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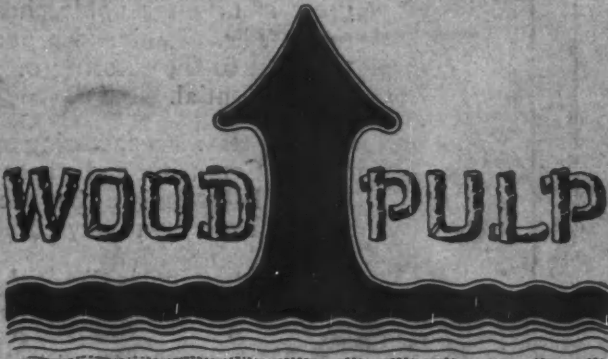
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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

FIFTY-FIRST YEAR

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Thursday, January 25, 1923

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PRODUCTION OF NEWS PRINT FOR THE MONTH OF DECEMBER

According to Statistics Just Issued by the Federal Trade Commission, Production for December of This Year as Compared With December of Last Year Showed an Increase Amounting to Eleven Per Cent for Total News Print and Ten Per Cent for Standard News—The Average Price of Contract Deliveries from the Domestic Mills to Publishers was \$3.604 Per 100 Pounds.

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 25, 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. Whenever possible, the figures for 1922 are compared with those for the corresponding period of 1921, 1920, 1919 and 1918.

The figures which follow show the results of the Commission's tabulation for December, 1918 to 1922, inclusive:

	Number of mills	Stocks on hand 1st of period Net tons	Production Net tons	Shipments Net tons	Stocks on hand end of period Net tons
Total News Print:					
December, 1922.....	73	19,651	119,404	119,847	19,208
December, 1921.....	86	23,127	107,877	107,070	23,934
December, 1920.....	86	20,266	124,857	120,360	24,763
December, 1919.....	87	15,336	122,781	122,748	15,369
December, 1918.....	63	20,297	100,935	101,824	19,408
Total (12 mos.), 1922..	..	23,934	1,447,688	1,452,414	19,208
Total (12 mos.), 1921..	..	24,763	1,225,235	1,226,064	23,934
Total (12 mos.), 1920..	..	15,369	1,511,968	1,502,574	24,763
Total (12 mos.), 1919..	..	19,408	1,374,517	1,378,556	15,369
Total (12 mos.), 1918..	..	31,713	1,260,285	1,272,590	19,408
Standard News (Included in Total News Print):					
December, 1922.....	60	15,370	110,803	111,045	15,128
December, 1921.....	67	18,895	100,834	100,123	19,607
December, 1920.....	68	16,599	111,038	108,064	19,573
December, 1919.....	55	11,790	104,262	103,714	12,338
December, 1918.....	50	16,696	87,797	88,837	15,656
Total (12 mos.), 1922..	..	19,607	1,342,307	1,346,786	15,128
Total (12 mos.), 1921..	..	19,616	1,129,297	1,129,306	19,607
Total (12 mos.), 1920..	..	12,338	1,380,239	1,373,004	19,573
Total (12 mos.), 1919..	..	15,636	1,227,180	1,230,498	12,338
Total (12 mos.), 1918..	..	26,482	1,125,086	1,135,912	15,656

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 1917 to 1921, inclusive, amounted to 110,000 tons for total news print, and 99,700 tons for standard news for a period corresponding to December. The actual production for December, 1922, amounted to 119,404 tons of total news print and 110,803 tons of standard news, which for total news print was 9 per cent above the average for the five-year period, and for standard news 11 per cent above the average.

The production of news print for December, 1922, compared with December, 1921, shows an increase amounting to 11 per cent for total news print and 10 per cent for standard news.

The production for December, 1922, compared with December, 1920, shows a decrease of 4 per cent for total news print, and 2 per cent for standard news.

The production for December, 1922, compared with December, 1919, shows a decrease of 3 per cent for total news print, and 6 per cent increase for standard news.

The production for December, 1922, compared with December, 1918, shows an increase of 18 per cent for total news print and 26 per cent for standard news.

Loss of Production

The following tabulation shows idle machine time reported to the Commission for the month of December, 1922. This does not include mills shut down during the entire month.

Reasons	Number of Machines	Hours Idle
Lack of orders	0	0
Repairs	9	1,105
Other reasons	8	675

Special Note

The import and export figures (which have heretofore been carried in this report) as shown by the records of the Department of Commerce, are omitted from this issue of the news print Review, for the reason that the import figures for October, 1922, are not yet available. The publication of these statistics will be resumed as soon as the import figures are obtainable.

Jobbers' Tonnage

The following tabulation shows the news print tonnage reported by jobbers during the month of December, 1922, compared with December, 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, December, 1922.....	1,589	11,156	10,700	2,045	27,203	26,700
Rolls, December, 1921.....	2,398	7,044	7,144	2,298	17,132	17,657
Rolls, December, 1920.....	3,180	7,355	7,489	3,046	29,807	38,391
Rolls, December, 1919.....	1,602	6,567	6,306	1,864	29,447	27,165
Rolls, December, 1918.....	2,502	3,633	2,940	3,195	202,506	190,604
Sheets, December, 1922.....	5,447	3,204	2,522	6,129	2,742	1,903
Sheets, December, 1921.....	3,935	2,359	2,032	4,262	1,246	723
Sheets, December, 1920.....	5,685	2,392	2,145	6,432	2,642	1,723
Sheets, December, 1919.....	4,044	3,028	3,603	3,469	5,585	3,300
Sheets, December, 1918.....	7,162	3,129	2,570	7,721	3,569	62,270
Total News Print:						
December, 1922.....	7,036	14,360	13,222	8,174	29,945	28,603
December, 1921.....	6,333	9,403	9,176	6,560	18,378	18,380
December, 1920.....	8,865	10,247	9,634	9,478	32,449	40,114
December, 1919.....	5,646	9,595	9,908	5,333	335,032	330,465
December, 1918.....	7,664	6,762	5,510	8,916	206,075	192,874

(a) To buy after December 31, 1918. (b) To sell after December 31, 1918.

Stocks of rolls in the hands of jobbers at the end of December, were 456 tons more than the stocks in the hands of the same jobbers at the beginning of the month. Stocks of sheets were 682 tons greater at the end of December 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 December amounted to 1,138 tons.

Commitments to sell roll news were 503 tons less than commitments to buy. Commitments to sell sheet news were 839 tons less than commitments to buy. Total commitments to sell both rolls and sheets were 1,342 tons less than commitments to buy.

Publishers' Tonnage

Monthly tonnage reports from 693 (a) of the most important newspaper publishing concerns and associations 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 December, 1922.

Location of publishers (b)	Number of concerns (a)	On hand first of month	Received during month	Used and sold during month	On hand end of month	In transit end of month
		Net tons	Net tons	Net tons	Net tons	Net tons
New England.....	80	17,985	17,573	17,756	17,802	2,851
Eastern States....	179	95,902	60,039	63,584	52,357	17,003
Northern States..	136	43,592	39,375	43,335	39,632	10,977
Southern States..	82	9,487	10,041	9,557	9,971	3,744
Middle West.....	152	28,560	26,607	28,931	26,236	6,877
Pacific Coast....	37	18,453	17,729	17,954	18,228	3,350
Farm Papers (c) 27		2,229	945	1,257	1,917	380
Total.....	693	176,208	172,309	182,374	166,143	45,182

(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.

Publishers' stocks decreased 10,065 tons during the month. Average daily tonnage used during December was 359 tons less than the average used during November.

Publishers' stocks and transit tonnage on December 31 represented 37 days' supply at the existing rate of consumption.

Publishers' and jobbers' total stocks and tonnage in transit on December 31 aggregated 219,499 tons.

The domestic consumption of standard news by metropolitan dailies using between one-half and three-fourths of a million tons annually for December, 1922, when compared with December, 1921, shows an increase of 11 per cent and an increase of 24 per cent when compared with December, 1920.

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 December, 1922, f. o. b. mill, in car load lots, for standard news in rolls was \$3.604 per 100 pounds. This weighted average is based upon December deliveries of about 54,000 tons on contracts involving a total tonnage of approximately 172,000 tons of undelivered paper manufactured in the United States.

The weighted average contract price based on deliveries from Canadian mills or about 20,852 tons of standard roll news in car load lots, f. o. b. mill in December, 1922, was \$3.522 per 100 pounds. This weighted average is based upon the December deliveries on contracts involving about 4,148 tons of undelivered Canadian paper.

The weighted average market price of December, 1922, of standard roll news in car load lots f. o. b. mill, based upon domestic purchases totaling about 13,000 tons was \$3.873 per 100 pounds.

Swedish Pulp Workers Must Agree by Jan. 29

According to the most recent cable advices from Sweden available, mill owners have given their employes until January 29 to accede to their demands for a reduction in wages, ranging between 10 and 20 per cent, or face a general lockout. In the course of the past week the pulp strike has spread until it now involves 11,000 workmen.

Less than half this number were involved on January 17 when first advices were received in this country.

The following cable was received by Dr. Hugh P. Baker, executive-secretary of the American Paper and Pulp Association, of 18 East 41st street, New York, Tuesday afternoon: "Arbitration meeting accomplished nothing. Eleven thousand men, equalling two-thirds of the workmen in pulp industry, are now striking. Unless arbitration is successful employers of whole industry will declare lockout January 29."

The arbitration meeting referred to in the cable was one held last Friday, at which representatives of the laborers and mill owners tried in vain to reconcile the 40 per cent disparagement in their views. Despite the contemplated reductions in the salaries of employees, the latter are still holding out for wage increases amounting to approximately 20 per cent. It is estimated that the present status of the strike involves a tieup of approximately 675,000 tons out of Sweden's 1,000,000 ton annual wood pulp production.

The 11,000 men now on strike constitute nearly 70 per cent of the industry's total workers, and is more than twice the number reported last week.

American Writing Starts Up at Unionville

[FROM OUR REGULAR CORRESPONDENT.]

UNIONVILLE, Conn., January 22, 1923.—The Platner & Porter division of the American Writing Paper Company which has been shut down for several weeks, started up again Monday of last week.

Pacific States Paper Assn. Answers Complaint

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 24, 1923.—The Federal Trade Commission has received the reply of the Pacific States Paper Trade Association in answer to the formal complaint issued by the commission in Docket 934 against this association and a number of allied associations. The other associations mentioned in the complaint include the Seattle-Tacoma Paper Trade Council, Portland Paper Trade Association, Spokane Paper Dealers' Association, Paper Trade Conference of San Francisco, Los Angeles Wholesale Paper Shippers' Association.

In the answer filed by these various associations general denial is made of the commission's complaint but admissions are made to some specific charges. In addition to the replies received from these associations several individual replies were received from members who state that they are no longer members of these various associations.

The Pacific States Paper Trade Association, which is the parent association, after making a general denial of the commission's complaint, admits that it handles the distribution of paper to so-called legitimate dealers. This association also admits that its activities have to do with interstate commerce, and while the Pacific States Association denies that it fixes prices, some of the local associations admit that they have price-fixing activities. Some of the subsidiary associations also admit that they have a system of fines, but they claim that these fines, together with the price activities, are confined to intrastate commerce and therefore they claim that the commission has no jurisdiction.

One of the interesting points in connection with this case is the fact that attorneys for the various associations met in San Francisco recently and requested the commission to have a conference with the attorneys. The commission has agreed to do this and a conference will be held here on February 5. Officials of the commission will not discuss the matter, but the information has leaked out here that attorneys for the association will ask the commission to make a stipulation.

If this should be done the case, of course, will never come up for hearing or argument.

Paper Developments for New Foundland

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., January 15, 1923.—News of what might be called a semi-official character, comes from Newfoundland of the establishment at an early date of another pulp and paper plant in the Island colony. The statement is made in a St. John's paper, owned by Hon. W. F. Coaker, Minister of Marine and Fisheries in the Newfoundland Government, and with inside sources of information, that a company of United States capitalists will soon establish a \$25,000,000 pulp and paper development along the watershed of Grand Lake and Deer Lake. Two other developments on the Humber River are also announced.

The executive of one of these undertakings will include a group of news print men represented by Mooney and Van Dyke, and some American capitalists who hold large timber areas in Newfoundland and Labrador.

Garden City Paper Mills to Add Machine

[FROM OUR REGULAR CORRESPONDENT.]

TORONTO, Ont., January 22, 1923.—The Garden City Paper Mills Company, Limited, Merritton and St. Catharines, Ontario, makers of the popular and well-known Garden City lines of tissues, toiles, and light weight specialties, has completed plans and arrangements for the installation of another paper machine to make tissue and light weight papers from rag and wood stock. Operations are beginning and it is expected that the plant will be running in the summer of this year.

PULP AND PAPER MEN MEET DURING WEEK IN MONTREAL

Tenth Annual Convention of Canadian Pulp and Paper Association, and Meetings of Various Forestry and Lumber Associations are Held—George Carruthers, Chairman of the Joint Committee on Vocational Education Is Tendered Complimentary Banquet—New Paper Mill, It Is Reported, Will be Started at St. Stephen in the Spring—May Erect New Pulp Mill in Grand Prairie Country.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 22, 1923.—Montreal is this week the centre of a gathering of pulp and paper men and lumbermen from all over the Dominion, the occasion being the tenth annual meeting of the Canadian Pulp and Paper Association, and meetings of various Forestry and Lumber Associations which are always held in conjunction with the first named. Reports covering the operations of the various sections are being presented at sectional meetings, prior to the annual meeting which is being held as usual in the Ritz Carlton Hotel, and at the sectional meetings special papers on a variety of topics of interest to the trade are also being given. One of the matters coming before the annual meeting is the question of annual dues for members. These are assessed on the basis of 2 cents per ton for mechanical pulp; 3 cents per ton for chemical pulp; 4 cents per ton for news print, boards, wrappings, sheathings and miscellaneous; 5 cents on bookpapers, writing, coated and tissue papers. Under the amendment now proposed this basis will be continued, with the proviso that no member shall be assessed for less than \$100 a year and that members located on the Pacific Coast shall be assessed on the basis of 50 per cent of the foregoing amount. The speakers at the annual luncheon are Sir Edmund Walker, president of the Canadian Bank of Commerce and S. E. Thomason, vice-president of the American Newspapers Publishers' Ass'n and general manager of the *Chicago Tribune*. At the annual dinner, the principal guest of honor will be Professor Stephen B. Leacock, McGill University. It is expected that H. F. E. Kent of the Kinleith Paper Mills, Toronto, will be elected president of the Association for the ensuing year in succession to Geo. M. McKee, formerly of the Donnacona Company.

George Carruthers Honored

During the week, a complimentary dinner was given to George Carruthers, president of the Interlake Tissue Mills, and chairman of the Joint Committee on Vocational Education. This dinner was tendered to him at the Mount Royal Hotel by his friends on the committee and a few others as a tribute to his self-sacrificing efforts in connection with vocational education. A unique souvenir menu was distributed containing a characteristic portrait of Mr. Carruthers and a versified tribute to his character and personality. The committee has already issued three text books dealing with various phases of the pulp and paper industry and has two more on the press. Mr. Carruthers was presented with one marked Vol. 6, in the same style of binding, but inside instead of being filled with technical matter, it contained a silver flask filled with Scotch Whisky. Other contributions to the evening's program were a number of parodies of popular songs with Mr. Carruthers mentioned as the hero.

Boom in Industry in New Brunswick

The hydro-electric development on the Musquash by the Government of New Brunswick under the direction of the New Brunswick Electric Power Commission, has caused Charlotte and St. John counties, in New Brunswick, to experience sudden booms in lumber manufacture as well as pulp and paper manufacture. St. Stephen will be the scene of a new paper mill which will

be started in the spring. The identity of the firm that is to establish the mill is shrouded in mystery and known only to the council of the Board of Trade of St. Stephen. Engineers of the company have been at work at St. Stephen surveying sites, and options have been secured on two. The plans call for a mill of about 20,000 tons of news print in annual manufacture. The pulp mill of the Nashwaak Pulp and Paper Company, Limited, at St. John, is being greatly enlarged. The capacity will be increased at least one-half. The electric current from the Muskuash station has been especially efficacious in operating lath mills. More lath mills are now being operated in New Brunswick than ever before. It is expected that the output of laths for the year 1923, will exceed that of any other year. The Fraser Companies, Limited, alone are operating an even dozen lath mills in New Brunswick. In St. Martins and vicinity no less than two dozen lath mills are being operated this winter, with indications of more portable mills being started.

Another Big Hydro-Electric Project

One of the most important hydro-electric projects yet planned in the Province of Quebec is now well in hand. The plan calls for the harnessing of the famous Gres Falls and Gabelle Rapids of the St. Maurice River, controlled by the Shawinigan Water and Power Company, Limited. For the purpose of the development, a new company has been formed, a subsidiary of the Shawinigan organization, under the name of the St. Maurice Power Company, Limited, which now holds the title to the two big sites. It is provided in the plan of development, which has been mapped out by the Shawinigan engineers, that a concrete dam will be erected which will have a length of 1,547 feet, extending across the river. Installation will involve four vertical type turbines, and generators each having a capacity of 30,000 horse power, providing a total installed capacity of 120,000 horse power. There will be room provided in the power house for installation of two additional units. Through its advantage of ownership of the flow of the waters, the St. Maurice Company will be permitted to use the full pressure at the points in question. The location will also have the full advantage of the huge Gouin storage dam, the third largest of its kind in the world, which has successfully regulated the flow of the river since it was first brought into operation.

To Add Half Million H. P.

Announcements are appearing in the local press of the change of name of the Montreal Public Service Corporation to that of the Quebec-New England Hydro-Electric Corporation. As will be remembered at the last session of the Provincial Legislature, a bill was passed authorizing this change and considerably extending the powers of this corporation. There seems to be little doubt but what this company will now launch out in a power development scheme which will ultimately add a million-horse power to that already possessed by the company. Among the first properties which will receive attention is that at Carillon, where the company has secured riparian and river bed rights. It is estimated that this project will develop eventually two hundred and fifty thousand horse power, while extensions and improvements to already existing plants will extend the total to the half-million mark.

Pulp Mill for Prairie Country

Provided satisfactory shipping arrangements can be made with the E. D. & B. C. Railway, Messrs. Foley, Welsh and Stewart will erect a pulp mill in the Grande Prairie country. Frederick Chase, field manager for the timber interests of the big contracting firm, is a visitor in the city from the North, bringing the foregoing information, and states if timber limits lying in the country south of which they are seeking are secured the company will erect mills capable of shipping many cars of pulp per year, and giving employment to hundreds of men.

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DR. RINDFUSS SPEAKS ON PAPER STANDARDIZATION

Secretary of American Writing Paper Co. Tells Paper Users and Paper Men at Kalamazoo Regarding the Success With Which the Company Is Meeting in the Standardization of Raw Materials, Process and the Product Itself—Michigan Division of the American Pulp and Paper Mill Superintendents Association Meet at the Park-American Hotel—Eddy Paper Co. Makes Changes.

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., January 20, 1923.—Dr. R. E. Rindfuss, secretary of the American Writing Paper Company and R. P. Wood, of the educational department of the same concern, addressed the united gathering of the Kalamazoo Typothetae and Kalamazoo Advertising League, held Wednesday evening at the Park-American Hotel.

The making of paper and the sale and standardization of that commodity formed the subject matter of Dr. Rindfuss' address. His introductory remarks were devoted to a consideration of paper manufacture in which he touched rapidly on wood pulp, ground wood and chemical pulp, sulphite and sulphate, rags of all grades, rag content paper, also the possibility of using other fibers for the making of paper. For the benefit of the printers and ad men, he told of making paper from corn stalks, esparto cotton lintels, declaring in conclusion "this is an economic problem as well as a technical one."

A very interesting series of pictures of mills of the American Writing Paper Company were then shown. These gave in detail all operations from the time the raw stock enters the mill until it emerges in the form of the finished product.

Of particular interest to everyone was his discussion of standardization and sales. He declared that the American Writing Paper Company, in an effort to eliminate waste and effect practical economies has standardized its complete line to 55 grades of paper.

"At that," he added, "it requires sixty carloads of paper to sample our line and prepare our accurate and comprehensive 'engineering hand books' of 400 pages each."

During his discussion of marketing and standardization, he quoted freely from an editorial in the U. T. A. Bulletin, which demanded standardization of various lines, elimination of numerous jobbers brands, which would cut losses by half and stimulate turnover of stock immensely.

He declared that the manufacturer of paper must remember he is making, not merely paper, but items of paper and that it is all important that the number of items be maintained at the lowest possible.

"We are carrying this out," said Dr. Rindfuss, "by a standardization of raw materials; standardization of process and by the product itself, that is making the quality stay put. Our success in standardization is shown by the fact, that though we are now producing six times the amount of Eagle A papers that we did twelve months ago, we are actually stocking only one-third the number of items."

With reference to distribution, he told of the wall that formerly stood between the papermaker and the printer and said he was glad this was being removed. He spoke of the important part the paper jobber can play in being the natural go-between between maker and user of paper. He should act as a welding force, able to present to each element the problems of the other.

In distribution he advocated a standardization of price dealing not for one transaction, but for permanent relations. He strongly advocated advertised goods and their standardization for use. He declared that in the future manufactured products of all kinds

will be more and more interpreted in terms of use and not heralded broadcast in glittering generalities as in the past.

This banquet, staged on the 200th anniversary of the birth of Benjamin Franklin, was made doubly notable by that fact. Tribute was paid the memory of that printer, patriot and statesman. It was a colorful affair, all guests wearing gay head dresses and tooting an endless variety of joyous noise makers. A shower of veri-colored balloons were batted here and there by the fun makers.

Lorie Bondy, of the Whittaker Paper Company, Detroit, sang during the evening, his contributions being much enjoyed. Kalamazoo papermakers, executives and superintendents were out in force to greet the American Writing officials.

Dr. Rindfuss and Mr. Wood were in Lansing, Tuesday, appearing there before a district meeting of accountants.

Superintendents Meet at Park-American Hotel

The Michigan Division of the American Pulp and Paper Mill Superintendents' Association, held their January dinner and program at the Park-American Hotel, Thursday evening. The speaker on this occasion was L. C. Rove, of the Nordberg Manufacturing Company, Milwaukee. He talked on the development of uniflow steam engines, giving an instructive and interesting address. Many of the points, brought out were developed more in detail through questions and answers at the conclusion of his talk.

Eddy Paper Co. Changes

Some important changes and improvements have been authorized in the plants of the Eddy Paper Corporation of Illinois. George T. Wolf, of Three Rivers, treasurer of the company, has just returned from an important meeting of the directors, held the past week in Chicago.

It was definitely determined to dismantle the carton division, now a unit of the White Pigeon division. This unit has never been profitable and the space will be used for other purposes. In addition it is planned to erect a large storage warehouse at Three Rivers, in which to house immense quantities of finished containers. While plans for this structure have not been prepared, it is likely it will be of heavy corrugated steel, with concrete floors and a good roof.

In connection with the Eddy Corporation's future plans it is also stated that the company will discontinue the manufacture of wall board, thus abandoning a plan at one time favored by Oscar Gumbinsky. Mr. Wolf is not authority for this last statement, but the informant added that it had been found unprofitable to make wall board, owing to the impossibility of getting an economical cut on the machines.

Changes in Rex Paper Co. Directors

The annual meeting of the Rex Paper Company, held the past week, resulted in the retirement from the board of directors of W. M. Loveland, president of the Watervleit Paper Company; A. L. Aldrich, of the Beloit Iron Works, Beloit, and Edwin H. Hacking, former secretary of the company. These vacancies were filled by the election of Mrs. John F. King, Harry C. Bradford and E. V. McCulver, all of Kalamazoo.

The other members of the directorate, all re-elected, are Merrill B. King, Clarence A. Bradford, both of Kalamazoo; W. G. Erwin, Columbus, Ind., and Harry H. Cramer, Minneapolis, Minn.

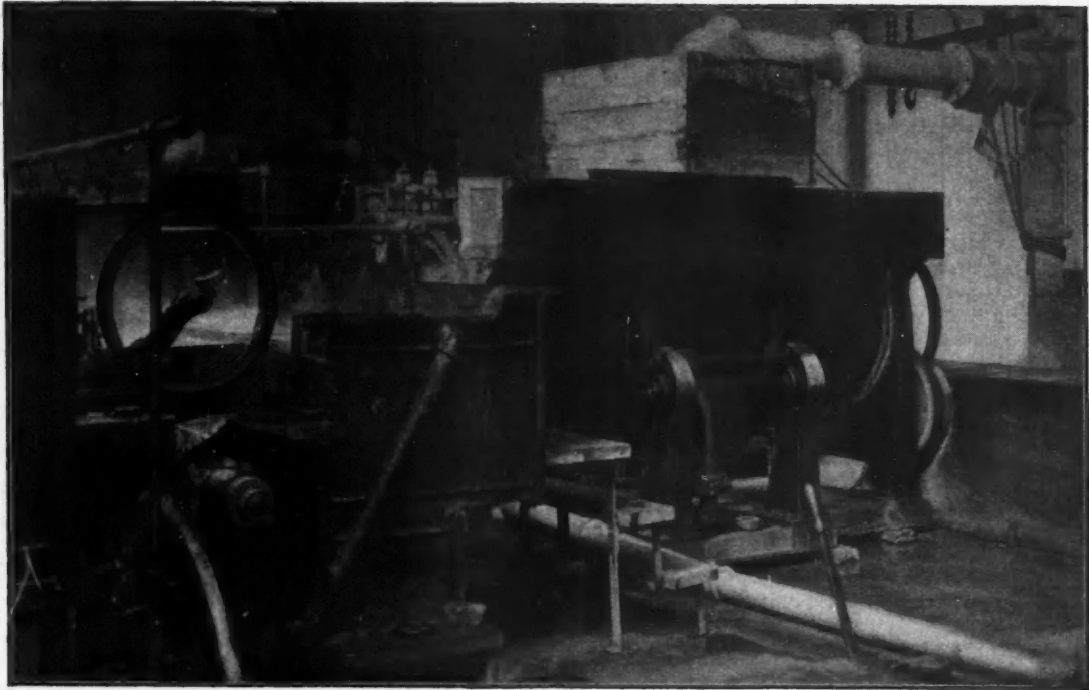
The election of officers resulted in retaining M. B. King as president and C. A. Bradford as vice-president and general sales manager. Harry C. Bradford was made secretary and E. V. McCulver, treasurer.

The past year has been an unusually successful one for the Rex Paper Company and the prospects for 1923 are even better.

General News of the Trade

After four years active service as traffic manager of the Cham-

(Continued on page 22)



For Five Years
at the
Fitchburg Paper Company

This BIRD SCREEN has daily supplied 15 tons of book paper stock to a 90-inch machine.

Now there are 6 BIRD SCREENS, including the two installed last year in connection with their new 156-inch machine. These will be illustrated in a later issue.

The Fitchburg Paper Company's experience is convincing evidence of the superlative service rendered by BIRD SCREENS.

BIRD MACHINE COMPANY

South Walpole

Massachusetts

Western Representative

*T. H. Savery, Jr., 1718 Republic Bldg.
 Chicago, Ill.*

Canadian Builders of Bird Machinery

*Canadian Ingersoll-Rand Co., Ltd.
 260 St. James Street
 Montreal, Canada*

4744

12,000 Tons of Paper pass through Bird Screens Daily

PAPER DEMAND IN CHICAGO CAUSES AIR OF OPTIMISM

Mill Men and Paper Merchants Both State That Inquiries and Orders are Numerous—Due to the High Cost of Casein, It Is Reported, Book Papers are Advanced—Demand for Wrapping Paper Which Has Been Quiet Since the Holidays Begins to Show Improvement—Paper Stock in Good Demand With Bright Prospects for Continued Improvement—General News of the Trade.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., January 22, 1923.—Inquiries and orders received by mill representatives and paper merchants in Chicago since the first of the year have been sufficiently large in number to give the trade a spirit of optimism when forecasting prospects for the immediate future. Orders are being secured in large numbers. While mill representatives state that some of these orders are for large quantities, the local paper merchants state that the large orders are few. Most of the prevailing business is for immediate use and not very great in volume. The attitude of publishers who buy their stock and place it in storage at printing houses is rather puzzling. Heretofore, it has been their custom to buy a sufficient quantity to run them for a period of three months to a year, but at the present time they are buying from month to month. In view of the steady market and advancing prices no logical reason can be found for this attitude, but nevertheless it prevails. Exceptional encouragement has been received by the book paper salesmen through numerous purchases made by printing houses for large editions of catalogs and other publications.

General Business Good

General business conditions in Chicago are exceptionally good. The stride that was struck late last fall continued over the new year and is still in evidence. Building continues unabated and practically every industry is in much better condition that it has been for many months. The railroad situation alone caused trouble. While there is a noticeable improvement in shipments, it is far from normal. Cars are arriving in this city ten days to two weeks late when shipped from distant points, while near-by hauls are running fairly well on schedule. There is, however, a scarcity of cars and industries in general are looking forward to the use of the numerous new freight cars that are being bought by practically all the railroads.

Coated Papers Advance

Due to the high cost of casein coated papers have advanced from 8½ at 9 cents to 9 at 10¼ cents. In spite of the advance, coated papers are in big demand. Several mills have placed a combination paper in this market that is in some instances serving the purpose of coated book paper. It is admittedly of inferior grade, selling at a price of approximately one-half a cent a pound less than the coated paper. It is not believed that this grade will to any extent replace or attempt to replace coated book paper, except in instances where a publisher has a run that will consume a number of carloads, in which case it would be to his advantage to save the difference, providing the paper is suitable. For ordinary black and white printing it is very satisfactory, while it has not met with much success in the use of colored printing.

Bond and ledger stock is moving at its regular pace and prices are firm.

Following an exceptional demand for coarse papers, especially wrapping, at the close of the holiday season, this branch of the industry has been quiet until the last few days. Orders are beginning to appear and prices are firm.

Summarizing the demand for papers one of the local merchants

put the situation in these few words: "The regular trade is buying freely but not to excess; specials are going very slowly."

Good Demand for Paper Stock

Old papers are in good demand and prices are advancing. The common grades are in the greatest demand. According to Mr. Solomon of the Mendelsohn Brothers Paper Stock Company, there is an exceptionally good outlook in the old paper market. He states that prospects are very bright and that mills have been forced to offer advances sufficient to induce the saving of stock and the paper grading on the part of the smaller dealers.

General Trade News

The Eagle Paper Box Manufacturing Company has changed its name to E. B. Sode Paper Box Company.

Forsyth Brothers Company has increased its capital stock from \$25,000 to \$50,000.

Messinger Paper Company has increased its stock from \$150,000 to \$200,000. This company is sending samples to the trade of their "certificate bond."

It is learned in the Chicago market that the Everett Pulp and Paper Company, Everett, Wash., has just increased its capital stock from \$672,000 to \$2,400,000.

The Eddy Paper Stock on the local market has been holding its own and advanced to where it is now selling in the neighborhood of \$28 to \$29 per share.

SPEAKS ON PAPER STANDARDIZATION

(Continued from page 20)

ber of Commerce, George J. Bolender has tendered his resignation and will on February 1 take the post of traffic manager of the Western Papermakers' Chemical Company, a concern that has divisions in ten different states and is one of the largest producers of various paper mill products in America.

Under the four years' direction of Mr. Bolender, the Chamber's traffic bureau has rendered exceptionally able service.

During their recent stay in Kalamazoo, Dr. R. E. Rindfuss, secretary of the American Writing Paper Company; R. P. Wood, of the corporation's educational department, and Lorie Bondy, of the Whittiker Paper Company, visited the plant of the Kalamazoo Vegetable Parchment Company. They were shown through the entire mill property, the community house and the residential section of Parchment and were greatly impressed by the wonderful developments made there in a few years.

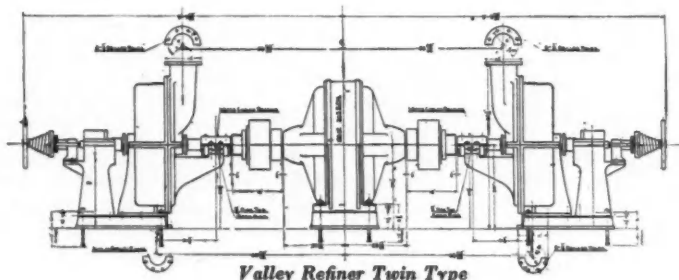
The Wolverine Carton Company, recently organized at Grand Rapids with a capital of \$150,000, has purchased the plant of the defunct Loraine Motor Company, located near that city. The structure is of brick and concrete, one story high and 70 by 500 feet in dimensions. The price paid was \$47,000 for building and entire adjoining property.

Bert H. Cooper, for several years assistant purchasing agent at the Kalamazoo Paper Company, where he worked directly under the supervision of A. E. Curtenius, secretary-treasurer of the company, has severed his connection with that concern and is now with the Kalamazoo Stationery Company. The acquisition by the Kalamazoo Stationery Company of the E-Z Opener bag mill at Taylorville, Ill., gives Mr. Cooper opportunity to fill a responsible position with his new connections. He will be located in the Kalamazoo office. K. R. Cobine, vice-president, having been transferred to the Taylorville division.

National Paper Products to Use K-B. Process

STOCKTON, Cal., January 22, 1923.—The National Paper Products Company has made arrangements with the Flintkote Company to use its K-B. process for waterproofing container and box board. The company expects to have this new product on the market by July 1.

Turning Grinder Rejects Into Dollars



That is the function of the Valley Refiner. The machine is built in Single and Twin types with capacities of $3\frac{1}{2}$ and 7 tons of groundwood pulp daily respectively. Not only does the Valley Refiner eliminate waste, but it turns the waste into a profitable product. The savings effected will pay for the machine in ninety days.

We will gladly furnish full details upon request.

VALLEY IRON WORKS COMPANY

Plant: APPLETON, WIS.

New York Office: 350 Madison Avenue

PAPER DEMAND IN TORONTO IS CONSTANTLY EXPANDING

Mills Are Getting Busier Following the Usual Quiet Spell Immediately After the Holidays—Better Demand for Rags and Paper Stocks Reported—New Pulp Mill at Kenora Expected to Be in Operation in March—Fred W. Hall's Paper Co. Opens Branch Warehouse in London, Ont.—Employees of F. W. Fisher Co. Have Annual Reunion—Canadian Wax Paper Manufacturers Organize.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., January 22, 1923.—Business is picking up each succeeding week and the mills are getting busier after the usual quiet spell immediately after the holidays. Travelers report that trade in various lines of paper outside of Toronto is very good but the printing trade in the city is still rather quiet. Many wholesalers and manufacturers from Toronto are this week attending the annual convention of the Canadian Pulp and Paper Association in Montreal. Box board plants are busy and the Frankford mill of the Canadian Paperboard Company resumed operations last week, after undergoing extensive repairs and additions which will materially increase the output. It is rumored there will be an advance in board prices during the coming week. Kraft and manila paper bags went up last week ten per cent owing to the higher cost of supplies.

The rag and paper stock market is getting busier. One local house is conducting an extensive advertising campaign in order to secure supplies and announces that the present price of old papers is ninety cents per hundred pounds and for old books and magazines one dollar and a quarter. Envelope manufacturers, paper box producers and other allied lines report business as steadily improving. Prices on all ranges of paper are stiff and are likely to continue unchanged, according to the views of the trade for some weeks.

Kenora Pulp Mill Nearing Completion

The new pulp plant, which has been erected at Kenora, Ont., by E. W. Backus, is nearing completion and it is expected that it will be in operation by March next. Work will be commenced on the excavations of the big news print plant early in the spring. Mr. Backus and his associates are spending two million dollars in the erection of the pulp mill and the plant for power development and, it is expected, that about two hundred men will be employed. The wood will be cut in the Lake of the Woods district where large reserves are held.

Wax Paper Industry is Prosperous

The annual meeting of the Appleford Company, of Hamilton, which has a controlling interest in the British-American Wax Paper Company, Toronto, was held recently and L. M. Appleford was elected president; James MacArthur, general manager and director; W. J. Moffatt, vice-president and William Ross, secretary. The wax paper industry is booming at the present time and the British American Company is several weeks behind in filling orders. The Appleford Company has made arrangements to establish a new plant in Hamilton for the manufacture of counter check books.

Opens Branch Warehouse in London

Fred W. Halls Paper Company, which for the last ten years has been in business in Toronto and has built up a large connection in flat papers, this week opened a branch warehouse in London, Ont. The location is at 90 York street in that city. The manager is Fred W. Halls, Jr., who has been associated with the Toronto house for the past seven years. He is a young man with a promising future in the trade. A full stock of printers' supplies will be carried in London.

President's Dinner at the Soo

George H. Mead, of Dayton, Ohio, accompanied by W. N. Hurlbut, H. Conway and Dr. Merchant of the headquarters staff from Dayton, were in Toronto last week conferring with Thomas Gibson, vice-president of the Spanish River Pulp and Paper Mills, and J. G. Gibson, secretary. The party left for Sault Ste. Marie to visit the plant at that point. One of the big events was the annual dinner of President Mead tendered to the executives and other heads of departments in that city. The banquet was a decided success and was largely attended.

Victoria Paper and Twine Will Extend

The annual meeting of the Victoria Paper and Twine Company, Limited, was held in Toronto last week and a satisfactory report was presented on the business done during the past year. The outlook is regarded as encouraging. All the old officers were re-elected, Charles V. Syrett being reappointed secretary and managing director. The company will extend its operation during the coming year in a number of lines. In the evening the staff was entertained at the home of Mr. and Mrs. Syrett.

Mr. Logie Joins Lincoln Mills Staff

Ben. Logie, who for the past nineteen years has been associated with the Toronto branch of the E. B. Eddy Company of Hull, Que., and who resigned his position recently, has joined the staff of the Lincoln Mills, Limited, of Merritton, and will be associated with George C. Winlow, sales manager of the firm. Mr. Logie will look after the Toronto trade. He is widely known in paper circles.

Annual Reunion of Fisher Company

The annual reunion of the employees of the F. W. Fisher Company, Limited, manufacturer of paper boxes, 92-94 Sherbourne street, Toronto, was held recently at the factory when the proceedings partook of the nature of a dinner and dance tendered the staff. Mr. Fisher was presented with a handsome electric table lamp and Gerald Wells, superintendent of the plant, with a cabinet of silver, accompanied by appropriate addresses. The company has recently added a printing department under the management of Wm. Fox, late of the Rapid Carton Company.

Notes and Jottings of the Trade

David F. Robertson, general manager of the Canadian Paperboard Company, Montreal, accompanied by Charles E. Whitten, secretary-treasurer of the company, was in Toronto last week calling upon the trade.

It is rumored that Dan Daverin, of Thorold, Ont., who for several years was superintendent of the plant of the Provincial Paper Mills in that town, is contemplating the erection of a new paper plant there.

The *Times-Journal*, of Fort William, Ont., last week issued a special pulp and paper supplement which was printed on the first news print turned out by the plant of the Fort William Paper Company, which is now in operation, running one machine. The second machine will be producing in a few days.

E. J. Hathaway, of the firm of Warwick Bros. & Rutter, manufacturing stationers, Toronto, has been appointed as the representative of the Board of Education on the Toronto Public Library Board.

At the regular monthly meeting of the Toronto Carton Club held last week encouraging reports were presented with regard to the trade prospects in cartons of all kinds for the coming year.

Kenneth Toy has joined the sales staff of the Provincial Paper Mills, Toronto, and will cover Western Ontario, succeeding B. B. Maguire, who will look after the company's interests in Toronto.

Among the callers on the Toronto paper trade recently were John C. Ebbles, of the American Writing Paper Company, Holyoke, Mass.; R. F. Dobbertein of the Standard Paper Company, Kalamazoo, Mich., and F. W. Snyder of the Warren Manufacturing Company, New York City.



1st

**PAPER
INDUSTRIES
EXPOSITION**

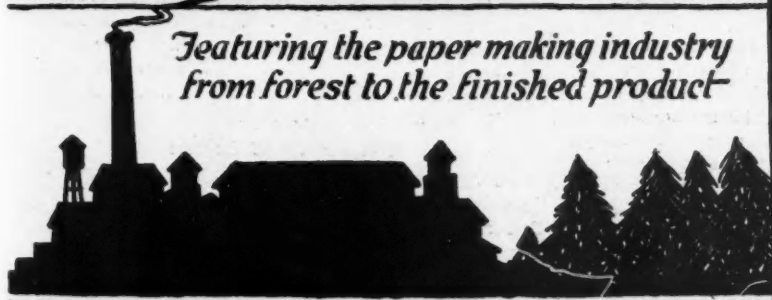
Week Commencing
APRIL 9th -1923

**GRAND CENTRAL
PALACE**

NEW YORK CITY

Management
INTERNATIONAL EXPOSITION CO.

*Featuring the paper making industry
from forest to the finished product*



*For floor diagram
and complete infor-
mation about exhibit
spaces—address*

**PAPER
INDUSTRIES
EXPOSITION**

**Grand Central
Palace
New York City**

PAPER DEMAND IMPROVES IN PHILADELPHIA MARKET

Trade Expected to Show a Satisfactory Expansion From Now On—Prices Firm on All Lines and Advances Are Announced on Some Varieties of Board and Other Papers—Considerable Improvement Also Takes Place in Market for Paper Stock—William Mann Co. Celebrates 75th Anniversary and 40th Anniversary of Old Reliable Mills at Lambertville, N. J.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, January 23, 1923.—Spottiness in fine paper sales which all the distributors noted for approximately a week preceding the last one, entirely disappeared during the last seven days and sales, to use the words of one of the best qualified to speak, "have now struck their pace." It cannot in truth, be said that the results of the week's experiences were quite up to the expectation of the moderately optimistic. But sales were most decidedly better than they were during the preceding week and even more satisfactory was the character of the business done, showing as it did a stability and a wholesomeness, regarded as of a permanent character. It quite justified the confidence which was expressed by nearly all the distributors as the last year was drawn to its close that the new one would be a period of sound, conservative and entirely satisfactory business, and so despite the fact that sales did not bulk up quite as large as was hoped, expectations really were attained in the character of the trading. The best opinion is that one need only wait, meanwhile however continuing a program of aggressive salesmanship, in order to have 1923 redeem the expectations which were made in the latter half of 1922.

Values on all the lines of fine papers firmly were held and though nearly all in the trade anticipate early notice of an advance, the only prospective increase prophesied with any degree of certainty is that on the better grade of the cardboards. Advance information has been received by some of the distributors that at least two of the well known brands will be advanced about 10 per cent on February 1 and it is expected that others will follow. While no positive statement with regard to fine papers generally has been received, the distributors are of the opinion that because of recent wage readjustments and increases, an advance in the price is sure to come.

In the coarse paper market the very satisfactory conditions previously maintaining continued and generally were intensified, so far as sales were concerned. Prices remain firm on all grades, save on one well known line of 36-inch corrugated straw rolls, which during the week, dropped in price 10 cents per roll. On the other hand advances were reported on news, box and chipboard, the latest quotation on the latter being \$65 a ton with probabilities of still further advances. News and pasted board prices also advanced during the week from \$5 to \$7 a ton.

In the paper stock market a, steady, although not sensational improvement took place on all grades, but with mixed, commons and container manila leading. The box board mills are experiencing a very good market for their product and they are therefore in a position of some competition among each other for a supply of stock with the consequence of slight advances during the week with others anticipated. The distinctively Philadelphia grading of container manila is in really active demand and though advances in the published quotations cannot yet be made, nearly all sales are on the basis of the outside figures. Mill buying of the whole line of better grades of paper stock is active, and it is quite sufficient to take from the warehouses material just as fast as it is assorted and baled, but it is not yet sufficiently on a competitive basis to have increased quotations.

Mann Co. Celebrates 75th Year

While the William Mann Company is celebrating with this new year, the 75th anniversary of its establishment by William Mann in half of the dwelling he then occupied at 74 North 4th street, there is also being rounded out twoscore years of activities of the old Reliable Mills, Lambertville, N. J., owned by this corporation and occupying a building whose history dates back to even before that of the Mann Company. This old structure originally a flour mill, was taken over forty years ago and was reconverted into a paper mill and here produced what the firm says was the first successful manufacture of parchment copying paper in this country. This product in the course of years secured a national distribution, particularly among railroads and a majority of the larger lines of the country used it exclusively. But mere history is not the only matter of interest which attaches at this time to the old Reliable Mills, because in them there just has been perfected and from them there is shortly to be placed on the market an American-made stereotyping paper believed by the firm to possess all the necessary qualities completely to supplant the English-made products now almost universally used. While considerable of this paper has been produced at Lambertville, it has been marketed thus far only to the extent of a trial supply sent to many of the largest newspapers in the country from which have been received reports of entire satisfaction and of approval, of such a character as to warrant the firm's launching in the near future of a widespread sales campaign for it. The original paper maker at the Lambertville mills is still on the payroll of the Mann Company, although he has been retired from active service. He is William E. Wagg. His successor, the present active paper man is Archie Ran. When the Mann firm began, the owner, manager, clerk, accountant and delivery man was William Mann; now there are on its record of employees 402 men and women of whom 260 are employed in the Mann factory and 30 in the paper mills at Lambertville. Of this organization more than 200 have a record of five years and upward; 69 of these have served 25 years or more and three are on the honor roll of a half century of service.

Universal Plant to Be Razed

The plant of the Universal Waste Products Company, 2546 to 2648 Callowhill street is to be dismantled. Meanwhile all the electrical equipment, baling machinery and other units have been stored in the warehouse of Adolph Rose & Son, Pier 78, South Wharves, and the offices of the Universal Company from yesterday on, temporarily were re-located at 620 S. 15th street, where manager William G. Biles is in charge. The company, however, is maintaining its fleet of barges from this port to New York, and running to the mill of the Philadelphia Paper Manufacturing Company at Manayunk.

A new location of large size and having the river frontage is being sought.

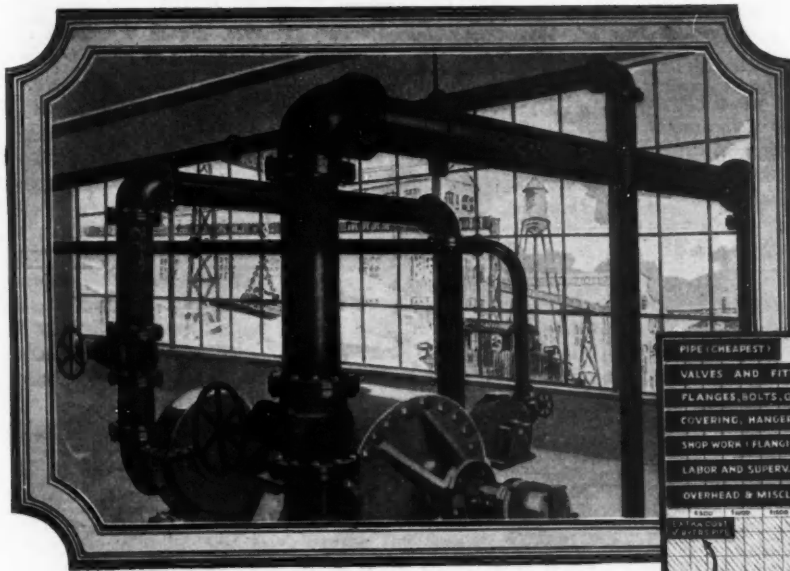
Charles Goldman Retires from Business

Charles Goldman, 725 Walnut street and 333 North American street, Philadelphia, has retired from the paper and paper stock business. The Goldman Paper & Paper Stock Company, Inc., composed of Harry Goldman, former manager of Charles Goldman's firm, Mr. George B. Goldman, son of Mr. Charles Goldman, and Emil Rosenthal have taken over the business and will continue the same policies as have been established by Mr. Charles Goldman for the past 25 years. Mr. Charles Goldman will hereafter devote his time to the purchase and sale of foreign and domestic pulp at 725 Walnut street, Philadelphia.

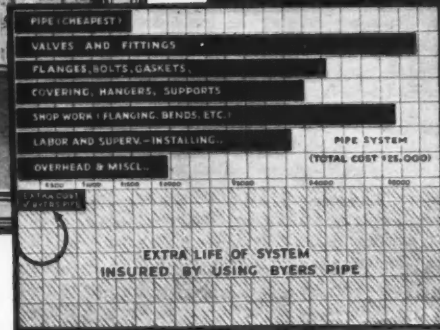
News Notes of Interest

J. N. Ball, some time ago on the sales force of the Paper House of Pennsylvania, during the week accepted a position with Sylvester S. Garrett, coarse paper and twines, Third and Spruce streets.

(Continued on page 28)



Itemized
Cost of a
Pipe System



How Big Investment Values are destroyed by pipe corrosion

One of the largest items of cost in a building or power plant, is the piping. Certainly it is also an item of greatest influence on cost of maintenance. Its relation to the investment value is therefore evident.

If the pipe used is lacking in rust-resistance, record-breaking replacement costs must, sooner or later, be faced.

Where piping is buried in walls and floors, the damage done to these is often greater than the cost of repairs to the pipe system itself. But even where the pipe is exposed and readily accessible, the cost of repairs and renewals is usually *ten times greater*

than the initial cost of the pipe which caused the failure.

Study the diagram! Note the usual items of cost in a pipe system, and the small extra cost of Byers pipe. Note also the fact that Byers pipe, being made from rust-resisting, genuine wrought iron, practically doubles the life of the system.

Byers Bulletin No. 38 contains Analyses of Items of Cost in a variety of pipe systems, with notes on replacement costs and corrosive conditions. Sent Free on request.

A. M. BYERS COMPANY, Pittsburgh, Pa.
Established 1864

New York Boston Philadelphia Cleveland
Chicago Tulsa Houston Los Angeles

BYERS PIPE

GENUINE WROUGHT IRON

Look for the Name and Year rolled in every length

Obituary

John Chalmers

CAMDEN, N. J., January 23, 1923.—After a connection lasting thirty-eight years with the West Jersey Paper Company, of this city, John Chalmers, secretary and general manager of the concern died suddenly Monday morning, of this week, succumbing to heart attack at his home, 57 Linden avenue, Haddonfield.

Mr. Chalmers was in his 62d year and was widely known in Camden, where he formerly resided. News of his death came as a great shock to his host of friends.

Mr. Chalmers had been ill with the grip, from which he recovered a week ago. He was at his office all during the past week and on Saturday evening he and Mrs. Chalmers enjoyed a moving picture show.

He was in good spirits when he retired for the night and was slumbering when seized with a heart attack. Mrs. Chalmers was awakened by her husband and hurriedly summoned a doctor, but her husband was beyond aid. Beside his wife he is survived by three daughters, Helen, Ruth and Elizabeth.

Mr. Chalmers had two hobbies, motoring and trap-shooting. He was a member of the Camden Shooting Association and for years was a familiar figure at the traps. In past years he was a crack shot, but of late had not been as regular in attendance at the shoots as heretofore. Nevertheless when he did attend he showed flashes of his old-time form.

Deceased was a member of the Camden Club and Trimble Lodge of Masons, which body will hold services at the grave, at 2 p. m., Wednesday.

That Mr. Chalmers' loss was keenly felt by his many friends and business associates is evidenced by the following communication received from the West Jersey Paper Manufacturing Company:

"It is through the medium of your Journal that the fraternalism of the paper industry is expressed. We feel that you can express for the officers and employees of this company, the West Jersey Paper Manufacturing Company the sincere sympathy and loss by the death of our Secretary and General Manager, Mr. John Chalmers. It is hard for us to eulogize Mr. Chalmers more than already expressed by his many friends and business associates throughout the paper jobbing trade, and mill supply houses of the industry."

Herbert G. Harvey

KALAMAZOO, Mich., January 20, 1923.—Herbert G. Harvey, 37 years old, secretary of the Saniwax Paper Company, died Saturday morning, 11:48, at Bronson Methodist Hospital, a victim of inflammatory rheumatism. He has been ill for several weeks and at one time showed decided improvement, but a change for the worse came Sunday.

Mr. Harvey was a native of Kalamazoo, being the son of George Harvey, of Los Angeles, Cal., who is also in poor health and it is doubtful if he will be able to come to Kalamazoo for the funeral. Mr. Harvey has had an active business career. He was at one time actively interested in the Kalamazoo-Texas and Silo Company, a venture that culminated disastrously from the financial standpoint. He was later a member of the Gazette repertorial staff and then went to Ottawa, Ill., as editor of a paper there. Between six and seven years ago he returned to this city and became secretary and office manager of the Saniwax Paper Company a position he has since held.

In addition to his father, the deceased is survived by a widow, three sons, Robert, Bertram and Wallace; a daughter, Mildred, and a sister, Mrs. W. G. Foard, Reed street.

The funeral and burial will be in charge of the Masons, the deceased being a member of Ottawa lodge.

Edson Woodbury Noyes

Haverhill, Mass., January 22, 1923.—Edson Woodbury Noyes of the Noyes Paper Company died suddenly of heart failure last week.

Mr. Noyes, a native of Atkinson, N. H., was 54 years old. He came to Haverhill when a boy and was educated here. He was at one time engaged in the manufacture of shoes in this city, the firm name being Noyes & Read. Later he engaged in the paper business, the firm being known as the Pulsifer Paper Company. The firm was later incorporated as the Noyes Paper Company and has conducted a successful business on Washington street.

Mr. Noyes was a member of and took an active interest in Merrimack Lodge of Masons, the Knights Templar, Haverhill Lodge of Elks, of which he was a past exalted ruler; the Pentucket Club, the Island Golf Club. He attended the Universalist Church. He was elected chairman of the license commission early this month, succeeding Alderman Samuel J. Levis.

He leaves a widow, Mrs. Grace Read Noyes and two daughters, the Misses Constance and Hildegard Noyes.

DEMAND IN PHILADELPHIA

(Continued from page 26)

N. T. Barry, of the N. T. Barry Company, Paschallville, Philadelphia, has connected himself with the National Paper Supply and Sanitary Products Company of New York.

Giffort Pinchot, nationally known as an advocate of forest conservation and inaugurated Governor of Pennsylvania on Tuesday of last week is expected to take drastic steps towards the preservation of existing and the extension of Pennsylvania Forestry reservations. Recently in a published paper he declared that 74 per cent of the products needed for pulpwood in the Commonwealth and 75 per cent of timber required for mining in the anthracite region and 84 per cent of the lumber were imported into the Commonwealth at a cost of at least \$100,000,000. He emphasized the fact that most of the Pennsylvania forest lands now destroyed were thus rendered unproducing by fire rather than by cutting and he dedicated himself to a program of building up these reservations.

G. A. Keeney of the Arrowhead Mills and Claude Smith of the Peerless Manufacturing Company visited the Philadelphia trade during the week.

Harvey Garrett, head of the E. T. Garrett Company, Lansdowne, is producing a new line of 1,000 sheet roll 5 x 7-inch sanitary toilet tissue and reports a rapidly growing market.

E. Latimer, Jr., 126 No. 4th street, has added to his delivery service an additional single team for expeditious shipments of rush order parcels.

Representing the Eastern Manufacturing Company, manufacturers of sulphite papers and weddings, Charles Lee called on the Quaker City trade.

Donald Weston, of the Esleek Manufacturing Company, specialists in onion skins was a caller on the trade.

George Hager, of the Poland Paper Company, New York headquarters, manufacturers of sulphite bond was another visitor to the trade.

Broderick Paper Co. Starts at Baltimore

BALTIMORE, Md., January 22, 1923.—The Broderick Paper Company opened for business January 2 at 304 Hanover street where it will carry a high grade line of book, bond and ledger papers. The president of the new concern is B. C. Broderick and the secretary is A. J. Walter, both of whom were with the well known house of Dobler & Mudge for a long number of years. The new house will probably specialize considerably in government business which Mr. Broderick handled for many years for Dobler & Mudge.



BELOIT IRON WORKS

Founded in 1858 and
from that time devoting
itself exclusively to the
building of

Paper Making Machines

BELOIT IRON WORKS

BELOIT, WISCONSIN, U. S. A.



New York Trade Jottings

George C. Kennedy, who needs no introduction to the jobbing trade, has become associated with the sales department of the Allied Paper Mills, Inc., headquarters New York.

* * *

Jacob Reiss & Co., of New York, have recently incorporated for \$30,000 under the laws of New York State, and will deal in paper mill supplies. The incorporators are J. Reiss, S. Reiss and S. Josephson.

* * *

O. M. Porter, secretary of the Woodlands Section of the American Paper and Pulp Association left New York Tuesday night of this week to represent the Association at the meeting of the Canadian Pulp and Paper Association.

* * *

R. Tyson White's Sons, manufacturers of paper boxes for perfumery, etc., of 320 Bridge street, Brooklyn, was one of the seventeen New York concerns elected to membership in the Merchants' Association at the meeting of the executive committee Tuesday of last week.

* * *

After twenty years of connection with the Henry Gade Corporation, 376 Broome street, Harry Wacker has acquired all the stock of the corporation, and will continue the policies and traditions of this business which was established December 1, 1875, by his uncle the late Henry Gade.

* * *

Dr. Hugh P. Baker, executive-secretary of the American Paper and Pulp Association left for Washington this Tuesday to make arrangements for a visit of the Hoover Committee of the Association, which is to meet Secretary Hoover and other high government officials Thursday and Friday of this week.

* * *

Colonel W. E. Haskell, vice-president of the International Paper Company, 30 Broad street, New York, left New York Tuesday night accompanied by his wife on a trip to Savannah, Ga. Mr. Harris, Colonel Haskell's assistant, left Wednesday evening for the meeting of the Canadian Pulp and Paper Association at Montreal.

* * *

"The Fundamental Principles of Purchasing" is the name of a new book by H. D. Murphy which should prove of interest to purchasing agents and executives in the paper industry. Bound with a semiflexible cover, the book is well printed and edited, the price being \$1.50, postpaid. It is published by The Purchasing Agent, Inc., of 19 Park Place, New York.

* * *

Preliminary plans are being made by Dr. Hugh P. Baker, executive secretary of the American Paper and Pulp Association for a series of conferences with paper manufacturers in different parts of the country. Beginning with Richmond, Va., February 7, Dr. Baker will visit Ohio manufacturers toward the middle of the month and those of the paper making districts of Wisconsin, including the Fox River and Wisconsin River Valley districts at the close of the month.

* * *

International Paper reached a new low on the movement at 49 $\frac{5}{8}$ during the morning selling, said the Wall Street Journal in its issue of Tuesday. This price represented a drop of six points from last week's high. This weakness was due to Wall Street forecasts of the annual report for 1922. It is said the operating loss will run between \$2,000,000 and \$3,000,000 and that depreciation charge on inventories will be almost as large. This would mean a deficit for 1922 of over \$5,000,000, compared with a deficit of

\$9,000,000 in 1921. Last year International Paper sold at additional \$12,500,000 5 per cent bonds at 87. A better showing for International Paper is looked for in the current year and it is hoped part of the deficit over the last two years will be wiped out.

* * *

Joseph Bailie, former Dean of the College of Agriculture and Forestry, of the University of Nanking, Nanking, China, was among the visitors at the office of R. S. Kellogg, secretary of the News Print Service Bureau, during the past week. Mr. Bailie is desirous of placing a few educated Chinamen in the American paper mills in order that they may become familiar with the Occidental methods of manufacturing and subsequently impart their information and experience to the paper making industry of China. Mr. Kellogg and Mr. Bailie had luncheon together last Tuesday.

* * *

The Quarter Century Society, Inc., an organization of officers and employes of the International Paper Company who have been in the continuous service of the company since its inception twenty-five years ago, was organized by Owen Shepherd, treasurer of the International, under New York State laws. Twenty-two charter members are registered in this novel club which has for its purpose "the promotion of good-fellowship and co-operation among the members and loyalty to the company with which they have seen such long service." A dinner at the Hotel Vanderbilt on the last day of this month will be the club's first official function. The officers are G. F. Underwood, president; Owen Shepherd, vice-president; C. W. Lyman, vice-president; A. H. White, vice-president; J. E. A. Hussey, secretary; and G. E. Smith, treasurer.

L. J. Parant Vice-President of St. Croix Paper Co.

WOODLAND, Me., January 22, 1923.—L. J. Parant has been promoted from general superintendent of the St. Croix Paper Company to vice-president and general manager, succeeding Thompson Smith.

Mr. Parant is a member of the Technical Association of the Pulp and Paper Industry and very well known among the news print circles as he was night superintendent for the International Paper Company at Fort Edward mill for a great many years and also had charge of building operations and the management of the sulphite mill in Green Bay, Wis., in 1902, returning to New York state and holding a responsible position with the Finch, Pruyn Company when its mill was being built, and was afterwards superintendent of the mill for approximately 11 years.

He left the Finch, Pruyn Company in 1915 to act as general superintendent of the St. Croix Paper Company.

Mr. Parant is an experienced sulphite and ground wood man and evidently the officials of the St. Croix Paper Company think considerable of his ability as an organizer and manager, so his friends are not greatly surprised that this well-earned promotion has been granted him.

Harry Kay Home From England

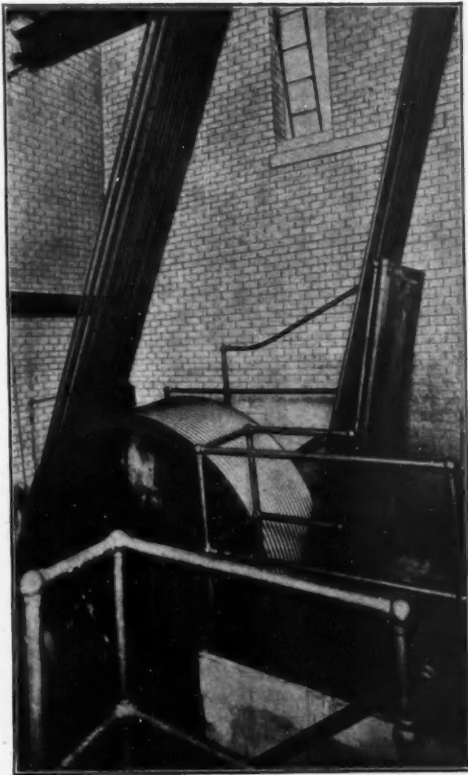
[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., January 22, 1923.—Harry Kay, head engineer of Price Prothers & Company, Ltd., Kenogami, Quebec, arrived in the city Saturday on his way back from a trip to England. While here he called upon numerous friends in the paper trade in this city, visiting the Black River plant of the St. Regis Paper Company Monday, and will leave for New York and Montreal Monday night.

A number of years ago Mr. Kay was employed as an engineer at the Bagley & Sewall Company plant here for several years. For several years he has been mechanical engineer for Charles Wamsley Company, paper machine manufacturers with a plant in Bury, England. He now returns to a position with the Canadian concern, after renewing old acquaintances here.

A Guaranteed Rope

for Your Drive



The reason rope drives replace other types is to eliminate slippage, facilitate the transmission of power around odd angles, and for economy's sake. The decision to use a rope drive, however, does not end the matter, as there are ropes and ropes—yet there is only *one* of the various makes which carries the famous red, white and blue *Tape-Marker Guarantee*, and that is *Columbian!*

“What is this Guarantee?” you ask. It is the manufacturer's pledge to jobber, dealer and user alike, of *Quality Rope*, tangibly guaranteed by means of the colored marker, which, when untwisted, shows the words “Guaranteed Rope, made by *Columbian Rope Co., Auburn, N. Y.*” This marker is in one continuous piece, just as long as the rope containing it.

Specify *Columbian Tape-Marked Pure Manila* and look for the red, white and blue *Tape-Marker* when installing a new drive or renewing your present one.



Columbian Rope Company

342-60 Genesee Street

Auburn, “The Cordage City,” N. Y.

Branches:

New York Chicago Boston Houston

RED WHITE BLUE GUARANTEED ROPE MADE BY COLUMBIAN ROPE CO., AUBURN, N. Y. RED WHITE BLUE
ASK FOR "COLUMBIAN" TRADE MARKED ROPE

SECRETARY WALLACE SUGGESTS FORESTRY BILL

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 20, 1923.—Secretary of Agriculture Wallace has submitted a suggested forestry bill to Representative Haugen, chairman of the House Committee on Agriculture, and has asked that some action be taken on the forestry question as soon as possible. The bill in full is as follows:

"Section 1. Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled: That the Secretary of Agriculture is hereby authorized and directed, in co-operation with appropriate officials of the various States or other suitable agencies, to recommend for each forest region of the United States the essential requirements in protecting timbered and cut-over lands from fire, with a view to continuous production of timber on lands chiefly suitable therefor; and the Secretary of Agriculture is further authorized, on such conditions as he may determine to be fair and reasonable in each State, to co-operate with the various States and through them with private and other agencies within the States in bringing into effect such essential requirements favorable for forest protection and renewal. There is hereby authorized to be appropriated annually, out of any money in the Treasury not otherwise appropriated, \$1,000,000 to enable the Secretary of Agriculture to carry out the provisions of sections 1 and 2 of this Act.

"Section 2. That in no case other than for preliminary investigations shall the amount expended by the Federal Government in any State during any fiscal year under the foregoing section exceed the amount expended by the State for the same purposes during the same fiscal year, including the expenditures of forest owners required by State law, and the Secretary of Agriculture is authorized to withhold co-operation, in whole or in part, from States which do not comply in legislation or in administrative practice with such requirements as shall be recommended in accordance with section 1 of this Act. In the co-operation extended to the several States due consideration shall be given to the protection of watersheds of navigable streams, but such co-operation may, in the discretion of the Secretary of Agriculture, be extended to any forest lands within the co-operating States.

"Section 3. That the Secretary of Agriculture is hereby authorized and directed to co-operate with the various States in the procurement, production, and distribution of forest seeds and plants, for the purpose of establishing forests upon denuded or unforested lands within such co-operating States; Provided, That the amount expended by the Federal government in co-operation with any State during any fiscal year for such purposes shall not exceed the amount expended by the State for the same purpose during the same fiscal year; and Provided, further, that the Secretary of Agriculture is authorized to withhold co-operation from any State which does not comply in legislation or in administration practice with such conditions and requirements as he shall prescribe to the end that forest tree seeds or plants so procured, produced, or distributed shall be used effectively for the planting of denuded or non-forested lands in such co-operating States. There is hereby authorized to be appropriated annually out of any moneys in the Treasury not otherwise appropriated \$100,000 to enable the Secretary of Agriculture to carry out the provisions of this section.

"Section 4. That the Secretary of Agriculture is hereby authorized and directed, in co-operation with appropriate officials of the various States or, in his discretion, with other public or private local agencies, to advise and assist the owners of farms in establishing, improving and renewing woodlots, shelter belts, wind-breaks, and other valuable forest growth, and in growing, marketing and renewing useful timber crops; Provided, That, except for preliminary investigations, the amount expended by the Federal Government under this section in co-operation with any State or

other co-operating agency during any fiscal year shall not exceed the amount expended by the State or other co-operating agency for the same purpose during the same fiscal year. There is hereby authorized to be appropriated annually, out of any moneys in the Treasury not otherwise appropriated, \$100,000 to enable the Secretary of Agriculture to carry out the provisions of this section.

"Section 5. That there is hereby authorized to be appropriated annually, out of any moneys in the Treasury not otherwise appropriated, the sum of \$2,000,000 to enable the National Forest Reservation Commission to carry out the purposes of the Act of March 1, 1911, entitled, An Act to enable any State to co-operate with any other State or States, or with the United States, for the protection of the watersheds of navigable stream and to appoint a commission for the acquisition of lands for the purpose of conserving the navigability of the navigable rivers, as amended.

"Section 6. That there is hereby authorized to be appropriated annually, out of any money in the Treasury not otherwise appropriated, the sum of \$600,000 to enable the Secretary of Agriculture to conduct experiments and investigations in reforestation and methods of cutting and utilizing timber, to establish forest experiment stations, and to conduct experiments, investigations and tests in the chemical, physical, and mechanical properties and utilization of native and foreign woods and other forest products, including timber tests, wood preservation, tests of wood and other fibrous materials for pulp and paper-making, and commercial demonstrations of improved materials, methods and processes, and such other tests and investigations as in the judgment of the Secretary of Agriculture shall be desirable to promote the most effective use of forest products in the United States. The investigations, experiments, tests, and demonstrations provided for by this section may be conducted independently, or in co-operation with other branches of the Federal Government, with State, county, and municipal agencies, educational institutions, business organizations, and individuals; and authority is hereby granted the Secretary of Agriculture to receive contributions, under such conditions as he may impose, from co-operators. Any money so contributed shall be covered into the Treasury and shall constitute a special fund, which is hereby appropriated and made available until expended, for the payment of the contributor's share of the expenses of conducting such investigation, experiment, or test, and for refunding to contributors amounts contributed by them in excess of their share of said expenses; Provided, That the Secretary of Agriculture shall expend such portions of the appropriations authorized by this section as he deems necessary to study the effects of tax methods and practices upon forest perpetuation; to devise tax laws designed to encourage the conservation and growing of timber, to co-operate with States' agencies in the consideration of such laws, and to investigate and encourage practicable methods of insuring standing timber or growing forests from losses by fire and other causes.

"Section 7. Neither the grants of authority contained in the foregoing sections nor the appropriation of funds as authorized therein shall be interpreted as limiting the authority granted by existing law to the Secretary of Agriculture to investigate forest conditions or to conduct other activities."

E. F. Woodhead Co. Moves Converting Plant

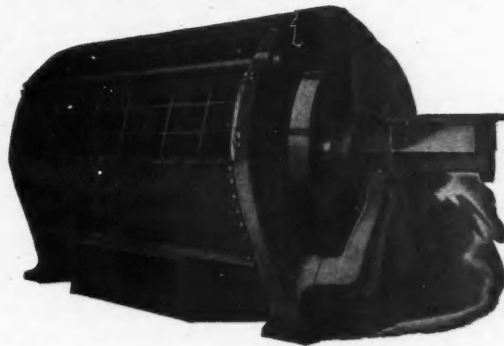
[FROM OUR REGULAR CORRESPONDENT.]

SWATHMORE, Pa., January 22, 1923.—The E. F. Woodhead Company, manufacturers of paper towels and toilet paper, has moved its converting department to its new plant recently purchased at Norristown, Pa., located in East Lafayette street, at Franklin street and Pennsylvania Railroad.

"IMPCO" TAILING SCREENER

FOR SCREENING GROUND WOOD TAILINGS

Very Low
Power
and
Upkeep Expense



Delivers
Rejections Free
from Good
Stock

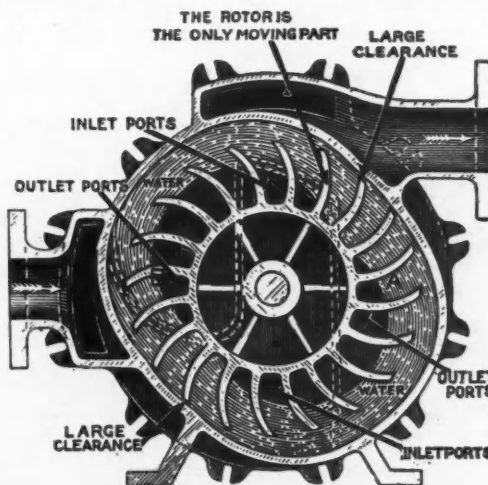
ANOTHER UNIT OF OUR CLOSED SYSTEM FOR PULP SCREENING
WRITE FOR FULL DETAILS CORRESPONDENCE A PLEASURE

IMPROVED PAPER MACHINERY CO. **Nashua, N. H.**
SHERBROOKE MACHINERY CO., LIMITED, SHERBROOKE, CANADA

THE HYTOR VACUUM PUMP

FOR FLAT BOX SERVICE

Vacuum
Produced
Absolutely
Without
Pulsation
—
No Vibration
—
Saves Wires



Only One
Moving Part
—
No Rods, Pistons,
Crank Shafts
Loose Moving Parts
and No Gears
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No Expert Attendance

Western Representative
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THE NASH ENGINEERING CO.
WILSON POINT ROAD
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SELECTING SCALE REMOVERS FOR PAPER MILL POWER PLANTS

WRITTEN SPECIALLY FOR THE PAPER TRADE JOURNAL BY W. F. SCHAPHORST
(Copyright, 1922, by W. F. Schaphorst)

The following article is the ninth in a series of articles to be printed in the PAPER TRADE JOURNAL on the subject of Power Plant Machinery for Paper Mills. In this series of articles it will be the aim of the author to go through the entire power plant of the paper mill and give the non-technical official a pretty good idea of what he should have in his mill. As it is, owners and officials who are responsible for the buying frequently know very little about the different types of power plant machinery on the market.

It has been authentically reported that in a series of 120 tests by the Illinois Central Railroad that 11 per cent greater mileage was obtained from locomotives during the month after freeing the boilers from scale than was obtained during the three months previous to cleaning. This is equivalent to a saving of 11 per cent of the fuel. In similar tests by other concerns savings range all the way from 8 per cent to 16 per cent. In a series of tests performed by Professor Schmidt of the University of Illinois on locomotive tubes covered with scale of thicknesses varying from zero up to 1/9 inch it was found that heat losses vary from zero at zero thickness to 16 per cent at a thickness of 1/9 inch.

On making a study of the curves plotted from the above tests the writer has developed the rule "48 multiplied by the square root of the thickness of the scale is equal to the percentage of loss." This, the writer found, closely represents the relation between scale thickness and fuel loss. A curve plotted from this rule shows that there is a rapid increase in loss when the scale is very thin and that the increase is not directly proportional to the thickness but rather as some power of the thickness. It also shows plainly that after a thickness of 1/9 inch is reached the rate of loss is not so great—not nearly so great—as during the earlier scale forming stages. After a thick scale is once formed a little added thickness or a considerably greater thickness doesn't make much difference. The important point is—take ALL of the scale off and take it off frequently.

Periodical scale removal is desirable for other reasons besides economy. Scale is often directly responsible for the overheating and burning out of boiler tubes when operating at heavy loads. At light loads a given thickness of scale may be harmless, the heat being transmitted without trouble. However, when forcing the boilers the temperature of the boiler shell naturally increases, often to such an extent that the scale adjacent to the shell becomes dry. When dry, scale is a more effective heat insulator than when wet and as a result there is grave danger of overheating and burning the shell or tubes. It is not uncommon in plants where the scale menace is lightly regarded to retube boilers completely every two or three years. With proper care tubes should last nearly as long as the boiler itself. It is cheaper to clean old tubes than to buy new ones.

Many Still Ignorant of Scale Problems

There are thousands of engineers and owners of plants throughout the United States who are still ignorant of the scale problem—who do not even know that their boiler tubes are coated with scale. One manufacturer writes: "In 75 per cent of the reports to us the officials or engineers claim that they have no scale or are using water which does not produce scale. Yet it is a well known fact that artesian well water is highly impregnated with scale making properties. In other words, because the water is clear and safe for drinking purposes and shows no muddy deposit they seem to think that it is free from scale properties. There are thousands of plants where no attention whatever is paid to scale, yet every

little while they find it necessary to retube their boilers and they simply put that down to wear and tear." Rainwater, snow water and distilled water are about the only waters that do not produce a serious amount of scale in boilers.

So-called boiler "compounds" for the treatment of scale are too frequently used in boilers in paper mill power plants. Compounds often seem to serve the purpose but they are unreliable. One can never be certain that ALL of the scale is loosened, or treated, because of the naturally varying thickness of scale throughout the boiler. The first cost of compounds is usually high and in addition there is the cost of damage done to the boiler in one way or another. Many compounds contain acids, such as muriatic, tannic, or acetic, and all of these acids attack iron. Professor Marks says in his Mechanical Engineers' Handbook: "General corrosion—is also caused by the action of certain boiler feed water compounds containing tannic acid, sulphate of copper, etc.—Great caution should be exercised in the use of such materials in boiler practice." If compounds are to be used at all a good rule to follow is to avoid all "secret" compounds. They are liable to be bad enough even when the chemical composition is known. Even soda ash, very frequently used and recommended, may be the cause of corrosion and there is no question but that it often causes foaming troubles.

Graphite is also commonly recommended and used for keeping the scale off the heating surface of boilers. The method is to first remove the scale thoroughly and apply graphite to the heating surface. It is claimed that scale will not adhere readily to the graphite. Then, as long as the boilers are in use, graphite is injected into the boiler so that it will mix with the scale and make it soft and easily crumbled. Preparations using graphite as a base and operating similarly are also on the market. While graphite and kindred preparations do not attack or harm the boiler metal the engineer can never be positive that these substances, like boiler compounds, are working effectively, without the use of mechanical tools. Further, the continual injection of graphite into a boiler and its collective adherence to the shell and tubes may of itself eventually become a menace.

The Objection to Oils

Kerosene or crude oil are also pet "cures" used by some paper mill engineers to overcome scale troubles. These oils are injected directly into the boiler and in certain cases they are apparently beneficial. However, their use should be discouraged because the lighter oils will always distill off and thick gum-like greases are left behind which adhere to the heating surfaces and are, according to some authorities, more effective in retarding heat transfer than is the scale itself. In extreme cases the grease will settle to the bottom of the boiler where it combines with the scale and mud and insulates against heat transfer so effectively that bags or blisters are formed in the boiler shell. Oil and grease should be kept out of boilers just as ardently as scale is kept out. The only thing the fire can do when the bottom of the boiler is covered with a thick layer of heat stopping oil is to heat the boiler shell, making it very hot—sometimes red hot. If the boiler is under pressure when the shell is red hot it is quite natural that the shell will bulge or "bag" as it is usually called, at the place where it is hottest. Bagging is bad, for it may be the forerunner of a disastrous boiler explosion. Foaming is also sometimes caused by oils due to the minerals they may contain. The minerals are liable to be converted into a soapy substance if the feed water is alkaline, also conducive to explosions.

(Continued on page 36)

VELURE SURFACE

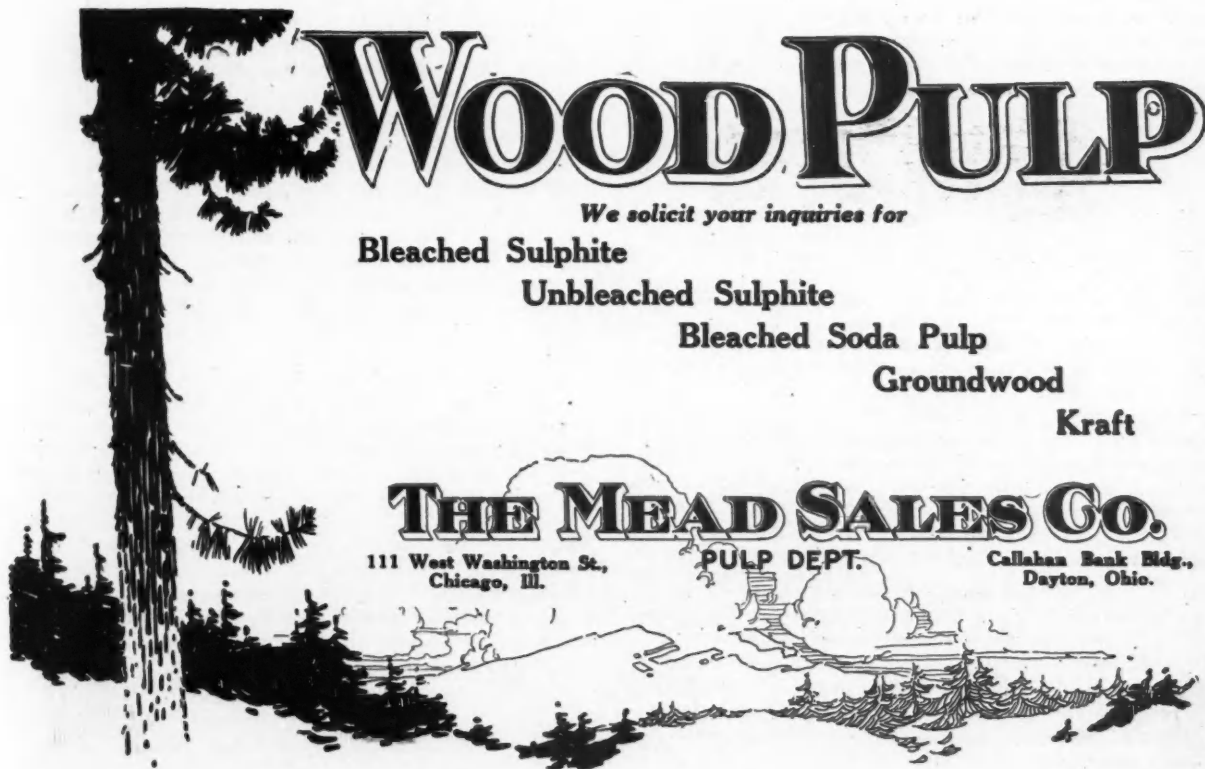
are recognized by the trade as

Standard Felts for Finish
and
VELURE Felts

are made only by

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WOOD PULP

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111 West Washington St., Chicago, Ill. PULP DEPT. Callahan Bank Bldg., Dayton, Ohio.

SCALE REMOVERS FOR PAPER MILL POWER PLANTS

(Continued from page 34)

In the United States and Europe, low water is the most common cause of boiler explosions, but carelessness of attendance is also largely blamable. Sometimes, after the explosions have occurred, experts cannot decide whether the explosion was due to low water or carelessness, but in any event they all agree that oil and grease are about as much of a boiler menace as is scale and they should all be kept out. They all cause explosions.

The Matter of Accidents

By the way, while touching on this subject, "Accidents," it has of late been forcefully brought to the writer's attention that most accidents are "common" accidents. When the number of accidents and their nature are compiled by statisticians it is found that most of them can be covered under certain very "common" headings. In spite of the warning signs to be seen in factories and public places all over the world and in spite of the signs we see every day at railroad crossings, "Stop, Look, Listen," we read the "common" news nearly every day that someone has been killed by a locomotive, or an automobile, or has been drowned, etc.

In this case, in spite of all of the articles that have been written about boiler explosions and the evils of grease in boilers, engineers are still inclined to ignore the warnings. They permit oil deposits to accumulate, and subject themselves to continual danger. If most accidents were "uncommon" accidents, excusable accidents, accidents not caused by negligence of the person killed or injured, it wouldn't be so bad. However, in many if not in most cases, the maimed or killed person is blamable himself. It is regrettable that this is the truth, but it seems that the only way to avoid it is through a continuation of present educational methods. Warnings must be repeated, repeated and repeated. Without such warnings it is certain that the number of casualties per year would be much greater than they are at the present time.

So, with the possibility of a disastrous explosion in mind it should be borne in mind that after grease once gets into the boiler water it is very difficult to extract. About the only way in which it can be removed perfectly is to distill the water, leaving the grease residue. This method, of course, would be too expensive and

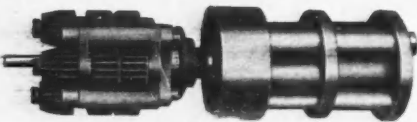


Fig. 1
Rotary type of tube cleaner, suitable for water tube boilers. For straight tubes. (Courtesy The Roto Company, Hartford, Conn.)

so we resort to modern mechanical filtering devices. With these devices, when steam first leaves the engine it is whirled through a separator where most of the grease is extracted by means of centrifugal force and the striking of the grease particles against the separator walls. Then the steam is condensed and the condensate is forced by pumps through filters of some kind or other, which remove most of the remaining grease. The cleansed water then re-enters the boilers. To be sure, every trace of oil is not removed. The writer knows of no manufacturer who will guarantee to remove every bit of grease and oil year in and year out. There are successful systems on the market, though, that cleanse the water to the extent that it is no longer harmful.

Filters Should Be Guaranteed

In buying filters it is a good plan to have the manufacturer make a definite guarantee of the performance of the filter. Have him guarantee the "minimum number of grains per thousand gallon of condensate" and insist that the manufacturer shall put it in writing. This method is followed in European countries and is a logical one. It should also be adopted in the United States.

Steam turbines have an important advantage over steam engines

in the matter of condensate cleanliness for the exhaust from turbines is always clean and free from oil. In turbines oil does not co-mingle with the steam because lubrication is not required—the blades and other internal parts in the turbine do not rub against other metallic parts; there is no metallic friction.

Even though compounds, graphite, kerosene, etc., assist in loosening the scale, the scale still remains in the boiler. To remove this scale frequent blowing out of hot boiler water is necessary and hot boiler water is expensive. Even then all of the scale is not removed. These scale removing materials, when doing their best, are therefore effective only partially.

In view of the above it is easy to understand the reason for



Fig. 2
Rotary type of cleaner for curved tube boilers such as the Badenhausen or Sterling boilers. Not usable on fire tube boilers.

the modern trend—the abandonment of internal "treatment" methods of scale removal and sole reliance upon the more certain mechanical methods.

Two Types of Mechanical Cleaners

In former years, before the invention of mechanical cleaners, it was necessary to chip out boiler scale by hand—with a hammer and chisel—a very expensive process. As a result boilers were not cleaned often enough. Today we have power driven cleaners operated by steam, compressed air or water, which do the work quickly, inexpensively, and thoroughly.

There are two types of mechanical cleaners on the market today—one rotary and the other vibratory—from which the paper mill authority will doubtless make his selection when the time comes to purchase a scale remover. The rotary cleaner contains a number of sharp cutters resembling grind stone dressers which rotate rapidly on the end of a shaft and are thrust against the scale by centrifugal force, or, they are accurately set to clean tubes of a definite diameter. These cutters virtually "bore their way through" the tubes. The rotary cleaner is used a great deal and although it may not always be thorough it is far superior to the hand method. If the scale is extremely hard it is difficult to get it all out with the centrifugal rotary type of cleaner. The centrifugal type will always remove the top soft, spongy layer without difficulty. The "rigid type," if accurately made, with new or unworn cutter heads, will do much better work. One objection to the turbine type of cleaner that is more or less serious is the rapidity of wear of the cutter heads and the rather high cost of replacements.

The amount of work a rotary cleaner will perform in a given time depends upon the amount of water pressure available, and the intelligence of the operator. One may have a pressure of 500 pounds per square inch 500 feet away from the machine, but if the water passes through numerous bends, reducers, etc., before it reaches the cleaner, the pressure is liable to drop a considerable amount. Pressures sometimes drop 90 per cent due to the above causes. A pressure of from 100 to 125 pounds, at the cleaner inlet is required for successful rapid work.

Machines frequently fail to perform their service on account of attempting to use a hose that is too small in diameter. In all cases hose should be used that is large enough. Do not try to get along with a too small hose.

A Frequent Source of Failure

A frequent source of failure to get satisfactory results is due

(Continued on page 38)

Agents
SUNDS AKTIEBOLAG
STRONG SULPHITE
indirect cooking

PERKINS-GOODWIN CO.
 NEW YORK

PULP and PAPER

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BLACK ★ STAR

Strong Unbleached Sulphite
 and
"ESSVIK"
Easy Bleaching Sulphite
 Stocks carried on Dock for prompt delivery

CHRISTIANIA NEW YORK GOTHENBURG

SCALE REMOVERS FOR PAPER MILL POWER PLANTS

(Continued from page 36)

to dirt in the water, which fills up the ports and thereby reduces the capacity of the machine. Water containing chips, cinders, and other foreign matter has been responsible for more cleaner failures than any cause. A cinder, one-quarter of one inch in diameter, entering the motor will fill up one of the holes in the stationary, or nozzle piece, and thereby reduce the capacity of the machine 12½ per cent. When the machine is not in use, it should be stored in a can of oil to keep the parts from rusting. When the machine is in operation, the bearings should be carefully watched to prevent them wearing in excess of 1/16" before renewal.

By careful handling any machine will do better work at less cost for maintenance than by careless handling, or allowing the wearing parts to rust.

The vibratory method is usually more thorough when conditions are right, as it does not leave a thin, hard layer next to the metal. The vibrator will usually remove more scale from tubes that have just been turbinized. Wear on the vibrator is insignificant and this type is therefore more durable; the upkeep cost is less. In general, though, the vibratory cleaner gives more satisfactory results on

is particularly valuable where the soot is exceedingly hard—where it is "caked on."

Sometimes boiler operators are possessed of the fear that if they clean old boiler tubes the tubes will crack or break due to the "rough usage" of the cleaner, and as a result the boiler will leak.

It is true that steam leaks have been caused in this way but such leaks should be considered fortunate discoveries rather than unfortunate "uncovers" because that's what it really is—an "uncovery"—if the word is allowable. The hole or crack was in existence anyway—was previously rusted or burned through or cracked—and the scale simply served as a cover. Scale is surely a menace on thin, weak, heated surfaces such as this if it ever is a menace, because by retarding the flow of heat, as it does, it makes the metal even weaker when it is heated. The punctured tube may burn as a result, the structure of the metal may change, and a dangerous blow-out or even a disastrous explosion may occur directly traceable to the punctured tube that was covered over with scale.

Increasing Boiler Efficiency

Because of the fact that scale is always on the pressure side of the metal, in with the water and steam, it acts as a natural cement or solder. By some this is considered a happy coincidence. However, it is best to get rid of the scale—every bit of it—and uncover every little leak that may exist. By so doing the efficiency of the boiler will be increased immensely and at the same time the defective parts may be replaced at a time when they SHOULD be replaced—before the occurrence of real trouble. The cost of replacing the tubes will be more than repaid by the fuel saving. In fact, the tubes would have to be replaced anyway, at a later date, and very likely at greater cost than when done on time. A "stitch in time" of this kind may be the means of saving the cost of an entire boiler. It is a comparatively simple matter to replace tubes or re-roll them. By caring for a boiler properly it will last many years; it SHOULD last at least 20 years. With improper care, though, it may be ruined in less than a year. A clean boiler is less dangerous and more efficient than a dirty one. Therefore scale should be eliminated not only for fuel saving reasons but for safety reasons as well. The scale remover thus serves as a "boiler inspector" in addition to its other generally acknowledged function.

Heavy Blow Unnecessary

To remove all of the scale from boiler tubes by the vibratory method does not require as heavy a blow as many engineers suppose. A light blow will do the trick very well. When a bell is struck by its clapper the blow need not necessarily be heavy. The blow simply causes the bell to vibrate very rapidly, the number of vibrations per second depending upon the size of the bell and the pitch or tone of the bell depending upon the number of vibrations. Whether the blow is light or heavy the number of vibrations will always be the same. Applied to cleaning scale from boiler tubes one manufacturer says that: "Ample vibrations can be secured with a force of 2½ foot-ounces or less, so light a tap that it can be taken upon the bare hand without discomfort. Moreover, when the cleaning tool is kept in continual motion, as it should be, no two of its taps ever reach the same spot on the tube's surface." The paper mill official therefore need have no fear regarding the use of the right kind of scale remover, even on a boiler that may be considered "delicate." The tool will not harm the boiler in any way.

Regarding Savings

Regarding savings due to the use of scale removers, the follow-

(Continued on page 40)

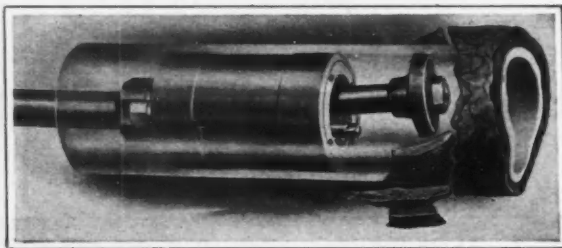


Fig. 3
Vibratory type of scale remover for fire tube boilers. (Courtesy Wm. B. Pierce Co., Buffalo, N. Y.)

fire tube boilers than on water tube boilers. In water tube boilers the thick scale itself is liable to interfere with the effective operation of the vibrator.

Cleaner Should Have "Recoil"

In selecting the vibratory cleaner be sure that it does not strike the tube too hard. It should have "recoil." That is, provision should be made for absorbing the shock. One side of the tube should not receive a harder blow than the other side. Improperly designed and built vibrators are liable to distort the tube. This type of cleaner is usually operated on the principle of the steam engine and is driven either by compressed air or steam at varying pressures. The pressure to be used depends upon the character of work to be done. The vibrator is moved back and forth at rates ranging from 3,500 to 10,000 times per minute. This rapid tapping of the vibrator sets up corresponding vibrations in the elastic steel tube which alternately elongates and flattens, in section. Scale, however, is not elastic and cannot bend and vibrate in unison with the steel tube. Hence the ease with which the scale is loosened when employing this method. If it is a water tube boiler the scale is then blown out by the exhaust. In fire tube boilers the scale falls to the bottom of the boiler. Ten to thirty tubes may be cleaned per hour depending upon the character and thickness of the scale. This principle of cleaning may be successfully applied to cleaning all kinds of water tube boilers, straight or curved tubes; condenser tubes; evaporator tubes; and superheater tubes.

Another Advantage in Vibratory Cleaner

The vibratory cleaner has another advantage when applied to water tube boilers in that while removing scale from the inside of the tube it simultaneously shakes the soot off the outside. This



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They're Growing Better
and Better*

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By concentrating on this one established quality line, you avoid tying up unnecessary capital and loading your warehouse with a number of brands.

BETTER BAGS CANNOT BE MADE

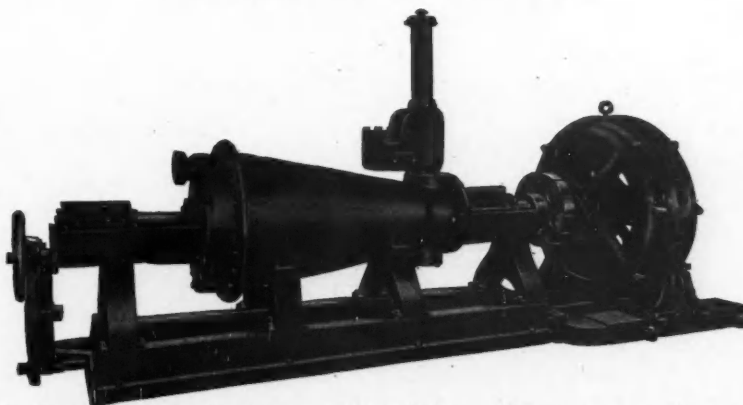
James Lawrence, President

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Jordan Engines, made in four sizes, either belt or direct connected motor driven

Manufacturers of

Paper Making Machinery

SCALE REMOVERS FOR PAPER MILL POWER PLANTS

(Continued from page 38)

ing figures have been brought to the writer's notice as prepared by the user of a rotary scale remover:

	Savings per year	Costs per year
Cost of cleaner bought 4 years ago for \$110.00—cleaned over 50 miles of 4 inch tubes. (No cost of motor repairs).....		\$27.50
Cutter head, cutters, bolts, etc.....		26.05
Coal savings:		
Average daily fuel consumed—12 tons at \$5.50 per ton. Conservatively figured at 3 per cent yearly saving 130 tons.....	\$712.80	
Coal savings arising from more frequent cleaning. With the cleaner the tubes are now cleaned four times a year instead of twice as with the old machine. Also more thorough cleaning due to the snug-fitting motor of the cleaner.		
Labor savings:		
With the old cleaner it required 80 days of labor at \$5.00 per day to clean all of the tubes twice a year, \$400.00.		
With the new cleaner it required 32 days of labor at \$5.00 per day to clean all of the tubes four times a year, \$160.00.		
Making a total of 48 labor days saved at \$5.00 per day	240.00	
Tube savings:		
When using the old cleaner an average of 25 tube replacements were made per year at \$10.00 per tube, \$250.00.		
Since the new cleaner was adopted no replacements were necessary, none.....	250.00	
Average yearly cost of the new cleaner	\$1,202.80	\$53.55
		53.55

Average yearly saving\$1,149.25

\$712.80 is equal to more than 13 times the yearly cost of cleaner and parts saved in coal.

\$240.00 is equal to more than 4 times the yearly cost of cleaner and parts saved in labor.

\$250.00 is equal to more than 4 times the yearly cost of cleaner and parts saved in failed tubes.

Summing up, therefore, the writer usually recommends the rotary type of cleaner for water tube boilers, preferably of the accurate "rigid" type. And for fire tube boilers the vibratory cleaner generally does better work.

When ordering, be sure to give the exact inside and outside diameter of the tubes; state whether water tube or return tubular; and whether the tubes are straight or curved. Give the make of boiler or boilers, the thickness of scale if possible, the frequency of cleaning, and other data that may be considered important. It is impossible to give the manufacturer too much information of this sort.

Another Little Point

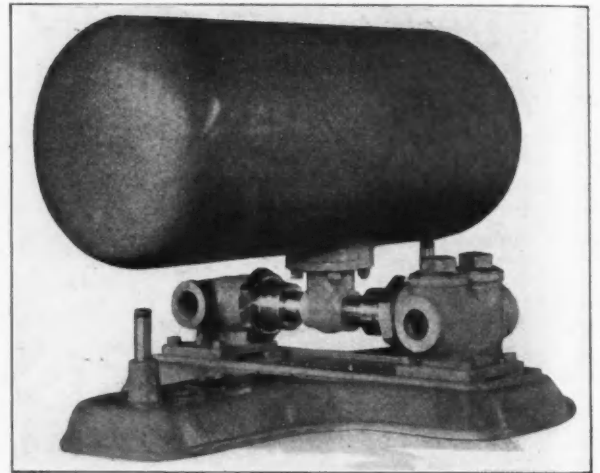
There is one other little point. A man goes to college for four or five or six years. When he gets through he has a wonderful index to what is in the encyclopedia. If he had put his mind on one thing he would have known it well. The difference between your education as superintendent of a board mill and the scientist is that you have put your mind on one thing and you know it. He has had his mind on a thousand things and doesn't know any of them.

I had a mechanical engineer lay out a plant for me and I went through; one of the first things I saw was a little motor run by a small single belt. The belt was on wrong side up. I said, "Pete, what is the matter with that belt? It is on wrong side up." "Oh," he said, "I didn't know there was a right and wrong side to a belt." He overlooked that in college.

Ellis Packless Trap

The Ellis Packless Trap is a recent invention of the Ellis Drier Company, Chicago, which is positively guaranteed not to stick. Each of the five types of traps has its particular use.

The direct return trap will automatically collect water of condensation and will discharge the water directly into the boiler. The direct return trap must be placed at least six feet—eight feet or higher whenever possible is recommended—above the water line in the boiler. If there is not sufficient pressure in the system being



ELLIS PACKLESS DIRECT RETURN TRAP

drained to force the water into the direct return trap, then a lifting trap must be used in connection with the direct return trap.

The lifting trap is usually placed on the floor of the boiler room or at some low point where the various condensation lines can drain. It collects the condensation and lifts the water to the direct return trap which in turn discharges the water to the boiler. If there is not sufficient pressure or head in the system to be drained to cause the condensation to flow into the lifting trap, then a vacuum trap must be used in place of a lifting trap.

The vacuum trap produces a vacuum by the use of a cold water spray in the trap tank. The cold water is controlled by a guide valve which opens when the trap is in the filling position, and closes when the trap tilts to discharge. The cold water when it sprays into the trap condenses the residual steam left in the tank, producing a vacuum which sucks or draws the water out of the return lines.

The separating trap is used to collect the condensation from a steam line or system of pipes and discharge the water to a hot well or tank and at the same time prevent the escape of steam.

As its name implies the metering trap is for the purpose of weighing condensation or liquids. It is specially equipped with inlet and discharge valves, automatic air relief and counter. The Ellis packless tilting meter trap is an accurate tilting trap meter as the friction on the joints remains constant.

Let Them Drink to your business health in cups you sell

each drink a cup—each cup a sale for you and at lowest cost of any cup on the market.

At such prices **SALES RESISTANCE IS NEGLIGIBLE** and our direct advertising assistance in your city will get immediate results as it is now doing in many cities.

Burt's Paper Drinking Cups are made of fine white paper, without wax to make drinks taste, and are reinforced so holders are not necessary. They are kept under glass and cannot be wasted or soiled before use.

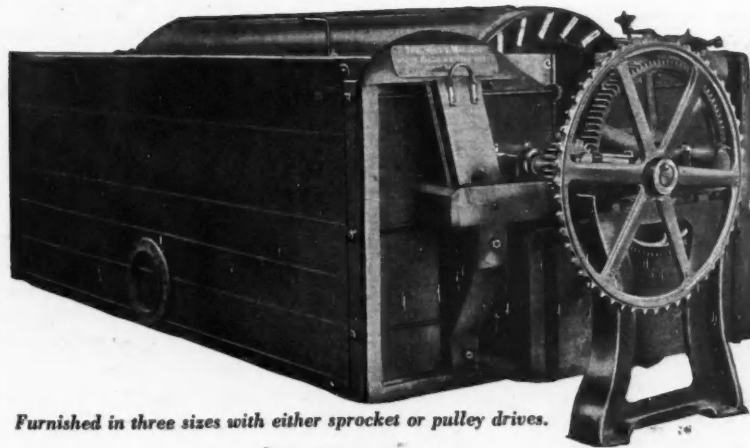
Cups retail at one fourth cent—dispensers at five dollars.

F. N. Burt Company, Ltd.
Paper Cup Division
Buffalo, N. Y.

THE WOOD'S MACHINE

Distinctive performance and intensified confidence in this machine as a Pulp Thickener, Save-All, Washer or Water Filter insure success in its building.

On the market but a few years, our installations number more than **Eighty-five**. **Twenty-nine** sold the past year.



Furnished in three sizes with either sprocket or pulley drives.

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SIMPLICITY, in cylinder and vat construction, operation automatic, and without couch roll, doctor or any complicated moving parts.

DEPENDABILITY, in its simple revolving cylinder only, with nothing to get out of order, requiring little attention, and having a patented principle of maintaining wires always clean, insuring continuous performance.

PRODUCTIVENESS, enormous, through clean wires, large screening surface, patented unique method of discharge and freedom from shut-downs.

DURABILITY, by rigid construction, ample bearing surfaces, nothing to injure wires and highest grade materials.

All these enhance its value and involve upon you the duty of investigation.

Editorial

Vol. LXXVI New York, January 25, 1923 No. 4
FIFTY-FIRST YEAR

To Start Cost Section

The Cost Association of the Paper Industry has concluded an arrangement with the PAPER TRADE JOURNAL, under which this paper is to run weekly, a section devoted exclusively to Cost Association matters, along lines somewhat similar to the Section of the Technical Association of the Pulp and Paper Industry, which has been printed regularly in the PAPER TRADE JOURNAL for more than a year past.

The Cost Section will be conducted under the editorship of Thomas J. Burke, the secretary-treasurer of the Association, who will be the sole judge of the matter to be included in the section, although the co-operation of all the departments of the PAPER TRADE JOURNAL, will constantly be placed at the disposal of Mr. Burke to make this section as interesting and as helpful as possible.

The Cost Association of the Paper Industry is composed of manufacturers in different groups of the industry who have appreciated the necessity for the use of proper accounting methods, and particularly cost accounting methods if the industry is to be placed on a sound, economic basis, and they are broad-minded enough to spend their time and money in an effort to bring home a realization of this fact to their fellow-manufacturers.

With this end in view, the Executive Committee of the Cost Association has made this arrangement for a Cost Section to serve as an agency for emphasizing the importance of cost accounting.

It will constantly be the endeavor of the editor as well as of the PAPER TRADE JOURNAL to make this section prove really useful in bringing to the attention of cost men improved methods and in bringing out the necessity for making use of all the latest improvements in paper making machinery, so that costs may be properly obtained and kept at the lowest possible figure. It is always difficult to know whether it would be advisable to install some new device, and the only satisfactory way of deciding this, is to make a thorough investigation as to the proper reduction in costs and whether this reduction would warrant the capital expenditure necessary to install the device.

The Cost Section will be started as a regular department in next week's issue of the PAPER TRADE JOURNAL, and it is hoped that members of the Cost Association as well as others interested in cost accounting, will not hesitate to send in to the editor, any suggestions they may have for making this department of the greatest possible value to the entire industry.

Paper Business Improving

The healthful improvement in the pulp and paper industry and allied lines continues, according to all reports coming to hand. A good index of this betterment in the paper business is furnished by some figures just made public by the Bureau of Labor Statistics

of the Department of Commerce on wages and employment in the various industries for December.

The Bureau received replies from 51 paper and pulp establishments showing the employment in December, 1922, to have been 26,106 as compared with 23,651 in December, 1921, or an increase of 10.4 per cent. The payrolls in December, 1922, were \$639,505 as compared with 568,273 in December, 1921, or an increase of 12.5 per cent.

The Bureau received replies from 104 paper and pulp manufacturing establishments showing the employment in November, 1922, to have been 38,713, increasing in December to 39,030, or an increase of 0.8 per cent. The payrolls in these establishments increased from \$945,736 in November, 1922, to \$953,327 in December, or 0.8 per cent.

The Bureau received replies from 58 establishments manufacturing paper boxes, showing the employment in November, 1922, to have been 9,806, increasing in December to 9,903, or an increase of 1.0 per cent. The payrolls in these establishments increased from \$204,781 in November, 1922, to \$211,892 in December, or an increase of 3.5 per cent.

Another even more striking evidence of the constant improvement in the paper situation is furnished by figures from the Federal Trade Commission at Washington, which have just been announced, and which places the total production of news print by the domestic mills for 1922 at 1,447,688 tons as compared with only 1,225,235 for 1921, and showing a gain for the year of more than 200,000 tons.

The figures for 1920 were 1,511,968 tons; for 1919, 1,374,517 tons; and for 1918, 1,260,285 tons. As may be seen from these figures the record for 1920 was somewhat better than that for the year just closed, but judging from the present rate of increase the production for 1923 should easily exceed that of any in the history of the industry.

Commenting on the paper outlook in general the American Paper and Pulp Association says:

"The paper industry in 1922 was above normal, according to figures now available for the entire year. Figures are complete for the first eleven months and estimates for December production show that total production for the year will be in round numbers 7,000,000 tons. A normal production for the year would have been 6,800,000 tons, so 1922 was 200,000 tons above normal, where 1921 was a million and a quarter tons below normal.

"Detailed figures for the first eleven months, shows a total production of 6,410,559 tons, and if the December production was only equal to the low figures of December, 1921, of 508,000 tons, the year's total would still be nearly the seven million ton figure.

"The prospective demand for 1923 is increasing. An influx of orders in increasing volume is expected early in the new year. News print, board, roofing, hanging, and contract book paper, totaling 64 per cent of the tonnage of the industry are above normal, and the fine paper mills, including writing, cover, tissue and general book paper which, even with a seasonal falling off in December were operating at 85 per cent of normal, can be expected to follow the lead of two-thirds of the industry.

"Meanwhile, in the face of increasing demand, raw materials show indications of advances even beyond those experienced in the late months of 1922."

Paper for Latin American Countries

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 17, 1923.—“As a group, the Latin American countries are our best customers for paper and paper products, but, with the exception of Cuba, we have not developed the individual markets to any great extent, and we seem to be overlooking a very wide field where energetic efforts, such as we use in our domestic trade, would be bound to produce satisfactory results,” said John Matthews, chief of the Paper Division of the Department of Commerce, in discussing Latin America as a market for paper.

“We seem to have adopted the attitude that because of lower manufacturing costs in Europe, competition from that section shuts us out of these markets, and consequently manufacturers and merchants do not make any great efforts to introduce our merchandise into those markets, but appear to be content to await a time when prices in Europe through increased cost of manufacture brought about by economic changes will more closely approach our own levels.

“The manufacturers and merchants entirely overlook the fact that our facilities for transportation to most of these markets, enabling us to deliver more promptly than our European competitors, has a decided influence on the trend of trade, especially under present conditions where the foreign merchant fearing radical declines in prices is anxious to keep stocks as low as possible, and is very dependent upon prompt deliveries to keep his business moving. Another factor to be considered is the question of quality, and our ability to compete with the foreign producer is enhanced through our ability to produce goods of a superior quality at prices sufficiently low in relation to quality. In other words, we have the two great assets, service and quality, which, in the long run, will outweigh the handicap of lower prices from abroad. But we cannot build up business by sitting down and waiting for orders to come to us, any more than we would expect jobbers in this country to buy our goods if we did not solicit business from them. Solicitation and personal contact is much more necessary in the Latin American countries because of the Latin American temperament, and any one who has traveled in Latin America knows that confidence established through personal contact, quality and service cannot be easily shattered.

“Space does not permit of our giving a detailed account of the paper requirements in the Latin American markets, although information of this character can be obtained by communicating with the Paper Division, mentioning the markets in which there is a particular interest. Briefly the general demand is for news print in rolls and sheets; machine-finished and super-calendered book, preferably hard-sized so that it can be used for either printing or writing; sulphite bond in white and colors, water-marked and unwater-marked; sanitary and ordinary wrappings; white and colored writings; ruled and folded note and envelopes.”

Federal Reserve Reports on Paper for November

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 20, 1923.—The Federal Reserve Board in its monthly summary of business and manufacturing conditions throughout the country has the following to say regarding paper:

“Production of news print during November totaled 127,983 tons, a decrease of 2 per cent from the figure for October and an increase of 10 per cent above that for November of last year. Shipments exceeded production, and stocks were consequently reduced.

“October statistics, the latest available for wood pulp and the other grades of paper, show seasonal increases in production, shipments, and consumption of wood pulp. The last two items reached the highest point in over two years, and stocks on hand

at the end of October were the smallest recorded in the last four years. The production of all of the important grades of paper was considerably larger than during any month of 1921, and all except news print and paperboard exceeded previous figures for 1922.

“Reports from the Philadelphia district indicate a seasonal decline in orders booked by paper manufacturers during December, but most of the mills were operating at capacity on accumulated orders, and a fairly large number of future orders were being received. Wholesalers in the Chicago district report that November sales and stocks on hand at the end of the month were larger than for November, 1921. Consumption of paper in the Cleveland district was large in November, but orders placed with mills fell off in December, preceding the merchants' inventory period.”

Discuss Standardization of Containers

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 24, 1923.—An important conference was held at the Department of Commerce last week to discuss standardization of containers. While the conference did not deal specifically with paper containers, a special section was devoted to this kind of container. The conference was called by William A. Durgin, chief of the Simplified Practice Division of the department, and it was attended by representative committees of manufacturers, distributors and users of paper, wood, metal and glass containers. As a result of the conference, the first step leading to ultimate elimination of excess sizes and varieties of containers was taken.

A special committee of the conference under the chairmanship of B. R. Jacob, of this city, met and resolved that as an action precedent to an intelligent study of the problem of the simplification of all food and other grocery product containers made from paper or paper board, this Committee recommend to the manufacturers of all important food and other grocery products packed, or shipped in containers made from paper or paper board, including both consumer and shipping containers, that they assemble through their respective trade associations, or otherwise, definite data covering the number of sizes and the dimensions of each size of all containers used by them.

Paper Men to Meet With Secretary Hoover

WASHINGTON, D. C., January 24, 1923.—Dr. Hugh P. Baker, secretary of the American Paper and Pulp Association, and the so-called Hoover committee of the association are expected in Washington on January 25 and 26 to confer with the Secretary of Commerce and other government officials.

The present program calls for a meeting of the committee Thursday morning, followed immediately by a conference with Secretary of Commerce Hoover, when the Secretary will probably have something to say to the paper manufacturers regarding co-operation. The committee will also spend considerable time with Dr. Julius Klein, chief of the Bureau of Foreign and Domestic Commerce, and John Matthews, chief of the Paper Division of the Department of Commerce.

It is understood that arrangements are being completed also for the committee to meet with Commissioners Marvin and Culbertson of the United States Tariff Commission and with the paper committee of the Federal Specifications Board of the Bureau of the Budget.

John Blum to Go With National Paper Products Corp.

TONAWANDA, N. Y., January 20, 1923.—John Blum has resigned as superintendent of the Paper Board Corporation of Tonawanda, to go with the National Paper Products Corporation, Stockton, Cal. Mr. Blum was formerly with the Eddy Paper Company at Three Rivers, Mich.



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DRY SATIN WHITE

The Latest Development in The Coated Paper Industry

Casein
Crystal Boro Phosphate
(A solvent for casein)

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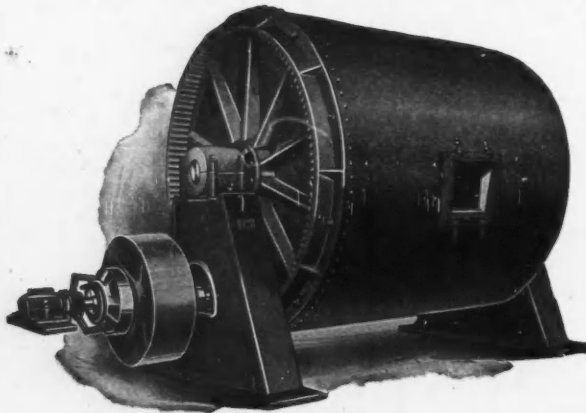
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MIX YOUR DRY SATIN WHITE IN A CROSSLEY BALL MILL



We have been building ball mills
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You are invited to benefit by our
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Write for full information and
prices.

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TRENTON, N. J.

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

AMERICAN AND FOREIGN PAPER TRADE PERIODICALS

Contribution No. 37

BY **FREDERICK C. CLARK** AND **CLARENCE J. WEST**,

COMMITTEE ON BIBLIOGRAPHY, TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY

This list was originally compiled by F. C. Clark, through the co-operation of the Library of the Bureau of Standards and was published in Paper for October 3, 1917 (Vol. 21, No. 4). The compilation of a "Location List of Periodicals Abstracted by Chemical Abstracts" (which appeared as a supplement to Chemical Abstracts for October 20, 1922) gave the Chairman of the Committee on Bibliography information concerning a number of additional libraries which maintained files of paper periodicals. This fact, coupled with the fact that the first list was compiled at a time when practically all German publications were not received because of the war, makes it desirable to revise the list, adding the new libraries and bringing all the information up to date. Acknowledgment is made of the cordial co-operation of the libraries listed herein, without whose aid the compilation of such a list would be impossible.

The last previous contribution of the Committee on Bibliography, No. 36, was "Bibliography of Papermaking for 1921," by Clarence J. West, which appeared in the PAPER TRADE JOURNAL, 74, Nos. 16-20 (1922).

C. J. WEST, Chairman,
Committee on Abstracts and Bibliography.

Investigational work, regardless of its nature, cannot proceed very far without it becoming evident that continuous reference must be made to published work, along the same or related lines. The investigator must be informed in regard to all published results obtained by former investigators. Without this knowledge of previous work done, each investigator would only progress so far as his own individual efforts were able to advance him. The clement of time would alone be a serious handicap towards the completion of a problem, for the originator of a problem never really completes it, he merely advances the art or the science relating to that problem. Each succeeding investigator must therefore be informed of work completed.

To obtain a knowledge of such work recourse must be had to the files of related periodicals as well as to books dealing with the subject. It is comparatively easy to obtain the desired copy of any book, but it is often a difficult matter to obtain the necessary copy of a periodical, issued sometime previous, that contains the special article desired. This is particularly true regarding technical literature; because of its technical and industrial nature, comparatively few libraries maintain permanent files of maga-

zines containing such material; another factor is the fact that this material always carries a large amount of purely trade news, which is of no permanent value. This is particularly true of the paper industry.

The paper industry has finally come to the realization that the publication of the results of an investigation are a necessity, if real progress is to be made. This in turn brings forth demand for copies of articles already published. The average public or technical library does not contain many periodicals relating to the paper industry. Where then may such articles be obtained? In order to answer this question it was thought advisable to take a census of subscribers to paper trade publications, particularly those who maintain permanent files of such periodicals.

A list was therefore compiled, giving the names of all paper trade publications. This list was then sent to all libraries of the country, both public and private, that would be at all likely to maintain such periodical files. In addition, copies were sent to many paper companies, universities and technical institutions, laboratories, individuals, etc., that were either directly or indirectly connected with the paper industry. Accompanying this list was a request to indicate all periodicals regularly received and to indicate what files of back numbers were on hand. Unfortunately, some libraries did not understand the second part of the request and so many libraries are marked as only currently receiving certain magazines, even though they may have permanent files.

As a result of this census the following list has been compiled. It contains every important American and foreign periodical published directly in the interest of the pulp and paper industry. Magazines devoted to printing, even though they may contain some information regarding paper, have not been included. Some purely trade magazines in the first list have been dropped because no American file was available. Under each periodical is listed all subscribers who maintain their copies as permanent files, and others who only keep them for a short period and then clip and file the important articles. Many of the larger companies and most of the libraries have a ready means by which photostat copies of articles may be obtained, so that little delay or expense will be incurred in securing such copies.

In the revised list it has been thought desirable to list all subscribers to the periodicals published in this country and Canada, because it is often more convenient to consult the desired article

at a nearby library than to go to the trouble of securing photostat copies from the publisher or larger libraries. Considering the number of letters sent out and the replies received, it is felt that the field has been fairly thoroughly covered. Many subscribers have not been listed, for the reason that they indicate in their reply that only articles of importance were filed and that no attempt was made to maintain permanent bound files of the periodicals or of the particular articles clipped from the periodical.

The plan by which the list of journals has been arranged is as follows:

1. Title of journal—listed alphabetically regardless of the country from which it is issued.
2. Place of publication.
3. Price per annum (in the U. S., wherever possible).
4. Year founded.
5. First number in 1923.
6. Periodicity:
Weekly, semi-monthly, monthly, etc.
7. Number of volumes per year.

Sixty-seven libraries or organizations have furnished information for this revised list. These are as follows:

1. Agriculture, Department of, Washington, D. C.
2. American Pulp and Paper Association, 18 E. 41st street, New York city.
3. American Writing Paper Co., Holyoke, Mass.¹
4. Birmingham Public Library, Birmingham, Ala.
5. Boston Public Library, Boston, Mass.
6. Bridgeport Public Library, Bridgeport, Conn.
7. California, University of, Berkeley, Calif.
8. Carey, John L., 208 N. Laramie avenue, Chicago, Ill.
9. Chamber of Commerce Washington, D. C.
10. Chemists' Club, 52 E. 41st street, New York city.
11. Chicago, University of, Chicago, Ill.
12. Cincinnati Public Library, Cincinnati, Ohio.
13. Cleveland Public Library, Cleveland, Ohio.
14. Columbia University, Chemical Dept., New York city.
15. Commerce, Department of, Washington, D. C.
16. Detroit Public Library, Detroit, Mich.
17. Dill and Collins Co., Philadelphia, Pa.
18. District of Columbia Paper Manufacturing Co., Washington, D. C.
19. Eastman Kodak Co., Rochester, N. Y.
20. Enoch Pratt Free Library, Baltimore, Md.
21. Esleack Manufacturing Co., Turner Falls, Mass.
22. Federal Trade Commission, Washington, D. C.
23. Ford, Bacon and Davis, Inc., 115 Broadway, New York city.
24. Forest Products Laboratory, Madison, Wisconsin.
25. Hammernill Paper Co., Erie, Pa.
26. Harvard College, Cambridge, Mass.
27. Idaho, University of, Moscow, Idaho.
28. Illinois, University of, Urbana, Ill.

¹These data are taken from the first list. Internal conditions made it impossible to revise their data in time for this work.

AFFÄRSVÄRLDEN. The Trade Journal of Sweden. Norrlandsgatan 16, Stockholm, Sweden. Kr. 35. Vol. 1 issued in 1900. First number in 1923, vol. 23, no. 1. Weekly. One volume a year. (The *Woodpulp Market* report is published in English; the remainder of the journal being in Swedish.)

15. 19(1919) to date.

46. 6(1906), nos. 4-12, 14-15, 17, 19, 21-24, 27-29, 37, 42; 11(1911), nos. 1-8, 20-26, 28-50; Aug. 21, 1921 to date.

59. 22(1922), no. 22 to date. Received from News Print Service Bureau.

AMERICAN PAPER TRADE AND WOOD PULP NEWS. Discontinued in 1900. New York City. Vol. 1 issued in 1891. Weekly. Two volumes a year. 1. 5(1893) to 19(1900). Not entirely complete.

46. 3(1892), no. 20; 6, no. 15, 17-24, 26; 7, no. 1, 4-7, 9-13, 15-18, 21-26; 8, no. 1-16, 18-26;

9; 10, no. 2-8, 11-17, 19-20, 22-27; 11; 12, no. 19, 21, 23-26; 13, no. 3-19, 21-25; 14-19(1900).

BOLETIN DE LA INDUSTRIA Y COMERCIO DEL PAPEL INCORPORADO, A ERGOS. Calle de la Florida, No. 8, Madrid, Spain. 15 pesetas. Vol. 1 issued in 1907. Semi-Monthly.

1. 2(1908) to 15(1921); vol. 14 incomplete.

Index.

46. 1(1907), no. 11; 3(1909), no. 47, 49, 52,

64.

BOXBOARD. Beaton, Godron, Middleton and Rehm 326 W. Madison St., Chicago, Ill. \$2.00. Volume 1 issued in 1922. First number in 1923, vol. 2, no. 1. Monthly. One volume a year.

2. Current.

59. 1(1922) to date. Courtesy of the publishers.

BULLETIN-JOURNAL DES FABRICANTS DE PAPIER. Paris.

46. 14(1897) to 24(1907).

29. International Paper Co., Bureau of Tests, Glens Falls, New York.

30. James J. Hill Reference Library, Saint Paul, Minn.

31. John Crerar Library, Chicago, Ill.

32. Johns Hopkins University, Baltimore, Md.

33. Kansas, University of, Lawrence, Kans.

34. Library of Congress, Washington, D. C.

35. Little, Arthur D., Inc., Cambridge, Mass.

36. Maine, University of, Orono, Maine.

37. Massachusetts Institute of Technology, Cambridge, Mass.

38. Mechanics-Mercantile Library, San Francisco, Calif.

39. Mellon Institute, Pittsburgh, Pa.

40. Michigan, University of, Ann Arbor, Mich.

41. Milwaukee Public Library, Milwaukee, Wis.

42. Minneapolis Public Library, Minneapolis, Minn.

43. National Aniline and Chemical Co., Buffalo, N. Y.

44. Nekoosa-Edwards Paper Co., Port Edwards, Wisconsin.

45. Newark, Free Public Library, Newark, N. J.

45a. News Print Service Bureau, 342 Madison avenue, New York city.

46. New York Public Library, New York city.

47. New York State Library, Albany, N. Y.

48. Patent Office, Washington, D. C.

49. Pennsylvania, University of, Philadelphia, Pa.

50. Pittsburgh, Carnegie Library of, Pittsburgh, Pa.

51. Portland, Library Association of, Portland, Ore.

52. Pratt Institute, Free Library, Brooklyn, N. Y.

53. Providence Public Library, Providence, R. I.

54. Saint Paul Public Library, Saint Paul, Minn.

55. Salt Lake Public Library, Salt Lake City, Utah.

56. Seattle Public Library, Seattle, Wash.

57. Solvay Process Co., Library, Syracuse, N. Y.

58. Standards, Bureau of, Washington, D. C.

59. TAPPI, Committee on Abstracts and Bibliography, C. J. West, Chairman, National Research Council, Washington, D. C.

60. Tariff Commission, Washington, D. C.

61. United States Testing Co., Inc., 316 Hudson street, New York city.

62. Warren, S. L., Company, Cumberland Mills, Maine.

63. Washington Public Library, Washington, D. C.

64. Washington, University of, Seattle, Wash.

65. Wausau Sulphate Fiber Co., Mosinee, Wis.

66. West Virginia University, Morgantown, W. Va.

67. Yale University, New Haven, Conn.

These libraries are listed under each journal by their numbers to save space in printing. Thus No. 1 always refers to the Library of the Department of Agriculture, No. 10 to the Chemists' Club, etc. Each complete volume on file is then listed by volume number and year; if the file is not complete for any volume, then in addition to the volume number and year, the serial numbers of each issue is given. *Current* indicates that the magazine is received but either information regarding the files is lacking or the copies are not bound.

CARTON AGE. Beaton, Godron and Rehm, 326 W. Madison St., Chicago, Ill. \$2.00. Volume 1 issued in 1921. First number in 1923, vol. 3, no. 1. Monthly. One volume a year.

59. 2(1922) to date. Courtesy of the publishers.

CELLULO SECHMIE. Wissenschaftliche Beiblätter zu der Zeitschrift "Der Papierfabrikant," which see. Volume 1 issued in 1920.

COMMERCE REPORTS. A Weekly Survey of Foreign Trade. Published by the Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, Washington, D. C. Weekly. \$3.00, through Superintendent of Documents. Contains a section each week on Paper.

15. Complete file.

59. Current.

Other libraries not asked for information concerning this.

FARMAND. The Trade Journal of Norway. 31 Toldbodgaten, Christiania, Norway. Kr. 30. Vol. 1 issued in 1891. First number in 1923, vol. 33, no. 1. Weekly. One volume a year.
15. 20(1910) to date.
34. 16(1906); 18(1908) to 20(1910).
46. 24(1914), nos. 23-28, 33-35, 37-44; 25 (1915) to date.
59. Current. Received from News Print Service Bureau.
65. Current.

FIBER CONTAINERS. Beaton and Rehm, 326 W. Madison St., Chicago, Ill. \$2.00. Volume 1 issued in 1916. First number in 1923, vol. 8, no. 1. Monthly. One volume a year.
1. 1(1916) to date.
2. Current.
24. Apr., 1917 to date.
59. 7(1922) to date. Courtesy of publishers.

L'INDUSTRIA DELLA CARTE E DELLA ARTI GRAFICHE. Via Zebecia, 3, Milan, Italy. L. 60, Volume 1 issued in 1898. First number in 1923, vol. 26, no. 1. Monthly. One volume a year.
2. 19(1916).
59. Current. Received through the News Print Service.

KOMMERSIELLA MEDDELANDEN. (Commerce Reports). Aktiebolaget Nordiska Bokhandeln, Drottninggatan 7, Fredsgatan 8, Stockholm, Sweden. 15 Kr. Vol. 1 issued in 1904. First number in 1923, vol. 20, no. 1. Semi-monthly. One volume a year.
9. Current.
15. 1914 to date.
34. 1910.
46. vols. 2-3, 6-7.
67. Current.

MERCATOR. Tidskrift for Findlands Naringalif. Georgsgaten 27, Helsingfors, Finland. First issued in 1906. First number in 1923, vol. 18, no. 1. Weekly.
Contains reports and statistics on the paper industry, etc.
15. 14(1919) to date.
26. 2(1907)-4(1909).
34. Jan., 1910-June, 1911.

LE MONITEUR DE LA PAPETERIE FRANCAISE. Organe officiel du syndicat des fabricants de papier et carton de France. 154, boulevard Haussmann, Paris, France. 55 francs. Vol. 1 issued in 1865. First number in 1923, vol. 54, no. 1. Semi-monthly. One volume a year.
2. Current.
59. 53(1922) to date. Courtesy of the publishers.

PAPER. New York.
1. 1(Feb. 17, 1899) to 2, no. 18(Nov. 3, 1919). Whole No. 38. No more issued.

PAPER. Paper, Inc., 36 West 44th St., New York City. \$5.00. Vol. 1 issued in 1910. First number in 1923, vol. 31, no. 10. Weekly. Originally four volumes a year, now two volumes of 26 numbers (since vol. 13, 1913). Volumes begin in March and September of each year. Index issued for volumes 1-10 inc.
1. 8(1912) to date.
2. 1(1910) to 19(1917), excepting vols. 13-14; current.
3. Current.
4. Jan. 1, 1922 to date.
5. 5(1912) to date.
6. 28(1921) to date.
7. 23(1919) to date.
8. 15(1915) to date.
9. Current.
10. 1(1910) to date.
11. 22(1918) to date.
12. 22(1918) to date.
13. 9(1912) to date.
14. 11(1913) to date.
15. 25(1920) to date.
16. 22(1920) to date.
17. Current.
18. Current.
19. 19-21, 23-27(1917-1918, 1919-1921).
21. Current.
23. Current.
24. 11(1913) to date.
25. Current.
27. 29(1921) to date.
28. 29(1921) to date.
29. Current.
30. Current.
31. 10(1913) to date.
33. 19, no. 17(1917) to date; few numbers missing.
34. 1(1910) to date.

35. 1(1910) to date.
36. 13(1914) to date; unbound.
37. 27, no. 13(1921) to date.
38. Current.
39. Current.
40. 12(1913) to date.
41. Current.
42. Current.
43. 19(1917) to date.
44. Current.
45. Current.
45a. Current.
46. 5(1912) to date.
47. 6(1912) to date.
50. 29, no. 18(1922) to date.
51. 17(1915) to date.
52. Apr. 21, 1920 to June 29, 1921.
53. 27(1921) to date.
54. 27(1921) to date.
55. Current.
56. 26(1920) to date.
58. 1(1910) to date.
59. Current. Through courtesy of publishers.
61. Current.
62. Current.
63. Current.
65. Current.
66. 5(1912) to date.

PAPER AND PULP; a Fortnightly Journal Devoted to the Industry of the Paper, Pulp and Allied Interests. Absorbed in 1906 by Paper Making.
1. 7(1902)-11, no. 1(1906).

PAPER INDUSTRY. The Monthly Educational Journal of the Paper Industry. Edward B. Fritz, 356 Monadnock Block, Chicago, Ill. \$2.00. Volume 1 issued in 1919. First number in 1923, vol. 4, no. 10. Weekly. One volume a year.
1. 1(1919) to date.
2. Current.
12. 3, no. 10 (1922) to date.
16. 4, no. 10 (1923) to date.
17. Current.
18. Current.
23. Current.
24. 1(1919) to date.
25. Current.
29. Current.
34. 1(1919) to date.
35. 1(1919) to date.
44. Current.
45a. Current.
46. 1, no. 3(1920) to date.
57. Current.
59. Current. Courtesy of the publishers.
62. Current.
66. 3, no. 10(1922) to date.

PAPER-MAKER AND BRITISH PAPER TRADE JOURNAL, 47 Cannon St., London, England. 21s. Volume 1 issued in 1891. First number in 1923, vol. 65, no. 1. Monthly. Two volumes a year.
1. 47(1914) to date.
2. 51-53.
3. 52(1916); current.
7. 57(1919) to date.
18. Current.
21. Current.
24. 49(1915)-58(1919).
31. 39(1910) to date.
35. 46(1913) to date.
44. Current.
46. Odd numbers of vol. 28 to 48; 49(1904)-58(1919); 61(1921) to date. Also some international and annual numbers.
60. 60(1920) to date.
65. Current.

PAPER MAKERS' JOURNAL, Albany, N. Y.
7. 10(1911) to date.
26. 1(1901)-20(1920) to date.
28. 13(1913) to date.
46. 9(1909) to date.
47. 10(1911) to date.

PAPER MAKERS' MONTHLY JOURNAL. Marchant Singer and Co., 47, St. Mary Axe, London, E. C. 3, England. Volume 1 issued in 1863. First number in 1923, vol. 61, no. 1. 7s. 6d. Monthly. One volume a year.
1. 40(1902) to date.
2. 54(1916).
3. 53(1915)-54(1916); current.
32. Current.
46. 51(1912) to date.
58. 54(1916) to date.

PAPER MAKING. A Journal for Paper Makers. 1 Mitre Court, Fleet Street, London, E. C. 4, England. 5s. Volume 1 issued in 1881. First number in 1923, vol. 42, no. 1. Monthly. One volume a year.
1. 25(1906) to date.
2. 35(1916).
3. 25(1906) to date.
34. 39(1920) to date.
35. 26(1907) to 30(1911).
65. Current.

PAPER MILL AND WOOD PULP NEWS. Tribune-Building, 154 Nassau St., New York City. \$4.00. Volume one issued in 1876. First number in 1923, vol. 47, no. 1. Weekly. One volume a year.
1. 16(1893), 24(1901) to date.
2. Current.
8. 38(1915) to date.
15. 44(1921) to date.
16. 37(1914) to 41(1918).
18. Current.
24. 37(1914) to 42(1919), 44(1921) to date.
25. Current.
31. 26(1903) to date.
34. 21(1898) to 43(1920).
36. 30(1907), 38(1915), 42(1918) to date.
40. 25(1902) to date.
44. Current.
45a. Current.
46. 20(1897) to date.
47. 34(1911) to date.
49. 24(1901) to date. 43(1919) incomplete.
56. 39(1916) to date.
58. 30(1907) to date.
59. Current. Through courtesy of publishers.
65. Current.

PAPER TRADE JOURNAL. Lockwood Trade Journal Company, Inc., 10 East 39th St., New York City. \$4.00. Volume 1 issued in 1872. First number in 1923, vol. 76, no. 1. Weekly. Two volumes a year. Contains the Technical Section edited by the Technical Association of the Pulp and Paper Industry. No index published, though beginning with 1922, the Technical Section is indexed by the Association.
1. 22(1893)-30(1900), 38(1904) to date. Early volumes incomplete.
2. 60(1915)-63(1916), current.
5. 29(1899) to date.
6. 68(1919) to date.
8. 60(1915) to date.
10. Current. Not bound.
11. 63(1916)-69(1919), 71(1920) to date.
12. 44(1907)-49(1909), 53(1911) to date.
13. 52(1911) to date. Volumes 53, 62 incomplete.
14. 74(1922) to date. Irregular.
15. 70(1920) to date.
16. 68(1919) to date.
17. Current.
18. Current.
20. Current.
21. Current.
22. 63(1916) to date.
24. 46(1908) to date.
25. Current.
26. 58(1914) to date.
29. Current.
30. Current.
31. 26(1897) to date.
35. 71(1920) to date.
36. 58(1906) to date. Unbound.
42. Current.
44. Current.
45a. Current.
46. 19(1890) to date. Some early volumes incomplete; 69-73 missing.
48. 8(1878)-58(1914).
50. 66(1918) to date.
51. 64(1917) to date.
52. 49(Nov. 11, 1909) to date.
53. 68, no. 14(1919) to date.
58. 45(1907) to date.
59. Current. Courtesy of publishers.
60. 66(1918) to date.
61. Current.
62. Current.
65. Current.

PAPER WORLD. A special journal of information, discussion and recital as to paper. Clark W. Bryan & Co. Holyoke, Mass. Discontinued.
31. 1-36(1880-1898).
48. 1-34(1880-1897).

LA PAPETERIE. Review technique et commerciale de l'industrie du Papier. 9, Rue Lagrange, Paris, France. 50 francs. Volume 1 issued in 1878. First number in 1923, vol. 45, no. 1. Semi-monthly. One volume a year.
24. 32(1910)-36(1914), 41(1919) to date.
35. Current.
58. 43(1921) to date.

LA PAPETERIE. Review technique et commerciale de l'industrie du Papier. 9, Rue Lagrange, Paris, France. 50 francs. Volume 1 issued in 1878. First number in 1923, vol. 45, no. 1. Semi-monthly. One volume a year.
24. 32(1910)-36(1914), 41(1919) to date.
35. Current.
58. 43(1921) to date.

LA PAPETERIE. Review technique et commerciale de l'industrie du Papier. 9, Rue Lagrange, Paris, France. 50 francs. Volume 1 issued in 1878. First number in 1923, vol. 45, no. 1. Semi-monthly. One volume a year.
24. 32(1910)-36(1914), 41(1919) to date.
35. Current.
58. 43(1921) to date.

LA PAPETERIE. Review technique et commerciale de l'industrie du Papier. 9, Rue Lagrange, Paris, France. 50 francs. Volume 1 issued in 1878. First number in 1923, vol. 45, no. 1. Semi-monthly. One volume a year.
24. 32(1910)-36(1914), 41(1919) to date.
35. Current.
58. 43(1921) to date.

LA PAPETERIE. Review technique et commerciale de l'industrie du Papier. 9, Rue Lagrange, Paris, France. 50 francs. Volume 1 issued in 1878. First number in 1923, vol. 45, no. 1. Semi-monthly. One volume a year.
24. 32(1910)-36(1914), 41(1919) to date.
35. Current.
58. 43(1921) to date.

LA PAPETERIE. Review technique et commerciale de l'industrie du Papier. 9, Rue Lagrange, Paris, France. 50 francs. Volume 1 issued in 1878. First number in 1923, vol. 45, no. 1. Semi-monthly. One volume a year.
24. 32(1910)-36(1914), 41(1919) to date.
35. Current.
58. 43(1921) to date.

LA PAPETERIE. Review technique et commerciale de l'industrie du Papier. 9, Rue Lagrange, Paris, France. 50 francs. Volume 1 issued in 1878. First number in 1923, vol. 45, no. 1. Semi-monthly. One volume a year.
24. 32(1910)-36(1914), 41(1919) to date.
35. Current.
58. 43(1921) to date.

LA PAPETERIE. Review technique et commerciale de l'industrie du Papier. 9, Rue Lagrange, Paris, France. 50 francs. Volume 1 issued in 1878. First number in 1923, vol. 45, no. 1. Semi-monthly. One volume a year.
24. 32(1910)-36(1914), 41(1919) to date.
35. Current.
58. 43(1921) to date.

LA PAPETERIE. Review technique et commerciale de l'industrie du Papier. 9, Rue Lagrange, Paris, France. 50 francs. Volume 1 issued in 1878. First number in 1923, vol. 45, no. 1. Semi-monthly. One volume a year.
24. 32(1910)-36(1914), 41(1919) to date.
35. Current.
58. 43(1921) to date.

59. Current. Through the courtesy of the publishers.
- Le PAPIER.** Review technique des industries du papier. 16, Rue du Rocher, Paris (VIII), France. 36 francs. Volume 1 issued in 1897. First number in 1923, vol. 25, no. 1. Monthly. One volume a year.
2. Current.
 14. 22(1919) to date.
 36. 24(1921) to date.
 46. 5(1902)—18(1915), 21(1918) to date.
 58. 24(1921) to date.
59. Current. Courtesy of the publishers.
- Der PAPIERFABRICANT.** Zeitschrift für die Papier—. Pappen-, Holz-, Stroh- und Zellstoff-fabrikation. Otto Elsner Verlagsgesellschaft m. b. H., Berlin S42, Oranienstr. 140/142, Germany. M. 500 or 5 Fr. Volume 1 issued in 1903. First number in 1923, vol. 21, no. 1. Weekly. One volume a year. Special number issued each year. For the last three years (1920—) a supplement has appeared (Cellulosechemie) monthly.
1. 7-9, special numbers only. 10(1912) to date.
 3. Current.
 7. 18(1920) to date.
 10. 9. nos. 27-52; 10; 16, 2-34; 17, 1-12, 14-21, 29-52; 18, 12-34; 19, 6-12, 23-35, 37.
 14. 18(1920) to date.
 17. Current.
 24. 12(1914), 17(1919) to date.
 25. Current.
 31. 5(1907) to date.
 35. 10(1912) to date.
 36. 12(1914) to date.
 40. 12(1914) to date.
 46. 11(1913) to date. Some numbers missing.
 48. 18, no. 48 to Nov. 20, 1920.
 58. 11(1913) to date.
 62. 11-12 (1913-1914).
- PAPIER-ZEITUNG.** Fachblatt für Papier-Fabrikation. -Verarbeitung, -Handel, Buchgewerbe, Schreibwaren und Bürobedarf. Berlin SW 11, Dessauer Strasse 2(Papierhaus). \$4.00. First volume issued in 1876. First number in 1923, vol. 48, no. 1. Previously semi-weekly, now three times a week. One volume a year.
1. 27(1902) to date. Vols. 41, 42, 43 incomplete.
 2. Current.
 5. 17(1892) to date. Vols. 41-45 incomplete.
 7. 45(1920) to date.
 14. 45(1920) to date.
 17. Current.
 18. Current.
 24. 46(1921) to date.
 25. Current.
 31. 1(1876)—25(1900).
 34. 32(1907)—40(1915), 44(1919)—45(1920).
 36. 25(1900) to 39(1914).
 40. 40(1915) to date.
 46. 22(1897) to date. Some numbers missing from volumes 41, 42, 45.
 48. 19(1894) to 28(1903).
 50. 29(1904) to 42(1917) with some missing numbers.
 59. Current. Courtesy of the publishers; also through News Print Service.
 62. 21(1896)—35(1910).
- PAPIR-JOURNALEN.** Organ for De Norske Papir-fabrikanters Forening og Papirindustriens tekniske Forening. Papirindustriens Hus, Dramm. vn. 16, Christiania, Norway. 15 kronen. Volume one issued in 1913. First number in 1923, vol. 11, no. 1. Semi-monthly. One volume a year.
59. Current. Courtesy of the publishers.
- PAPPEN- u. HOLZSTOFF-ZEITUNG.** Serrestrasse 14, Dresden, Germany. 300 Marks per quarter. Volume one issued in 1894. First number in 1923, vol. 30, no. 1. Weekly. One volume a year.
59. Current. Courtesy of the publishers.
- PAPPERS- OCH TRAVARUTIDSKRIFT FOR FINLAND; SUOMEN PAPERI-JA PUUTAVARALEHTI.** (The Finnish Paper and Timber Journal). Helsingfors, 16 V. Henriksgaten, Finland. 100 Fmk. Semi-monthly. One volume a year.
- The export market is discussed in English.
2. Current.
 15. Current.
 59. Current. Received through the News Print Service.
- PAPYRUS,** annuaire de toutes les industries du papier. Paris. First issued in 1921.
46. 1(1921) to date.
- PULP AND PAPER MAGAZINE OF CANADA.** Garden-vale, P. Q., Canada. \$5.00. Volume 1 issued in 1903. First number in 1923, vol. 21, no. 1. Weekly. (Semi-monthly from 1903-1916). One volume a year.
1. 2(1904) to date.
 2. 13(1915)—14(1916), current.
 7. 13(1915) to date. Vol. 16 incomplete.
 8. 16(1918) to date.
 10. 11(1913) to date.
 12. 18(1920)—19(1921).
 14. 16(1918) to date.
 15. 19(1921) to date.
 17. Current.
 22. Aug., 1918 to June, 1920.
 24. 9(1911) to date.
 25. Current.
 29. 15(1917)—18(1920).
 34. 13(1915) to date.
 35. 1(1903) to date.
 36. 12(1914) to date.
 39. Current.
 40. 3(1905) to date.
 44. Current.
 - 45a. Current.
 46. 11(1913) to date.
 59. Current. Courtesy of the publishers.
 60. July, 1917 to date.
 61. Current.
 62. Current.
 65. Current.
- SVENSK PAPPERS-TIDNING.** Organ för Pappers- och Trämasseindustriens Svenska Pappersbruk-föreningen, Holvslagaregaten 3, Stockholm, Sweden. 10 Kronen. Volume 1 issued in 1899. First number in 1923, vol. 26, no. 1. Semi-monthly. One volume a year.
2. 19(1916).
 24. 23(1920).
 59. Current. Courtesy of the publishers.
 64. 21(1919) to date.
 65. Current.
- SWEDISH EXPORT.** General Export Association of Sweden, Stockholm, Sweden. In English. 6 ex. First issue in 1923, vol. 7, no. 1. Monthly. One volume a year.
- Contains monthly reviews of the business situation in Sweden.
15. Mar., 1919 to date.
 46. 25(1919) to date.
59. Current. Through the courtesy of the publishers.
- TIDSKRIFT FOR PAPIRINDUSTRI.** Toldbøgt. 30, Christiania, Norway. Volume one issued in 1911. Semi-monthly. One volume a year.
2. 6(1916).
 65. Current.
- UNITED STATES PAPER MAKER.** 41 Park Row, New York City. \$3.00. First number in 1923, vol. 65, no. 1. Semi-monthly. One volume a year.
2. 57(1915)—58(1916), current.
 21. 64(1922) to date.
 25. Current.
 35. Current.
 44. Current.
- WOCHEBLATT FÜR PAPIERFABRIKATION.** Güntter-Staib in Biberach a. d. Riss, Württemberg, Germany. 360 Marks. Volume 1 issued in 1870. First number in 1923, vol. 54, no. 1. Weekly. One volume a year.
1. 40(1907) to date. Vols. 46-48 incomplete.
 14. 51(1920) to date.
 24. 44(1911)—46(1913), 51(1920) to date.
 25. Current.
 35. 45(1914) to date.
 36. 45(1914)—47(1916), 51(1920) to date.
 40. 45(1914) to date.
 46. 44(1913)—46(1915); 47(1916), nos. 17, 25, 39-41, 45-49; 48(1917), nos. 13, 14, 19-27, 31-33; 50(1919), nos. 3-16, 43; 51(1920) to date.
 62. 44(1913)—45(1914).
- WORLD'S PAPER TRADE REVIEW.** Stonhill and Gillis, 58, Shoe Lane, London, E. C., 4, England. £1/6s. First volume issued in 1884. First number in 1923, vol. 79, no. 1. Weekly. Two volumes a year.
1. 53(1910) to date.
 2. 65(1915)—67(1916).
 15. May 5, 1922 to date.
 18. Current.
 24. 37(1902)—71(1919).
 - 45a. Current.
 58. 60(1913)—74(1920).
 59. Current. Courtesy of the publisher.
 65. Current.
- ZELLSTOFF UND PAPIER.** Chemisch-technische Monatschrift. Organ des Vereins der Zellstoff- und Papier-Chemiker und-Ingenieure. Carl Hoffmann, G. m. b. H., Berlin, SW 11, Papierhaus, Germany. \$2.00. First number in Apr., 1921. First volume of 9 nos. Monthly. One volume a year.
14. 1 to date.
 19. 1 to date.
 24. 1 to date.
 25. Current.
 59. 1 to date.
- ZELLSTOFFCHEMISCHE ABHANDLUNGEN.** Carl Hoffmann, Berlin. Monthly. Only 5 numbers appeared (June, 1920 to Feb., 1921). The name was then changed to Zellstoff und Papier.
- ZENTRALBLATT FÜR DIE OESTERR.—UNGER. PAPIER-INDUSTRIE.** Vienna, Austria. First volume in 1883. Weekly. One volume a year.
14. 38(1920) to date.
 46. 15(1897)—32(1914), current.

Stinnes Acquires Pulp Mills in Germany

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 24, 1923.—In the process of expansion of its industrial activities in East Prussia the Stinnes Concern recently acquired the "Cosse" and "Sackheim" wood pulp factories operated under the name of Kohlyt A. G. of Königsberg, according to advices received by the Paper Division of the Department of Commerce. The plants cover an area of 345.8 acres and 3,000 employees produce 353 short tons of wood pulp and 3,170 gallons of alcohol in 24 hours.

These mills are operated as part of an almost complete economic organization which includes inland and overseas shipping facilities so that the requirements of pulp manufacture, including lime stone and sulphurous pyrites from Norway and Sweden, can be imported cheaply and the finished product laid down in all foreign markets.

TECHNICAL SECTION, PAGE 42

This move places the Stinnes organization in a strong position for there are but two other pulp mills in East Prussia, both operated by the Waldhof interests. It is reported that an operating agreement exists between the two so that it seems possible that Stinnes may eventually obtain complete control of the industry in this section.

I. P. Completing Big Hydro-Electric Plant

Within a few weeks officials of International Paper Company will turn on the valves which will admit water into the new dam constructed at Sherman Island, N. Y., virtually completing one of the largest hydro-electric generating plants in this part of the country. New plant is expected to be in operation about June 1 with an installed capacity of 25,000 kilowatts. Contracts are already in hand whereby industries and consumers in the surrounding territory will purchase full output.

PAPER MAKING WIRES*

By V. BOUYER, MANAGER OF THE WIRE CLOTH FACTORY OF RAI-TILLIÈRES, FRANCE.

(Concluded From Last Week)

2.—Use of Different Kinds of Cloth

It is evident that the nature of the paper pulp, the fiber length, the method of preparation, and the amount and nature of the sizing agents, fillers, etc., will vary according to the grade of paper required. The manufacture of such a large variety of grades, ranging from onion skin to strawboard, naturally involves the use of wires having different sizes and shapes of mesh, and the problem arises of choosing the proper wire for a given grade of paper.

We shall start with news print, which is made on a No. 70 plain wire. As this wire accounts for 50 per cent of the consumption of paper machine wires, it can certainly be considered as the most important. Experience has shown that the size of the mesh and the "grain" of the individual wires are perfectly suited for the manufacture of this grade of paper.

If we wish to make a coarser paper, e.g., a wrapping paper, from larger fibers, a proper draining can be obtained only by using a more open wire, say, a No. 60 or a No. 55, but still with a plain weave.

For even heavier papers (strawboard, for instance) in which the fibers are still larger, a plain wire of still more open texture, say, No. 50 or No. 45, would be required. But right here we meet an obstacle. The more open the mesh of a wire cloth the larger must the warp wires be; and the larger the wires the less flexible they are and the more easily do they harden on bending. So that when we come to weave a No. 50 or a No. 45 plain cloth we find that it can be done quite well, provided that the cloth remains perfectly flat; but that they are too stiff to allow of the continuous bending and straightening to which paper machine wires are subjected. The warp wires would harden very quickly, and the cloth would tear in a short time. This fact led to the adoption of a warp consisting of a multiple strand wire having the same total cross-sectional area as the single wire, but which is extremely flexible. It should be noted that the shute still consists of a single wire, as its function and work have not been changed in any manner, and the use of a sufficiently heavy wire does not cause it to wear out more quickly.

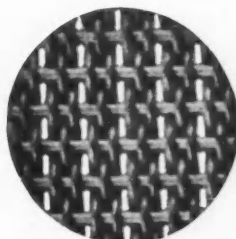
With this multiple strand warp, the size of the mesh can be increased according to the nature and size of the fiber. But when we come to No. 28 or No. 25, which are used for the preparation of wood-pulp in sheets (in which form it is easily transported and stored), it becomes necessary to reinforce the shute, and consequently it is made of multiple strand wire, just like the warp.

Coming back to the news print and No. 70 plain weave wire, suppose we want to make a lighter and smoother paper (photographic paper, paper for "de luxe" editions, thin all-rag paper, etc.) the same kind of cloth, namely, plain weave, will be used, but with finer mesh—75, 80, 85, and even 90. When we come to still finer papers, we cannot increase the number of the wire cloth indefinitely; for this would involve an even finer warp and shute, and, especially due to the fineness of the shute, and the width of modern machines, the cloth would no longer be stiff enough across its width. The difficulty is overcome by choosing a different weave of cloth.

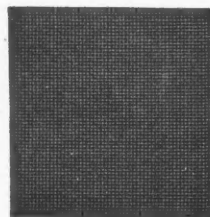
In a 60 mesh cloth (which with a plain weave would cause the pulp to drain quite rapidly) the single warp wire is replaced by three finer ones which are close together, and at the same time the shute is made a little smaller. The opening of the mesh is thus made narrower, and it is also shortened by placing the shute

wires closer together, which can easily be done owing to the smaller diameter of the warp. The cloth has the following characteristics:

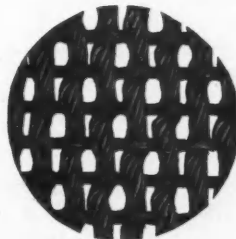
- (1) The number of meshes *per unit area* is greater than with a plain weave;
- (2) The meshes are shorter and narrower than with a plain weave;
- (3) Instead of the sharp bend of the single warp wire, we have a much more open bend of the three finer warp wires.



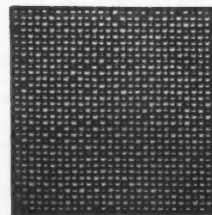
50 x 144 Triple Warp
Magnified Section



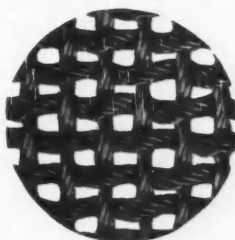
50 x 144 Triple Warp
Fourdrinier Wire



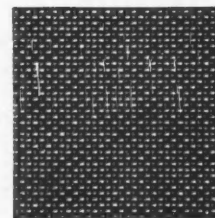
30 Mesh Cabled Warp
Magnified Section



30 Mesh Cabled Warp
Fourdrinier Wire



30 Mesh Cabled Warp and Shoot
Magnified Section



30 Mesh Cabled Warp and Shoot
Fourdrinier Wire

These three characteristics render this type of wire suitable for the manufacture of the very finest papers, and No. 55/165 to No. 70/210 triple warp replace the higher numbers of plain cloth which are too fine to be of any practical use.

We have jumped directly from plain weave to triple-warp; but the same reasoning applies to double-warp, which is the connecting link between the other two and which possesses the characteristics of triple-warp, though to a lesser extent.

We have seen that for large meshes multiple strand warp is used instead of plain weave, while for the very fine meshes triple-warp was used. But evidently there is no hard and fast line of demarcation at which one must necessarily pass from one style of

* (Lecture given to the students at the French School of Paper Making, Grenoble, France, during the year 1920-1921.) (Translated from *La Papeterie* xliii, September 10 and 25, and October 10, 1921, by A. Papineau-Couture.)

weave to the other, and the grade of paper must be taken into consideration.

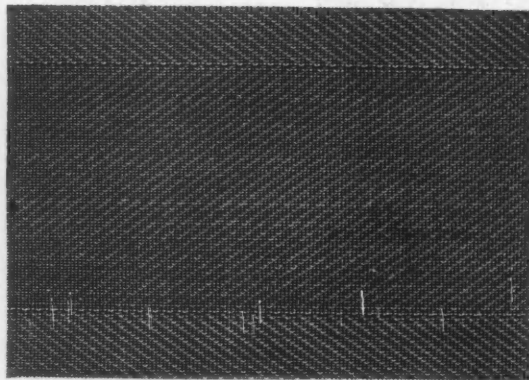
Would it be advisable, for instance, to choose a very fine multiple strand warp when a plain wire would do just as well as far as the draining of the pulp was concerned? If the paper must have a fine grain, a plain wire must absolutely be used. Owing to the very form of the cable warp, which is somewhat flattened on the top of the bend, it gives a disagreeable grain and fuzzes the surface of the paper. There is no objection to using it for heavy papers; but it is out of the question for fine papers.

Similarly, does it matter if we use an open triple-warp wire when a plain wire would give the same draining effect? Most certainly. On fast machines the triple warp, owing to its greater flexibility is harder to run at high speeds than a plain wire. Moreover, although the triple warp has a greater number of meshes per unit area, the meshes themselves are smaller, so that the total draining surface may not be large enough.

We thus see that the plain wire, which is the simplest as well as the first to have been used, has gradually been transformed to meet the requirements of the paper making industry.

The following table will give an idea of the different numbers and classes of wires which are used on paper machines for the manufacture of various grades of paper; but the list must not be regarded as complete. Moreover, in choosing a wire it should not be forgotten that the use of a fine wire holds back more fibers on the machine but involves the following drawbacks:

- (1) The wire must be under a high tension to facilitate draining, and this is hard on the seam and wrinkles are more liable to form;
- (2) A fine wire is not as strong as a coarser one;
- (3) The suction boxes must work under a higher vacuum, which wears out the wire more rapidly;
- (4) The meshes of the seam become clogged up more easily, necessitating frequent and difficult cleaning with consequent danger of deteriorating the wire.

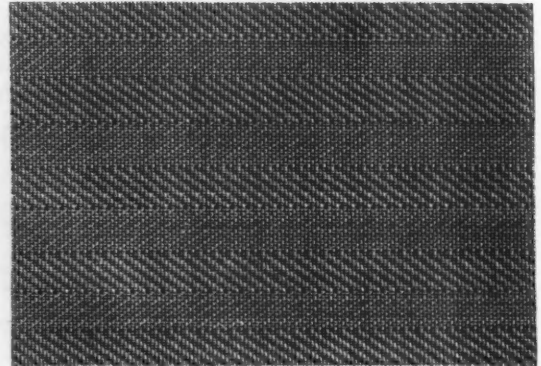


60 x 44 Mesh; 008 Wire, Twilled

Sort of Paper	Plain Weave	Multiple Strand	Double Warp	Triple Warp	Ziz-zag Twill
Drying machine for chemical wood pulp.	20	25	..	..	..
Ordinary cardboard	30	..	..	..	30
Leather board	35	..	..	..	35
Mechanical wood pulp	40	..	..	..	40
Straw paper	45	..	..	..	..
Wrapping paper	50	50	..	35	..
Parchment paper	60	..	..	..	..
News print, book	65	..	55	..	..
Writing paper	70	..	..	..	..
Fine writing, fine book	75	..	..	40	..
Ledgers	80	..	..	..	..
Photographic papers	85	..	..	45	..
Extra thin esparto and all rag	90	..	..	50	..
Letter book paper	..	..	..	60	..
Cigarette paper	..	..	..	65	..
Fine cigarette paper	..	..	..	70	..

But the paper industry uses wires for other purposes than for making paper on the machine.

CYLINDER WIRES. In this case a plain cloth is used. It can be used even for very coarse wires, as the warp does not run but remains in a fixed position (relatively to the cylinder). The numbers generally used are 45 to 70. It may be worth while using a bronze shute, which will stand up better against the action of



60 x 44 Mesh; 009 Wire, Herringbone Twilled

the chemicals used. This finer wire is supported on a No. 8 or No. 10 plain cloth, known as the backing wire, which is woven from wire which has a semi-circular section instead of a circular one. This gives a stiff but open cloth, in which the bends of the wires are not too sharp on the outer side which supports the fine wire, while the under side is quite smooth and fits snugly on the cylinder mould.

Sometimes a double backing cloth is used, made up of a No. 16 or No. 20 plain wire which rests on a No. 6 or No. 8 plain wire, or on a No. 8 triple warp. For the manufacture of filter paper, tissue paper, or imitation hand-made papers on cylinder machines, a wire such as was described in the second paragraph under *Laid Cloth* above is used, and the aspect of the laid paper made in this manner is the same as that of hand-made paper. The laid marks are transparent, while the fine intermediate warp wires, which serve merely to prevent the stock from passing in between the laid wires do not appear at all in the finished paper.

Watermarks are sometimes attached to these cylinders, in the same manner as they are attached to dandys.

DRAINING WIRES. For these wires, which are nailed to fixed frames a plain cloth of suitable fineness is always taken, and old machine wire being frequently used for the purpose. For every fine cloth a twill is taken, as, for a given size of mesh, it is woven with much heavier wire than a plain cloth of the same number, and consequently the twill is much stronger.

REPP (CORDUROY) WIRES. These are used for making the bottom of the draining chests, and also to give a special grain to certain grades of fine paper. Several sheets of the paper are laid on a piece of corduroy wire and put through a plater, thus embossing the grain of the wire into the paper.

3.—Wire Troubles on the Paper Machine

It frequently happens that when a wire is first started up, or when it has been running for some little time, or when it has nearly reached the end of its period of usefulness, it has an accident or is deformed in some manner which brings its life to an untimely close. Such mishaps are nearly always due to a multiplicity of causes, and it is very seldom that it is attributable to but one cause.

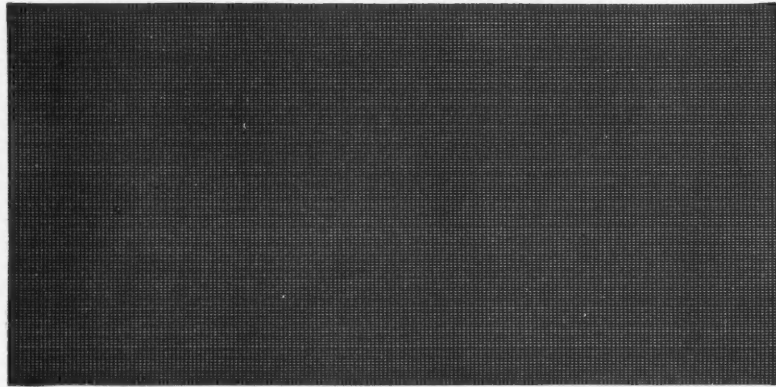
The mishap may be due to the quality of the cloth, of the wires from which it was woven, of the weaving, or of the seaming; but this is so in but very few cases, and before the papermaker in-

criminate the quality of the wire he should in all fairness investigate the operation of his machine to make sure that the trouble does not lie there. As we shall show, there are many things connected with the running of a paper machine that can give trouble with the wire; and in spite of the experience and competence of the machine tender it is at times very difficult to determine at a glance if the wire has always been run as it should have been. If we add to this the fact that the crew naturally has a tendency to conceal any personal mistakes which they may discover, it is readily seen that the honest paper maker, and still more the wire manufacturer, have a very difficult task when it comes to determining the cause of an accident to a wire.

Normal Wear

Let us see, first of all, in what manner a wire should normally give out. It is entirely by the wearing out of the warp wires. The continual rubbing on the bends in the warp wires wears them down until the cross section of the wires is too small to resist the tension, and the wire breaks. This wear cannot be absolutely uniform over the whole of the surface of the cloth. It begins in those spots which have been deformed and bulge underneath, or where it may have been folded or wrinkled through carelessness when put on the machine, and also at and near the seam because the wire is not homogeneous in this place and cannot be as stiff there as elsewhere. At these points all the warp wires break over a small circular area, or following the contour of the deformation of the cloth over an area of a few square centimeters, leaving only the shut wires, which form a sort of grating. This form of wear shows that the cloth has been properly woven. It gradually

seam itself is in no manner responsible for this deformation, which is not a deformation of the seam but of the whole cloth; all the shut wires show the same curve as the last ones which border on the seam, and it is due to one of the reasons which we shall enumerate a little further on. But in the large majority of cases its action is so small as to be practically negligible. Hence, if after a wire has been running for some time it is noted that the seam



No. 60 Fourdrinier Wire

is curved, no attempt should be made to straighten it out again, but a serious endeavor should be made to eliminate the cause itself. Even though a cloth is deformed in this manner, it will continue to give good service, but an attempt to straighten it out may result in immediately ruining the wire.

Troubles Which May Occur

As one of the worst troubles is the wrinkling of the wires, either when it is first started up or after it has been running for some time, we shall first look into the various causes which can bring this about. As a rule, wrinkles are caused by improper adjustment when the machine is started up after changing the wire, or by some part getting out of adjustment during the running, or else by an accident to some part of the machine while running.

(1) The upper couch roll does not line up perfectly with the lower one (this is frequently due to interchanging of the bearings of the rolls). Instead of being in contact along a line, they merely touch in the middle. The wire is crushed at the center, while it is free at the edges, and consequently it wrinkles immediately. If this occurs while the machine is running the paper will be crushed, and will show up the trouble; but if it occurs when the machine

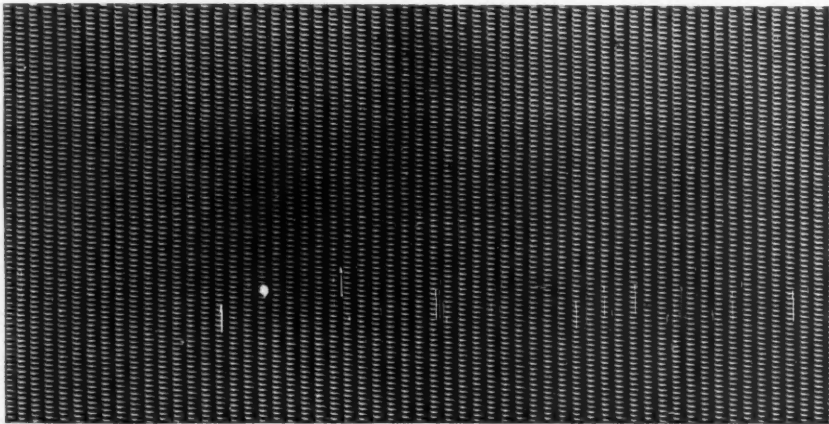
is being started up the wire may be hopelessly ruined before the trouble is noticed.

(2) One of the table rolls may not be parallel to the others. One edge of the wire is thus put under greater tension than the other: The wire works to this side and becomes wrinkled.

(3) Uneven tension of the wire as it passes over the stretch roll, or either just before or just after this roll.

(4) Excessive tension of the wire. All tension has a tendency to narrow the wire, and if the tension is too great the wire gathers in the center and wrinkles.

(5) Uneven pressure on the upper couch roll, which is pretty much the same as (1).



12 x 64 Tyler Corduroy Cloth

spreads, until it finally renders the wire unfit for further use. The premature wearing out of the wire in the manner described above can be due only to the following causes: Insufficient resistance to wear of the warp, presence of hard substances (such as fine pebbles or lumps of pulp) in the stock, accidental pinching of the wire during handling. We wish to emphasize the fact that any deformation of the cloth which causes it to bulge underneath results in a rapid wearing out of the wire in this spot, and it is impossible to overcome this completely once the deformation has occurred.

Even with a wire which has given satisfaction it can often be noted that the seam has not remained straight and perpendicular to the line of travel of the wire, but that it is slightly curved. The

(6) Uneven wear of the jacket of the upper couch roll, causing the diameter of the roll to vary across its face. In turn, the speed of the wire will be uneven across its width, and it will wrinkle.

(7) The jacket of the upper couch roll may become loosened, due to one of two causes: Either it was made from a fabric which did not shrink sufficiently in hot water, or else it was stretched too much and could not shrink sufficiently.

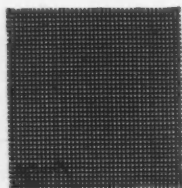
(8) If the inside of the jacket has been insufficiently singed, the wool fibers will gather into lumps making the surface of the jacket uneven and causing the wire to wrinkle and crease.

(9) The wire guide rolls (either hand controlled or automatic) may jam or may throw the wire aside too suddenly.

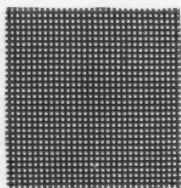
(10) When a wire guide is used which acts at the same time on both the upper and lower portions of the wire, if the action on the two parts of the wire should happen to occur in opposite directions at the same time the wire will be thrown on a bias and will crease.

(11) Using the stretch roll as a guide roll.

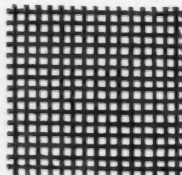
(12) When there is a sudden excess of stock in front of the couch roll it will necessarily be of uneven thickness across the thickness of the machine as it passes under the roll, and will wrinkle and crease the wire. Such an excess of stock may be due either to too sudden a change in the valve controlling the stock or else to a slowing of the wire due to slippage of the driving belt.



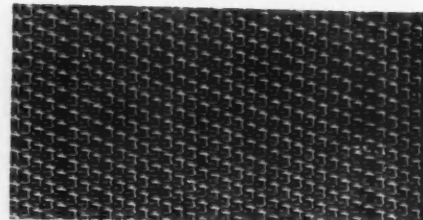
40 Mesh; 011 Wire



30 Mesh; 0135 Wire



14 Mesh; 020 Wire



14 x 40 Mesh; Tinned Twilled Copper

(13) The pulp may stick to the jacket if the latter is worn out or if the stock is too "wet" and the vacuum at the suction boxes is insufficient to drain it sufficiently.

(14) If pulp sticks to any of the rolls, either inside or outside the wire, it hardens on losing its water, makes the roll uneven in diameter, and causes wrinkles and creases.

(15) If the suction boxes are not perfectly levelled with respect to one another, the adjacent edges of two consecutive boxes form an uneven surface; and the wire tends to gather in the center and to wrinkle as it passes over the second edge. If the last suction box is not perfectly level with respect to the couch roll, the wire will very quickly crease between these two parts of the machine, for it is at this point that the whole driving force is applied to the wire.

(16) Unequal pressure of the deckle straps on the edges of the wire, or a drag on one of the straps due to the pulleys not turning properly. In such a case the strap acts as a brake on one side of the wire. The whole wire will be deformed, as can readily be seen at the seam, and a crease will gradually form.

(17) If the axis of a tube roll is bent, the wire will sag at that point and will finally wrinkle and crease.

(18) When a tube is not sufficiently rigid the wire gathers at the point of maximum deflection, sags, and finally wrinkles.

The causes enumerated above tend to stretch the cloth. Very often they act but slightly, stretching the cloth either in the middle or near the edges, and preventing a proper running of the machine. For when the wire begins to stretch, it keeps on stretching more and more, even though the original cause of the stretch has been removed; for, as it passes between the upper and lower couch rolls the stretched parts are stretched even more.

(19) To the above must be added unevenness of the couch rolls.

If the diameter of one of the rolls is larger in the middle, it will stretch the wire in the middle, and if it is larger at the end the wire will be stretched along the edges. Such an occurrence, which would seem almost impossible at first sight, is all the more dangerous that it is difficult to detect when the roll is jacketed, for the diameter of the rolls cannot be accurately determined. In such a case the first thing to do is to check up the diameter of the *un-jacketed* rolls. This accident must be guarded against most carefully in the case of cloths woven with a multiple strand wire, for in such a case the least crushing of the cloth will flatten out the sharp bend of the wire and will stretch the wire to a considerable extent. It often happens that the couch roll is grooved by the action of the guard-board; it is not unusual to see guard-boards with jagged edges, which means that the roll must be grooved.

Causes of Premature Wearing Out of Wires

Besides bulges in the wires, which result in its wearing out in the manner described above, the following causes should also be mentioned:

(20) Kinks or wrinkles made either during unpacking or when placing the wire on the machine.

(21) Play between the end of the tube rolls and their bearings. In this case, the shake of the fourdrinier part causes the tube rolls to move back and forth and act as a file wearing out the

bends in the warp wires. Such play must be entirely eliminated, both in the tube rolls and breast roll.

(22) Metal apron, which wears out the upper side of the wire.

(23) Unevenness of the edges of the suction boxes. It is not at all a rare occurrence to see the edges of suction box covers, either wooden or metal, grooved by the warp wires. The wire naturally runs in these grooves, which wear out the sides of the warp wires, and, what is much worse, which cut the seam wires which are normally placed in between the warp wires. They should normally be well protected from wear, but in the present instance they are rapidly cut through.

(24) If the dandy roll is placed too near the edge of a suction box, its weight will depress the wire and the latter will consequently make an angle as it passes over the edge of the suction box, greatly increasing the wear. Moreover, if the dandy is too free it will stretch the selvedges and may break them.

(25) Stationary tube rolls, which are worn flat along the top by the passing of the wire.

(26) Stuffing rags on the apron to prevent the stock from leaking out. This forces the apron to rub much harder on the wire.

(27) Running the wire too slack: In this case the seam has a tendency to rise and to cut into the sheet.

(28) Wire guide which grips the edges of the wire too tightly without sufficient play: The guide is always moving and frequently rips the selvedges.

(29) Excessive vacuum at the suction boxes, due either to the use of an insufficient number of boxes or to a number of wire which is not suited to the quality of the pulp being used. This is generally the most serious cause of the premature wearing out of wires.

(30) Using too strong an acid to clean and not washing with

water immediately after using acid. Cleaning too frequently by means of a flame; this anneals the wire and makes it lose its stiffness.

(31) Brushing the seam too vigorously with a wire brush, thereby displacing or even breaking the seam wires.

(32) Mending holes with too coarse a wire, or using too large a punch when mending the wire. This is practically equivalent to starting a tear in a weak portion of the cloth. As a general rule, paper mills have no one really competent to mend an accidental tear or a torn seam. In such a case the best procedure is to send the wire back to the manufacturer who can easily make a new seam or patch the tear with a piece of new cloth.

In most cases several of the causes enumerated above act together, no single one of them being sufficiently pronounced to cause an accident; so that the result is a rather low but fairly uniform production. But if any one of these factors should increase in intensity, which would be difficult to detect, the cumulative effect of all these causes results in a mishap. Everybody then looks for *the cause* of the accident, when, as a matter of fact, there are frequently, three, four or five contributing causes, each of which of itself is insufficient to make the wire come to grief.

The cuts shown herewith are presented through the courtesy of the W. S. Tyler Company, Cleveland, Ohio

PLANS FOR PAPER INDUSTRIES EXPOSITION

In the Paper Industries Exposition to be held during the week, April 9 to 14, at Grand Central Palace, New York, while the American Paper and Pulp Association and its related associations are meeting, three main groups will feature the list of exhibits as part of the general program which provides for the telling of the whole story of paper from the forest to the ultimate consumer.

Although there will be no rigid rules for the placing of exhibits in sections, there will be, as indicated by the manner in which exhibitors are already contracting for space, some classification of exhibits. These will be arranged in a general way according to the three chief steps in the progress of manufacture and distribution, the first being the paper making machinery and the chemicals entering into the manufacture of paper. The second will be the making of paper itself, and the third the conversion of paper into its various sub-divisions in which it reaches the public, such as boxes, twine, and specialties, as well as the large field of distribution to printer and consumer in the form of writing paper and other papers.

The general scheme of organization of the Paper Industries Exposition has already been formulated, and many booths contracted for. An entire floor of the Grand Central Palace has been set aside for the Exposition, and space divided into about 200 booths. These booths are of standard design, although varying slightly in size. Some are 10 x 10 feet in size, other 14 x 14 feet, and a few even larger. All, however, will be equipped in uniform design, with partitions, railings and the like furnished by the Exposition management to assure the maintenance of a reasonably standard design in all the booths. To continue this spirit, the sign lettering for all booths will be done in a uniform style.

The manufacturers of paper mill supplies have been prompt to take advantage of this opportunity to present their equipment to the paper mill executives who will be at the Exposition. A large attendance of paper manufacturers and merchants during the week is assured because of the fact that the Paper Industries Exposition will be held during the week of the annual conventions of American Paper and Pulp and the National Paper Trade Associations and their affiliated organizations. The manufacturers of beaters, rolls and other similar heavy equipment are already well represented among the exhibitors as are also the chemical supply companies, which sell bleachers, colors and all of the wide range of chemicals entering into the manufacture of a sheet of paper.

The manufacturers of specialties, such as boxes, paper, twine and the like are included among those who have already, though the Exposition is still nearly three months distant, contracted for exhibit space.

The chief efforts of the Paper Industries Exposition management, however, have at the outset been devoted to the securing of educational exhibits, not the sale of space for commercial exhibits. The Forest Products Laboratory, of Madison, Wis., and the Research Laboratory of the United States Forest Service, have been invited to present an exhibit in space to be donated by the Exposition management. An effort is being made to have a special exhibit of the

United States Bureau of Standards, which operates its own paper mill at the laboratory in Washington, where tests are made of paper made by different processes from miscellaneous materials.

"Seldom in our long exposition experience has there been such an early interest manifested in any exposition as in this effort to tell the story of paper," said Charles F. Roth of the Paper Industries Exposition management, "and this early interest seems to assure even at this early date success for the enterprise."

Act to Offset Spruce Bud Worm in Maine

AUGUSTA, Me., January 22, 1923.—A decision has just been given by the Secretary of Labor, through the Commissioner General of Education, which will permit lumber companies in Maine to employ 2,000 woodsmen in Canada and the Maritime Provinces for work in the woods. This decision was the result of several visits to Washington by Pres. James Q. Gulnac of the State Chamber of Commerce.

Owing to the spruce bud worm, it is said more than 50 per cent of spruce timber in Maine has been affected and that unless it is cut immediately it will prove a total loss. The Great Northern Paper Company and other concerns in the State realize the situation and plan to cut 600,000 cords or more of spruce timber this Winter. If this timber can be cut and placed in the water, it can be saved and, although this large amount of wood is not needed for immediate use, the saving of it will mean millions of dollars to the State. There is a great scarcity of skilled labor in the woods this Winter and unless woodsmen can be obtained the loss of spruce will be heavy.

The immigration officials in Montreal, who has charge of the Canadian district, has given consent to having agents of the Maine lumber companies canvass his territory for workmen, and under the rule they will be permitted to advance the traveling expenses to these men so their services will be immediately available. The Great Northern Paper Company will operate extensively on the west branch of the Penobscot and around Chesuncook Lake, particularly on one township which is said to have the largest amount of spruce of any one township in the State. Ninety per cent of the trees in this township are affected by the spruce bud worm and unless they are cut this Winter will be a total loss.

Paper Makers at Holyoke Accept Increase

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., January 22, 1923.—Eagle Lodge of Papermakers at its regular meeting Sunday afternoon in Papermakers' Hall, after discussing the wage increase announced by the manufacturers after their several conferences, by a standing vote with a majority of four went on record as accepting the new wage schedule. The new scale calls for increases ranging from 5 to 8 cents per hour.

The employees of several mills received the wage increase last week but the new scale as adopted by the majority of paper mills of Holyoke and vicinity, will go in effect this week.

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

Properties, Chemistry and Testing of Raw Materials and Finished Products

The Cooking of Rags.—Hermann Grimm. *Zellstoff u. Papier*, i, 7-10, 33-56 (1921). Translation by C. J. West in *Paper Trade J.*, lxxiii, No. 16, 32, 34 (Oct. 20, 1921); No. 24, 44-46 (Dec. 15, 1921); lxxiv, No. 3, 50-51 (Jan. 19, 1922); No. 8, 50-52 (Feb. 23, 1922). Results of analyses (ash, moisture, furfural, pentosan, ether extract, and alcohol extract) are given for unbleached and bleached cotton, linen, and hemp pulps. In determining the absorptive capacity of the fibers, 10 g. of air-dry material (of known moisture content) were shaken with 1 liter of the alkali for 4 hours, the cellulose was filtered off and the liquor titrated with decinormal hydrochloric acid and methyl orange. The difference between this value and the titration of the fresh liquor gave the amount absorbed. The results show that time plays a role in the absorption, the greatest values being for 4 to 6 hours. The higher the concentration of alkali, the greater the amount absorbed. Stirring during the experiment increases the absorption of lime by cotton, but is unfavorable in the case of other alkalis and fibers. The alkaline earths are markedly absorbed while the alkalis are taken up only in small amounts. Strontia, and especially baryta, are absorbed to a greater extent than lime. In general the absorption seems to increase with the degree of lignification. Cooking experiments in which 5 per cent lime was used showed that 88 per cent of this amount was utilized. Experiments in which the rags and lime were allowed to stand 4 hours before heating gave no better results. The cooking process is incomplete when pressure is not used. The passage of carbon dioxide through the liquor with the idea that the calcium hydrate might be transformed into calcium carbonate and thus rupture the fiber bundles was ineffective. Cooking with sodium carbonate after absorption of lime which would cause formation of caustic soda within the fibers was no more efficient than the ordinary cooking process. The mechanical action of the hollander has a considerable effect on the chemical constituents of the fibers, an effect that cannot be replaced by more severe cooking conditions. Comparative factory experiments with lime and lime-soda cooks were favorable to the former. In testing the quality of pulps the methyl number is valuable but too expensive for a control method. The lignin value is also a criterion of the purity of the cellulose. The relation of total impurities to cellulose may be determined by the acetyl number, since the cellulose forms soluble acetyl derivatives, while the lignified part and other impurities are undissolved. One g. of air-dry material is treated with a mixture of 5 g. of acetic anhydride, 5 g. of acetic acid and 0.15 g. of sulphuric acid (specific gravity 1.84) and allowed to stand 24 hours with frequent shaking during the first 6 hours. The mixture is then diluted with 15 cc. of the acetylating mixture and centrifuged. The height of the precipitate is read on a scale and converted to per cent of the original material. A list of 24 references on rag cooking is given.—A. P.-C.

Bamboo as a Raw Material for Paper Making.—W. Schmeil. *Zellstoff u. Papier*, i, 153-167, 189-200, 210-223 (1921); *Chem. Abs.*, xvi, 828 (March 10, 1922). A complete chemical study of the bamboo fiber, with some observations on its use as a paper making material.—A. P.-C.

Bleaching, Bleach Manufacturing and Equipment

Bleaching Pulp With Liquid Chlorine?—W. Opferman. *Papierfabr.*, xix, Fest-u. Ausland Heft, 62-65 (1921); *Chem. Abs.*, xv, 2983 (Sept. 10, 1921). The author made a laboratory study of the method of DeVains and Peterson in which the pulp is first

treated with chlorine gas and, after washing with alkali, bleached with bleaching powder. The cost varies, as compared with the use of bleaching powder alone, but it averages 60 to 70 per cent of the older method. The author is of the opinion that the older method might be improved by carrying out in steps and washing the product with alkali as an intermediate step. If the liquid chlorine process is put into practice, the question of the formation of hydro- and oxy-celluloses must be investigated. (Compare De Perdiguer, *Pulp and Paper*, xx, 635, July 27, 1922.)—A. P.-C.

Paper Manufacturing and Equipment

Rosin Sizing.—Rudolph Sieber. *Zellstoff u. Papier*, i, 139-142, 184-188 (1921); *Chem. Abs.*, xvi, 827 (March 10, 1922). The aqueous solution containing free rosin and the sodium soap is clear only at a concentration of 4 to 5 per cent and within rather narrow temperature ranges; upon dilution there occurs dissociation of the dissolved soap, upon which the rosin separates in the form of fine needles. When the concentration is increased the sodium salt separates forming a jelly. When warm this jelly is mobile, but not when cold. In the action of aluminum sulphate as a precipitating agent for sodium resinate, the dilution plays an important part. It appears that the aluminum resinate once it is isolated is rather stable towards aluminum sulphate. The precipitation production is an unstable product, since when freshly precipitated it is soluble in ether, but when dried only 70 per cent goes into solution. This partial insolubility of the resinate in ether may be explained by the fact that the aluminum, in part at least, is in the form of aluminum hydrate, and, therefore, insoluble, but that it holds a large amount of rosin as an adsorption compound which enables it to dissolve in the ether. Hydrochloric acid does not completely dissolve the precipitate, while in the presence of alcohol there is complete decomposition of the product with separation of rosin. The reaction of the salts of hard water with rosin is discussed. With calcium chloride and a concentration of 1 g. of rosin per liter, 0.12 g. are necessary to precipitate the rosin completely. The action of aluminum sulphate on these precipitates is described.—A. P.-C.

Use of Waterglass in the Sizing of Paper.—Th. E. Blasweiler. *Papierfabr.*, xix, 809-816, 875-877 (1921). Translation by C. J. West in *Paper*, xxviii, No. 22, 20; No. 24, 20; xxix, No. 6, 19-20 (1921). A large number of experiments is reported on the sizing of paper with mono- and trisilicate. In all experiments in which trisilicate was used, there was an increase in the strength up to 8.2 per cent and in the case of news print of 18.5 per cent based on the unsized product. The greatest retention of filler amounted to 30 per cent of the amount of filler retained in the unsized paper, and the tensile strength of this waterglass-sized but filled paper is never below that of the unsized and unfilled paper. The results also indicate that all waterglass-sized papers possess a greater absorptive capacity both for aqueous solutions and for printer's ink, which is of importance in the printing plant.—A. P.-C.

Waterglass and Resins.—Th. E. Blasweiler. *Papierfabr.*, xix, 992-997, 1108-1111 (1921); *Chem. Abs.*, xvi, 492 (Feb. 10, 1922). Reports of tests according to German patent 245,975 (Kuldkepp and Graf) and 257,816 (Sommer). Paper sized with 0.5 per cent rosin saponified with 20-parts of waterglass (6 per cent alum as a precipitating agent) showed a retention of 30 per cent of the silica used, and an increase of 6 per cent in tensile strength. Repeated with 20 per cent China clay, the tensile strength decreased 12 per cent and there was a retention of 66 per cent filler. Normal 3 per cent rosin and 20 per cent China clay showed a decrease of about

30 per cent in the tensile strength and a retention of 62 per cent of the filler. When 0.5 per cent rosin and 5 per cent dry water-glass were used (Sommer) there was only a slight increase in the tensile strength and a decrease of 0.47 per cent in the stretch. Figures are also given for the absorptive capacity.

Sizing with Waterglass and Fatty Acids.—Th. E. Blasweiler. *Papierfabr.*, xix, 1217-1223 (1921); *Chem. Abs.*, xvi, 492 (Feb. 10, 1922). Experiments with the saponification products of soybean and cottonseed oils with and without the use of waterglass do not seem to indicate any great improvement in the properties of the paper. Five per cent cottonseed oil soaps, 5 per cent water-glass (38° Bé), and 10 per cent alum increased the tensile strength somewhat but decreased the stretch.—A. P.-C.

Machine for Making Composite Shingles.—O. Altpeter, G. W. Altpeter, and F. A. Kaiser. Can. patent 223,166 (Aug. 29, 1922). A mixture of ashes, granulated slag, or other filler, fibrous material, and binder such as asphalt, tar, etc., is delivered hot in a continuous stream from a hopper and passed between sets of spreading and compressing rollers to form a series of wedge-shaped shingles of the same form as ordinary wood shingles.—A. P.-C.

Method of and Apparatus for Waxing Paper.—J. Decker and A. G. Van Sluys, assignors to Nashua Gummed and Coated Paper Co. Can. patent 222,903, Aug. 22, 1922. Addition to U. S. A. Patent 1,140,873. The paper is passed through a bath of molten wax, through a (preferably heated) press, against (preferably heated) polishing rolls which are driven in the opposite direction to the travel of the paper, through a cold water tank, and finally through a device for removing the surplus water, which consists essentially of two or more suction pipes with or without the aid of doctors and vibrators to agitate the paper as it leaves the water tank.—A. P.-C.

German Cigarette Papers.—W. Herzberg. *Papierfabr.*, xix, Fest-u. Ausland Heft., 35-38 (1921); *Chem. Abs.*, 2984 (Sept. 10, 1921). The results of the investigation of one French and two German cigarette papers are given (color, thickness, weight, tearing strength, ash content, fiber composition, porosity, etc.), and the author concludes that German paper to-day is better than French paper before the war.—A. P.-C.

Keeping Machinery in Condition.—K. H. Coughlin. *Paper Ind.*, iii, 1255-1256 (Dec., 1921). Brief discussion of the necessity of regular inspection of paper mill machinery and of the reduction in the cost of repairs which can be thus effected.—A. P.-C.

Watermark Substance Number.—Louis Colton. *Pulp and Paper*, xx, 582b (July 13, 1922). A plea for the placing of the substance number immediately under the regular watermark.—A. P.-C.

Articles Produced from Pulp and Paper

Folding Box Making Machine.—L. E. La Bombard. Can. patent 223,093, Aug. 29, 1922. Same as U. S. A. Patent 1,407,331, Feb. 21, 1922.—A. P.-C.

Paper Twine Making Machine.—G. S. Milde and Textile Engineering Co., Ltd. Can. patent 222,695 (Aug. 15, 1922). A number of independent strips or ribbons of paper are placed together and in one operation are spun into a cord, with or without strands of other materials, e. g., metal wires.—A. P.-C.

General Equipment

The Mechanism of Lubrication.—I. Robert E. Wilson and Daniel P. Barnard, 4th, Mass. Institute of Technology. *J. Soc. Automotive Eng.*, July, 1922; *J. Ind. Eng. Chem.*, xiv, 682-683 (Aug., 1922). In the case of a journal bearing the coefficient of friction (f) is some unknown function of at least nine variables, of which the viscosity of the lubricant at the operating temperature (z), the revolutions per minute (n), and the pressure on the bearing (p) are the most important. If all the observed values

of f obtained on a given bearing by varying the load, speed and viscosity of the lubricant are plotted against the modulus zn/p they should approximate a line which represents the unknown functional relationship. A typical figure of such curves is given, based on the results of Stribeck using two kinds of bearing metals. The curves consist of a region of perfect fluid film lubrication (f is roughly proportional to zn/p), a critical point where the speed or viscosity become so low or the pressure so high that the fluid film begins to rupture, and a sharply rising portion to the left of the critical point which is the region of partial lubrication. Some tentative conclusions drawn from a careful study of available data are put forward.—A. P.-C.

The Mechanism of Lubrication.—II. Robert E. Wilson and Daniel P. Barnard, 4th, Mass. Institute of Technology. *J. Soc. Automotive Eng.*; *J. Ind. Eng. Chem.*, xvi, 683-695 (Aug., 1922). "Oiliness" is defined as that property of lubricants by virtue of which one fluid gives lower coefficients of friction (usually at slow speeds or high loads) than another fluid of the same viscosity. Its importance under practical operating conditions is shown to be greater than is generally recognized. The following possible methods of measuring oiliness and of throwing light on the mechanism of partial lubrication are described: (1) Use of a Deeley type machine to measure coefficient of friction between plane surfaces at slow speeds; (2) A refined and reproducible method of determining static coefficients of friction between partially lubricated metal surfaces; (3) Measurement of interfacial energy between mercury and oil; (5) Measurements of the electrical resistance and the rate of formation of adsorbed films on metal surfaces; (5) Clogging of fine metal capillaries through which lubricants are forced. The static friction test with proper refinements is considered to be the best single measure of oiliness, but it should be supplemented by measurements of the thickness of the adsorbed films at high pressures, in order to throw more light on the mechanism of the action of different constituents in lubricating oils. Animal and vegetable oils are almost invariably superior in oiliness to straight mineral oils. The blending of considerable proportions of neutral glycerides with mineral oils greatly improves the oiliness of the latter; but the same results can be obtained by adding much smaller proportions of fatty acids or oil-soluble soaps. (Compare H. M. Wells and J. E. Southcombe. *Advances in the Practice of Lubrication*. This journal, lxxix, No. 5, 55, Feb. 2, 1922.) Oiliness is due to selective adsorption of constituents in the oil by the metal surface. The adsorbed film is of colloidal rather than molecular dimensions, is a plastic solid rather than a fluid film, and apparently acts by smoothing over surface irregularities, carrying much of the load and minimizing metal to metal contact and abrasion. The structure and physical characteristics of this film seem to be more important than its thickness in determining its efficiency in lowering friction. The constituents of lubricants which form these adsorbed layers may be selectively adsorbed and largely removed from the oil by repeated treatments with very finely-divided metals, e. g., iron-by-hydrogen.—A. P.-C.

Power Generating and Equipment

The Refractory as a Factor in Furnace Life and Capacity.—I. S. Pieters, Jointless Fire Brick Co. *Paper Trade J.*, lxxv, No. 3, 36, 38 (July 20, 1922); *Pulp and Paper*, xx, 647-648 (Aug. 3, 1922). The requirements of a modern furnace lining are refractoriness, physical strength, surface hardness, low expansion and contraction coefficient over a wide temperature range, low heat conductivity, and imperviousness to air. No one material can meet them all, so that the practice now is to make furnace walls and settings of 3, 4, or more materials, each of which serves a distinct purpose. The drawbacks of bricks, linings and the troubles to which they give rise are outlined, and the merits of a monolithic (i. e., one-piece, jointless) lining are described.—A. P.-C.

An Economically Efficient Paper Mill Steam Plant.—*Pulp*

and Paper, xx, 718-719 (Aug. 24, 1922); Paper Trade J., lxxv, No. 10, 43-44 (Sept. 7, 1922); Paper Mill, xlv, No. 34, 4 (Sept. 2, 1922). Results are given of operation for six months of the Canada Paper Co.'s new boiler plant at Windsor Mills, Que., supplemented by explanatory notes and remarks on the efficiency of steam plants.—A. P.-C.

The Use of Heat and Power in the Paper Industry.—Fr. Grewin: *Svensk Pappers-Tid.*, xxiv, 211-214, 232-233, 251-263 (1921); *Chem. Abs.*, xvi, 645 (Feb. 2, 1922). The layout of a paper mill with special reference to the drying of bark and pulp, and to the distribution and transmission of heat is shown in 12 diagrams, and the production and use of power by 6 curves. Topics treated are: waste smoke, distribution of steam, production of power, drying of paper, heat and ventilation, and the heat balance, with special reference to utilizing the losses.—A. P.-C.

Safety Engineering and Welfare

Accident Prevention in the Sulphite Mill.—F. H. Rosebush. *Paper Ind.*, iv, 531-533 (July, 1922). The author points out some of the danger points and how to guard against them.—A. P.-C.

Recent Advances in Pulp and Paper.—C. J. West. *J. Ind. Eng. Chem.*, xiv, 858-860 (Sept., 1922). A brief review of recent progress, more particularly from a chemical standpoint.—A. P.-C.

Correlation of Mill Data.—W. B. Van Arsdel. *Paper Ind.*, iv, 645-650 (Aug., 1922). A discussion of the application to the interpretation of mill reports of "correlation coefficients" and "regression coefficients" as used in statistical calculations. The character of the arithmetical work required and the type of information resulting is shown by an example taken from sulphite mill data involving as variables the copper number of bleached pulp, per cent free SO₂ in the cooking acid, time of cooking and temperature of the mill water supply.—A. P.-C.

Importance of Accurate Mill Reports.—J. A. Reilly, American Writing Paper Co. *Paper Trade J.*, lxxiv, No. 23, 39-41 (June 8, 1922); *Paper Ind.*, iv, 427, 429, 431, 433 (June, 1922); *Paper*, xxx No. 16 7-10 (June 21, 1922). A discussion showing how accurate mill reports can be used by the cost department to show if there is waste in the rag room, beater room, machine room, finishing room, or boiler plant, or to show when it would be advisable to replace old equipment by new.—A. P.-C.

List of Abbreviated and Full Titles and of Addresses of the Journals From Which Abstracts Have Been Prepared For This Issue

Chem. Abs.....	Chemical Abstracts. E. J. Crane, Ohio State University, Columbus, Ohio.
J. Ind. Eng. Chem.....	The Journal of Industrial and Engineering Chemistry. H. E. Howe, 810 Eighteenth St., N.W., Washington, D. C.
J. Soc. Automotive Eng....	Journal of the Society of Automotive Engineers. Society of Automotive Engineers, Inc., 29 W. Thirty-Ninth St., New York City.
Paper	Paper. 251 West Nineteenth St., New York City.
Paper Ind.....	The Paper Industry. 356 Monadnock Block, Chicago, Ill.
Paper Mill.....	The Paper Mill and Wood Pulp News. L. D. Post, Tribune Building, 154 Nassau St., New York City.
Paper Trade J.....	Paper Trade Journal. 10 East Thirty-Ninth St., New York City.
Papierfabr.	Der Papier-Fabrikant. Otto Elsmar, Oranienstr. 140-142, Berlin, S.42, Germany.
Pulp and Paper.....	Pulp and Paper Magazine of Canada. Gardenvale, Que.
Svensk Pappers-Tid.	Svensk Pappers-Tidning. Svenska Pappersbruksföreningen, Hovslagaregatan 3, Stockholm, Sweden.
Zellstoff u. Papier.....	Zellstoff und Papier. Verlag von Carl Hofmann, Papierhaus, Dessauer Str., 2, Berlin, S.W. 11, Germany.

Edition of Paper Testing Methods Exhausted

Paper Testing Methods, which was published by the Technical Association a few months ago, is out of print. When additional orders for 200 copies are received another edition will be printed.

TECHNICAL SECTION, PAGE 50

Plans for Spring Meeting April 9 to 13

Among the preliminary plans which are being made for the annual convention of the Technical Association of the Pulp and Paper Industry, some of the committees have submitted papers for the program.

Edwin Sutermeister, chairman of the committee on Coated and Processed Papers has already forwarded the following papers prepared by different members: "Raw stock for coating," "Coloring matters for coated papers," "Manufacture of lake colors," "Drying and conditioning of coated paper."

Howard Taylor, chairman of the committee on Heat, Light and Power promises the following from his members: "Economical steam generation for the pulp and paper industry," "Records of steam and electricity for power plant and paper mill," "Heat transference in the ventilating of machine rooms."

F. A. Curtis, chairman of the Paper Testing Committee, expects to present papers on the following: "Correlation of physical tests," "Methods of measuring the color of paper," "Reports on folding endurance, tearing and sizing tests with additional papers on sizing and sizing tests."

W. A. Munro, chairman of the committee on Mechanical Pulp promises papers on "Burrs for dressing pulp stones," "The white water problem in a mechanical pulp mill."

Tentative plans are being made towards a symposium on grinders and their operation and control.

As the plans of other committees mature they will be announced.

It is planned to open the convention for registration and business on Monday, April 9, holding the annual banquet on Tuesday night at the Hotel Astor as usual.

In the general sessions much prominence will be given to the two special subjects: "Elimination of waste in the pulp and paper industry" and "Drying of paper," in which the interest of the associations has been centered during the year.

A Correction

In stating the plans of the Committee on Abstracts and Bibliography, the Chairman neglected to state that this work was carried out in co-operation with the Canadian Technical Association. It was in no way intended as a reflection upon the co-operation of the Canadian Association, because this has always been and will continue to be of the most cordial nature.

It has also been called to the attention of the Chairman that the magazine paper was omitted from the list of journals to be abstracted. It is desired to correct this omission and point out that Paper is regularly covered by the Committee on Abstracts.

Cellulose Div. of American Chemical Society

The Cellulose Division of the American Chemical Society has recently been authorized as a permanent division of the Society and wishes to enroll as members in the division all those who are interested in cellulose chemistry either from a scientific or practical standpoint. All members of the American Chemical Society wishing to become members of this division are requested to send their name and business connection together with one dollar (\$1.00) for dues to the secretary, L. F. Hawley, Forest Products Laboratory, Madison, Wis.

Canadian Paper Stocks Strong

MONTREAL, Que., January 15, 1923.—Pulp and paper stocks continue strong. While the Spanish River-Abitibi merger talk was given its quietus by further denial by T. A. Gibson, Spanish River's vice-president, interest has continued in the stocks, largely on their own individual merits and prospects. Price Bros. has also been popular as has Brompton, Wayagamack, St. Maurice and others.

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BUDGETING FOR BUSINESS CONTROL

BY THOMAS J. BURKE, SEC.-TREAS. OF THE COST ASSOCIATION OF THE PAPER INDUSTRY

"A saving of \$10,000,000 a week in the cost of Government—such is the program worked out by the Bureau of the Budget in reducing the volume of National expenditures from an estimated total of \$3,700,000,000 during the current fiscal year to \$3,180,000,000 during the coming year. Protests against the program have been silenced at Washington and been replaced with outspoken admiration for the way the seeming miracle has been wrought."

A Lesson for the Paper Industry

The above quotation is from *The Budget*. It shows that a saving of over \$500,000,000 will be effected through the decision to put the Government expenditures on a budget basis. Is there not, in this fact, a lesson for the pulp and paper industry? You could effect a similar saving if you prepared a careful budget of your probable expenditures for 1923 based on your expected sales. Uncle Sam's right. Everyone should build a budget. It's the one way to make money, as well as paper, and it is not much good making paper unless you do make money.

Not only you, but others also are prevented from making money because you don't build a budget.

Papermaking involves heavy capital outlays. Why risk them?

Making a budget is easy if you know the necessary facts. If you don't know these facts, you are jeopardizing your capital unnecessarily as well as that of your competitors. Is this fair competition?

A Budget Cost System for Paper Mills

Our publication "A Budget Cost System for Paper Mills" will help you (only \$5.00 a copy, free to members). *The Box Makers' Journal* of London comments as follows regarding this publication:

"Even a casual survey of the American trade journals impresses one with the seriousness with which cost accounting is being taken up by organized industry. Conventions of industrial producers, almost without exception, have this as one subject, and often as the leading feature for discussion year after year. At such gatherings cost men discuss trade problems from many fresh angles as they continually enlarge the scope of their activities. Both the paper and the boxmaking trades have taken up this question as a national trade problem. The former has created a separate organization to handle its many aspects with uninterrupted application.

"And yet, incredible as it may seem today, the use of accurate cost finding methods is a comparatively recent entrant in the array of factors considered to be essential to the proper conduct of business in the United States. It took the ruthless grinding of the strenuous times of recent years to force a great number of the industrial managers of this country to a realization of the fact that in any business, and more especially one where the competition is keen and continuous, the producer without an adequate costing system is a serious, not to say the worst menace to his trade."

Present Work in Entering Wedge

Some 25 years have elapsed since the writer listened with amazement while the head of one of the largest textile manufacturing companies in this land, before a convention of his fellows, ridiculed the idea of keeping cost accounts. And the man was cheered by those present when he went on to say that to charge off anything for depreciation was nonsense. He kept his plants in good order and charged the cost to repairs and that was enough for anybody. A short time thereafter the executive duties of this "authority" were taken over by the receiver in bankruptcy.

The present work is a sort of entering wedge, and as such commendably avoids a multiplicity of detail which all too often frightens the uninitiated staff of the counting house. A ponderous tone pre-

vented to a new convert to an intricate undertaking is apt to arouse antagonism, instead of being met with the sympathy indispensable to smooth working. Nevertheless, the principles underlying the science of costs and their application to the paper industry are laid down in plain terms with an arrangement as simple as a full understanding of them will permit.

As making for standardization and the elimination of controversies about taxation, in all moot points, the principles and practice recommended by the Federal Trade Commission have been followed.

What Should Be Included Under Gain

There are three sections in the book. The first consists of descriptive text, which justifies while it explains the plan. It also enumerates the fundamentals and tells why they are so. Departmental accounts, selling expenses and gain are also treated in this section, in which, under the caption "Gain," is the following significant paragraph:

"In addition to the payment of individuals the estimated necessary gain should include an amount sufficient to provide not only for various contingencies but also for a consistent development of the business. This is a fundamental economic principle upon which the permanent success of any industry must be based. This principle has been too long overlooked by some to the detriment of the entire paper industry but progressive manufacturers today realize its importance, and others must if they are to survive the great economic readjustment of the present chaotic world conditions and attain future success."

In Section 2, the determination of department rates is exemplified by 18 exhibits. The different ledger accounts recommended to be kept are shown. In the third section it is shown how the nine main accounts are to be kept and their total of 46 constituent subdivisions. To say that all this is carried on 48 pages indicates that this is a foundation work upon which any comprehensive accounting system desired in the paper making industry may be erected."

What a Budget Represents

A budget represents your idea, built up on facts, of what it should cost you to make a certain quantity of paper in a year. Isn't it clear that later comparisons of actual figures with these budget figures will give you important, much needed, long-awaited information? Won't it help you to make important decisions regarding the installation of labor-saving, time-saving, and above all, money saving devices which will cut down your cost! Such has been the experience of those paper executives who have put their mills on a budget basis.

Checking Waste and Inefficiency

Month by month, in every particular, actual expenditures are checked with the "estimated expenditures." Waste and inefficiency are thus stopped immediately.

The pamphlet issued by the Fabricated Production Dept. of the U. S. Chamber of Commerce, "Budgeting for Business Control" should be read by all executives whose mills are not now running on a scientific budget basis. Copies have been sent to all members of this Association as well as to those members of the American Paper and Pulp Association who requested them and we still have a few copies available.

The beauty of "building a budget" is that it helps you to "Hew to the line." This is always difficult even when the line is distinct, but when there isn't any line, as a rule, there isn't the best of "hewing."

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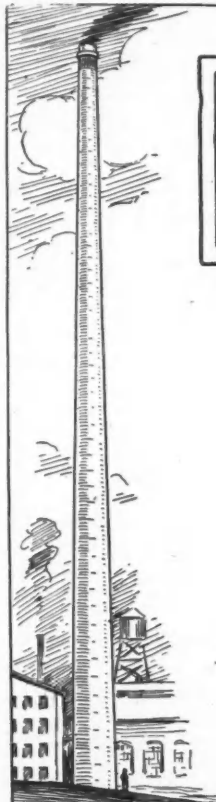
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NEW YORK

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 24, 1923.—The purchasing officer of the Government Printing Office will open bids on January 29 for the following:

2,000 pounds 24 x 36—90 Back Lining Paper, for Case-making Machines.

500 pounds (1,200 sheets) 26 x 38—No. 120, News Board.

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

19,000 pounds 32 x 48—65 white rag MP printing paper: Bryant Paper Company at \$.1225 per pound; Old Dominion Paper Company, \$.1349; Dobler & Mudge, \$.1025; R. P. Andrews Paper Company, \$.105; Garrett-Buchanan Company, \$.1141.

38,000 pounds 38 x 48—76 white M. F. printing paper: Bryant Paper Company, \$.0764; Old Dominion Paper Company, \$.074837; R. P. Andrews Paper Company, \$.0734; Kalamazoo Paper Company, \$.07; P. H. Glatfelter Company, \$.0675; D. L. Ward Company, \$.07875; Garrett-Buchanan Company, \$.074.

26,500 pounds white rag M. F. printing paper, 29 x 43—53: Bryant Paper Company, \$.1225; Old Dominion Paper Company, \$.1349; Mathers-Lamm Paper Company, \$.1098; Dobler & Mudge, \$.1025; R. P. Andrews Paper Company, \$.105; Garrett-Buchanan Company, \$.1168.

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

225 pounds stereo tissue paper, facing 19 x 24—4½: Dobler & Mudge, \$3.70 per ream; R. P. Andrews Paper Company, \$3.39; The Whitaker Paper Company, \$3.26; Wilkinson Bros. & Co., \$3.73; Sutphin Paper Company, Inc., \$3.45.

1,810 pounds buff index bristol board, 22½ x 28, and 1,810 pounds fawn index bristol board, 22½ x 28; Old Dominion Paper Company, \$.2299 per pound; Dobler & Mudge, \$.30, and The Whitaker Paper Company, \$.26.

The Champion Fibre Company has been awarded the contract for furnishing the Government Printing Office with 1,000,000 pounds of U. S. postal card cream bristol board in 44 inch rolls, at \$.0775 per pound, bids for which were opened on January 17.

The Maurice O'Meara Paper Company has been awarded the contract for furnishing the Government Printing Office with 16,800 pounds (300 reams) of 25 x 38—56 wood manila paper at \$.0567, bids for which were opened on January 5.

News of the Boston Trade

BOSTON, Mass., January 22, 1923.—Lower grades of paper are already showing a slight advance in price, Boston paper merchants report. This advance, according to the most authentic reports, is traceable directly to labor conditions and the increases in wages recently granted by many mills.

Coated book paper in the higher grades has been advanced one-half cent a pound by some mills. Business is holding up exceptionally well and there is a distinct note of optimism to be found everywhere in the paper trade regarding the new year's business.

Boston printing craftsmen and their friends, including many paper merchants of the Hub will hold their Spring outing in the land of "onions and moonshine," plans having been made for a week's trip to Bermuda, the party leaving Boston Saturday, April 14. The Furness-Bermuda Line Steamship *Fort Hamilton* has been chartered for the party's exclusive use. It will be strictly a stag party as no ladies are allowed. The *Fort Hamilton*, accommodating 350 people, will return to Boston Saturday, April 21. Joseph J. Dallas, secretary of the Craftsmen's Club, is one of the men in charge of the coming trip. Special rates have been made for the benefit of the club members and their friends.

John Carter & Co. on Atlantic avenue have been appointed one of the selling agents for the Hub for Crane's Business Papers including Crane's bonds, Japanese linen and Old Berkshire Laid.

The firm is working on its new price list which will be issued to the trade shortly.

W. B. Stevenson of A. Storrs & Bement Company is in New York attending the meetings of the Sales Service Committee of the Warren Association. F. P. Cummings, president of the A. Storrs & Bement firm, and his family leave next week for the West Indies where they will spend a month's vacation.

Miami Valley Superintendents Meet

MIDDLETON, Ohio, January 23, 1923.—At the monthly meeting of the Miami Valley Superintendents' Association held here Saturday, January 20, Walter S. Rooney of the Albany Felt Company, gave a talk on "The Manufacture of Felts." The meeting was held in the large office building of the Gardner-Harvey Company. After the banquet provided by that company, H. W. Server, of the Miami Paper Company introduced George H. Harvey who discussed "Vocational Education."

In his talk on felts Mr. Rooney described in detail the various processes of manufacture from the raw wool to the finished product, each feature being pictured with illustrated slides. The object of the talk was a co-operative one—to show the papermakers some of the problems of felt making. Mr. Rooney also gave an interesting talk, illustrated with colored slides, on the paper industry in Japan, following which the meeting was thrown open to informal discussions of felt problems on the paper machine.

The regular business of the Superintendents' Association was then attended to and it was decided to hold the next meeting in Hotel Manchester, of this city, in February. The subject will be "Waste in the Manufacture of Paper."

Mr. Rooney's next co-operative talk to the paper industry will be before the Boxboard Division of the American Pulp and Paper Mills Superintendents' Association at Chicago, on February 10.

The Seymour Company Expands Facilities

The Seymour Company has moved to the building 323-329 West 16th street, recently purchased by it. This building has a 75-foot frontage on 16th street and is a six-story and basement brick structure. The street floor is to be used as office and salesroom and the upper floors to stock our complete line of cover, book, bond, ledger, writing, special papers and boards.

Jonathan Seymour opened a paper warehouse at 46 John street in 1820 over 100 years ago. In 1840 he was succeeded by his son Melancthon Seymour who in turn in 1854 formed the partnership of Seymour & Co. with Warren B. Sage and Charles E. O'Hara. Upon death in 1865 of Melancthon Seymour, the firm was incorporated by Charles E. O'Hara as Seymour Paper Company and in 1898 reorganized as The Seymour Company. Upon Mr. O'Hara's death he was succeeded in the management by his son of the same name and the present treasurer and manager of the company.

E. J. Stilwell in Paper Trade 50 Years

MINNEAPOLIS, Minn., January 22, 1923.—The fiftieth anniversary of E. J. Stilwell's connection with the paper business was celebrated Friday evening, January 12, at the annual banquet of the Minneapolis Paper Company and the E. J. Stilwell Paper Company of St. Paul at the Leamington Hotel. The menu used at the banquet presented a portrait of Mr. Stilwell with the following inscription: "On April 3rd, 1873, Mr. Stilwell started his career in the paper business with Averill, Russell and Carpenter, St. Paul. Today, after fifty years of untiring effort, he is the head of the oldest and largest paper house in the Northwest. Truly a remarkable and enviable achievement."

Mr. Stilwell was presented with a beautiful jeweled Knight Templar watch charm in honor of the occasion.

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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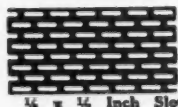
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New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, JANUARY 24, 1923

Practically every market connected with the New York paper industry was affected during the past week by the widespread expansion in demand and correspondingly firmer prices. With the pronounced activity in the various paper markets in and around New York proper and a continuance of the scarcity and high prices of raw materials entering into paper manufacture, all evidences point to a protracted period of heavy demand from the consuming trade based upon quotations that will admit of a fair profit to producers.

In the course of the week a twenty per cent price increase struck practically every item in the board market. Waste paper and raw pulps showed no signs of weakening, but on the contrary, ground wood mills reported the water shortage as acute as ever and chemical pulp reacted bullishly to the news that the pulp strike in Sweden had doubled in its extent during the week. Tissues firmed in tone as did kraft and a noticeable spurt in activity took place in the rag, old rope, bagging and even twine markets.

News print paper showed no let up in demand, the cardinal issue in this market now being reduced practically to a single factor, the available supply of ground wood. Manufacturers are not as concerned over the \$20 per ton advance in price of mechanical pulp during the last two months as they are over the prospects for keeping their mills running full-blast, to meet the capacity demand, under the existing low-water conditions. The voluntary wage advance on the part of one of the largest news print companies last week would indicate that business is being conducted on a sound and paying basis, however, despite the difficulties encountered in grinding regions.

Both export and domestic markets for book paper were included in the general stimulus which injected New York's paper markets with renewed vitality in the course of the last week. Prominent dealers in book paper reported that the volume of orders was highly satisfactory while exporters were deluged with inquiries. Steady mill production has been maintained since the holiday inventory period and the turn for the better in the past ten days will probably be reflected in stronger prices early in February.

Fine paper has progressed steadily and the week's business was commented on by leading New York merchants as being "the best since last October." Orders are loosening up and consumers, apparently sensing that prices are on the eve of an advance, are not hesitating to replenish their stock rooms.

From the consuming end of the line tissues have held in constant demand, the textile, shoe and other industries playing no small part. But at the producing end, raw material shortage continues to wreak havoc. Although scrap bagging may be secured in fairly regular quantities by fine tissue mills, manufacture of the bulk of the lower grades, where ground wood is such an essential element, continues to be decidedly impaired. Prices are now very firm and, on the face of things can only move in an upward direction if any revisions are made in the near future.

Wrapping paper improved in demand to a marked extent last week, several grades stiffening in price. Recent kraft importations have applied largely on old contracts and with the expiration of the latter buyers have entered the market of their own accord. Last week's business was reported to be of especially large volume as contrasted with the past six weeks of relative quietude, and a long stretch of healthy activity is now predicted by reliable authorities in this field.

Board prices sky-rocketed eight to twelve dollars a ton in the course of the week, as though dissatisfied with the lesser advances of the week previous. This abrupt marking up of prices

has developed numerous "runaway" symptoms in the market, not the least being the wide differences in listed values of similar grades by competitive manufacturers. Board men point to the ground wood scarcity, fuel shortage, high waste paper and other raw material prices and the Swedish pulp strike threat as important factors in the sudden advances. Also, consuming demand is at its flood tide, no let-up being in sight for at least 60 days.

Mechanical Pulp

It was stated in ground wood circles during the past week that very little spot spruce pulp is now being turned over beneath the \$50 mark. Grinding conditions were ameliorated somewhat ten days ago when thaws and rains temporarily provided ample water, but recent advices from these districts indicate that the relief was all too transient. The rapt attention of nearly the entire paper industry is now centered on this market and as consumers' supplies ebb this interest increases, giving a very bullish aspect to the situation.

Chemical Pulp

Foreign and domestic grades alike of chemical pulp enhanced in tone and, to a limited extent, in price, during last week's brisk trading. Pulp imports have not had time to show the effects of the Swedish strike, involving 11,000 of the 15,000 workers and crippling two-thirds of the nation's industry, but the New York markets have barometrically followed the course of the walkout, hardening in tone with each day's cable advices. In the event of a failure to arbitrate by January 29, it is believed that next month will find chemical pulps soaring.

Old Rope and Bagging

Old rope continued to gain strength during the week and while buying was brisker, small-sized quantities generally were involved.

Bagging improved somewhat due to the increased demand for scrap by fine tissue mills and, in part, to the call for imported quantities by board mills.

Rags

Rag demand holds steady-to-firm and numerous price increases were instituted amongst the lower grades by reason of the unusually heavy spot requirements of consumers. The thin end of the higher price wedge is believed to be making its way into this market, with the result that dealers are not clamoring for contract business at current prices. Traffic congestion has held up many deliveries in recent weeks and supplies in the hands of sorters and graders are limited.

Waste Paper

Paper stock of practically every description firmed in tone as a result of last week's heavy inroads upon the stock in hands of jobbers. Broad scale buying boosted prices in many lower grades of waste paper and buyers from mid-Western States have contributed their share to the activity of the market. Prices, it is believed, will continue upward.

Twine

Diminishing twine stocks in dealers' hands have been accompanied by a corresponding firmness in the market for all qualities. In early February, New York twine dealers believe, substantial price advances should occur.

No Dumping of American Fiber Products in England

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 20, 1923.—The Paper Division of the Department of Commerce has a dispatch from the American Trade Commissioner at London stating that the committee appointed by the London Board of Trade to investigate the question as to whether or not American made fiber products are being dumped on the English market, has decided that these products are not being dumped and no measure of protection will be afforded English firms under the Safeguarding of Industries Act.

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations January 23, 1923.

	BID	ASKED
American Writing Paper Company pref.	28	28 1/2
International Paper Company, com.	50 1/2	51
International Paper Company, pref., stamped	70 1/2	71
Union Bag & Paper Corporation	64 1/2	65

Paper

F. o. b. Mill.	
Ledgers	@ 38.00
Bonds	@ 55.00
Writings	
Extra Superfine	16.00 @ 35.00
Superfine	14.00 @ 30.00
Tub Sized	10.00 @ 15.00
Engine Sized	8.50 @ 11.00
News-f. o. b. Mill—	
Rolls, contract	3.85 @ 4.00
Rolls, transit	4.25 @ 4.60
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	.95 @ 1.10
Colored	1.25 @ 2.50
Anti-Tarnish	1.90 @ 2.40
Silver Tissue	— @ —
Manila	.90 @ 1.00
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	4.90 @ 4.50
Butchers	4.25 @ 4.75
Fiber Papers—	
No. 1 Fiber	6.00 @ 6.25
No. 2 Fiber	5.25 @ 5.50
Common Bogus	3.50 @ —
Card Middies	4.00 @ 5.00
Boards—per ton—	
News	75.00 @ —
Straw	80.00 @ —
Chip	70.00 @ —
Binders' Board	87.50 @ —
Sgl. Min. Lt. Chip	97.50 @ —
Wood Pulp	85.00 @ —
Container	90.00 @ —
Wax Paper—	
Self Sealing White	
28 and 30 lb.	
basis	11.00 @ 12.00
Waxed Tissue	1.60 @ 1.80
Glassine—	
Bleached, basis 25	
lbs.	15.00 @ 16.00
Bleached, basis 20	
lbs.	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, 30 lbs.	
per 500 sq. ft.)	55.00 @ 65.00
Mechanical Pulp	
(Ex-Dock)	
No. 1 Imported	42.00 @ 46.00
(F. o. b. Mill)	
No. 1 Domestic	44.00 @ 48.00
For immediate shipment	48.00 @ —
Chemical Pulp	
(Ex-Dock, Atlantic Ports.)	
Sulphite (Imported)—	
Bleached	4.50 @ 5.00
Easy Bleaching	3.25 @ 3.50
No. 1 strong unbleached	3.10 @ 3.40
No. 2 Strong unbleached	3.00 @ 3.25
No. 1 Kraft	3.00 @ 3.20
Sulphite—	
Bleached	4.00 @ 4.25
(F. o. b. Pulp Mill.)	
Sulphite (Domestic)—	
Bleached	4.50 @ 5.00
Strong unbleached	3.00 @ 3.40
Easy Bleaching	
Sulphite	3.00 @ 3.50
News Sulphite	2.75 @ 3.00
Mitscherlich	3.10 @ 3.50

Kraft (Domestic) 3.20 @ 3.40
Soda Bleached 4.25 @ 4.50

Domestic Rags

New	
Prices to Mill, f. o. b. N. Y.	
Shirt Cuttings—	
New White, No. 1	11.50 @ 12.00
New White, No. 2	6.50 @ 7.00
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	6.50 @ 7.00
New Blue	4.95 @ 5.20
New Black Soft	5.00 @ 5.50
New Light Seconds	2.90 @ 3.15
O. D. Khaki Cuttings	4.25 @ 4.75
Men's Corduroy	3.15 @ 3.40
New Canvas	6.75 @ 7.10
New Black Mixed	2.50 @ 2.75
White, No. 1—	
Repacked	6.00 @ 6.50
Miscellaneous	5.25 @ 5.50
White, No. 2—	
Repacked	3.25 @ 3.50
Miscellaneous	2.50 @ 2.75
St. Soiled White	1.75 @ 1.85
Thirds and Blues—	
Repacked	1.90 @ 2.10
Miscellaneous	1.50 @ 1.60
Black stockings	2.90 @ 3.25
Roofing Rags—	
Cloth Strippings	1.20 @ 1.30
No. 1	1.20 @ 1.30
No. 2	1.10 @ 1.20
No. 3	.85 @ .95
No. 4	.85 @ .95
No. 5A	1.05 @ 1.15

Foreign Rags

New Light Silesias	6.00 nominal
Light Flannelettes	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	9.00 @ 11.00
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	1.60 @ 1.70
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	1.40 @ 1.50
Bright Bagging	1.05 @ 1.20
No. 1 Scrap	1.05 @ 1.20
Sound Bagging	.85 @ .95
Manila Rope—	
Foreign	5.75 @ 6.00
Domestic	6.00 @ 6.25
New Bu. Cut.	2.25 @ 2.45
Hessian Jute Threads—	
Foreign	2.25 @ 2.50
Domestic	2.25 @ 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 @ .61
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
Unfinished India—	
3-ply	.20 @ .22
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	4.20 @ 4.40
Hard, White, No. 2	3.75 @ 4.15
Soft, White, No. 1	3.60 @ 3.80
Flat Stock—	
Stitchless	2.65 @ 2.70
Over Issue Mag.	2.75 @ 2.85
Solid Flat Book	2.45 @ 2.50
Crumpled No. 1	2.20 @ 2.35
Solid Book Ledger	3.00 @ 3.25
Ledger Stock	2.70 @ 2.80
New B. B. Chips	1.00 @ 1.10
Manilas—	
New Env. Cut.	2.80 @ 3.10
New Cut No. 1	2.05 @ 2.30
Extra No. 1 Old	1.80 @ 1.90
Print	1.65 @ 1.75
Container Board	1.50 @ 1.65
Bogus Wrapper	1.25 @ 1.40
Old Krafts, machine compressed	
Bales	2.15 @ 2.25
News—	
No. 1 White News	2.15 @ 2.30
Strictly Overissue	1.50 @ 1.60
Strictly Folded	1.30 @ 1.45
No. 1 Mixed Paper	1.25 @ 1.40
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	10 @ 14		
Sulphite Bond	9 1/2 @ 12		
Sulphite Ledger	12 @ 14		
Superfine Writing	18 @ 24		
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 1/2		
Coated Book	9 @ 10 1/2		
Coated Label	8 1/2 @ 8 3/4		
News—Rolls mill	4 @ 4 1/2		
News—Sheets mill	4 1/2 @ 4 3/4		
No. 1 Manila	4 1/2 @ 6		
No. 1 Fiber	5 1/2 @ 5 3/4		
No. 2 Manila	4 1/2 @ 5		
Butchers' Manila	4 @ 4 1/2		
No. 1 Kraft	7 @ 7 1/2		
No. 2 Kraft	6 1/2 @ 7		
Wood Tag Boards	4 1/2 @ 4		
Screenings	3 @ 3		
Boards, per ton—			
Plain Chip			
Solid News			
Manila Lined			
Chip			
Container Line—			
85 Test			
100 Test			

All quotations withdrawn

Old Papers

Shavings—	
No. 1 Hard White	4.25 @ 4.45
No. 1 Soft Shav.	4.00 @ 4.25
No. 1 Mixed	1.80 @ 1.90
No. 2 Mixed	1.80 @ 1.90
White Envel. Cuttings	4.25 @ 4.45
Ledgers and Writings	3.00 @ 3.15
Solid Books	2.85 @ 3.10
No. 1 Books, Light	2.65 @ 2.80
Blanks	2.25 @ 2.50
Ex. No. 1 Manila	2.60 @ 2.75
Manila Envelope	
Cuttings	2.65 @ 2.80
No. 1 Manilas	2.25 @ 2.50
Folders News (over issue)	2.00 @ 2.10
Old Newspaper	1.85 @ 2.10
Mixed Papers	1.75 @ 2.00
Straw Clippings	1.75 @ 2.00
Binders Clippings	1.75 @ 2.00
Kraft	2.60 @ 2.75
New Kraft Cuts	2.70 @ 2.85
Roofing Stock, f. o. b. Chicago, Net Cash—	
No. 1	26.00 @ —
No. 2	24.00 @ —
No. 3	22.00 @ —
No. 4	22.00 @ —

PHILADELPHIA

[FROM OUR REGULAR CORRESPONDENT]

Paper	
Bonds	.10 @ .60
Ledgers	.15 @ .40
Writings—	
Superfine	.15 @ .20
Extra fine	.12 @ .20
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	— @ .10
No. 1 Kraft	— @ .10
Common Bogus	.02 1/2 @ .03
Straw Board	75.00 @ 85.00
News Board	65.00 @ 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

(Continued on page 70)

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.	
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

Imports and Exports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JANUARY 20, 1923

SUMMARY

News print.....707 rolls, 341 bls., 56 cs.
Wall paper.....1,391 bls.
Paper Hangings.....84 bls., 2 cs.
Cigarette paper.....1,221 cs.
Filter paper.....47 cs.
Drawing paper.....35 cs.
Wrapping paper.....1,445 rolls, 1,479 bls.
Packing paper.....58 bls., 20 rolls
Tissue paper.....7 cs.
Miscellaneous paper.....9,282 rolls, 56 cs., 2,817 bls.

CIGARETTE PAPER

G. A. Henshaw & Sons, Baltic, Liverpool, 11 cs.
American Tobacco Company, Sarcovie, Bordeaux, 900 cs.
R. J. Reynolds Tobacco Company, Sarcovie, St. Nazaire, 260 cs.
Rose & Frank, Zarembo, Havre, 50 cs.

PAPER HANGINGS

A. C. Dodman, Jr., Inc., Baltic, Liverpool, 26 bls.
W. H. S. Lloyd & Co., Manhattan, London, 58 bls., 2 cs.

WALL PAPER

National City Bank, Pittsburgh, Bremen, 1,246 bls.
A. Murphy & Co., Bayern, Hamburg, 45 bls.

NEWS PRINT

H. Reeve Angel & Co., Bayern, Hamburg, 12 rolls, 341 bls.
H. Reeve Angel & Co., Innoko, Antwerp, 56 cs., 45 rolls.
L. Schulman & Co., by same, 329 rolls.
New York Tribune, by same, 72 rolls.
C. H. Young Publishing Company, by same, 249 rolls.

FILTER PAPER

E. Fougere & Co., Olympic, Bordeaux, 43 cs.
H. Reeve Angel & Co., Olympic, Southampton, 1 cs.
H. Reeve Angel & Co., Manhattan, London, 3 cs.

DRAWING PAPER

H. Reeve Angel & Co., Manhattan, London, 3 cs.
E. Dietzgen & Co., Minnekahda, Hamburg, 32 cs.

WRAPPING PAPER

Wilkinson Brothers & Co., Liberty, Rotterdam, 895 rolls, 236 bls.
Foreign Paper Mills, Bayern, Hamburg, 496 bls., 54 rolls.
Irving National Bank, by same, 747 bls.

PACKING PAPER

A. D. Morosoff, Liberty, Rotterdam, 58 bls., 20 rolls.

TISSUE PAPER

Meadows, Wye & Co., Baltic, Liverpool, 4 cs.
C. H. Wyman Shipping Company, by same, 3 cs.

WOOD PULP PAPER

Birn & Wachenheim, Fr. Harding, Bremen, 50 bls.

PAPER

Parsons & Whittemore, by same, 2,932 rolls.
Journal of Commerce, by same, 636 rolls.
L. Schulman & Co., by same, 399 rolls.
Baer Brothers, by same, 7 cs.
F. L. Kraemer & Co., Pres. Polk, London, 2 cs.
Davies, Turner & Co., by same, 7 cs.
Hensel, Bruckman & Lorbacher, Minnekahda, Hamburg, 20 cs.

Republic Bag & Paper Company, West Inskip, Rotterdam, 2,714 rolls.
Republic Bag & Paper Company, Orca, Hamburg, 2,518 rolls, 871 bls.

Ladenburg, Thalman & Co., by same, 1,138 bls.
Bendix Paper Company, by same, 182 bls.
C. G. Winans Company, by same, 85 rolls.
Fernstrom Paper Company, Inc., by same, 26 bls.
Hensel, Bruckman & Lorbacher, Pittsburgh, Bremen, 20 cs.
C. K. MacAlpine & Co., Gaasterdyk, Rotterdam, 600 bls.

RAGS, BAGGINGS, ETC.

E. J. Keller & Co., Inc., Paris, Havre, 167 bls. rags.
Castle & Overton, Paris, Rouen, 80 bls. rags.
Guaranty Trust Company, Port Nicholson, London, 13 bls. cotton waste.
Guaranty Trust Company, Stanley, Kobe, 60 bls. cotton waste.

Royal Manufacturing Company, E. Allen, Shanghai, 194 bls. cotton waste.
Wilkinson Brothers & Co., Inc., Zarembo, Havre, 56 bls. rags.
American Wood Pulp Corporation, by same, 51 bls. rags.

Waste Material Trading Company, by same, 167 bls. rags.
New York Trust Company, Pres. Wilson, Trieste, 56 bls. rags.

M. Wolfer, Calamares, Havana, 37 bls. rags.
American Wood Pulp Corporation, Eastern Dawn, Antwerp, 692 bls. rags, 17 bls. cotton waste.
Salomon Brothers & Co., by same, 40 bls. new cuttings.

W. Hughes & Co., by same, 172 bls. rags.
E. J. Keller Company, Inc., by same, 194 bls. rags, 147 bls. bagging, 55 bls. flax waste, 33 bls. thread waste.
Goldberg Waste Company, by same, 70 bls. flax waste.

M. O'Meara Company, by same, 71 bls. bagging.
Castle & Overton, by same, 217 bls. bagging.
Reis & Co., West Inskip, Rotterdam, 78 bls. tread waste.

Royal Manufacturing Company, by same, 17 bls. thread waste.
Equitable Trust Company, by same, 35 bls. waste paper.

E. J. Keller Company, Inc., Innoko, Antwerp, 46 bls. rags, 69 bls. bagging.
Irving National Bank, by same, 86 bls. bagging.
American Wood Pulp Corporation, by same, 8 bls. rags.

OLD ROPE

M. O'Meara Company, Eastern Dawn, Antwerp, 41 coils.
International Purchasing Company, Pres. Wilson, Trieste, 102 bls.

WOOD PULP

Bulkeley, Dunton & Co., Horusund, Gefle, 6,000 bls., 1,219 tons.
Castle & Overton, Paul, Hamburg, 725 bls.
Castle & Overton, Bayern, Hamburg, 275 bls., 55 tons.
American Wood Pulp Corporation, by same, 1,200 bls., 242 tons.
Wood Pulp Trading Company, Ltd., Ottowa, Christiania, 5,121 bls.

WOOD PULP BOARDS

Perkins, Goodwin & Co., Mt. Clinton, Hamburg, 60 rolls and 80 bls.

CHARLESTON IMPORTS

WEEK ENDING JANUARY 20, 1923

E. J. Keller Company, Inc., Fluor Spar, Antwerp, 942 bls. bagging.

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 20, 1923

E. J. Keller Company, Inc., Eastern Dawn, Antwerp, 57 bls. new cuttings, 230 bls. rags, 96 bls. bagging.
American Exchange National Bank, by same, 33 bls. flax waste.
American Wood Pulp Corporation, by same, 26 bls. rags.

Salomon Brothers & Co., by same, 56 bls. rags.
E. Butterworth & Co., by same, 144 bls. bagging, 5 bls. flax waste.

Southwak National Bank, W. Inskip, Rotterdam, 92 bls. cotton waste.

E. J. Keller Company, Inc., Innoko, Antwerp, 99 bls. rags.
Philadelphia National Bank, by same, 166 bls. rags.

Castle & Overton, London Mariner, London, 229 bls. waste paper.

Castle & Overton, Marigot, Havre, 174 bls. bagging, 127 bls. rags.

Castle & Overton, Manch. Exchange, Manchester, 206 bls. rags.
Katzenstein & Keene, Inc., London Mariner, London, 99 bls. rags.

E. J. Keller Company, Inc., Ivar, Copenhagen, 302 bls. rags.
E. J. Keller Company, Inc., C. G. Pallisen, Copenhagen, 359 bls. rags.

E. J. Keller Company, Inc., Emden, Hamburg, 823 bls. rags, 37 bls. old rope.
Castle & Overton, by same, 2,475 bls. wood pulp.

C. K. MacAlpine & Co., by same, 68 bls. paper.
Paper House of Pennsylvania, Innoko, Antwerp, 204 rolls paper.

Republic Bag & Paper Company, W. Inskip, Rotterdam, 689 bls. paper.

NEW ORLEANS IMPORTS

WEEK ENDING JANUARY 20, 1923

Katzenstein & Keene, Inc., Janelow, London, 270 bls. rags.

CASEIN

T. M. Duche & Sons, Sarcovie, Bordeaux, 309 bags, 29,969 lb.
Atterbury Brothers, Troubadour, 334 bags.

BALTIMORE IMPORTS

WEEK ENDING JANUARY 20, 1923

Bulkeley, Dunton & Co., Horusund, Gefle, 10,100 bls., 2,057 tons wood pulp.
Castle & Overton, Marigot, Havre, 371 bls. rags.

E. J. Keller Company, Inc., W. Elcasco, Antwerp, 172 bls. rags.

BOSTON IMPORTS

WEEK ENDING JANUARY 20, 1923

Castle & Overton, New Britain, Hamburg, 330 bls. wood pulp.

Castle & Overton, Bimendyk, Rotterdam, 158 bls. wood pulp.

Atterbury Brothers, Hyperia, Buenos Aires, 834 bags casein.

To Build Paper Mill in South Africa

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 20, 1923.—A new paper mill valued at \$315,000 has recently commenced operations under the direction of the Premier Paper Mills, Limited, at Klip River, about 18 miles from Johannesburg, South Africa. The capacity of the plant is 150 tons of kraft and other wrapping paper per month. Slight alterations will make possible a product of 250 tons per month, enough to take care of the whole South African demand. Experiments were made with the view of using native grasses.

The failure of the project has necessitated the importation of wood pulp.

Canadian competition is said to be very keen and there is no protective tariff, so that it has been said that dumping methods have been used. In 1918 South Africa imported wrapping paper to a value of \$1,623,885 (converting the pound sterling at \$5.00). Of this total Sweden supplied \$628,255 and the United States \$149,655. Canada takes the lead in 1921 with \$524,390 out of the total of \$1,110,520, while the United States only shipped \$20,940 worth of wrapping paper into South Africa.

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Members New York Cotton Exchange

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Quality: *It means more than price*

"Hafslund Bear" "Forshaga"

BLEACHED SULPHITE

"Klarafors"

EASY BLEACHING SULPHITE

STRONG UNBLEACHED SULPHITE

"Hurum" "Bamble"

EXTRA STRONG KRAFT; BLEACHED AND
BLEACHABLE SULPHATE

"Edsvalla" 50% MOIST "Dejefors" DRY
WHITE SPRUCE—GROUND WOOD

Tonnage available on dock for prompt shipment

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Whalen Sulphite Pulps

Made from the SITKA SPRUCE of BRITISH COLUMBIA. Noted for Fibre, Color and strength.

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Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL.
TUESDAY, JANUARY 23, 1923.

BLEACHING POWDER.—In keeping with the firm trend of practically all the markets for paper making chemicals, bleaching powder has continued active throughout the past week with prices still holding strong at 2.00 cents a pound. According to bleach dealers buying on the part of mills has increased to a marked extent in the last ten days.

BLANC FIXE.—This commodity, while not varying in price during the week, moved to consumers in better volume than has yet been seen this year. Blanc fixe pulp now lists at \$45 to \$50 per ton, all indications being that this figure will continue to stiffen in proportion to the increased demand. The dry product is quoted at \$85 to \$90 per net ton.

CAUSTIC SODA.—With the exception of a few "outside" brands, caustic soda values have held very firm at an average quoted price of 2.50 cents a pound. Mill buyers are contracting well into the future on their caustic supplies and the present substantial demand would indicate that a year of active business is in store for those handling this chemical.

CHINA CLAY.—Marked improvement in demand has characterized the China clay industry during the first three weeks of the new year, and a higher scale of prices is expected to enter this market in the near future. Current listings range from \$16 to \$23 per ton on imported clays, \$12.50 to \$15.50 on domestic washed grades and \$9.50 to \$12.50 on the unwashed.

CASEIN.—Although practically no spot casein is available on the market today, importers state that the volume of the Argentinian imports will enhance within the next thirty to sixty days. Prices are being quoted on a nominal basis, an average of 20 to 22 cents a pound being maintained. Small lots have been quoted for immediate shipment as high as 26 and 28 cents a pound.

PAPERMAKERS' GLUE.—Thirteen to twenty cents a pound represents the range of prices which are quoted on the various consistencies of hide glue for use in tub sizing.

ROSIN.—Grades E, F and G of this naval store are now quoted at the lower price of 6.00 cents a pound in barrels of 280-pounds, ex-dock, New York, Savannah, Ga., prices holding at 4.85 to 5.00 cents. The market is steady to firm at present and the demand is reported to have improved despite the slowly receding prices from the peak which was reached in October of last year.

SALTCAKE.—With acid cake listing at \$27 to \$28 per ton and chrome cake at \$24 and \$25, saltcake has continued very firm during the past week. Production is gradually getting back to normal and the demand holds steady from paper mills.

SODA ASH.—The schedule price of 1.20 cents a pound continues to rule in the soda ash market and according to dealers in this commodity both production and consumption of the alkali are on the increase. A continuance of good business is expected to prevail throughout the balance of Winter and Spring months.

STARCH.—Prices on the grades of starch utilized in paper manufacture have remained firm during the week past and the consuming demand holds steady. Papermakers' starch is now listed at 2.82 and 3.10 cents a pound for bag and barrel lots respectively and powdered starch is quoted correspondingly lower at 2.72 and 3.00 cents.

SULPHATE OF ALUMINA.—Iron free sulphate of alumina now quotes at approximately 2.55 to 2.80 cents a pound and producers state that production hazards are gradually diminishing. Raw materials are now more available and the transportation situation has cleared up considerably. Commercial alum is quoted at 1.50 to 1.75 cents.

SULPHUR.—No changes have taken effect in the sulphur market of the past week, the quoted price \$18 to \$20 per ton holding very firm.

Market Quotations

(Continued from page 67)

Solid Ledger Stock. 2.75 @ 3.00	New Black Soft. .06¼ @ .06¼
Writing Paper. 2.50 @ 2.75	New Light Sec-onds 02¼ @ .02¼
No. 1 Books, heavy. 2.25 @ 2.50	Khaki Cuttings. 11 @ .04¼
No. 2 Books, light. 1.40 @ 1.50	Corduroy 03¼ @ .04
No 1 New Manila. 2.75 @ 3.00	New Canvas. 08¼ @ .08¼
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 @ .06¼
Overissue News. 1.50 @ 1.60	Miscellaneous. 04¼ @ .04¼
Old Newspaper. 1.20 @ 1.25	White, No. 2—
No. 1 Mixed Paper. 1.10 @ 1.15	Repacked. 03¼ @ .04
Common Paper. 1.00 @ 1.10	Miscellaneous.03 @ .03¼
Straw Board, Chip. 1.00 @ 1.10	Thirds and Blues—
Binders Bd., Chip. 1.00 @ 1.10	Repacked. 200 @ 2.25
Domestic Rags—New.	
Price in Mill, f. o. b. Phila.	
Shirt Cuttings—	Miscellaneous. 1.85 @ 1.90
New White, No. 1 12 @ .12¼	Black Stockings. 2.75 @ 3.00
New White, No. 2 07 @ .07¼	Roofing Stock—
Silicias, No. 1 10 @ .11	No. 1. 1.35 @ 1.40
New unbleached. 04¼ @ .05¼	No. 2. 1.25 @ 1.30
Washables 04¼ @ .05¼	No. 3. 1.15 @ 1.20
Fancy 05¼ @ .05¼	No. 4. 1.15 @ 1.20
Cottons—according to grades—	No. 5A. 1.10 @
Blue Overall. 05¼ @ .05¼	B. nominal
New Blue. 02¼ @ .02¼	C. nominal

BOSTON

[FROM OUR REGULAR CORRESPONDENT]

Paper	Wood, Vat Lined \$80.00 @ —
Bonds 08 @ .50	Filled News Board 75.00 @ —
Ledgers 08¼ @ .55	Solid News Board. 90.00 @ —
Writings 08 @ .42	S. Manila Chip. 75.00 @ 80.00
Superfine 16 @ .26	Pat. Coated 90.00 @ 95.00
Fine 15 @ .18	Old Papers
Books, S. & S. C. 07¼ @ .12	Shavings—
Books, M. F. 06¼ @ .09¼	No. 1 Hard White 4.25 @ 4.50
Books, coated 09 @ .15	No. 1 Soft White 3.00 @ 3.50
Label 08¼ @ .13	No. 1 Mixed. \$1.50 @ 1.75
News, sheets 4.75 @ 6.00	Ledgers & Writings 2.25 @ 2.50
News, rolls 4.50 @ 5.75	Solid Books. 2.25 @ 2.50
Manila—	Blanks 1.70 @ 1.80
No. 1 Manila. \$6.00 @ 7.00	No. 2 Light Books. 1.75 @ 1.90
No. 1 Fiber. 06¼ @ .07	Folded News, over-
No. 1 Jute 9.00 @ 10.50	issues 26.00 @ 28.00
Kraft Wrapping 07 @ .08	Gunny Bagging 85 @ 90
Common Bogus 3.50 @ 3.85	Manila Rope. 5.75 @ 6.00
Boards	Common Paper. 1.20 @ 1.25
(Per Ton Destination)	Old News. 1.30 @ 1.40
Chip \$70.00 @ —	Old Kraft 2.00 @ 2.10
News, Vat Lined. 72.50 @ —	

TORONTO

[FROM OUR REGULAR CORRESPONDENT]

Paper	Sulphite, bleached. 100.00 @ 105.00
(Mill Prices to Jobbers f. o. b. Mill)	Sulphate 70.00 @ —
Bond—	Old Waste Papers
Sulphite 11 @ .12¼	(In carload lots, f. o. b. Toronto)
Light tinted. 12 @ .13¼	Shavings—
Dark tinted. 13¼ @ .15	White Env. Cut. 3.85 @ —
Ledgers (sulphite). — @ .13	Soft White Book — @ —
Writing 09¼ @ .12	Shavings 3.50 @ —
News, f. o. b. Mills—	White Blk News. 2.00 @ —
Rolls (carloads). 3.75 @ —	Book and Ledger—
Sheets (carloads). — @ 4.50	Flat Magazine and
Sheets (2 tons or over) — @ 4.75	Book Stock(Old) 2.30 @ —
Book—	Light and Crum-
No. 1 M. F. (carloads) 9.00 @ —	pled Book Stock 2.15 @ —
No. 2 M. F. (carloads) 8.00 @ —	Ledgers and Writ-
No. 3 M. F. (carloads) 7.50 @ —	ings 2.50 @ —
No. 1 S. C. (carloads) 9.50 @ —	Solid Ledgers. 2.50 @ —
No. 2 S. C. (carloads) 8.50 @ —	Manila—
No. 1 Coated and litho. 14.00 @ —	New Manila Cut. 2.10 @ —
No. 2 Coated and litho. 13.00 @ —	Printed Manilas. 1.75 @ —
No. 3 Coated and litho. 12.25 @ —	Kraft 2.50 @ —
Coated and litho., colored 14.25 @ —	News and Scrap—
Wrapping—	Strictly Overissue 1.40 @ —
Grey 5.00 @ —	Folded News. 1.40 @ —
White Wrap. 3.75 @ —	No. 1 Mixed Pa-
"B" Manila 6.00 @ —	pers 90 @ —
No. 1 Manila. 7.25 @ —	Domestic Rags—
Fiber 7.25 @ —	Price to mills, f. o. b. Toronto.
Kraft, M. F. 8.00 @ —	Per lb.
M. G. 8.15 @ —	No. 1 White shirt
Pulp	cuttings 11 @ .11¼
(F. o. b. Mill)	No. 2 White shirt
Ground wood. \$40.00 @ 50.00	cuttings06 @ —
Sulphite easy bleach-	Fancy shirt cut-
ing 60.00 @ 70.00	tings06 @ —
Sulphite news grade. 55.00 @ 60.00	No. 1 Old whites .04 @ —
	Thirds and blues 2.15 @ 2.35
	Per cwt. —
	Black stockings. 2.50 @ —
	Roofing stock:
	No. 1 1.25 @ —
	No. 2 1.00 @ —
	Roofing stock:
	Manila rope. 6.10 @ —
	No. 2. 1.50 @ —
	Gunny bagging. 1.00 @ —