mudge, \$2.25 per pound.

900 pounds 21 x 32—green safety writing paper: George LaMonte & Son, at \$2.38 per pound and Dobler & Mudge at \$2.25 per pound.

61,510 (880 reams) white ledger paper, various sizes and weights: R. P. Andrews Paper Company, \$3.35 per pound; Old Dominion Paper Company, \$3.93; Dobler & Mudge (in part), \$2.75; B. F. Bond Paper Company, \$2.8875; The Whitaker Paper Company, \$3.149.

The purchasing officer of the Government Printing Office has received the following paper bids:

27,500 pounds No. 1 quality binders' board: Ingalls & Co., \$84.00; Dobler & Mudge, \$85.00; The Whitaker Paper Company, \$95.70; R. P. Andrews Paper Company, \$94.40; The Republic Bag and Paper Company, \$96.20; The Broderick Paper Company, \$95.00; Mathers-Lamm Paper Company, \$88.00; Twin Falls Binders Board Company, Inc., \$95.20; C. B. Hewitt & Bros., Inc., \$87.00; Kerr Paper Mill Company, \$90.00, and The C. L. LaBoiteaux Company, \$92.00.

245,000 pounds No. 2 quality binders' board: Ingalls & Co., \$77.00; Dobler & Mudge, \$75.00; The Whitaker Paper Company, \$95.70; R. P. Andrews Paper Company, \$84.00; The Republic Bag and Paper Company, \$86.00; The Broderick Paper Company, \$84.75; Mathers-Lamm Paper Company, \$86.00; Twin Falls Binders Board Company, Inc., \$85.20; C. B. Hewitt & Bros., Inc., \$82.00; Kerr Paper Mill Company, \$85.00; The C. L. LaBoiteaux Company, \$92.00.

The Bureau of Supplies & Accounts, Navy Department, will open bids on April 10 for 1,633 reams of 8 x 13—5½, white laid absorbent mimeograph paper.

Samuel S. Alcorn has been awarded the contract for furnishing the Bureau of Supplies and Accounts, Navy Department, with 700 reams of 16 x 21—24 white printing paper at \$3.15 per ream, bids for which were opened on March 20.

The purchasing officer of the Government Printing Office has received the following paper bids:

35,700 pounds 21 x 31—bristol board, various colors, flat: Whiting-Patterson Co., \$0.69825; Carter, Rice & Co., \$0.6125; The Whitaker Paper Company, \$0.768; Old Dominion Paper Company, \$0.799.

85,000 pounds 22½ x 28½—100 melon and green bristol board in 20 inch rolls: Whiting-Patterson Company, \$0.64575; Carter, Rice & Co., \$0.6; The Whitaker Paper Company, \$0.743; Old Dominion Paper Company, \$0.799.

R. S. Kellogg Addresses Nylta Club

In his talk last week before the Nylta Club, of 15 West 46th street, New York, an organization of members of the New York Lumber Trade Association, R. S. Kellogg, secretary of the News Print Service Bureau, 342 Madison avenue, brought out the following points in discussing "News Print Paper in North America": America's first printing press was established in Cambridge in the year 1638, the first newspaper dated April 24, 1704, being the Boston *News-Letter*, a two-page, 9 x 12 sheet. Today there are 22,000 newspapers in North America, including some 2,000 English language dailies; their daily circulation is approximately 30,000,000 and Sunday 20,000,000. Last month the Sunday editions averaged 95 pages and the daily 26. The per capita consumption of news print paper in the United States of 44 pounds is equal to the rest of the world combined.

News print paper used in the United States in 1922 would blanket 9,500,000 acres, belt the earth one-half mile wide at the Equator, make a strip 300 feet wide to the moon, or make a standard roll 73 inches wide that would unwind 12,760,000 miles. The average issue of the Sunday New York *Times* would cover 1,900 acres, the presses taking a ton of paper a minute. The news print used in 1922 required 3,700,000 cords of wood—spruce, balsam and hemlock, or about half of all the pulpwood used in North America.

Fred Payne Goes With Monroe Paper Products Co.

[FROM OUR REGULAR CORRESPONDENT.]

MONROE, Mich., March 26, 1923.—Fred Payne, formerly superintendent of the River Raisin Paper Company, has been appointed superintendent of the Monroe Paper Products Company of that city, succeeding L. J. Meunier, who is now superintendent of the Kieckhefer Container Corporation at Delair, N. J.

R. T. Creason has succeeded Mr. Payne at the River Raisin Paper Company.

To Represent Hoberg Paper Co. in Texas

DALLAS, TEX., March 26, 1923.—R. C. Rogers has been appointed mill representative here of the Hoberg Paper and Fiber Company of Green Bay, Wis. Mr. Rogers is no stranger to Texas, as he has been successfully engaged for the past seven years in promoting the sales of the specialties of the National Paper Products Company of Carthage, N. Y.

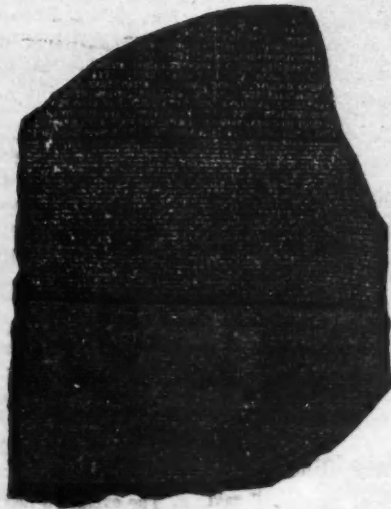
Miami Valley Superintendents to Meet

[FROM OUR REGULAR CORRESPONDENT.]

MIDDLETOWN, Ohio, March 26, 1923.—The Miami Valley Division of the American Pulp and Paper Mill Superintendents Association will meet at the Manchester, here, at 6:30 o'clock, Saturday, March 31. The subject of the meeting will be "Wastes."

B. M. Thomas Goes With Eddy Paper Co.

CINCINNATI, Ohio, March 26, 1923.—B. M. Thomas has resigned from the Cincinnati Division of the Chicago Mill and Lumber Company to go with the Eddy Paper Company at Three Rivers, Mich.



The Rosetta Stone, engraved by order of Ptolemy Epiphanes in 196 B. C., is one of the most famous of ancient government proclamations. Three languages were used.
British Museum.

Government without paper

It made no great difference, back in the days of the Ptolemies and Caesars, that no generous supply of paper existed for the dissemination of government information. Despotic rule does not have much need for paper.

Things have changed. Taxation without representation is out of fashion. Rule without the consent of the governed has a hard road to travel. Information, prompt and detailed, is expected when government makes a move that affects the welfare of citizens. Paper makes this diffusion of official information possible.

Hereditary domination of lives and property of subjects went suitably with proclamations cut in stone and baked in clay. Democracy and paper go hand in hand.

Hammermill Paper Company
Erie, Pennsylvania

Recent Incorporations

SCANDINAVIAN PULP AGENCY, Manhattan, New York. Capital, \$100,000. Incorporators: J. Aspegren, E. Engstrom, A. C. Thom. Attorneys, Baldwin, Holt, Gaillard & Fisher, 31 Nassau street.

DWYER PAPER PRODUCTS COMPANY, Marion, Indiana. Capital, \$25,000; \$10,000 preferred; to manufacture paper and metal products. Directors, Harry A. Dwyer, Mattie C. Dwyer, Harry D. Dwyer.

ADAMS BUCK COMPANY, Manhattan, New York. Paper. 100 shares preferred stock, \$100 each; 100 common, no par value; active capital, \$5,000. Incorporators: H. A. Buck, B. Harrow, J. Kane, Jr. Attorney, J. J. Jackson, 51 Chambers street.

ARBERG STATIONERY CORPORATION, Bronx, New York. Capital, \$10,000. Incorporators: M. Solomon, S. Arfin, L. Bergman. Attorneys, Giden & Giden, 1138 Broadway.

CAPITAL INCREASE

MILLER PAPER COMPANY, Louisville, Kentucky. \$70,000 to \$100,000.

National Waste Material Dealers Dine

"When I read over the names of some of your members," said Will Rogers, in addressing the Tenth Anniversary Banquet of the National Association of Waste Material Dealers, Inc., "I knew it was a paying business!" The banquet commenced at 7:30 p. m., Wednesday of last week, and Mr. Rogers' talk was sandwiched between the speeches of Hon. Charles A. Towne and U. S. Senator Frank B. Willis, former Governor of Ohio.

Will Rogers made the most of the strategic position he occupied amongst the imposing array of after-dinner speakers. He said that

the dealers in old newspapers and kindred junk had to wait a few days until the papers were read and collected before it reached their hands. "But down there in Washington, where these gentlemen come from," he said, indicating the two Senators on either side of him, "it's a different story. Why you folks must get that *Congressional Record* of theirs the minute it's printed!"

Mr. Rogers got off to a flying start, greeting the assemblage with his inimitable smile, a stray lock of hair dangling from his forehead and chewing gum incessantly. He was greeted with uproarious applause and the vibration from the storms of laughter that followed his every remark rocked the massive chandeliers of the Astor ballroom. "I thought I was going to have to talk to a bunch of male dressmakers," he said, "so I've been thinking over a lot of things that ought to seem funny to waist material dealers—you know the kind I mean—these fellows that make the flimsy things that women wear. And now I find out that your business is collecting and buying and selling old rags and waste paper and scrap iron and rubber and that stuff. Why didn't you just come out and say *junk* dealers? My Lord! Junk dealers—and in the Astor Hotel!"

Perhaps the liveliest table at the banquet was that of the Philadelphia crowd. Cheers from college days were revived and not infrequently the entire delegation would rise *en masse* to repeat the chorus of a song under the frenzied leadership of one who designated the rhythm with a convenient candlestick.

The evening's merriment culminated a day of exceptional activity. Harry R. De Groat, of A. M. Wood & Co., Philadelphia, was elected president of the association for the coming year, and acted as toastmaster during the banquet, former President Frank C. Overton retiring in his favor. The tenth annual meeting of the association was held at 10:30 Wednesday morning and was followed at 11:00 by regular meetings of the Waste Paper, Foreign Trade and Paper Stock divisions. At noon there were luncheons of the Exchange and Luncheon Club and of all association members.

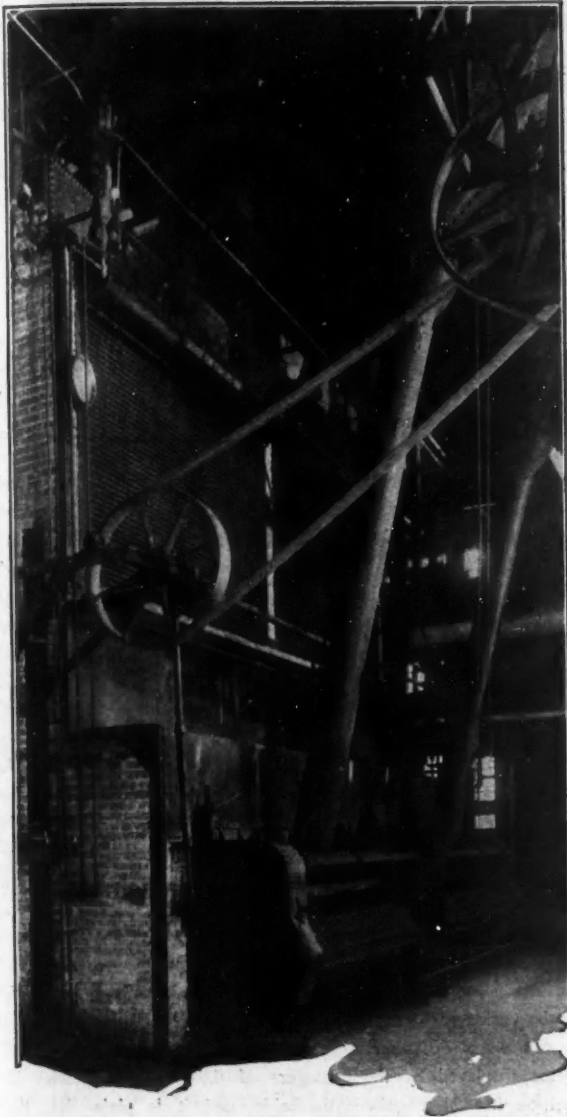
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FOR INCREASED FUEL ECONOMY

Editorial

Vol. LXXVI New York, March 29, 1923 No. 13

HENRY J. BERGER, Editor

COMING EVENTS

American Paper and Pulp Association, Convention and Meeting of Affiliated Associations, Waldorf-Astoria, April 9-13.

National Paper Trade Association, Convention, Waldorf-Astoria, April 10-12.

Technical Association of the Pulp and Paper Industry, Convention, Waldorf-Astoria, April 9-13.

Salesmen's Association of the Paper Industry, Convention, Waldorf-Astoria, April 9-12.

Paper Industries Exposition, Grand Central Palace, April 9-14.

Waste Merchants Association of New York, Annual Meeting and Banquet, Hotel Commodore, April 11.

PAPER TRADE JOURNAL AT THE PAPER SHOW

The PAPER TRADE JOURNAL will occupy Space No. 56 at the first annual Paper Industries Exposition to be held during the week of April 9 at the Grand Central Palace, New York. Pulp and paper manufacturers, paper merchants and others are cordially invited to make use of any of the conveniences afforded by these headquarters during their visit to the Exposition.

PURPOSE OF THE PAPER EXPOSITION

Appreciation of the Paper Industries Exposition as a demonstration of the progress of papermaking in America is fittingly expressed by Executive Secretary Baker of the American Paper and Pulp Association. In a recent communication to members he refers to it as one of the major accomplishments of the year and "the best opportunity which our industry has ever had to make itself and its problems understood and appreciated by the public."

Dr. Baker appears to have an excellent understanding of the purpose of the exposition, which is not to sell either machinery or paper directly, but to tell the right story of what the industry is accomplishing.

There is no other basic industry whose operations are the subject of so much close scrutiny by the newspaper and periodical press. The operations of the paper industry are also studied carefully by government bureaus which collect statistics of production, costs of manufacturing and distribution and make monthly records of these and the quantity of paper consumed. It is the same with the raw materials of manufacture, the fluctuations of which, in production and consumption, as well as prices, are carefully computed from figures supplied by mills and importing firms throughout the country. This information is issued from Washington at regular intervals by the Federal Trade Commission and serves a useful purpose.

If some means could be employed for supplementing the government reports of production, stocks on hand and shipments with a tabulation of costs of production, there would be fewer complaints heard of the high prices charged for the finished product. The Paper Industries Exposition provides a great opportunity for paper manufacturers to visualize the paper industry to the public—which means the consumer, and it will be inter-

esting to watch developments and see if the opportunity has been improved by the exhibitors.

It would be a simple matter and an eminently convincing thing for paper manufacturers to include in their exhibits a compilation of statistics of the workers employed and wages paid, with comparisons of past and present rates. Prices of all manufactured commodities have advanced enormously since 1914, and a tabulation of comparative costs of raw and finished materials would be highly instructive and serve in some measure, perhaps, to correct certain views held by some of our legislators who often busy themselves with projects for curbing the expansion of the paper industry.

Thanks to a more enlightened public opinion in Canada, there is better co-operation there between industry and government and the Canadian paper industry reflects the superior advantages of such combined effort and co-operation in many ways, but in none so concretely as the growing tendency of American capitalists to establish mills and factories in Canada. Labor conditions here are greatly to blame for the migration of the industry to Canada. But good would be accomplished by advertising the situation and its governing factors, and here is where the Paper Industries Exposition could be used to great advantage.

Thousands of visitors will be attracted to the Grand Central Palace during the week of the exposition and the gathering will be thoroughly representative of the American people, ranging from legislators to home folk in city and country. The extraordinary means taken by the exposition management to draw crowds to the Grand Central Palace have been already touched upon, but it may be well to reiterate that in addition to special days for executives and technical men in the mills, provision has been made to interest both the packers of food and household users thereof. As an instance, the Commissioner of Public Markets of Greater New York will have a representative present on Clean Food Day to discuss the uses of paper in the clean packaging of market supplies. On another day publishers and printers will discuss their problems with the paper makers while on one of the other days technical sessions will be held so as to afford machinery men the opportunity of describing the latest improvements in apparatus, methods and processes.

The public curiosity concerning paper and its manufacture is great and the exposition management apparently recognizes how the paper manufacturer can be benefited through a delineation of the various aspects of the industry, not alone to merchants, but to consumers of paper as well. The understanding of the situation displayed by the managers of the Paper Industries Exposition has been quite remarkable, and it is plain that their objective is one which is deserving of complete co-operation on the part of every paper manufacturer and paper merchant in North America.

EMPLOYMENT IN PAPER INDUSTRY

Current reports coming constantly to hand regarding the increasing activity in the pulp and paper industry are confirmed by the statistics sent out by the Bureau of Labor at Washington, D. C. of employment in selected industries. In 177 paper and pulp establishments the number of persons employed in February was 52,822 as compared with 52,032 in January, an increase of 1.5 per cent. In these same establishments the pay rolls in Feb-

mary amounted to \$1,305,468 as compared with \$1,274,084 in January, an increase of 2.5 per cent.

In 48 paper and pulp establishments reporting, there were 24,568 persons employed in February this year as compared with 23,068 in February last year, an increase of 6.5 per cent. In these same establishments the pay rolls in February, 1923, amounted to \$607,233 as compared with \$534,670 in February, 1922, an increase of 13.6 per cent.

In 134 establishments manufacturing paper boxes the figures show that there were 13,397 persons employed in February, 1923, compared with 13,321 in January, an increase of .6 per cent. In these same establishments the payrolls in February amounted to \$259,110 as compared with \$255,886 in January, an increase of 1.3 per cent.

Borah to Be Paper Convention Speaker

That the paper industry is willing to hear all sides of every question is demonstrated by the securing of United States Senator Borah as one of the speakers at the annual banquet of the American Paper and Pulp Association on Thursday evening, April 12.

The program, however, will be a double-header, as the baseball fans say, for another powerful speaker, of entirely different type, will be heard, in James M. Beck, solicitor general of the United States.

On the one side, therefore, the annual banquet program will include the country's most advanced progressive, and on the other, the administration's foremost legal counsel.

The Association had planned to make the evening an international event, with Scandinavian paper industry leaders as the speakers. When the Swedish paper strike forced the big men of Sweden and other Northern European countries to cancel their tentative arrangements to come to America for the convention, the Association sought to secure the best speakers to be secured in America as its convention orators.

By selecting these two leaders of opposite sides of political thought, the paper manufacturers will be enabled to hear both sides. Neither speaker, however, has as yet announced his topic. With two such notable speakers of such radically different schools, it was also decided to end the evening with a peacemaker or a benediction, and the Association's old clerical friend, the Rev. Dr. Nehemiah Boynton will close the banquet with one of the characteristic talks which has made him such a favorite of the country's paper manufacturers for many years past.

Will of the Late Frederick G. Crane

[FROM OUR REGULAR CORRESPONDENT.]

DALTON, Mass., March 28, 1923.—The will of the late Frederick G. Crane, head of the Crane & Co., Inc., interests, was filed in Probate Court last week. His widow, Mrs. Rose P. Crane, is appointed executrix and to her is given his "Model Farm" with all the furniture, contents of house, stables and other buildings for life, and upon her decease the same is bequeathed to his son, Fred G. Crane, Jr. Provision is also made that the daughter, Miss Rosemary Crane, make her home in the homestead whenever and for so long a time as she may elect.

The rest of the real estate is bequeathed to the son together with Mr. Crane's interests in Crane & Co. The residue of the estate is given in equal shares to the widow, the son and the daughter. There are no public bequests, as Mr. Crane had made known his desires in respects to gifts to individuals and charitable institutions and these will be carried out in due time. The will was drawn by the late Walter F. Hawkins in 1914 and filed by Mr. Crane's brother-in-law, Charles L. Hibbard.

Dr. Baker Not Eligible

NEW YORK, March 24, 1923.

EDITOR PAPER TRADE JOURNAL:

In the last issue of the PAPER TRADE JOURNAL there is a note from your Appleton, Wis., correspondent entitled "For Head of Natural Resources Production." This refers to the very kindly action on the part of paper manufacturers in the Fox River Valley in bringing up my nomination for the Board of Directors of the United States Chamber of Commerce, by five of the local Chambers in the Valley. This nomination was to cover vacancy on the Board of Directors of the U. S. Chamber of Commerce representing the Natural Resources Production Department of the Chamber.

This action on the part of five local Chambers of Commerce in the Fox River Valley came as a great surprise to me, and came entirely unsolicited, as no reference had been made to any such action either by myself or by the paper manufacturers while I was in the Fox River Valley in February. Of course, I am very much honored by this nomination and very appreciative of the thoughtfulness of paper manufacturers out there in the Appleton-Neenah section.

Unfortunately, for me, I am not eligible for the Board of Directors of the U. S. Chamber of Commerce. That Chamber has ruled that secretaries of Chambers of Commerce and trade associations are not eligible to their Board of Directors. I know that this action on the part of the Chamber is a wise one, as they want executives and not the representative of executives, active on their Board of Directors.

Reference was made in the note from your Appleton correspondent as to my being proposed for position in charge of the Natural Resources Production Department of the U. S. Chamber. That Department of the Chamber is now very ably headed by Col. Walter DuB. Brookings, who for many years was connected with the lumber industry in the West, and Col. Brookings understands very thoroughly the problems of manufacturers securing their raw materials from our natural resources. The American Paper and Pulp Association has been working very closely with Col. Brookings and it has been my good fortune to be a member of the Department Committee of the Natural Resources Production Department of the Chamber. I have also been honored by the Chamber, by being made a member of their Committee on a National Forestry Policy, of which D. L. Goodwillie of Chicago is chairman, and their Committee on Reclamation of Waste Lands, of which E. T. Meredith, former Secretary of Agriculture, is chairman.

In view of the note from your correspondent regarding action of the Chamber of Commerce in the Fox River Valley, it seemed well for me to put the situation clearly to you.

Very truly yours,

HUGH P. BAKER,

Secretary, American Paper and Pulp Association.

To Be Superintendent of Hampden Glazed Paper Co.

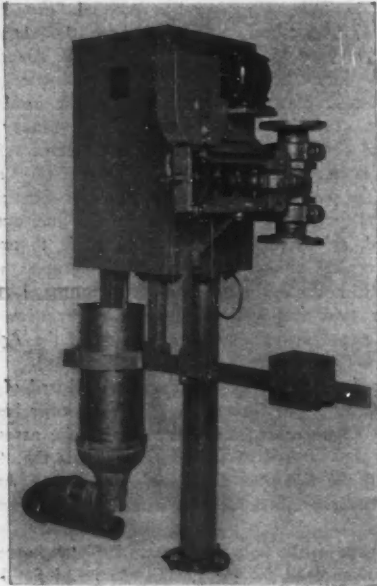
[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., March 28, 1923.—William Buss, boss finisher of the Hampden Glazed Paper and Card Company, has been appointed superintendent of the plant. He has been employed by the company for thirty-five years. His place as boss finisher will be taken by Vernon Ramsay.

To Investigate Pulp Stands in National Forests

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 28, 1923.—The Forest Management Division of the United States Forest Service has begun an investigation of pulp stands in the national forests. A survey of the pulp stands in the Northeast and lake states is also being prepared for the Forest Service by C. W. Boyce, forest examiner.



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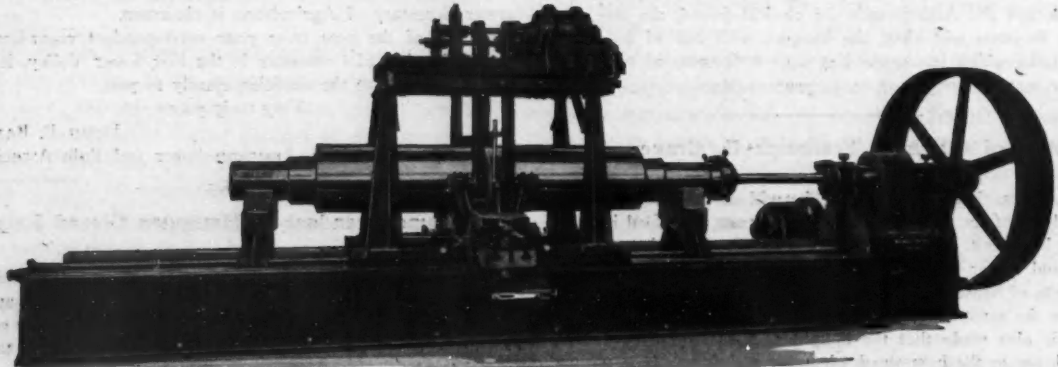
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Section of the Technical Association of the Pulp and Paper Industry



AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.



Conducted by W.G. MacNAUGHTON, Secretary

RELATIONSHIP BETWEEN BREAKING STRENGTH AND BURSTING STRENGTH OF PAPER*

A Possible Calibration of the Mullen Tester

By PAUL HOUSTON, ASSOCIATE PHYSICIST, BUREAU OF STANDARDS

I. Introduction

If elongation is considered with respect to both breaking strength and bursting strength of paper, the equation
$$\frac{\text{bursting strength}}{\text{elongation}} = \frac{\text{breaking strength}}{\text{elongation}}$$
 should be nearly correct, provided there is a direct

a Mullen tester. The present study was made to determine this relationship.

II. Apparatus Employed

The apparatus employed for this purpose was a 50 kilogram breaking strength machine and a Mullen tester with an attachment for measuring deflection. The breaking strength machine is fully described in Bureau of Standards Circular No. 107. Jaws were made for this machine to take care of one inch width test specimens. The attachment for the Mullen tester (Fig. 1, consisted of a drum which was geared to the hand wheel. A recording pen was attached to a very small rod in such a way that it could move up or down and describe a curve on a chart which was clamped to the drum. The rod was bent in the center in a small loop. A flat plate was soldered to the bottom of the loop and rested on the surface of the paper in the center of the area to be tested. A thickness gage was also fastened to the Mullen tester in such a way that its pressure foot rested in the small plate. By means of this gage, the chart was calibrated to give readings of deflection at the breaking point of the paper. This calibration is shown in Fig. 2.

III. Test Procedure

Eight lots of paper were obtained from the Government Printing Office. The grades of paper which these lots represented consisted of book, writing, bond, ledger and wrapping paper. Ten representative samples were taken from each grade lot. From each sample two test specimens were cut one inch wide in the machine direction. The machine direction of the paper was taken here because the Mullen break is always across the machine direction fibers.

1. Breaking Strength

Ten tests for breaking strength were made of each grade of paper. A distance of $1\frac{1}{4}$ inches between jaws was used because the diameter of the area of the paper to be tested in the Mullen bursting strength machine was $1\frac{1}{4}$ inches. The lower jaw of the testing machine descended at a speed of six inches per minute. This speed is about the same as the speed of displacement of the Mullen tester piston when the hand wheel is operated at about 120 turns to the minute. The test results were recorded in kilograms and the averages are presented in Table 1.

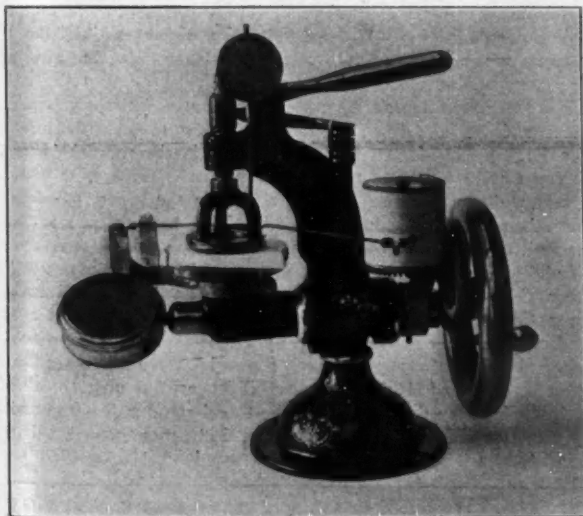


FIG. 1

Photograph of Mullen Tester with Attachment for Measuring Deflection.

relationship between the two strength values. If this relationship exists, it is possible to use the above mentioned equation to calibrate

* By permission of the Acting Director, Bureau of Standards, to be presented before the Sectional Meeting on Paper Testing at the annual convention of TAPPI.

2. Elongation

Elongation readings were taken in millimeters at the same time the breaking strength tests were made. The average results are shown in Table 1.

3. Bursting Strength

Ten tests for bursting strength were also made of each grade of paper. The test results were corrected from the gage corrections and were converted into kilograms. The averages are recorded in Table 1.

4. Elongation

At the same time each bursting strength test was made, the in-

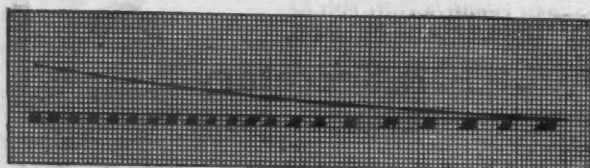


FIG. 2
Diagram of Calibrated Deflection Chart

creasing deflection of the paper was recorded on the chart until the paper broke. Readings of deflection in inches were taken from the charts at the breaking point and were corrected from the gage corrections. Averages were obtained for each grade of paper. By

means of the formula $E = \tan^{-1} \frac{h}{15.875} \left(\frac{8.797}{h} + 0.03491h \right) - 31.75$ the elongation of the paper at breaking point was calculated—

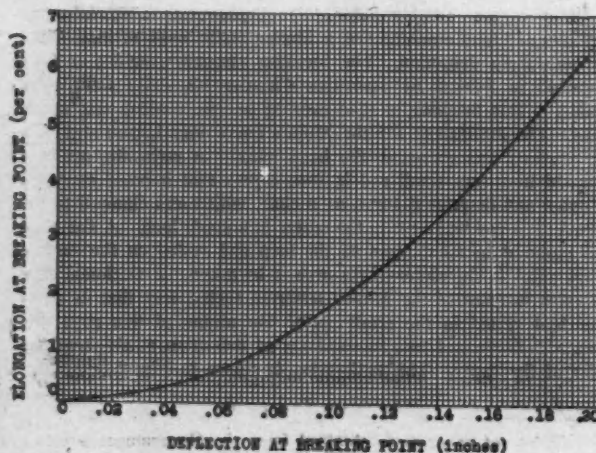


FIG. 3
Diagram Showing Per Cent Elongation for Different Reading

the elongation being the difference between the arc of the great circle whose circumference lay in the paper at instant of burst, and the diameters of the test area before deflection. In the above formula, which follows from geometric and trigonometric theorems, E repre-

sents elongation in millimeters, h represents deflection in millimeters and the value of the \tan^{-1} is taken in degrees. For greater convenience to the calculator a curve, Fig. 3, was plotted to show the per cent elongation for deflections from 0 to 0.20 inches. The average results of elongation are presented in Table 1.

IV. Table of Results

In the following table, the ratios of breaking strength to elongation and bursting strength to elongation are given for each grade of paper. The per cent differences between the two ratios and the mean ratio were figured on the mean as a basis and are also shown in this table.

V. Conclusions

A study of Table 1 will reveal the interesting fact that the per cent variation of ratio of breaking strength to elongation and of ratio of bursting strength to elongation from the mean value is very small for each grade of paper. Since even this small difference can be explained by experimental errors in the initial test readings, it would seem that there is a direct relationship between the two strength values of breaking and bursting, and that the equation $\frac{\text{breaking strength}}{\text{bursting strength}} = \frac{\text{elongation}}{\text{elongation}}$ is correct.

VI. Recommendations

Since only a limited amount of work was done on this study because of lack of time, it is to be recommended that these results be checked by tests on a great number of different grades of paper. It can readily be seen that if these results can be checked, the equation $\frac{\text{breaking strength}}{\text{bursting strength}} = \frac{\text{elongation}}{\text{elongation}}$ might be used as a possible means of calibrating the complete Mullen tester and creating a standard bursting strength machine.

Vocational Education in the Miami Valley

In correspondence with R. S. Kellogg, secretary of the Committee on Vocational Education, E. L. Heusch, supervisor of the Ohio State Board for Vocational Education, reports active interest in paper mill centers not only in foremanship training but also in correspondence courses.

In a letter Mr. Heusch says: "We are contemplating organizing correspondence courses in this state in order to meet the needs of a large group of men who are engaged in the paper industry.

"You may be interested to know that we are meeting with much success with our foreman training classes in the paper industries of southern Ohio. We have one man giving his full time to the instruction in this type of training and thus far we have received splendid co-operation from such firms as the Champion Coated Paper Company, Hamilton, Ohio, and the Gardner and Harvey Paper Company, Middletown, Ohio. We have something like a hundred foremen enrolled in these two plants and our foreman trainer meets them once every week for an hour and a half session.

"However, we feel that the possibilities are so great in this particular industry that we would like to enlarge our program and inaugurate some sort of correspondence instruction in order that the needs of a larger group of workers may be met."

TABLE 1.—A COMPARISON OF THE RATIOS OF BREAKING STRENGTH TO ELONGATION AND BURSTING STRENGTH TO ELONGATION

Identification number	Kind of paper	Breaking strength kg.	Elongation mm.	Bursting strength kg.	Elongation m.m.	Ratio breaking strength to elongation	Ratio bursting strength to elongation	mean ratio	Variation from mean ratio	Per cent variation from mean ratio
52	S. & S. C. Printing.....	5.7	0.54	4.2	0.49	10.55	10.50	10.525	0.025	0.24
53	M. F. Writing.....	8.6	.92	6.1	.67	9.35	9.11	9.236	.120	1.30
54	Fine Writing.....	13.6	1.74	14.2	1.54	8.97	9.23	9.100	.130	1.43
55	Fine Bond.....	15.0	1.70	17.0	1.89	8.83	9.00	8.915	.085	.96
56	Bond.....	12.4	1.32	10.3	1.10	9.40	9.37	9.385	.015	.16
57	Ledger.....	11.9	1.64	10.9	1.49	7.26	7.32	7.290	.030	.41
58	Kraft-Wrapping.....	14.7	.82	10.3	.60	17.93	17.17	17.550	.380	2.17
59	Rope Manila.....	30.9	1.66	21.6	1.29	18.60	18.30	18.450	.150	.08

DETERMINATION OF THE BLEACH REQUIREMENT OF PULP*

BY BJARNE JOHNSEN AND JOHN L. PARSONS, HAMMERMILL PAPER CO., ERIE, PA.

The object of the bleaching of pulp consists in bringing about a definite whiteness through the oxidation of the colored substances without attacking the fibers. An excess of bleach not only denotes a loss in bleaching material but also, in many cases, results in an attack of the fibers. On the other hand, the desired whiteness is not secured if the amount of bleach solution employed is insufficient.

In every mill larger or smaller variations in the bleach requirement occur and only when the bleaching quality of the pulp is exactly known at all times, will it be possible to measure the amount of bleach liquor so that a pulp of definite whiteness can be produced without loss.

Best Known Methods

The best known methods for determining the bleach requirement (Arnot, Wrede, Klemm, Sutermeister) have been compiled by Schwalbe and Sieber¹). Of these, perhaps the method of Klemm has proved to be the most useful as a mill control test but has not been generally adopted, since it requires five hours for completion. In most modern mills it is necessary to know the bleach requirement in a much shorter time.

Bergman² has recently described a similar method. He bleaches several ten gram samples (oven-dry basis) of a pulp, employing a consistency of 3½ per cent, for five hours at 40 deg. cent. with different amounts of bleach solution, of an alkalinity as constant as possible. In every case, at the end of the experiment, a distinct excess of chlorine should be present. The values are then plotted in rectangular co-ordinates with the amounts of consumed chlorine as the abscissas, and the chlorine consumption as the ordinates. Through two of the points is drawn a straight line, the extension of which cuts a line which bisects the angle between the co-ordinate axes. The position of this point of intersection represents the theoretical amount of chlorine required for bleaching. It should be noted that one of the two points must lie near the forty-five degree angle line in the graph. For exact analyses it is recommended that this point be connected to two others and the average of both points of intersection with the bisecting line be computed.

Since the bleach requirement of the pulp to be tested is in most cases not even approximately known, this method necessitates a number of analyses with different quantities of bleach solution in order to secure a good selection of favorably located points. For this reason, the method is likely to be too bothersome for mill control but very useful for scientific investigations.

Method Proposed by Sieber

Recently Sieber³ has proposed a method for the classification of pulps which depends upon the chlorine consumption. This method, which is carefully worked out and appears as a valuable contribution for the characterization of pulps, was also employed by Sieber for the determination of the bleach requirement. We have applied this method to several pulps and compared the results with those which were obtained with other methods. Most of the pulps, which were tested, were of American origin and produced according to the Ritter-Keller process. Sample "H" was a Scandinavian Ritter-Keller pulp and sample "I" a Scandinavian Mitscherlich pulp.

Tingle's Bromine Number

In the course of this investigation, "Tingle's bromine number" or "chlorine factor" determination was used. As is known, this method depends upon the action of bromine on pulp which, for the purpose of bringing about a uniform action, is previously dissolved in a mixture of concentrated sulfuric and hydrochloric acids. It is to be expected that this method will only give reliable results in the hands of an experienced analyst and, for that reason, is not likely to be found in general use as a control of technical operations. Another objection might consist in the fact that the prescribed weight of the sample, 0.75 gram, does not always represent a good average one.

Furthermore, a method was employed in this investigation that was worked out by one of us several years ago in the laboratories of the Hammermill Paper Company. This determination depends upon the action of potassium permanganate on unbleached pulps. Since the reaction is similar to the effect of hypochlorites on pulps, at first an oxidation of the colored constituents, it was assumed that a simple relation existed between the consumption of potassium permanganate and the amount of chlorine required for bleaching. This consumption depends upon the concentration of the solution, the duration of action and the temperature. As a result of several experiments, 250 cc. of n/10 solution to 10 grams of pulp (oven-dry basis) was selected as the working ratio between the permanganate and the pulp. It was determined, furthermore, that during the first 30 minutes, the reaction was very rapid and the consumption of permanganate inside of an hour showed a typical differentiation of pulps. After an hour the reaction was slower. To study the influence of the temperature on the rate of the reaction, experiments were made with pulps of different bleach requirements. The above mentioned strength of solution was employed, the time of action in each case was one hour and the temperature was varied in the different experiments within the limits 20° and 30° C. It became evident that the rate of reaction increased with the temperature: the P. (permanganate) number (see below) increased for each degree Centigrade within the stated limits about 0.013 per unit permanganate number. For instance, if a P. No. of 6.0 at 20° C. was obtained, at 25° C. the P. No. of the same pulp would be $6.0 + 5(6.0)(0.013) = 6.39$. In the following investigation a constant temperature of 25° C. was employed. The method of procedure is as follows:

Ten grams of pulp (on the oven-dry basis) are disintegrated in a small quantity of distilled water contained in a 500 cc. wide-mouthed flask provided with a glass stopper. More distilled water is added, until in all 225 cc. of water are present in the flask (inclusive of the water present in the pulp). The contents are warmed to 25° C. in a water-bath and exactly 25 cc. 1-normal permanganate solution added. The contents are stirred with a large glass rod and allowed to stand with frequent stirring for one hour at 25° C. Then the flask is closed, vigorously shaken, and about 100 cc. of the solution sucked out. From this, 10 cc. are pipetted off and emptied into an erlenmeyer flask, which contains 10 cc. n/10 oxalic acid in about 100 cc. of warm water acidified with sulfuric acid. This solution is then titrated with n/10 permanganate solution. The number of cc. which are required for the titration is called the permanganate number (P. No.).

For hard pulps where the P. No. is greater than 10, it is neces-

*Journ. Ind. Eng. Chem. 14, 1922, page 40. Zellstoff und Papier 11, 1922, page 103.

¹Zellstoff und Papier 11, No. 11, 1922, page 258.

²Die Chemische Betriebskontrolle in der Zellstoff- und Papier-Industrie, 1922, page 210.

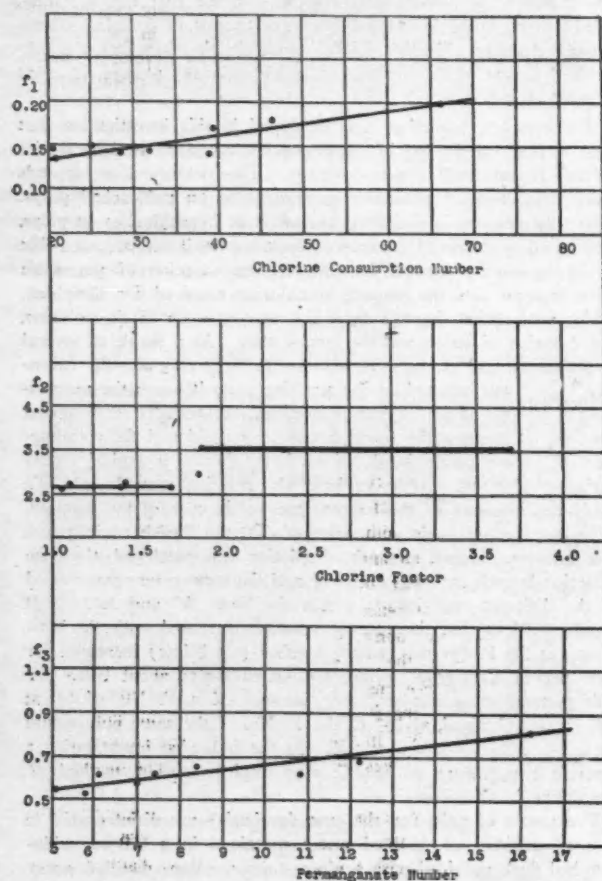
³Pappers-och Travarumtidskrift for Finland, Teknisk Bilaga, 1922, page 19.

⁴Zellstoffchem. Abhdlg. 1, 1920, page 53. Zellstoff und Papier, 1, 1921, page 161; 11, 1922, page 27. Paper, April 6, 1921. Pulp and Paper Magazine, XX, No. 21, 1922, page 435.

sary to use only 5 grams of pulp instead of 10, and to multiply the result by two.

A series of pulps were tested by this method and by those of Sieber and Tingle and the values, so obtained, compared with the chlorine consumption of pulps obtained in separate experiments. The chlorine consumption was determined by bleaching the pulps, with an excess of chloride of lime solution, to definite whiteness which was tested in the following manner: from the bleached and washed pulps, samples were cut and, after drying, were tested for whiteness in a color matching apparatus as described in a report of the Technical Association of the American Pulp & Paper Industry.⁵

It was assumed that sharper readings could be secured if the pulps were not bleached to a snow whiteness, but to the color of the usual bleached and dried commercial pulps. According to our experience, this color corresponds to the 85 per cent white wheel



of our color matching apparatus. The amount of chlorine necessary to obtain this color was determined in the following way:

Ten grams of pulp (on the oven-dry basis), after disintegrating in distilled water, were brought into a 500 cc. wide-mouthed flask provided with a glass stopper. From a clear calcium hypochlorite solution, of known concentration (about 1.75 per cent active chlorine) and alkalinity (7 to 8, according to Sieber's method), a sufficient quantity was measured to allow at the end of the bleaching test an excess of approximately one per cent chlorine (based on the pulp). Distilled water was added so that in all 300 cc. were present. The contents were carefully mixed and the stoppered flask allowed to remain in a waterbath at 35° C. for five hours, with

frequent shaking. Then the solution was filtered and the excess of chlorine determined by titration. After washing the pulp, its color was determined as described previously. In this article, this determination will be termed the "Standard Method."

The results of the tests are summarized in the following table (No. 1).

From the data, so obtained, and the chlorine consumption, a factor can be calculated for each method and each pulp. This factor multiplied by the value obtained in each test should determine the amount of chlorine required for bleaching. These factors are calculated in every case and given in Table 1 (f_1 , f_2 , f_3).

Table No. 1

Method Pulp No.	Standard		Sieber		Tingle		Johnsen	
	% added	Cl. consumed	Cl. C. No.	f_1	Chlorine factor	f_2	P. No.	f_3
F	4.0	2.79	20.9	0.134	1.06	2.63	5.1	0.547
G	4.80	3.03	20.7	0.146	1.11	2.73	5.8	0.522
D	4.70	3.75	25.2	0.149	1.40	2.68	6.1	0.615
A	5.60	4.01	28.5	0.141	1.44	2.78	7.0	0.573
B	5.60	4.58	31.9	0.144	1.70	2.69	7.4	0.619
C	6.50	5.50	38.9	0.141	1.85	2.97	8.4	0.655
E	8.30	6.69	39.3	0.170	1.87	3.58	10.8	0.620
H	9.50	8.30	46.3	0.179	2.35	3.53	12.2	0.680
I	13.50	13.2	66.2	0.199	3.68	3.59	16.2	0.815

It is at once evident that the factor is not a constant value with each method—that it decreases the bleach requirement of the pulp decreases. The factors found for each method were plotted in rectangular co-ordinates (see curve), in which the value for the chlorine consumption number, chlorine factor and permanganate number are recorded on the abscissa, while the calculated factors are represented on the ordinate. It is observed, with the methods of Sieber and Johnsen, that the values for the factors fall very nearly on straight lines, the directions of which are expressed by the following formulas:

$$f_1 = 0.104 + \text{Cl C. No.} (0.00144).$$

$$f_2 = 0.415 + \text{P. No.} (0.025)$$

The amount of chlorine required for bleaching can be computed for any pulp by applying these formulas directly:

$$\% \text{ Cl} = \text{Cl C. No.} [0.104 \pm \text{Cl C. No.} (0.00144)]$$

$$\% \text{ Cl} \pm \text{P. No.} [0.415 + \text{P. No.} (0.025)]$$

The values in Table 2 were obtained by using these formulas.

Table No. 2

Method Pulp No.	Standard Chlorine consumption %	Sieber		Johnsen	
		Calculated amount of chlorine %	Variation from Standard %	Calculated amount of chlorine %	Variation from Standard %
F	2.79	2.80	+0	2.77	+0
G	3.03	2.77	-8.5	3.25	+7.2
D	3.75	3.54	-5.5	3.46	-7.7
A	4.01	4.13	+3.0	4.13	+3.0
B	4.58	4.78	+4.4	4.44	-3.0
C	5.50	6.22	+13.0	5.25	-4.5
E	6.69	6.31	-5.7	7.40	+10.3
H	8.3	7.9	-4.8	8.78	+5.8
I	13.2	13.2	±0	13.2	±0

In several instances the variations in both methods between the calculated amounts of chlorine and the amounts determined by the bleach tests are appreciable. But when it is considered that the investigation includes pulps of very different bleach requirement and different origin, it appears that these two methods will prove to be very valuable for mill control.

Of course it is not possible to directly employ the above given formulas in every mill, for bleaching conditions are very different in different mills. The magnitude of the factor in a given mill depends upon many details in the bleaching process (bleaching apparatus, consistency of the pulp, temperature, nature of the bleach solution, etc.) and upon the whiteness decided for the bleached pulp. It is, however, an easy matter to determine this factor for each mill by carrying out a small number of tests.

The results which were secured by Tingle's method show that the factor to be used does not increase proportionally with the hard-

⁵Paper, November 8, 1916. Sutermeister, Chemistry of Pulp and Paper Making, 1920, page 375.

ness of the pulp, but rather that it is one constant for a series of easy bleaching pulps, and another constant for difficulty bleaching pulps.

This method, however, has not been sufficiently tried out to draw a final conclusion as to its merits. We expect, however, that if the determination of the interesting chlorine factor is carefully developed, it will prove to be a very valuable method in the scientific investigation of pulps.

As previously stated, the permanganate method was developed in the laboratories of the Hammermill Paper Company, and has been employed for four years in that mill as a control test in the mill operations.

Ink Makers and Paper Chemists to Meet

Printing inks and their relation to paper will be featured in addresses and discussions at the next monthly meeting of the Society of Chemical Industry at the Chemists' Club, 52 East Forty-first street, New York, on Friday evening, April 13. The original date of meeting was April 20, but as the Paper Industries Exposition will take place during the week of April 9 to 14, at the Grand Central Palace, with the annual conventions of the national paper trade organizations going on at the same time at the Waldorf-Astoria, it was deemed advisable to hold the S. C. I. meeting a week earlier than usual.

After the reading of papers on the manufacture, composition and uses of printing inks by ink chemists and specialists, the characteristics of printing papers will be described and discussed by representatives of paper manufacturing firms.

The results obtained with different inks on papers of different finishes, coated and uncoated, vary greatly, certain color changes being said to be caused by reactions of the paper with the pigment constituents of the ink. This is the contention of the ink makers, but paper chemists generally deny the existence of any specific reaction of paper to chemicals and treat as a myth the alleged alkaline or acid reactions of paper.

The question of colored inks and the reactions of some colors is an interesting one and it appears to be difficult to get paper manufacturers and ink manufacturers to agree on the nature of some of the changes that take place in the ink after its absorption by paper.

The papers to be presented at the meeting on April 13 include the following:

"The Manufacture and Uses of Printing Inks," by E. H. McLeod, of the Ault & Wiborg Company, New York; "The Fading of Lithographic Inks," by A. C. Chesley, of The American Tobacco Company, Brooklyn; and "Ink and its Relation to Paper and Printing," by Arthur S. Allen, of Philip Ruxton, Inc., New York.

The side of the paper manufacturers will be taken by several paper chemists and engineers, who will elucidate the peculiarities of the various printing papers. Among those who will lead in discussing the qualities of paper are C. Frank Sammet, of Crane & Co., Dalton, Mass.; William G. MacNaughton, secretary of the Technical Association of the Pulp and Paper Industry, and Fred C. Clark, of the Pejepscot Paper Company, Brunswick, Me.

Confer on Wrapping Paper Specifications

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 28, 1923.—The Paper Division of the Federal Specification Board of the Bureau of the Budget had a conference the latter part of last week on wrapping specifications attended by a number of wrapping paper manufacturers. The government officials feel that considerable progress was made at the conference but it is understood that a further conference will be held on the same subject in New York City in the near future. As is well known to the trade this Board is trying to draw up paper specifications which will be agreeable to both the trade and the government.

Crystal Tissue Co. Starts Research Department

[FROM OUR REGULAR CORRESPONDENT]

MIDDLETOWN, Ohio, March 26, 1923.—The Crystal Tissue Company has added H. H. Harrison, of Albany, N. Y., to its staff. Mr. Harrison received his early education at the New York State College for Teachers, later graduating from the Rensselaer Polytechnic Institute, Troy, N. Y., with the degree of Chemical Engineer. He is a member of the Technical Association of the Pulp and Paper Industry and of the American Chemical Society, and during the past few years has been associated with Dr. C. J. West in preparing the Cellulose Section of Chemical Abstracts. He comes to the Crystal Tissue Company from the Arthur D. Little, Inc., of Boston, where he has lately been in charge of the paper department, and is therefore very well qualified to organize and develop a chemical research department for the Crystal Tissue Company.

The management of the Crystal Tissue Company expects this department to be the means of greater efficiency in purchasing and manufacturing methods, as well as an aid in developing new and special papers for the many purposes for which Crystal tissues are so admirably adapted. This department will be at the service of the paper trade and will welcome requests for information that will come within the scope of chemical analysis and research.

A new 140-inch cylinder tissue machine is now being erected in the mills of the Crystal Tissue Company and is expected to be in operation by April 15. Numerous other improvements have been made during the winter, such as replacing three boilers, electrifying a number of machines and rebuilding the present 140-inch machine, in addition to installing the Mathieson system of bleaching by chlorine gas. These improvements have been the means of greatly increasing the production with a corresponding decrease in manufacturing costs. It is a policy of this mill to meet the continued increases in raw material costs by reducing manufacturing costs in the same proportion when at all possible to do so.

L. R. Spencer to Manage Sales of Peshtigo Co.

PESHTIGO, Wis., March 19, 1923.—The Peshtigo Paper Company, announces the appointment of L. R. Spencer as sales manager. The product of this company has been in the hands of The Mead Sales Company, Chicago, but the sales office has been transferred to the mill, and hereafter will be under the direction of Mr. Spencer. Future mail inquiries should be addressed to Peshtigo.

The entire output of the Peshtigo mill will be bleached sulphite papers in machine glazed and machine finish, and it will specialize in waxing papers and bleached whites for conversion purposes. Its sulphite mill is being remodeled with the idea of producing the pulp requisite for its needs, and a high standard and uniformity are assured.

The Yankee machine will run on weights 24 x 36 — 10 lb. and heavier, and the fourdrinier will make 18 lb. and heavier. Both machines trim 120 inches.

Pettebone-Cataract Co. Presents Textbooks

The Pettebone-Cataract Paper Company presented the Public Library of Niagara Falls, N. Y., with the first three volumes of "Manufacture of Pulp and Paper," the set of textbooks being prepared by the Joint Committee for the Vocational Education of the Pulp and Paper Industry.

The librarian reports that they are extremely popular and have been out continually. Readers are calling for the volumes which complete the set and which are still in preparation, covering "The Treatment of Rags and Waste Paper" and "Paper Manufacture." These volumes will be published during the year, Volume IV having been promised for September of this year and Volume V towards the end of the year.

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

Cellulose, Lignin, etc.

Lignin Investigations. Sulphur-Containing Lignin Acids Separated from Sulphite Waste Liquor by Means of Salt. K. H. A. Melander, *Svensk Pappers Tid.*, 24, 377-379, 396-402, 440-442, 461-463 (1921); *Chem. Abs.*, 16, 4342 (Dec. 10, 1922). (Compare Melander, *P. P. M. C.* 20, 814, Sept. 21, 1922).—The author describes experiments carried out for the determination of the molecular weight of compounds extracted from sulphite waste liquor. He concludes that the molecular weight of alpha-lignin-S-acid lies between 650 and 706 and is probably 682, that it is not a multiple of the equivalent weight, and that the molecular weight of sulphur-free alpha-lignin is about 600. The degree of dissociation of alpha-lignin-S-acid and of its sodium salt was determined at various concentrations. Experiments with alpha-lignin-S-acid are also described which show: the sulphur is not attached to an aldehyde group (CHC); SO₂ is present; it is a mixture of similar sulphonic acids in which part of the sulphur is in ester form; the presence of a primary alcohol group (CH₂OH) is indicated. The preparation of vanillic acid, pyrocatechol, protocatechuic acid, and acetic acid from the products precipitated by sodium chloride is described in detail.—A. P.-C.

Constitution of Diamylose and of the Anhydrosugar (Cello-san) which is the Building Unit of Cellulose. P. Karrer and Alex. P. Smirnoff. *Helvetica Chimica Acta* 5, 187-201, (1922). *Paper Tr. Jr.* 75, No. 15, 54-56 (Oct. 12, 1922).—By means of reactions with phosphorus pentabromide on various carbohydrates, formulae are deduced for octaacetylcellobiose, octaacetylmaltose, starch, diamylose, and cello-san. The latter formula shows why 2, 3, 6-trimethylglucose is obtained on hydrolysis of methylated celluloses and that cello-san is not only an anhydride of cellobiose but also of maltose or isomaltose.—A. P.-C.

Cellulose Copper Compounds. K. Hess, E. Messmer and E. Jagla. *Ber.* 55, 2432-2443 (1922); *J. Soc. Chem. Ind.*, 41, 892A (Nov. 30, 1922).—It is shown by interpretation of the effects of copper hydroxide and ammonia on the specific rotation of cellulose in the light of the law of mass action that soluble complex compounds of cellulose probably contain the metal and the carbohydrate in the ratio 1 Cu: 2C₆H₁₀O₅, but that a different multiple of the C₆H₁₀O₅ group is also possible. The isolation of the compound Na₂(C₆H₁₀O₅Cu)₂ formed by the action of caustic soda on a cuprammonium solution of the biose-anhydride from cellulose or by the action of caustic soda and copper hydroxide on cellulose, considerably strengthens the first conception.—A. P.-C.

Raw Materials

Paper Making Materials from India and Nigeria. *Bull. Imp. Inst.* 20, No. 3, 287-292 (1922).—*Talipot palm leaf stalks* from India yield a pulp from which it is possible to prepare a paper of fairly white appearance and good strength. The pulp bleaches with difficulty and requires a relatively large quantity of bleach. It is doubtful whether the manufacture of white paper from the stalks would be remunerative. Trials with *betel nut husks* from India indicate that they are not a very suitable material for paper making and that they could only be employed in conjunction with longer-fibered materials for the production of low grade brown papers and boards. Their utilization in this manner does not appear promising. *Nigerian elephant grass* is a satisfactory material for paper making, but it would not be remunerative to export it to the United Kingdom. It could, however, be utilized in Nigeria for the production of half-stuff for export.—A. P.-C.

Digestion of Typha Domingensis. Emil Heuser and Jan

Haugerod. *Papierfabr.* 20, 255-262 (March 5, 1922). Translation by C. J. West in *Paper Tr. Jr.*, 75, No. 1, 32, 34, 36 (July 6, 1922). See *P. P. M. C.* 20, 500 (June 15, 1922). (*P. T. J.* 74, No. 25, June 22, 1922).—A. P.-C.

Wood as a Raw Material for the Manufacture of Paper.—Eng. Hoyer. *Papierfabr.* 21, 17-21 (Jan. 14, 1923).—General information, especially regarding economy and paper-making qualities, are given for the following woods: spruce (*Picea excelsa*), Scotch fir (*Pinus sylvestris*), fir (*Abies pectinata*), larch (*Larix europaea*), aspen (*Populus tremula*), birch (*Betula alba*), beech (*Fagus sylvatica*), linden, oak, and alder. Weights per cubic meter of certain woods and their ash contents are tabulated. Wood grown in northern countries or at high altitudes are preferable for paper-making on account of their superior quality fibers. The average length of summer wood fibers is given as 3.5-4.5 mm., width of fiber 0.03-0.06 mm., fiber wall thickens 0.002-0.003 mm.; the corresponding values for spring wood fibers are 2.5-3.5 mm., 0.015-0.03 mm., and 0.005-0.008 mm.—J. L. P.

Production of Material Suitable for Spinning from Disintegrated Birds' Feathers.—Martin Jonas. Ger. patent 364,567. *Papierfabr.* 21, 14 (Jan. 14, 1923). Feathers which have been treated to remove all hard parts are added to beaten pulp, with or without an agglutinant, forming a very uniform mixture. This can be used on the paper machine for making spinning paper or spinning paper strips, or employed directly for the manufacture of spinning thread.—J. L. P.

Production of Paper Stock from the Papyrus Plant.—H. Steinhiller, Ger. patent 365,571. *Papierfabr.* 21, 13 (Jan. 7, 1923). The process consists in treating the papyrus plant, prepared by boiling or retting, to a mechanical squeezing action, as by beating or rolling, and a simultaneous washing with water to free it from pith. The remaining fiber bundles are disintegrated in a mechanical way.—J. L. P.

Removal of Resin, Fat, Wax, Etc., from Plant Materials, Especially Wood and Wood Pulps.—C. G. Schwalbe, Ger. patent 366,205. *Papierfabr.* 21, 28-29 (Jan. 14, 1923). The process consists in subjecting not only the extraction liquid but also the materials to be extracted to a continuous or intermittent motion, accomplished by rollers or similar devices which also expose fresh surfaces of the material to the solvent.—J. L. P.

Sulphite Process—By-Products

Sulphite Waste Liquors.—I. I. Chramtsoff. *Bumasnoia Pro-myshlenost*, 1, No. 1, 39-54 (July and Aug., 1922). The processes and chemical reactions taking place in the production of chemical wood pulp are discussed. Analyses of the woods and of the resulting products under different conditions of cooking are given. The by-products and their utilization are discussed. The question of disposal of waste waters is dealt with. Numerous data, original and quoted, are presented.—M. C.

Sulphite Alcohol.—Henri du Boistesselin. *Mon. Sci.* (5), 12, 97-105 (May, 1922). After a brief historical sketch of the development of the sulphite alcohol industry and discussion of the causes which have prevented its development in France, the author describes the Swedish process (Wallin and Ekstrom, and Landmark) as it is actually being worked, and the American processes (Marchand, MacKee) which are not yet being worked commercially.—A. P. C.

Removal of Waste Liquor from Sulphite Pulp Digesters.—W. Nicolai and Co., and A. D. J. Kuhn. Ger. patent 830,108. *Papierfabr.* 21, 29 (Jan. 14, 1923). A perforated metal cylinder

is inserted at the bottom of the digester with a side relief for the waste liquor.—J. L. P.

Drying Sulphite Waste Liquor for Making into a Binder.—C. Ellis. Can. patent 226,306, (Nov. 21, 1922). The liquor (partially neutralized if desired) is evaporated to about 30° Bé and is then further concentrated to a practically dry powder by atomizing in an atmosphere containing a small quantity of oxygen. It is claimed that the resulting pulverulent product is easily soluble in water and is quite stable in the dry form.—A. P.-C.

Sulphate Process—By-Product

The Causticizing System in the Soda Mill.—J. E. Mount. *Paper Tr. Jr.*, 75, No. 17, 61-63 (Oct. 26, 1922).—A discussion of the value of the drum filter and of the continuous causticizer as applied to the soda liquor room, with a brief mention of other places in the mill where the drum filter might be used to equal advantage (washing brown stock, bleacher stock, and black ash).—A. P.-C.

Liquor Evaporators for Sulphate Mills.—O. Olsson. *Svensk Pappers Tid.* 25, 29 (1922); *Chem. Abs.* 16, 4060 (Nov. 20, 1922).—Modern plants use 25 per cent less fuel than the older types. With the proper use of waste heat a Kestner apparatus should have an efficiency of 85 per cent to 90 per cent. Coupling pulp mills with saw mills eliminate expense of preparing chips.—A. P.-C.

The Removal of the Odors in Sulphate Pulp Mills.—C. G. Schwalbe. *Zellstoff u. Papier* 2, 175-178 (1922). *Paper Tr. Jr.* 75, No. 21, 51-52 (Nov. 23, 1922). A discussion of the formation of malodorous substances in the manufacture of sulphate pulp, with a description of the author's process (Ger. patent 319,594) for eliminating them.—A. P.-C.

Removal of the Odors from Soda Pulp Mills.—C. G. Schwalbe. Ger. patent 366,419. *Papierfabr.* 21, 29 (Jan. 14, 1923).—The patent covers the use of charcoal, animal charcoal, lignite, peat and other porous coals for the removal of bad odors in the waste gases from soda pulp mills.—J. L. P.

Obtaining Light Oils from Wood Tar, Resin Oil, etc.—*Svensk Pappers Tid.* 25, 82-83 (1922); *Chem. Abs.* 16, 4339 (Dec. 10, 1922). To facilitate the separation of the light oils and other volatile constituents from wood tar and to obviate their decomposition when volatilized from large quantities of heated liquor, Petterson utilizes two fire boxes with smoke passages which will allow the gases to go entirely through either or partly through each. Raw material is fed by separate pipes from an overhead reservoir to separate vaporizers of spiral form as shown in two detailed diagrams.—A. P.-C.

Evaporation of Waste Liquors from Pulp Mills.—K. L. Thunholm. *Svensk Pappers Tid.* 25, 231-235 (1922); *Chem. Abs.* 16, 4345 (Dec. 10, 1922). The dry substances in waste liquors contain much latent heat which can be utilized if the accompanying water is separated. Raising the temperature in the evaporators to 125° to 175° and using the heat of the vapor to dry pulp lowers the usual 35 per cent loss of heat and also the amount of water left in the residue. The author has devised a circular chamber with steam heated shelves around the sides; liquor is run on the upper shelves from which it overflows to successive lower shelves supplied with constantly moving scrapers. Detailed figures on cost saving show that this apparatus will save for Swedish mills more than the cost of storage and transportation of coal at pre-war prices.—A. P.-C.

Mechanical Process Patents

Magazine Grinder.—J. J. Warren. Can. patent 225,541, Oct. 31, 1922. The lower end of the magazine is slightly smaller than the upper. The feed chains are provided with spurs to grip the logs and drive them down positively, and means are provided for adjusting the lateral pressure of the chains against the mass of logs. The lower end of the magazine is provided with an adjustable

pocket which can be lowered to compensate for the inevitable wear of the stone. The water required for grinding is supplied at the top of the magazine which causes it to be preheated before reaching the hot stone, softens the wood, and prevents the loss of the sensible heat of the vapor rising from the stone. Means are provided for cooling the shaft between the stone and bearings to prevent the latter from becoming overheated and melting.—A. P.-C.

Controlling the Pressure in Grinder Pockets.—W. Thaler. Can. patent 225,447, Oct. 31, 1922. Same as Fr. patent 532,702. See *J. M. Voith, P. P. M. C.* 20, 634, July 27, 1922.—A. P.-C.

Method of and Apparatus for Feeding Wood to Magazine Grinders.—P. Priem. Can. patent 225,053, Oct. 24, 1922. In order to obtain an even pressure of the wood over the whole surface of the stone; i. e., as great in the center as at the sides where the wood is in direct contact with the feeding devices, the lateral pressure of the latter against the mass of wood is suitably increased. This may be obtained (1) By driving the feed chains at different speeds, the upper chains being driven at a faster speed than the lower ones; (2) By reducing the diameter of the hopper adjacent the stone in the area in which the feed devices work, by means of pressure plates working by compressed air or water or by means of springs; (3) By curving the lower portion of the hopper; (4) By equipping the feed chains with wedges which, during their working travel, gradually vary their inclination from a downwardly angled position to a more nearly horizontal one.—A. P.-C.

Grindstone Dresser.—W. P. Aikin. Can. patent 224,964, Oct. 24, 1922. The burr is provided with pyramidal grinding teeth, the apexes of which conform to a cylinder, and with ribs extending radially beyond the teeth to form the leads on the stone.—A. P.-C.

Grinding Stone for Wood Grinder.—Gottlieb Hohmann. Ger. patent 358,568. *Wochbl. Papierfabr.* 54,171 (Jan. 20, 1923). This invention is concerned with an arrangement for fastening and removing the stones from the shaft.—I. G.

Miami Paper Co. Makes Waste Test

WASHINGTON, D. C., March 28, 1923.—A test has just been completed by the Paper Division of the Bureau of Standards in co-operation with the Waste Committee of the Technical Association of the Pulp and Paper Industry at the Miami Paper Company in connection with the study of clay retention and white water losses.

A large amount of valuable data were obtained, it is understood, during the seven hours run on a 120 inch machine making book paper and the result of the test are considered very successful. In this test, not only was the retention of the clay filler being investigated, but also the efficiency of a recovery or saveall system for fiber, filler and water. By means of the active cooperation of the technical men and the mill operatives, a practically complete set of hourly samples and readings were obtained. These data will make it possible, the bureau experts say, to determine the amount of fiber, filler and water used over again and the final loss to the sewer.

TAPPI Invited to Woodland Meetings

Members of the Technical Association are invited to attend the sessions of the Woodlands Section to be held the morning and afternoon of Wednesday, April 11, 1923. At the morning session one of the papers of interest to chemical pulp men is "Weight of Wood in Pulp Manufacture," by Bertram S. Summers, Port Huron Sulphite Company, Port Huron, Mich., who is well known to many of the members. In the afternoon the subject "Pulpwood Decay as Affecting Pulp Production" will be discussed by R. H. Nisbet, Price Bros. & Co., Ltd., and John E. Alexander, Nekoosa-Edwards Paper Company, Inc.

TAPPI

Conference Notice

TECHNICAL ASSOCIATION
OF THE
PULP AND PAPER INDUSTRY

18 East Forty-First Street, New York
Phone, Murray Hill 3170

A Big Day!

THE TECHNICAL MEN OF THE PULP AND PAPER INDUSTRY are to have a day all to themselves at the First Paper Industries Exposition, at the Grand Central Palace, Lexington Avenue and Forty-seventh Street, New York. Big events of the day will include

An Open Meeting in the Conference Hall

With papers and discussions as follows:

- "Frictionless Bearings," by G. H. Spencer.
- "Cleaning Papermaking Felts," by Prof. G. B. Haven, Textile School, Massachusetts Institute of Technology.
- "Lubrication in Pulp and Paper Mills," by A. A. Capelle.
- "Rosin and Rosin Size," by R. G. Best.

Remember

The DAY **Thursday**
 The DATE **April 12, 1923**
 The TIME **2:30 P. M.**
 The PLACE **Conference Hall,
 Grand Central Palace**

**KEEP
THIS DATE
OPEN**

**THURSDAY
APRIL
12**

Section of the COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with
THE AMERICAN PAPER AND PULP ASSOCIATION
Conducted by **THOS. J. BURKE, C.A., Sec-Treas**

EXECUTIVE CONTROL OVER STEAM COSTS

BY STERRY HUNT CHILDS, B. S., CHEM. E.*

Executives and engineers are earnestly requested to read this article as well as cost men. Mr. Childs kindly consented to write a series of articles on the important subject of "Steam Costs," with which he has had considerable experience, at my special request. This request was made because I feel convinced this is one of the cost items in which many pulp and paper mills can make considerable savings. The subject will undoubtedly repay study of its intricacies as Mr. Childs' clever article clearly indicates. I shall be glad to receive comments on these articles.

T. J. BURKE.

The steam plant in a paper mill is usually the most expensive department of all to run, and a much larger percentage of its total cost is open to control than is the case in any other department. This has not always been so, and many busy executives do not realize it today. The things that are worthy of executive attention, are those that cost a lot of money, and that will also respond to the superior effort of the directing brains of the concern. The rising costs of coal, labor, steam and power equipment, and repairs, have rather suddenly raised the matter of generation and consumption of steam to a position second to none on the score of total cost and response to intelligent study.

Able to Handle Cheapest Grades of Coal

As an example of this, mills that put in the most efficient steam generating apparatus some years ago gained much of their advantage through their ability to handle the cheapest grades of coal that older plants would not use at all. In these same plants today the savings lie in the opposite direction. Freight is now the biggest element in coal costs, and the coal strike has completely demoralized quality. The result is that many concerns are paying seven or eight dollars a ton for pulverized slate and coal refuse, when they could get a coal of 25 per cent better quality for 50 cents or \$1 more per ton. The freight is the same and the only extra cost is at the mine. Such changes not only save coal, they also save labor with that much less volume of coal to handle, and they save production through dependable steam generation.

It would not take an executive long to decide a question like this if it were presented to him simply, and in dollars and cent. Unfortunately most executives have been unable to get this sort of information—they hear the complaints, as always, about the rotten quality of the coal, and their chief impression in regard to cost is not as to what they get for the money, but that even the cheapest of coals has become unreasonably high.

* With Scovell, Wellington & Co., Accountants and Engineers, New York City.

This example is but one of many, wherein the executive is at a disadvantage. The reasons for this, and the solution, involves four major considerations. It so happens that our firm is primarily concerned in the reconciliation of these four aspects of manufacturing problems and it is as a result of the particular and immediate usefulness of such work in one paper mill after another that this article has been inspired.

From the Dollars and Cents Viewpoint

The first consideration is that an executive is looking at things from the dollars and cents viewpoint. Those things are important to him that concern money outlay and that will result in appreciable profit. Most executives are neither steam experts nor accountants, and must ordinarily do without any information in regard to their steam plants on which they can start constructive action.

The second consideration is that, with such basis for action as an executive may have, he is at a loss to know whether it will be really worth while to investigate the problem, as he has even more meagre data on what is a reasonable standard for mills similar to his. The ordinary exchange of information between executives, when done on a dollars and cents basis, usually results in bewilderment or a false sense of security—the dollars are an expression of so many things that may have been added or omitted. This problem in particular has been greatly clarified for many executives by explaining in essential detail just what his own figures meant in comparison with reasonably good practice in similar mills.

Lack of Engineering Knowledge

The third consideration is that the facts have been obscured from the executive through the lack of engineering knowledge on the part of his cost men. It is through them that factory events are translated into dollars, and such illumination as has fallen on the transformation has been directed to the so-called productive departments. The effect of varying speeds has in general been made understandable by the cost calculations, but the effect of wide variations in steam generation or consumption has been completely buried in a sweeping distribution of a total expense by means of rough and unvarying percentages. If a cost clerk should charge the wages of twenty men against a department that never saw them, the executive would be the first to grasp the effect of this on the cost of the product going through such a department, and by the same token a good executive would detect in short order the presence of as many extra individuals in inspecting another mill. The difference between reasonable steam costs and those charges to de-

parements for steam now arbitrarily made in many plants are as much as this and often more, but the executive fails to appreciate the facts because the records merely show that the total cost has been disposed of—and some cost men appear to be satisfied if this has been accomplished.

Reliable and Useful Guides

The fourth consideration is that there is often presented to the executive a collection of B. t. u.'s, kilowatts and power factors, evaporation from and at 212 degrees, etc. To one who has time to find out what all this means the data will prove one of the most reliable and useful guides available. The executive is interested, however, in those things that matter in dollars and cents, and so far the engineers have not been altogether successful in "getting their story across" in this form. The executive cannot be sure, therefore, whether the engineers are concerned with some problem involving several thousand dollars of possible savings, or whether they are trying to save \$1,000 per year by investing \$50,000 in new equipment. This unfamiliarity with the chief medium of executive thought (dollars and cents) has in many cases led the engineer into conclusions positively in error with results worse than no conclusions at all would have been. Many technically untrained mill engineers have never stopped to figure out, for example, that it is not steam power that is costly but steam heat. Of the \$100 worth of heat that has been put into your steam at the boiler house about \$90 worth is still in it after it has left the engine and has produced all the power it is practically capable of. What you do with that \$90 worth remaining is quickly evident in the bank balance, and yet many engineers assume that the power they got cost them \$100 and the exhaust steam is a mere by-product, the use of which for heating purposes in winter is the same as extra income, which you just have to forego in summer.

The Converse Proposition

Conversely, when the engineer is worried about steam for drying or process heating, it seems almost a waste of time to put it through an engine first, and yet an engine under such circumstances will generate power for a lower cost per horsepower than a public service company can make it from water power, and for a third of what the most efficient steam power station can make it for sale. The most extreme example of low power cost is in the case where the equipment already exists and is underloaded. A 400 kilowatt generator running at 200 kilowatts load, can double its power output for an unbelievably small cost, all that is needed is to burn about 50 pounds of coal more per hour in addition to the 6,000 pounds per hour which a medium sized plant would ordinarily burn, the other expenses are not affected, and the engine itself runs at increased efficiency. This is of course a special case, and the solution depends on using the exhaust steam to take the place of live steam or exhaust otherwise needed, and also a use of the extra power. The action to be taken depends on the particular circumstances involved, but correct facts are essential first, and in a similar case in the plant of one client we found that the engineer had presented a report showing that the production of additional power would cost more than the same power could be purchased for from a steam generated lighting company plant.

Steam Costs Per Pound of Paper

Steam costs per pound of paper do not vary greatly as between efficient mills making different products. While there will be some difference in cost between mills running large orders with few changes on the machines and those running many small orders with variations in speeds and furnishes, the differences are much less than they are commonly supposed to be. For example, we have found the steam costs in both tissue and heavy board mills to vary from \$8 to \$15 per ton of product, yet upon analyzing the situation in each mill, we found that practically all the differences were due to the varying efficiencies in production and use of steam and not to the difference in the products. Also, broadly speaking, the kind of

system used, whether one of live steam or electric power, turbine power, engines, all with or without superheat, does not affect the general average. One mill operated efficiently with a system suited to its needs will obtain results very similar to another efficient mill using a different system.

Between mills making exactly the same product there are great variations, however, so great as to exceed many times the variance between dissimilar mills. These differences arise in the efficiency of steam generation, of consumption, and in the degree with which their mechanical system is fitted to their needs. In the matter of paper drying cost alone, the steam cost per ton will run from \$5 to \$12. This variation has little or nothing to do with weight of paper, speed, or steam source, but it depends upon the degree of success of each mill in maintaining a proper percentage of moisture at the wet end of the dryers, keeping the dryers full of steam, and not water, and not putting through a lot more steam than has time to do some useful work.

Three Phases to Be Considered

Having in mind this general situation among paper mills, each executive may consider his own particular problems in three phases: First, to find out where he stands, in relation to the results that others are getting; second, to find out quickly and economically what is wrong if the results are unsatisfactory, and third, to devise, at reasonable expense, means for controlling steam costs in the future. The latter two phases can be taken up to better advantage in subsequent articles, and our chief concern here is to emphasize to each paper mill executive the importance of finding out whether the steam costs in his own mill are reasonable.

The problem here is to express in direct terms the effect on cost and on the bank balance, of the two distinct matters of steam generation and distribution. It is the combination of the two that has made the problem difficult, as the engineer has been interested in the generation and the cost man in the distribution. When properly translated, the combination of the two is the best means for checking the facts. There is no great difficulty in determining the total cost of operating any steam plant, especially over a period of a year, which is the maximum length of time that any executive allows things to go on before figuring up his profits and finding out the general progress of the business. In the course of this calculation, the total tons of coal burned per year can be closely approximated. With this as a basis the pounds of steam made can be assumed for operation at reasonable efficiency. With this total production of steam to tie up to, the steam required for the various operations is next figured. While this calculation may appear to be a wild guess, the facts of the matter are that, if each steam consuming unit is considered alone, none of them can vary much if reasonable good practice is assumed. Some items like steam for power can be estimated very closely, others like steam for drying can be assumed with all the accuracy needed when translated into dollars and cents, and the only things that are very uncertain are those processes, like cooking stock or heating beater water, in which live steam is used intermittently, and even these can be calculated at what they ought to require.

Some Interesting Conclusions

When the steam required for consumption is compared with that which should be generated, some interesting conclusions can be made almost at once if the difference is of consequence. As a rule the steam produced exceeds that which should be needed, and in many plants the mere comparison of the two totals indicates that something is radically wrong. For example, a mill using eight pounds of steam to dry a pound of paper will show a steam generation of some 40 per cent over the amount one would expect in making 20,000 tons of paper per year.

In thus balancing the steam which should be generated by the quantity of coal actually burned, against the steam which should be used to produce the paper actually made, the difference can only be due to two things, either the consumption is too large or else the

boiler plant efficiency is too low. The fact that an excessive consumption often forces the boiler plant to its utmost tends to make the generation of steam fairly efficient and many mills are losing thousands of dollars yearly because they feel secure in their knowledge that their steam plant is functioning perfectly.

Where the Losses Occur

In making an analysis of your steam situation along the above lines, it is evident that one cannot tell decisively where the losses occur, although it is surprising what a brief inspection with such an object in mind will suggest. The determination of just where the losses are will be discussed in a later article. For the present we are interested in finding out whether they probably exist, and this can certainly be done by the method suggested. Those who are skeptical of the possibility of making such estimates come within the bounds of usefulness, will be interested to know that in one plant, when such estimates were used for a year, and the total steam production calculated from the assumed consumption per hour for the engines, etc., and per pound for drying operations, the grand total was within 1 per cent of the amount recorded by the boiler meter.

Such accuracy as this is obviously more than can be relied upon in every mill, as variations in heating requirements alone will exceed this in different years. Incidentally, the amount of steam required for heating is a very hard thing to put your finger on, and about the only guide is actual results from many plants. It is interesting to note that items such as heat can be estimated more accurately as regards their yearly cost as applied to the product, than they can ever be measured. One could take meter readings for 360 days and get a different rate each day, but when it comes down to the final analysis, any given plant, disregarding possible improvements in heating methods, will cost just about so much per year to heat and this will not vary enough to appreciably affect the cost of production.

Some Examples

To show in dollars and cents the possible savings from a comparatively brief but thoughtful study of the money put into steam, the following examples will explain how important matters may be overlooked because they involve small percentage variations. In the case of drying paper, the percentage of moisture is a question of major importance because the drying operations is nothing more than the evaporation of so much water from the paper. In other words if the paper goes on the dryers 33 per cent dry, two pounds of water must be evaporated for each pound of product made by the machine. If the paper is 25 per cent dry, it means that three pounds of water must be driven off per pound of product. Thus for a drop of 8 per cent in the percentage of dryness, the steam required has gone up 50 per cent. In a mill making 10,000 tons of paper a year, this 8 per cent difference would add about 2,500 tons of coal per year, and at \$6.50 per ton this would mean \$16,250, to say nothing of the increased labor and operating expense in the steam plant.

Taking the efficiency of the drying operation as a whole, it is affected by both the percentage of dryness at the wet end, and also by conditions in the dry cans themselves. If 100 per cent efficiency be assumed when it takes four pounds of steam to dry a pound of paper (not the best possible practice, but a round figure for illustration), an efficiency of 90 per cent would indicate the use of about 4.44 pounds of steam. This is an increase of 11 per cent in consumption for a drop of 10 per cent in efficiency. In a mill making 10,000 tons per year, the coal required for the drying alone at the 100 per cent rate would amount to about \$32,500 at \$6.50 per ton. Dropping to 90 per cent will increase the coal cost \$3,575. When the efficiency of this operation drops to 50 per cent, as in some mills, the consumption goes up to eight pounds of steam per pound of paper, and the coal bill is \$32,500 more than it should be. Here is a change in efficiency of 40 per cent, as between 90 per cent and 50 per cent means over nine times as great a loss.

In the steam plant itself, it is possible to extract about 80 per cent of the heat in the coal, and put it into steam. As a rule good

results in actual practice will show about 70 per cent when the steam plant is well run, but does not have expert attention. Under ordinary operating conditions where the steam plant is left to the direction of the fireman, an efficiency of 65 per cent may be expected of a first class fireman. This drop of 5 per cent results in increased coal consumption of nearly 7.7 per cent, and in a mill making 10,000 tons of paper, this would cost about \$5,000 per year more. Mills in which the steam plant is left to ordinary firemen to manage usually show efficiencies ranging from 60 per cent down to 50 per cent or lower. The latter figure is but 20 per cent below good practice, and yet it results in increased coal consumption that is 40 per cent greater, and costs \$26,000 per year more. This is over five times the loss occasioned by running at 65 per cent instead of 70 per cent. It should be noted that these last figures apply to steam generation only, and are not only in addition to those due to excessive consumption in the mill, but that the money loss in the generation is increased in proportion by the excessive consumption.

Applying a combination of the examples given above, if a 10,000-ton mill is generating steam at 70 per cent efficiency, and drying paper at the 100 per cent rate of efficiency assumed above, it would use approximately 10,000 tons of coal at a cost of \$65,000. If the drying operation alone drops to 50 per cent efficiency, without regard to other consumption losses which may exist, it will add 5,000 tons more coal, which will come to \$32,500 extra. If the steam generation is but 50 per cent efficient, it will now affect the results from 15,000 tons on a 70 per cent basis, and add 6,000 tons to this, which is \$39,000 more. This is a total combined loss of \$71,500, to which must be added a good bit more for labor of handling the extra coal and various other expenses of operation.

Keeping in Contact with Engineering Data

These examples emphasize the importance of considering the details of operation from the dollars and cents viewpoint in such a way as to keep a close contact with the engineering data. It is very doubtful if such substantial losses, even as are indicated above, could be fully grasped by either the engineer or the accountant working with the tools of his own profession alone, nor are such losses apparent on an ordinary inspection of the machinery, especially when the losses are fairly evenly apportioned over everything, as is usually the case. The executive cannot look at a boiler and tell that it is using 55 pounds of coal per minute when it should be using but 50, nor can he look at a paper machine and detect that it is taking eight pounds of steam to dry the paper when it should take but four. Neither can the engineer tell by either inspection or occasional tests where the steam money is going. The boilers may be running perfectly when he checks them up, or he may find losses which he corrects at the moment, only to have them develop again as soon as his back is turned. At the same time the cost man, if he takes the interest he should in this problem, can only compare total costs with those for similar mills, or more generally can only show that the total costs, if they include abnormal steam losses, do not give a satisfactory margin of profit at the prevailing market price for which the product can be sold.

None of these things answer the problem with any satisfaction; what is needed is the determination of the engineering data on the basis of actual operation measured day in and day out, the translation of this into dollars and cents, and then the comparison with good standards. Such a combination is practical, it applies to a substantial period of time rather than conditions at any particular moment, and it gives the executive the whole story in his own language of the effect on the dollars and cents of net profits.

Ask Decrease in Tariff on Casein

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 28, 1923.—The United States Tariff Commission announced on Monday that the Martin Cantine Company, of Saugerties, N. Y., and other coated paper manufacturers have filed an application asking for a decrease in the rate on casein under paragraph 19.

Paper Mills in Japan Suffer From Competition

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 26, 1923.—The great paper industry that grew up in Japan during the war has failed to hold its own since European and American manufacturers have resumed competition for the world's market, according to an article in a recent issue of *Eastern Commerce* forwarded to the Department of Commerce by the American Consul at Yokohama. The Consul continues:

Export trade has diminished to less than one-fifth, and, in spite of a high protective tariff, the manufacturers are losing the home market to some extent, as imports are increasing rapidly.

The Osaka Asahi, in reviewing the slump, says that many of the paper companies have gone into bankruptcy, or at least suspended operations. The Dai Nippon Paper Manufacturing Company, with a capital of \$1,225,000 paid up, out of \$4,900,000, the Kanegafuchi Paper Company, capital, \$490,000, the Chugai Paper Company, capital, \$490,000, and the Taiyo Paper Company, capital, \$490,000, have closed their mills, while many strawboard and wrapping-paper manufacturing companies in Echigo Province have failed. The Bakan Paper Manufacturing Company, which has been doing steady business, has also been compelled to close down. Even old and large paper companies are obliged to devise measures to tide over their difficulties.

In 1917 and 1918 the height of the boom was reached. At that time imports from foreign countries showed a great decrease, while the trade was very active. The South Sea Islands and the Straits Settlements, which had previously been supplied by England, Germany, and Norway, were almost monopolized by the Japanese goods. But when Europe began exporting again, these markets were gradually lost to Japan.

Since the war, exports of paper from Japan have decreased to less than 20 per cent of what they were during the boom years. In 1921 exports of Japanese paper amounted in value to \$9,475,000 converting the yen at the approximate value of \$0.50 for 1921 and 1922, while the shipments in 1922 decreased further to \$8,070,500. On the other hand, the value of paper imported into Japan rose from \$6,222,500 in 1921 to \$9,502,500 in 1922—an increase of \$3,280,000.

Japanese exports of paper during the past year have been limited to printing paper, rice paper, gampi (a thin paper), tissue paper, torinoko paper, and others which are special products of this country. Exports of printing paper of superior quality have entirely ceased, being unable to compete with foreign goods.

Imports into Japan consist of art paper, colored paper, wrapping match paper, strawboard, and other goods—all of which can be produced in this country. The imports came from England, North America, Sweden, Germany, Norway, Canada, Belgium, and France. Because of these imports, the Japanese manufacturers have been compelled to lower their prices.

The production of wood pulp by the Japanese companies is inclined to exceed the demand of the paper-manufacturing companies. In an effort to keep up prices, the pulp manufacturers organized a trust for joint selling and limiting output by inducing the Amur Wood Pulp Manufacturing Company to stop operations, giving it compensation. Nevertheless, foreign goods, despite the tariff, have found a market in Japan. Imports show a rapid increase from \$4,411,000 in 1921 to \$5,876,500 in 1922.

In spite of the limitation of output, the pulp produced in Japan has actually increased during the last year, amounting to 518,696,000 pounds for the first 10 months of 1922. If the output for November and December is added, the total for the year may amount to over 600,000,000 pounds. Therefore, although the demand has shown a considerable increase, the stocks remaining in the hands of wholesale merchants and paper-manufacturing companies have increased amazingly and the quotation tends to decline rapidly.

The stock of wood pulp remaining in the market amounts to about 100,000,000 pounds. Negotiations for export to America and India are in progress. If the pulp can be shipped from Kobe or Yokohama at the price of 5.5 or 5.6 sen (about \$0.0275 to \$0.028), it may be able to compete against European goods in the American market.

Measuring Paper Thickness

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 26, 1923.—Thickness is an important factor in determining the suitability of paper for many purposes and it is usually specified by concerns using paper in large quantities, according to the Paper Division of the Bureau of Standards in connection with experiments which have been carried on. Ordinary printing and writing papers have specified thicknesses varying from 0.002 to 0.005 inch. If paper 0.0025 inch thick is specified and the paper furnished averages 0.0030 inch, the difference 0.0005 represents an error of 2 per cent. It will thus be apparent that instruments used for measuring thickness must be accurate and, because of the number of types and makes of dial micrometers used for determining the thickness of paper, it is not surprising that disputes frequently arise between the paper manufacturer or the jobber and the customer.

The instruments generally used for measuring the thickness of paper are of the type known as dial micrometers. A study of dial micrometers in commercial use showed a wide range in design, in the size and weights of the moving parts, and in the pressures impressed on the paper by the plunger contact, these pressures varying from two to forty-three pounds per square inch. To determine the effect of such variations in contact pressure upon the thickness readings, several grades of paper were measured with each instrument. It was found that with certain grades and thicknesses of paper the difference in readings with commercial instruments could be as great as 0.001 inch, owing to the difference in contact pressure alone.

A test was also made of the compressibility of paper using three areas of contact and a wide range of contact pressures. The results show that to obtain consistent values in measuring the thickness of paper, a uniform shape and area of contact pressure must be used.

America Is Big Customer for Swedish Pulp

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 26, 1923.—The Swedish Economic Review calls attention to the extraordinary advance of the United States as a consumer of wood pulp. Exports of this product are chiefly to the United States, England, and France, the United States and England each taking nearly one-third of the total amount exported. If value is taken into consideration instead of weight, America's position is predominant, since the shipments to this country are mainly chemical pulp, the price of which is about twice that of mechanical pulp which forms a considerable part of the English imports.

Buys Fischel Paper Co. at Albany

ALBANY, N. Y., March 26, 1923.—The William H. Smith Paper Company, which has been operating at 29 Green street, has purchased the stock and good will, trademarks and watermarks of the Fischel Paper Company.

William H. Smith, president of the company, was formerly employed by the Fischel Paper Company, but two years and nine months ago he went into business for himself.

The concern will be continued as the W. H. Smith Paper Corporation, at 121 Hudson avenue, with Mr. Smith as president and William McCredie, treasurer.

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PRODUCTION OF WOOD PULP FOR THE MONTH OF JANUARY

Statistics Just Issued by the Federal Trade Commission Show That There Were on Hand at the Mills at the End of the Month Fourteen Days' Average Output of Ground Wood, Seven Days' Average Output of News Grade Sulphite, Nine Days' Average Output of Bleached Sulphite, Eight Days' Average Output of Easy Bleaching Sulphite and Ten Days' Average Output of Sulphate.

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., March 26, 1923.—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 papermaking is submitted herewith for the month of January, 1923. 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 January, 1923, compared with January, 1922, for the reporting mills. The average production is based upon the reports covering the years 1919 to 1922, inclusive, and the average stocks on hand at the end of the month are for the 48 months of 1919 to 1922, inclusive:

	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:						
January, 1923.	153	65,393	130,297	121,556	9,037	66,097
January, 1922.	150	123,080	109,175	98,719	8,238	125,298
January, 1921.	165	129,626	140,999	115,880	7,781	146,964
January, 1920.	172	139,304	110,835	126,086	7,020	117,033
January, 1919.	157	131,170	122,469	80,720	39,473	133,446
Average.....	...	...	122,746	...	...	144,471

Sulphite, News

Grade:						
January, 1923.	58	18,984	61,556	57,126	6,193	17,421
January, 1922.	62	21,240	61,689	54,685	6,397	21,847
January, 1921.	65	17,984	60,934	50,876	7,112	20,930
January, 1920.	65	20,046	73,192	64,274	10,022	18,942
January, 1919.	58	17,905	61,430	41,452	18,310	19,571
Average.....	...	...	61,828	...	...	20,839

Sulphite, Bleached:

January, 1923.	29	12,005	44,630	29,763	12,612	14,260
January, 1922.	33	6,748	34,984	24,912	9,357	7,461
January, 1921.	32	6,661	31,335	20,480	6,414	11,102
January, 1920.	32	6,810	51,160	27,026	24,725	6,219
January, 1919.	28	4,240	42,708	22,935	16,324	7,689
Average.....	...	...	41,028	...	...	9,591

Sulphite, Easy Bleaching:

January, 1923.	7	1,555	4,523	4,134	134	1,816
January, 1922.	8	868	5,708	4,811	1,908	667
January, 1921.	6	1,134	4,549	2,922	1,279	1,482
January, 1920.	8	1,314	5,541	3,895	1,836	1,124
January, 1919.	6	2,212	4,968	3,452	1,497	2,231
Average.....	...	...	5,538	...	...	1,318

Sulphite, Mitscherlich:

January, 1923.	7	1,308	7,601	4,829	2,550	1,530
January, 1922.	6	1,128	6,111	3,566	2,124	1,549
January, 1921.	7	2,768	3,891	3,165	466	3,034
January, 1920.	7	1,808	7,182	4,479	2,773	1,739
January, 1919.	7	1,489	6,392	3,959	2,195	1,727
Average.....	...	...	6,292	...	...	1,854

Sulphate Pulp:

January, 1923.	22	4,644	26,619	16,131	9,080	6,052
January, 1922.	21	7,657	17,824	13,331	3,450	8,708
January, 1921.	21	7,850	7,474	4,959	1,746	8,619
January, 1920.	22	5,753	16,941	11,442	5,737	5,515
January, 1919.	20	4,490	12,172	7,264	2,838	6,560
Average.....	...	...	16,536	...	...	6,706

Soda Pulp:

January, 1923.	27	7,701	38,838	23,194	13,787	9,558
January, 1922.	28	9,024	30,925	19,515	9,990	10,444
January, 1921.	25	6,507	25,446	16,102	7,300	8,551
January, 1920.	27	5,672	36,895	20,573	18,260	3,734
January, 1919.	28	3,395	32,503	21,031	10,571	4,296
Average.....	...	...	31,122	...	...	7,327

Other Than Wood Pulp:

January, 1923.	7	711	770	1,146	125	210
January, 1922.	5	178	505	525	13	145
January, 1921.	5	119	719	703	0	135
January, 1920.	5	240	795	752	72	211
January, 1919.	6	252	628	744	23	113
Average.....	...	...	780	...	...	194

Total—for all Grades:

January, 1923.	...	113,301	314,834	257,879	53,518	116,738
January, 1922.	...	169,923	266,921	220,064	40,667	176,113
January, 1921.	...	172,649	275,353	215,087	32,098	200,817
January, 1920.	...	180,948	302,541	259,527	70,445	154,517
January, 1919.	...	165,153	285,270	181,557	91,231	175,635
Average.....	...	...	285,870	...	...	192,300

(Continued on page 62)

Grade	Lack of Orders		Repairs		Other reasons		Total	
	1923	1922	1923	1922	1923	1922	1923	1922
Ground Wood Pulp—								
Number of grinders.....	13	38	90	26	538	505	641	569
Total hours idle.....	7,488	14,280	5,141	6,073	121,960	141,091	134,589*	61,444
Sulphite, News Grade—								
Number of digesters.....	8	50	1	14	4	122	13	176
Total hours idle.....	4,402	2,748	48	434	292	17,330	4,742	20,512
Sulphite, Bleached—								
Number of digesters.....	30	52	17	1	16	12	63	65
Total hours idle.....	2,170	11,960	1,823	20	4,071	9,798	8,064	21,778
Sulphite, Easy Bleaching—								
Number of digesters.....	0	1	0	0	0	0	0	1
Total hours idle.....	0	168	0	0	0	0	0	168
Sulphite, Mitscherlich—								
Number of digesters.....	0	0	0	7	0	0	0	7
Total hours idle.....	0	0	0	42	0	0	0	42
Sulphate Pulp—								
Number of digesters.....	3	9	4	9	12	4	19	22
Total hours idle.....	936	1,932	387	976	558	672	2,081	3,580
Soda Pulp—								
Number of digesters.....	5	74	12	0	19	0	36	74
Total hours idle.....	2,880	13,095	1,051	0	2,687	0	6,518	13,095
Other Grades—								
Number of digesters.....	0	7	0	0	4	0	4	7
Total hours idle.....	0	3,592	0	0	1,516	0	1,516	3,592
Total number of machines.....	59	231	124	57	593	633	776	921
Total hours idle.....	17,876	47,775	8,650	7,545	131,084	168,891	157,510	224,211

* Includes 122,814 hours due to water power conditions.

54 PLASTOMETERS

Plastometers now form a part of the laboratory equipment of 54 rubber manufacturing companies in this country and abroad.

More than 100 of these instruments are in the hands of paper mills, who specify the density of their roll coverings by Plastometer readings.

We should like to see a Plastometer in the hands of every mill, and for that reason we have decided to offer 100 instruments at a greatly reduced price. This offer to hold good for thirty days.

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Wilmington, Delaware

ROGERS WET MACHINE

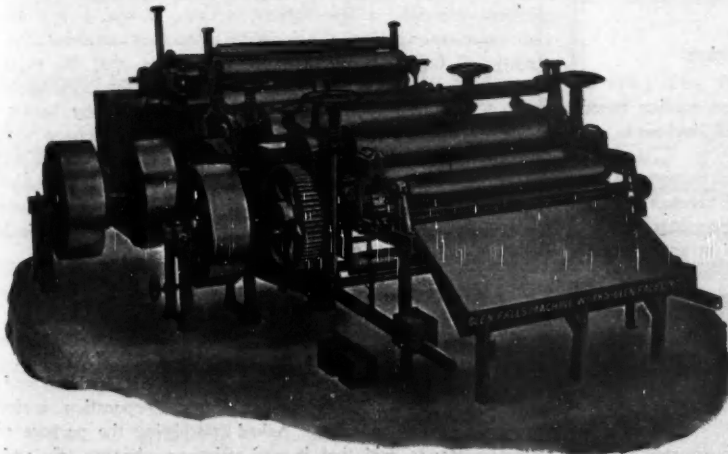


Illustration Shows Rogers Double Press Wet Machine

FOR CHEMICAL PULP—including Sulphite, Sulphate, Soda, also Cotton and Waste Paper fiber.

TYPES—Single and Double Press 72" wide.

CAPACITY—either type 25-30 tons air dry stock per 24 hours.

SHEETS produced by the Double Press Machine uniformly 48% dry. By the Single Press Machine uniformly 40% dry. There is no fold to contain excessive moisture. Sheets are handy size, 33"x36", and are folded once into most convenient bundles for storage, for the beater or for shipping. By this great capacity, high dry test, small amount of floor space per ton pulp produced, exceedingly low cost for labor and maintenance, users are assured that the machine will completely pay for itself within one year, and are promised a handsome return on their investment.

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The following are trade-mark applications pertinent to the paper and pulp field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Barrister building, Washington, D. C., or Bush building, 130 West Forty-second street, New York, trade-mark specialists.

As an additional service feature to its readers, the PAPER TRADE JOURNAL gladly offers to them an advance search free of charge, on any mark they may contemplate printing or registering.

TUXEDO—No. 172,972. J. W. Butler Paper Company, Chicago. For writing and printing paper.

LION—No. 172,206. Calhoun, Robbins & Co., New York. For writing paper, envelopes, pens, pencils, paper tags, pin tickets, tablets, penholders, erasers, rubber bands, gum labels, and toilet paper.

DERRYVALE—No. 171,265. Derryvale Linen Company, Inc., N. Y. C. For writing paper.

BIG CHIEF—No. 173,855. The Reynolds & Reynolds Co., Dayton, O. For writing tablets.

WATERFALLS—No. 174,099. Poland Paper Company, Mechanic Falls, Me. For paper used for printing, writing, bookkeeping, and mailing envelopes, etc.

NIROC—No. 129,373. Brown Company, Portland, Me. For paper products, crepe, toilet, wrapping, and kraft paper, envelopes, etc.

ROYAL CLUB—No. 168,326. Mid West Paper & Envelope Co., Marion, Ind. For writing paper, tablets, paperies, etc.

TOMAHAWK KRAFT—No. 171,845. Hubbs & Corning Company, Baltimore, Md. For paper bags.

MAVIS—No. 161,660. V. Vivaudou, Inc., New York. For writing paper, envelopes, etc.

BAMBU—No. 151,334. Sobrinos de R. Abad Santonja, Alcoy, Spain. For cigarette paper.

JANUARY WOOD PULP PRODUCTION

(Continued from page 60)

Total stocks of all grades of pulp in the mills on January 31 amounted to 116,738 tons. Mill stocks of Ground Wood; Sulphite, News Grade and Other than Wood Pulp decreased during the month; all other grades increased.

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 1919 to 1922, inclusive, the figures show that:

Ground wood pulp stocks equal 14 days' average output.
 News grade, sulphite mill stocks equal 7 days' average output.
 Bleached sulphite mill stocks equal 9 days' average output.
 Easy Bleaching sulphite mill stocks equal 8 days' average output.
 Mitscherlich sulphite mill stocks equal 6 days' average output.
 Sulphate mill stocks equal 10 days' average output.
 Soda pulp mill stocks equal 8 days' average output.
 Mill stocks of "other than wood pulp" equal 7 days' average output.

Total mill stocks of all grades equal 11 days' average output.

Loss of Production

The idle machine time of grinders and digesters reported to the commission for the month of January, 1923, is shown in the attached tabulation. The number of grinders and digesters include only those for which idle time was reported during the month. The total number of machines may include duplications because the report may count the same machine twice if idle for different reasons during the different parts of the month. The reasons tabulated for lost time are "lack of orders" and "repairs." Other reasons include water conditions, etc. The time lost in January,

1922, is shown by grades and reasons, for purposes of comparison. Neither the number of machines nor hours idle include idle machine and the time lost in 10 mills not in operation during the month.

Plans for Meeting of Woodlands Section

Both a forenoon and an afternoon program have been formulated for the Woodlands Section's meeting during Paper Week at the Waldorf-Astoria.

In the forenoon there will be business discussions of the Section's affairs and plans, with reports of the committees on pulpwood trade customs, forestry and the executive committee. B. S. Summers will speak on "Weighing Wood in Pulp Manufacture."

In the afternoon the tractor demonstration committee will report, and Ellwood Wilson will give an illustrated talk on the use of the aeroplane in forest fire control, forest mapping and reconnaissance. R. H. Nisbet and J. E. Alexander will discuss "Pulpwood Decay as Affecting Pulp Production." Other subjects to be discussed will include the hardwood problem of coniferous pulpwood stands and fundamental forest education. The program will close with the showing of a film by the Hold Manufacturing Company on tractor logging.

The Woodlands Section's meeting will be open to pulp manufacturers and others, and it is planned by Secretary O. M. Porter of the Woodland Section and the Pulp Producers' Association to have the March pulpwood statistics compiled for presentation at one of the two meetings.

The Pulp Producers' Association meeting will be open to pulp manufacturers who are not members, but who may wish to hear the talk by Thomas W. Ross of the Hummel-Ross Fibre Corp., president of the Association, on conditions observed in his trip to South America.

George D. Gaw Writes for "System"

George D. Gaw, president and general manager of the Gaw-O'Hara Envelope Company, Chicago, has written an article which will appear in the April issue of *System*, "the magazine of business." In his article, which will cover the greater part of six pages, Mr. Gaw tells what can be accomplished with a basic management principle, a few dollars, a table, a keg, a box and the right men to apply the principle. Mr. Gaw explains the high quality of Gaw-O'Hara products by stating that he personally watches the quality of each job. When the first envelope or two on each job comes off the machine it is rushed by basket conveyor to Mr. Gaw's office. He talks over the defects with the foreman—and because he sees every job, defects occur less frequently. The article is profusely illustrated and will give the readers an idea of the magnitude of this business as conducted by the Chicago company and how its sales conferences result in larger orders for higher grades of goods.

C. H. Hanna Visits Watertown

[FROM OUR REGULAR CORRESPONDENT.]

WATERTOWN, N. Y., March 26, 1923.—Carl H. Hanna, vice-president of the Champion Paper Company of Carthage and formerly vice-president of the Hanna Paper Corporation, arrived in the city Saturday morning. Asked concerning the purpose of his call, Mr. Hanna said that it was strictly a pleasure trip and that he would leave Sunday for New York.

More than a year ago the Hanna brothers disposed of their interests in the Hanna Paper Corporation, but they have since retained their interests in the Champion Paper Company. There have been rumors of negotiations of sale of this Carthage property, but no deals have materialized.

It was denied that the visit of Mr. Hanna at this time had any business significance.

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NEW YORK

New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL
WEDNESDAY, MARCH 28, 1923.

Regular, uninterrupted progress was the dominant note in last week's paper and pulp markets. Dealers in practically every line state that the activity during the last week of March was as great as any that has been witnessed so far this year. Buying was conducted on a broad scale with but little hesitancy evidenced on the part of consumers.

Business in the pulp markets has continued to increase and while prices have not actually shown brisk advances, they show a distinct upward trend. This has been especially true for all grades of chemical pulp. Although ground wood has been in steady demand during the past few weeks, prices have continued to ease off until at present the average quotation is but slightly above the \$40 mark. The grinding regions of Northern New York and New England have had an abundance of rainfall of late and this has materially increased production, thereby allowing many producers of mechanical pulp to catch up on overdue contracts.

Paper stock of practically all description is again on the ascendant. After the slight declines in old waste papers during which mixed paper dropped from \$1.50 per 100 pounds to the low ebb of \$1.15, these grades have fully demonstrated their fundamental strength by rebounding from the temporary slump with the resumption of a steady call from mills.

News print continued to occupy a very strong position throughout the past week and the tendency of the market was nothing if not bullish. Producers stated that freight car congestion was now practically a matter of past history and that transportation facilities were growing better each week. Added to this, the influx of considerable quantities of ground wood into the market has materially aided the producing end and the larger manufacturers are no longer apprehensive regarding the supply of this commodity during the spring production. Advertising has continued in heavy volume and rates have held up, giving ground for the belief that the consumption of news print throughout the spring will continue to be at a capacity clip.

The first week of spring abounded with welcome indications to manufacturers of book paper. The demand from the consuming trade continued to assert itself and the market was distinctly a seller's market rather than a buyer's. The larger producers stated that their mills were booked up for a capacity run of from four to six months and one leading manufacturer of this product told a representative of the PAPER TRADE JOURNAL that his mills were oversold throughout the month of February to the extent of 15 to 20 per cent and that from present indications this percentage would be practically doubled for the current month.

Fine papers continued to gain steadily in demand and exporters reported an extremely satisfactory business for this season of the year. From no quarter of the trade could anything but optimism be unearthed and it is the general belief of both dealers and manufacturers that a heavy demand will continue in this line until the summer quietude sets in.

Tissues appeared to firm up somewhat during the week and though there were no price advances over those quoted in last week's PAPER TRADE JOURNAL, several leading dealers stated that orders were more numerous and for slightly heavier tonnages. Considerable transactions were reported in No. 1 white at prices ranging from 85 cents to 90 cents a ream while Manilas held firm at approximately 80 cents. This market is undoubtedly in a very strong position and the inclination of prices is to move toward higher levels.

The board market has continued to display an uneasy tone due more especially to constantly fluctuating market values and to the wide disparagement in raw material costs in which the ground wood market plays no small part. During the course of the past

week, box board was slightly easier in some quarters, but there were no drastic price markings in either direction and several manufacturers expressed optimism for the coming month.

Mechanical Pulp

Ground wood prices have steadily edged downward despite the steady activity which has prevailed in this market since quotations first showed signs of weakening. In the course of the past three weeks a depreciation of approximately \$10 per ton has set in, both on foreign and domestic qualities of mechanical pulp, and today quotations on prime spruce pulp for immediate shipment are in the neighborhood of \$40 to \$41 per ton F. O. B. grinder. The general feeling in the trade is that these values will not decline much further owing to the strength of the chemical pulp market and to the firmness of paper stock.

Chemical Pulp

The prospects for a settlement in the Swedish pulp lockout on April 1 now appear to be very slight and it is the belief of New York pulp dealers that operations in Sweden may be suspended until long after open water shipments from that country have started. All grades of pulp have held exceedingly firm and the buying in the domestic market has quickened to a marked degree giving rise to the belief that before Convention Week is at hand, prices will be somewhat stronger in this field.

Rags

Strengthening their position almost daily, cotton rags have continued during the week to advance quotationally and both packers and dealers are becoming much more wary of booking contracts for future delivery owing to the growing scarcity of available supplies. Thirds and blues have held in humdrum demand and while prices have not advanced noticeably as has been the case with whites, a substantial volume of business is reported to have been transacted. Imported roofing rags have been in steady call and cotton cuttings have been moving to paper manufacturers at slightly stiffer prices resulting from the higher markings of many grades of textiles and subsequent increased cost to cutting-up establishments.

Waste Paper

The feature of the waste paper market during the past week was the renaissance in values of old papers. Mixed papers advanced approximately 5 cents per 100 pounds and practically every other grade held conspicuously firm with the possible exception of folded news in which item slight declines were noted. Old krafts have been firm and the outlook from the consuming standpoint appears to be especially favorable in view of the fact that wrapping paper mills are amply equipped with contracts for the next sixty to ninety days.

Old Rope and Bagging

A strong tone prevailed in the market for old rope in and around New York and while foreign sellers of this commodity are holding out for higher figures than domestic dealers are generally willing to pay a substantial activity has characterized the trading of the past week.

No. 1 scrap bagging has been absorbed by tissue paper mills in slightly less volume than the current rate of consumption during the preceding month and dealers have gone so far as to designate the present demand as a hand-to-mouth mode of purchasing. This grade has been quoted to mills at approximately the same price level as heretofore viz.: 1.05 to 1.20 cents a pound.

Twine

No alteration has entered the New York market for twine and although dealers continue to predict higher prices to correspond with the advances in the raw material market for this commodity, these boosts always appear to be in the immediate future and never actually to materialize.

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations March 27, 1923:

	BID	ASKED
American Writing Paper Company pref.	28 1/2	30
International Paper Company, com.	52 1/2	53
International Paper Company, pref., stamped	70	71 1/2
Union Bag & Paper Corporation	76	76 1/2

Paper

F. o. b. Mill	
Ledgers	11.00 @ 38.00
Bonds	9.00 @ 55.00
Writings	
Extra Superfine	16.00 @ 35.00
Superfine	14.00 @ 30.00
Tub Sired	10.00 @ 15.00
Engine Sized	8.50 @ 11.00
News—f. o. b. Mill—	
Rolls, contract	3.80 @ 3.95
Rolls, transit	4.00 @ 4.25
Sheets	4.25 @ 4.50
Side Runs	3.50 @ 4.15
Book, Cased—f. o. b. Mill	
S. & S. C.	7.50 @ 14.00
M. F.	7.00 @ 10.00
Coated and Enamel	9.00 @ 14.00
Lithograph	9.00 @ 14.00
Tissues—f. o. b. Mill	
White No. 1	.85 @ —
White No. 2	.80 @ —
Colored	1.10 @ —
Anti-Tarnish	1.40 @ —
Kraft	.90 @ .95
Manila	.80 @ —
Kraft—f. o. b. Mill—	
No. 1 Domestic	7.00 @ 7.50
No. 2 Domestic	6.75 @ 7.00
Imported	6.50 @ 7.00
Screenings	3.25 @ 3.50
Manila—	
No. 1 Jute	8.50 @ 9.00
No. 2 Jute	7.75 @ 8.50
No. 1 Wood	4.50 @ 5.50
No. 2 Wood	4.00 @ 4.50
Butchers	4.25 @ 4.75
Fibre Papers—	
No. 1 Fibre	6.00 @ 6.25
No. 2 Fibre	5.25 @ 5.50
Common Bogus	3.50 @ —
Card Middies	4.00 @ 5.00
Boards—per ton—	
News	67.50 @ —
Straw	65.00 @ —
Chip	67.50 @ —
Binders' Board	85.00 @ —
Sgl. Mla.LL Chip	85.00 @ —
Wood Pulp	80.00 @ —
Container	87.50 @ —
Wax Paper—	
Self Sealing White	28 and 30 lb.
basis	10.50 @ 11.50
Waxed Tissue	1.50 @ 1.60
Glassine—	
Bleached, basis 25	15.00 @ 16.00
1b.	17.00 @ 18.00
Bleached, basis 20	17.00 @ 18.00
1b.	17.00 @ 18.00
Papermakers' Felts per ton—	
Dry	75.00 @ 85.00
Saturated	65.00 @ 75.00
Sheathing Paper, per ton—	
Rosin Sized (red and gray, 36 lbs. per 500 sq. ft.)	55.00 @ 65.00
Mechanical Pulp	
(Ex-Dock)	
No. 1 Imported	42.00 @ 43.50
(F. o. b. Mill)	43.00 @ 44.50
No. 1 Domestic	43.00 @ 44.50
For immediate shipment	44.50 @ —
Chemical Pulp	
(Ex-Dock, Atlantic Ports.)	
Sulphite (Imported)—	
Bleached	4.60 @ 5.10
Easy Bleaching	3.25 @ 3.50
No. 1 strong unbleached	3.00 @ 3.25
No. 2 Strong unbleached	2.85 @ 3.10
No. 1 Kraft	3.00 @ 3.25
Sulphate	
Bleached	4.00 @ 4.25
(F. o. b. Pulp Mill.)	4.30 @ 5.00
Sulphite (Domestic)	4.30 @ 5.00
Strong unbleached	3.00 @ 3.25

Easy Bleaching	
Sulphite	3.00 @ 3.50
News Sulphite	2.75 @ 3.00
Mitscherlich	3.10 @ 3.40
Kraft (Domestic)	3.00 @ 3.25
Soda Bleaching	4.25 @ 4.50
Domestic Rags	
New	
Prices to Mill, f. o. b. N. Y.	
Shirt Cuttings—	
New White, No. 1	13.00 @ 13.25
New White, No. 2	6.75 @ 7.15
Silesias, No. 1	7.50 @ 8.00
New Unbleached	9.50 @ 10.00
Washables	4.50 @ 5.00
Fancy	6.25 @ 6.75
Cotton—according to Grades—	
Blue Overall	6.75 @ 7.25
New Blue	4.95 @ 5.20
New Black Soft	5.00 @ 5.50
New Light Seconds	2.90 @ 3.15
O. D. Khaki Cuttings	
Mens' Corduroy	4.25 @ 4.75
Mens' Canvas	3.15 @ 3.40
New Canvas	6.75 @ 7.10
New Black Mixed	2.50 @ 2.75
Old	
White, No. 1—	
Repacked	6.00 @ 6.50
Miscellaneous	5.25 @ 5.50
White, No. 2—	
Repacked	3.25 @ 3.50
Miscellaneous	2.85 @ 3.10
St. Soiled White	1.90 @ 2.00
Thirds and Blues—	
Repacked	2.00 @ 2.25
Miscellaneous	1.65 @ 1.75
Black Stockings	2.90 @ 3.25
Roofing Rags—	
Cloth Strippings	1.70 @ 1.80
No. 1	1.70 @ 1.80
No. 2	1.60 @ 1.70
No. 3	1.20 @ 1.30
No. 4	1.20 @ 1.30
No. 5A	1.25 @ 1.35

Foreign Rags	
New Light Silesias	6.00 nominal
Light Flannellets	6.75 nominal
Unbleached Cottons	7.50 nominal
New White Cuttings	9.50 nominal
New Light Oxfords	6.00 nominal
New Light Prints	4.50 nominal
New Mixed Cuttings	2.00 @ 2.50
New Dark Cuttings	1.90 @ 2.10
No. 1 White Linens	10.00 nominal
No. 2 White Linens	6.50 nominal
No. 3 White Linens	5.00 nominal
No. 4 White Linens	3.50 nominal
Old Extra Light	
Prints	2.00 nominal
Ord. Light Prints	1.75 nominal
Med. Light Prints	1.50 nominal
Dutch Blue Cottons	1.85 nominal
German Blue Cottons	1.65 nominal
Ger. Blue Linens	3.50 nominal
Checks and Blues	1.50 nominal
Dark Cottons	1.30 @ 1.35
Shoppery	1.00 @ 1.05
French Blues	1.75 @ 2.00

Bagging	
Prices to Mill F. o. b. N. Y.	
Gunny No. 1—	
Foreign	1.00 @ 1.10
Domestic	1.00 @ 1.10
Wool, Tares, light	1.45 @ 1.55
Wool, Tares, heavy	1.48 @ 1.50
Bright Bagging	1.03 @ 1.20
No. 1 Scrap	1.05 @ 1.20
Sound Bagging	.85 @ .95
Manila Rope—	
Foreign	6.25 @ 6.50
Domestic	6.50 @ 6.75
New Bu. Cut	2.15 @ 2.25
Hessian Jute Threads—	
Foreign	5.95 @ 6.25
Domestic	2.20 @ 2.40
Mixed Strings	.90 @ 1.00

Twines	
Cotton—(F. o. b. Mill)	
No. 1	.35 @ .37
No. 2	.31 @ .33
No. 3	.37 @ .39
India, No. 6 basis—	
Light	.20 @ .21
Dark	.19 @ .20
B. C. 18 basis	.41 @ .42
A. B. Italian, 18	
Basis	.51 @ .51
Finished Jute—	
Dark, 18 basis	.29 @ .30
Light, 18 basis	.26 @ .27
Jute Wrapping, 3-6 Ply—	
No. 1	.23 @ .24
No. 2	.21 @ .22
Tube Rope—	
4-ply and larger	.15 @ .17
Fine Tube Yarn—	
5-ply and larger	.19 @ .21
4-ply	.20 @ .22
3-ply	.20 @ .22
Unfinished India—	
Basis	.16 @ .17
Paper Makers Twine	
Balls	.13 @ .15
Box Twine, 2-3 ply	.18 @ .19
Jute Rope	.17 @ .20
Amer. Hemp, 6	.33 @ .35
Sisal Hay Rope—	
No. 1 Basis	.15 @ .17
No. 2 Basis	.13 @ .15

Sisal Lath Yarn—	
No. 1	.14 @ .15
No. 2	.11 @ .13
Manila Rope	.18 @ .19

Old Waste Papers

(F. o. b. New York)	
Shavings—	
Hard, White, No. 1	4.25 @ 4.50
Hard, White, No. 2	3.75 @ 4.00
Soft, White, No. 1	3.60 @ 3.80
Flat Stock—	
Stitchless	2.50 @ 2.60
Over Issue Mag.	2.50 @ 2.60
Solid Flat Book	2.40 @ 2.50
Crumpled No. 1	2.10 @ 2.22
Solid Book Ledger	3.00 @ 3.20
Ledger Stock	2.60 @ 2.70
New B. B. Chips	1.10 @ 1.20
Manila—	
New Env. Cut	2.50 @ 2.75
New Cut No. 1	2.00 @ 2.25
Extra No. 1 Old	1.80 @ 1.90
Print	1.45 @ 1.55
Container Board	1.35 @ 1.45
Bogus Wrapper	1.20 @ 1.30
O. D. Krafts, machine compressed	
Bales	2.25 @ 2.35
News—	
No. 1 White News	2.25 @ 2.35
Strictly Overseas	1.50 @ 1.60
Strictly Folded	1.25 @ 1.35
No. 1 Mixed Paper	1.10 @ 1.15
Common paper	.75 @ .85

CHICAGO

[FROM OUR REGULAR CORRESPONDENT.]

Paper	
F. o. b. Mill	
All Rag Bond	35 @ 40
No. 1 Rag Bond	30 @ 35
No. 2 Rag Bond	18 @ 25
Water Marked Sulphite	
Sulphite Bond	10 @ 14
Sulphite Ledger	9 @ 12
Superfine Writing	11 @ 14
No. 1 Fine Writing	14 @ 22
No. 2 Fine Writing	12 @ 20
No. 3 Fine Writing	9 @ 12
No. 1 M. F. Book	6 1/2 @ 7
No. 1 S. & S. C. Book	7 @ 7 1/4
Coated Book	9 @ 10 1/4
Coated Label	9 @ 10
News—Rolls mill	4 @ 4 1/4
News—Sheets, null.	4 1/4 @ 4 1/4
No. 1 Manila	4 1/4 @ 6
No. 1 Fibre	5 1/4 @ 5 3/4
No. 2 Manila	4 1/4 @ 5
Butchers' Manila	4 @ 4 1/4
No. 1 Kraft	7 @ 7 1/2
No. 2 Kraft	6 1/2 @ 7
Wood Tag Boards	5 @ 5 1/2
Screenings	5 @ 5 1/2
Boards, per ton—	
Plain Chip	60.00 @ 65.00
Solid News	65.00 @ 70.00
Manila Lined	
Chip	70.00 @ 72.50
Container Lined	75.00 @ 80.00
85 Test	75.00 @ 80.00
100 Test	80.00 @ 85.00

Old Papers

F. o. b. Chicago	
Shavings—	
No. 1 Hard White	3.85 @ 4.00
No. 1 Soft Shav.	3.70 @ 3.85
No. 1 Mixed	1.80 @ 1.90
No. 2 Mixed	1.70 @ 1.80
White Envel. Cuttings	
	3.85 @ 4.00
Ledgers and writings	
	2.50 @ 2.60
Solid Books	2.50 @ 2.60
No. 1 Books, Light	2.20 @ 2.25
Blanks	2.25 @ 2.50
Ex. No. 1 Manila	2.40 @ 2.50
Manila Envelope	
Cuttings	2.65 @ 2.80
No. 1 Manilas	1.90 @ 2.00
Folders News (over issue)	
	1.75 @ 1.80
Old Newspaper	1.40 @ 1.50
Mixed Papers	1.40 @ 1.50
Straw Clippings	1.40 @ 1.50
Binders Clippings	1.40 @ 1.50
Kraft	2.40 @ 2.50
New Kraft Cuts	2.80 @ 2.85
Roofing Stock, f. o. b. Chicago, Net Cash—	
No. 1	38.00 @ —
No. 2	36.00 @ —
No. 3	34.00 @ —
No. 4	34.00 @ —

PHILADELPHIA

[FROM OUR REGULAR CORRESPONDENT.]

Paper	
Bonds	.10 @ .60
Ledgers	.15 @ .40
Writings—	
Superfine	.15 @ .20
Extra fine	.12 @ .22
Fine	.20 @ .30
Fine, No. 2	.20 @ .25
Fine, No. 3	.15 @ .20
Book, M. F.	.06 @ .11
Book, S. S. & C.	.08 @ .15
Book, Coated	.08 @ .15
Coated Lithograph	.10 @ .15
Label	.08 @ .15
News	.05 @ .07
No. 1 Jute Manila	.12 @ .13
Manila Sul., No. 1	.08 @ .10
Manila No. 2	.07 1/2 @ .08
No. 2 Kraft	.08 @ .10
No. 1 Kraft	.07 @ .11
Common Bogus	.02 1/2 @ .03
Straw Board	75.00 @ 85.00
News Board	75.00 @ 70.00
Chip Board	62.50 @ 67.00
Wood Pulp Board	1.25 @ 1.50
(Carload Lots)	
Binder Boards—	
Per ton	75.00 @ 80.00
Carload lots	75.00 @ 80.00
Tarred Felts—	
Regular	48.00 @ 50.00
Slaters	54.00 @ 56.00

Best Tarred, 1-ply	
(per roll)	1.35 @ 1.50
Best Tarred, 2-ply	
(per roll)	1.00 @ 1.15
Best Tarred, 3-ply	
	1.50 @ 1.65

Bagging

F. o. b. Phila.	
Gunny No. 1—	
Foreign	1.25 @ 1.25
Domestic	1.20 @ 1.25
Manila Rope	5.00 @ 6.25
Sisal Rope	.75 @ .80
Mixed Rope	.75 @ .80
Scrap Burlaps	1.00 @ 1.25
Wool Tares, heavy	2.50 @ 2.75
Mixed Strings	.75 @ .80
No. 1, New Lt. Burlap	1.75 @ 2.00
New Burlap Cuttings	1.75 @ 2.10

Old Papers

F. o. b. Phila.	
Shavings—	
No. 1, Hard White	4.00 @ 4.25
No. 2, Hard White	3.50 @ 3.75
No. 1 Soft White	3.60 @ 3.75
No. 2 Soft White	2.00 @ 2.25
No. 1 Mixed	1.60 @ 1.75
No. 2 Mixed	1.25 @ 1.50

(Continued on page 68)

Imports and Exports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MARCH 24, 1923

SUMMARY

Cigarette Paper	.....	512 cs.
Hangings	.....	119 bls., 41 cs.
Wallpaper	.....	875 bls., 1 cs.
Tissue Paper	.....	17 cs.
Printing Paper	.....	13 cs.
Tracing Paper	.....	4 cs.
Filter Paper	.....	13 cs.
Metal Paper	.....	4 cs.
Photo Paper	.....	18 cs.
Packing Paper	.....	278 rolls, 23 bls.
Wrapping Paper	.....	228 cs., 136 rolls, 523 bls.
Blueprint Paper	.....	13 rolls
Drawing Paper	.....	15 cs.
Miscellaneous Paper	.....	252 bls., 188 cs., 233 rolls

CIGARETTE PAPER

Rose & Frank, Canopic, Southampton, 65 cs.
Rose & Frank, Pipestone Co., Havre, 80 cs.
Rose & Frank, Paris, Havre, 61 cs.
The Surbrug Co., by same, 5 cs.
The Surbrug Co., Rochambeau, Havre, 13 cs.
P. J. Schweitzer, by same, 38 cs.
De Manduit Paper Corp., by same, 225 cs.
De Manduit Paper Corp., Paris, Havre, 25 cs.

PAPER HANGINGS

A. C. Dodman, Jr., Celtic, Liverpool, 25 bls.
W. H. S. Lloyd & Co., Menominee, London, 25 bls.
W. H. S. Lloyd & Co., by same, 19 cs.
W. H. S. Lloyd & Co., Irishman, London, 22 cs.
W. H. S. Lloyd & Co., by same, 69 bls.

WALL PAPER

F. A. Binder, Hanover, Bremen, 1 bl.
W. H. S. Lloyd & Co., Lapland, Antwerp, 1 c.
R. F. Downing & Co., Menominee, London, 31 bls.
National City Bank, Canopic, Bremen, 839 bls.
A. Murphy & Co., Celtic, Liverpool, 4 bls.

TISSUE PAPER

F. C. Strype, by same, 6 cs.
Meadows Wye & Co., by same, 11 cs.

PRINTING PAPER

Oxford University Press, Carmania, Liverpool, 13 cs.
--

TRACING PAPER

E. Dietzgen & Co., Bradclyde, Hamburg, 2 cs.
D. C. Andrews & Co., Menominee, London, 2 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., by same, 3 cs.
H. Reeve Angel & Co., Inc., Irishman, London, 10 cs.

METAL PAPER

Hensel, Bruckman & Lorbacher, Mongolia, Hamburg, 4 cs.
--

PHOTO PAPER

Geneart Co. of America, Lapland, Antwerp, 18 cs.
--

PACKING PAPER

Republic Bag & Paper Co., Independence Hall, Rotterdam, 23 rolls.
Republic Bag & Paper Co., Innoko, Rotterdam, 255 rolls.
C. Hammer, by same, 236 bls.

WRAPPING PAPER

Wilkinson Bros. & Co., Inc., Independence Hall, Rotterdam, 189 cs.
Wilkinson Bros. & Co., Inc., by same, 136 rolls.
Fernstrom Paper Co., Inc., Emden, Hamburg, 512 bls.
Schall & Co., H. Olav, Copenhagen, 11 bls.
C. Steiner, Hanover, Bremen, 39 cs.

BLUE PRINT PAPER

Keuffel & Esser Co., Hansa, Hamburg, 13 rolls.
Keuffel & Esser Co., by same, 15 cs.

PAPER

Republic Bag & Paper Co., by same, 73 bls.
F. B. Vandegrift & Co., by same, 112 cs.
J. Munroe & Co., by same, 4 cs.
Phoenix Shipping Co., Emden, Hamburg, 2 cs.
Japan Paper Co., D'Alighien, Genoa, 8 bls.
J. Manheimer, by same, 23 cs.
Favor Ruhl & Co., Songonar, Genoa, 2 cs.
E. Dietzgen & Co., Bradclyde, Hamburg, 8 bls.
Wilkinson Bros. & Co., Inc., Mongolia, Hamburg, 48 bls.
Waterbury Trust Co., H. Olav, Copenhagen, 233 rolls.
American Exchange National Bank, by same, 125 bls.
Bern & Wachenheim, Rochambeau, Havre, 16 cs.
Whiting & Patterson, by same, 10 cs.

RAGS, BAGGINGS, ETC.

E. J. Keller Co., Inc., Zeeland, Antwerp, 62 bls. flax waste.
E. J. Keller Co., Inc., Canopic, Bremen, 75 bls. bagging.
J. M. Jaffe, by same, 319 bls. rags.
D. J. Murphy, by same, 96 bls. rags.
Chemical National Bank, by same, 169 bls. rags.
Reis & Co., Innoko, Rotterdam, 32 bls. cotton waste.
Flemtkote Co., by same, 142 bls. paper stock.
Katzenstein & Keene, Inc., by same, 419 bls. rags.
Katzenstein & Keene, Inc., by same, 120 bls. bagging.
Katzenstein & Keene, Inc., by same, 189 bls. old paper.
S. Silberman, by same, 134 bls. paper stock.
Wilkinson Bros. & Co., Inc., by same, 33 bls. rags.
E. J. Keller Co., Inc., by same, 39 bls. rags.
Maurice Frank, by same, 28 bls. rags.
Waste Material Trading Co., by same, 99 bls. rags.
Emanuel Salomon Corp., by same, 160 bls. bagging.
Castle & Overton, G. Floris, Genoa, 159 bls. cotton waste.
Castle & Overton, Rochambeau, Havre, 87 bls. bagging.
Castle & Overton, by same, 114 bls. rags.
E. J. Keller Co., Inc., by same, 18 bls. rags.
State Bank, by same, 415 bls. rags.
New York Trust Co., by same, 100 bls. bagging.
R. F. Downing, by same, 86 bls. bagging.
Royal Manufacturing Co., Suesinawa, Genoa, 40 bls. cotton waste.
L. H. Abenheimer, Pipestone Co., Havre, 209 bls. rags.
Castle Overton, Marigot, Havre, 24 bls. rags.
E. J. Keller Co., Inc., Emden, Hamburg, 87 bls. bagging.
E. J. Keller Co., Inc., by same, 88 bls. jute croppings.
E. J. Keller Co., Inc., by same, 161 bls. jute card waste.

OLD ROPE

Brown Bros. & Co., Independence Hall, Rotterdam, 60 coils.
Salomon Bros. & Co., Paris, Havre, 22 coils.
Castle & Overton, Pres. Arthur, Bremen, 65 bls.
Castle & Overton, Innoko, Rotterdam, 627 bls.
W. Schall & Co., by same, 953 bls.
American Woodpulp Corp., Mongolia, Hamburg, 300 bls.
M. Gottesman & Co., Inc., Hanover, Bremen, 600 bls.
H. Hollesen, by same, 2,918 bls.
Castle & Overton, by same, 733 bls.
Pagel Horton & Co., Inc., Real, Kiel, 2,405 bls., 396 tons.
Tidewater Papermills Co., Bornholm, Liverpool, N. S., 12,437 bls.
Whalen Pulp & Paper Mills, Inc., Steel Seafarer, Port Alice, 5,440 bls., 775 tons.
Nilsen, Lyon & Co., Stavangerfjord, Kristiania, 300 bls.
Bendil Paper Co., Mongolia, Hamburg, 200 bls. wood pulp wadding.

WOOD FLOUR

Brown Bros. & Co., Bradclyde, Hamburg, 600 bags.
A. Kraemer & Co., Inc., Mongolia, Hamburg, 254 bags.
B. L. Soberski, Stavangerfjord, Kristiania, 2,300 bags.

CASEIN

Atterbury Bros., Inc., Pan American, Buenos Aires, 500 bags.
Nat'l City Bank, by same, 167 bags.
Bank of America, by same, 501 bags.
Kalbfleisch Corp., by same, 1,668 bags.
T. D. Downing & Co., Mongolia, Hamburg, 137 bags.
A. Hurst & Co., Sarcoux, Bordeaux, 100 bags.
Martin Cantine Co., by same, 368 bags.
Monite Waterproof Glue Co., by same, 84 bags.
J. A. & W. Bird & Co., by same, 200 bags.

PHILADELPHIA IMPORTS

WEEK ENDING MARCH 24, 1923

E. J. Keller Co., Inc., Hessen, Hamburg, 682 bls. wood pulp.
E. J. Keller Co., Inc., by same, 447 bls. rags.
E. J. Keller Co., Inc., Manchester Hero, Manchester, 39 bls. rags.
E. J. Keller Co., Inc., by same, 54 bls. jute cuttings.
Castle & Overton, Manchester Importer, Manchester, 58 bls. rags.
Castle & Overton, London Exchange, England, 891 bls. waste paper.
Castle & Overton, West Inskip, Antwerp, 265 bls. bagging.
Castle & Overton, by same, 373 bls. rags.
Castle & Overton, Cardigan, Havre, 156 bls. rags.
Southwark Nat'l Bank, Innoko, Rotterdam, 157 bls. cotton waste.
E. J. Keller Co., Inc., by same, 1,591 bls. rags.
J. J. McGrath, by same, 12 bls. cotton waste.
E. Butterworth & Co., Inc., by same, 53 bls. paper stock.
Katzenstein & Keene, by same, 78 bls. paper stock.
S. Birkenstein, by same, 401 bls. paper stock.
D. J. Murphy, by same, 236 bls. paper stock.
D. J. Murphy, by same, 290 bls. bagging.
Waste Material Trading Corp., by same, 470 bls. rags.
E. J. Keller Co., Inc., Hessen, Hamburg, 59 bales old rope.

BALTIMORE IMPORTS

WEEK ENDING MARCH 24, 1923

J. Andersen & Co., Bradclyde, Hamburg, 1,875 bls., 375 tons wood pulp.
M. Gottesman & Co., Inc., by same, 4,560 bls., 772 tons wood pulp.
Equitable Trading Co., by same, 600 bls., 101 tons wood pulp.
American Wood Pulp Corp., Emden, Hamburg, 378 bls., 55 tons wood pulp.
Price & Pierce, Ltd., by same, 4,100 bls., 620 tons wood pulp.
L. H. Abenheimer, Bradclyde, Hamburg, 399 bls. rags.
A. Brown & Sons, by same, 490 bls. rags.
Certainated Products Corp., Sinsinawa, Marseilles, 301 bls. rags.
Old Colony Trust Co., Pipestone Co., Havre, 133 coils old rope.

NEW ORLEANS IMPORTS

WEEK ENDING MARCH 24, 1923

Castle & Overton, De La Salle, Havre, 249 bls. rags.
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Buys Claffin Engineering Co.

LANCASTER, Ohio, March 22, 1923.—The Hermann Manufacturing Company, of St. Marys, Ohio, has purchased the Claffin Engineering Company of this place. The new owner will continue to manufacture the Claffin Jordans and the factory and office will continue to be located in Lancaster. Many improvements are being made to the line, one being a full ball bearing machine.

Charged With Plot to Pad the Payrolls

LAWRENCE, March 26, 1923.—Perley Clough and Ralph Maglie, former chief engineer and former watchman respectively of the Champion International Paper Company's plant, were ordered held for the grand jury after a hearing in the district court last week. They are charged with having conspired to pad the payrolls in the mechanical department of the mill.

Felt Test—Lowest Cost per Ton

If you judge felt values, not by what you put into the equipment, but what you get out of it—then you will specify ORR 3 stripe Endless Felts for ORR felts will produce the lowest cost per ton. They "stand up" under severe usage. Orr durability is acknowledged everywhere. Their strength and long life are as dependable as their reliability and quality.

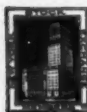
In the 32 grades of Felts and Jackets we can match your most exacting demands. Tell us the kind of paper you desire to make, and we will send you samples of felts that will economically serve you and help you to produce paper at lowest cost per ton.

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Members New York Cotton Exchange

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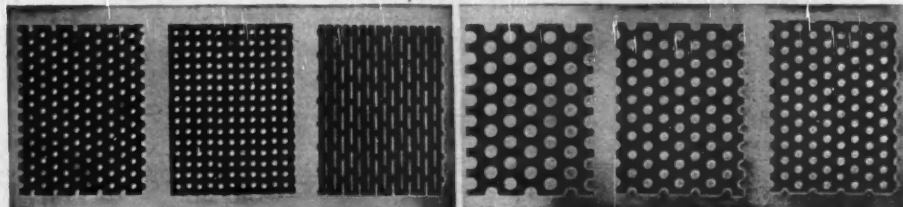
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Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL

TUESDAY, MARCH 27, 1923.

BLEACHING POWDER.—Bleach continued in steady call by the paper manufacturing trade during the course of the past week with quotations at their previous quoted levels of 1.90 to 2.00 cents a pound. Imported bleach was in scanty call owing to the relatively higher cost but consumption of the domestic quality showed no diminution.

BLANC FIXE.—Quoted at \$85 to \$90 per ton, dry blanc fixe has held in consistently regular demand, with the pulp still hovering between \$45 and \$50.

CAUSTIC SODA.—The schedule price of 2.50 cents a pound has been the basis for the bulk of transactions in the caustic soda market during the week and dealers state that the increased activity of paper mills has considerably enlivened the demand. The market is firm.

CHINA CLAY.—Good business has accrued to China clay importers throughout the past month and the first week of spring was no exception to the rule. Prices in this market have been growing steadily stronger of late owing to restricted production in England and the current paper mill demand in this country is exceptionally heavy.

CASEIN.—A steady influence appears to have crept into the casein market in the course of the past week and weakening prices rallied just under the 20 cent mark. The easiness which has existed for approximately ten days in point of price has been attributed wholly to the greatly augmented shipments of the milk product coming in from South America rather than to any lassitude in the demand here. Dealers are still greatly behind on contract deliveries and the market is quite strong at the present lower quotations.

LIQUID CHLORINE.—From 6.00 to 6.20 cents a pound has been the prevailing price quoted on 100-pound cylinder lots of liquid chlorine, F. O. B. producing mill. The strength of the market has been attested to by the steadily increasing call from consumers and a higher scale of prices appears to be imminent.

PAPERMAKERS' GLUE.—Hide glue prices have not swerved from their listing of 13 to 19 cents a pound and the qualities utilized for tub-sizing have continued in steady call by paper manufacturers.

ROSIN.—Reports from Savannah, Ga., would indicate that the naval store market is rapidly gaining in firmness and that rosin prices are now on the up-trend. New York quotations have remained in the vicinity of 6.00 cents a pound.

SALTCAKE.—Standard saltcake has steadily increased in the demand of paper manufacturers, who are now reported to be paying from \$25 to \$27 per ton for this commodity. The available supply is limited, according to producers and higher prices are expected soon.

SATIN WHITE.—This commodity has retained its quoted level of 1.50 to 2.00 cents a pound and is in fairly regular demand by paper mills. No evidences of a change in price in the near future are apparent.

SODA ASH.—Forty-eight per cent basis soda ash is now quoted at the schedule price of 1.20 cents a pound and consuming call has remained quite steady. Increased production at the mills has accounted for a considerably heavier call for this alkali in recent weeks.

STARCH.—Quotations of the papermaking grades of starch eased off to the extent of one cent per hundred pounds according to a price list issued recently by one of the leading producers. Powdered starch now quoted at 2.71 cents a pound in bag and 2.99 cents in barrels, while the papermakers' quality lists at 2.81 and 3.09 for the above packings.

Market Quotations

(Continued from page 65)

Solid Ledger Stock. 2.75 @ 3.00	New Black Soft.. .06 1/4 @ .06 1/4
Writing Paper..... 2.50 @ 2.75	New Light Sec-onds..... .02 1/4 @ .02 1/4
No. 1 Books, heavy. 2.25 @ 2.50	Khaki Cuttings... .11 @ .04 1/2
No. 2 Books, light. 1.40 @ 1.50	Corduroy..... .03 1/4 @ .04
No. 1 New Manila. 2.75 @ 3.00	New Canvas... .08 1/4 @ .08 1/4
No. 1 Old Manila. 1.50 @ 1.75	New Black Mixed Old
Container Manila... 1.35 @ 1.50	White, No. 1—
Old Kraft..... 2.25 @ 2.50	Repacked..... .06 @ .06 1/4
Overissue News... 1.50 @ 1.60	Miscellaneous... .04 1/4 @ .04 1/4
Old Newspaper... 1.20 @ 1.25	White, No. 2—
No. 1 Mixed Paper. 1.10 @ 1.15	Repacked..... .03 1/4 @ .04
Common Paper... 1.00 @ 1.10	Miscellaneous... .03 @ .03 1/4
Straw Board, Chip. 1.00 @ 1.10	Thirds and Blues—
Binders Bd., Chip. 1.00 @ 1.10	Repacked..... 2.00 @ 2.25
Domestic Rags—New.	
Price to Mill, f. o. b. Phila.	
Shirt Cuttings—	Black Stockings... 2.75 @ 3.00
New White, No. 1 .12 @ .12 1/4	Roofing Stock—
New White, No. 2 .07 @ .11	No. 1..... 1.35 @ 1.40
Silicians, No. 1... .07 1/4 @ .07 1/4	No. 2..... 1.30 @ 1.30
New unbleached. .10 @ .11	No. 3..... 1.15 @ 1.20
Washables..... .04 1/4 @ .05 1/4	No. 4..... 1.15 @ 1.20
Fancy..... .05 1/4 @ .05 1/4	No. 5A..... 1.10 @
Cottons—according to grades—	
Blue Overall... .05 1/4 @ .05 1/4	B..... nominal
New Blue..... .02 1/4 @ .02 1/4	C..... nominal

BOSTON

[FROM OUR REGULAR CORRESPONDENT.]

Paper		Wood, Vat Lined.. \$72.50 @ 75.00	
Bonds..... .09 @ .63	Ledgers..... .09 1/4 @ .55	Filled News Board 67.50 @ 70.00	
Writings..... .08 1/4 @ .42	Superfine..... .16 @ .26	Solid News Board. 72.50 @ 75.00	
Fine..... .15 @ .18	Books, S. & S. C. .07 1/4 @ .12	S. Manila Chip..... 75.00 @	
Books, M. F. .... .06 3/4 @ .09 1/4	Books, coated..... .09 @ .15	Pat. Coated..... 85.00 @ 87.50	
Labels..... .09 @ .13	News, sheets..... 4.75 @ 6.00	Old Papers	
News, rolls..... 4.50 @ 5.75	Manilas—	Shavings—	No. 1 Hard White 4.40 @ 4.60
No. 1 Manila... \$6.00 @ 7.00	No. 1 Fiber..... .06 1/4 @ .07	No. 1 Soft White 3.75 @ 3.90	No. 1 Mixed..... 1.50 @ 1.75
No. 1 Jute..... 9.00 @ 10.50	Kraft Wrapping... .07 @	Ledgers & Writings 2.75 @ 2.90	Solid Books..... 2.25 @ 2.55
Common Bogus... 3.50 @ 3.85	Boards	Blanks..... 1.70 @ 1.80	No. 2 Light Books. 1.75 @ 1.90
(Per Ton Destination)		Chip..... \$65.00 @ 67.50	Folded News, over-issues..... 1.25 @ 1.30
News, Vat Lined.. 67.50 @	Toronto		Gunny Bagging... 1.50 @ 1.75

TORONTO

[FROM OUR REGULAR CORRESPONDENT.]

Paper		Sulphite, bleached. 95.00 @ 100.00	
(Mill Prices to Jobbers f. o. b. Mill)	Sulphate..... 70.00 @	Old Waste Papers	
Bond—	Sulphite..... .11 @ .12 1/4	(In carload lots, f. o. b. Toronto)	Shavings—
Light tinted..... .12 @ .13 1/4	Dark Tinted..... .13 1/4 @ .15	White Env. Cut... 3.90 @	Soft White Book shavings..... 3.60 @
Ledgers (sulphite)... @ .13	Writing..... .09 1/4 @ .12	White Blk. News 2.20 @	Book and Ledger—
News, f. o. b. Mills—	Rolls (carloads).. 3.75 @	Flat Magazine and Book Stock (old) 2.30 @	Light and Crumpled Book Stock 2.15 @
Rolls (carloads).. @ 4.50	Sheets (2 tons or over)..... @ 4.75	Ledgers and Writings..... 2.50 @	Solid Ledgers... 2.50 @
Book—	No. 1 M. F. (carloads)..... 9.00 @	Manilas—	New Manila Cut. 2.30 @
No. 2 M. F. (carloads)..... 8.00 @	No. 3 M. F. (carloads)..... 7.50 @	Printed Manilas. 1.85 @	Kraft..... 2.50 @
No. 1 S. C. (carloads)..... 9.50 @	No. 2 S. C. (carloads)..... 8.50 @	News and Scrap—	Strictly Overissue 1.60 @
No. 1 Coated and litho..... 14.00 @	No. 2 Coated and litho..... 13.00 @	Folded News... 1.50 @	No. 1 Mixed Papers..... 1.20 @
No. 3 Coated and litho..... 12.25 @	Coated and litho, colored..... 14.25 @	Domestic Rags—	Price to mills, f. o. b. Toronto Per lb.
Wrapping—	Grey..... 5.00 @	No. 1 White shirt cuttings..... .13 @ .13 1/4	No. 2 White shirt cuttings..... .06 1/4 @ .07
White Wrap..... 5.75 @	"M" Manila..... 6.00 @	Fancy shirt cuttings..... .06 1/4 @ .06 1/4	No. 1 Old whites .04 1/4 @ .05
No. 1 Manila..... 7.25 @	Fiber..... 7.25 @	Third and blues. .02 1/4 @ .03	Per cwt.
M. G..... 8.15 @	Pulp	Black stockings.. .03 @	Roofing stock:
Ground Wood... \$35.00 @ 40.00	(F. o. b. Mill)	No. 1..... @	No. 2..... @
Sulphite easy bleaching..... 60.00 @ 70.00	Sulphite news grade. 55.00 @ 60.00	Roofing stock:	No. 1..... @
		No. 2..... @	Manila rope..... .06 1/4 @ .06 1/4
			No. 2..... 1.55 @
			Gunny bagging.... .01 1/4 @