

MEMBER OF THE A. B. C.  
FIFTIETH YEAR

# PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

ESTABLISHED IN 1872

Vol. LXXIV. No. 20

NEW YORK AND CHICAGO, MAY 18, 1922

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# PAGE 19!



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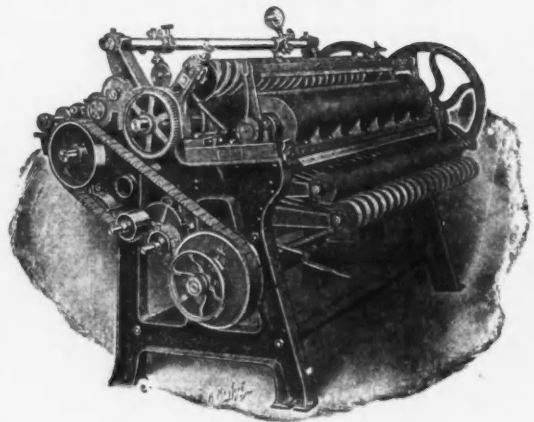
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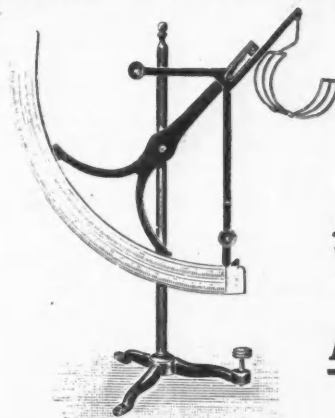
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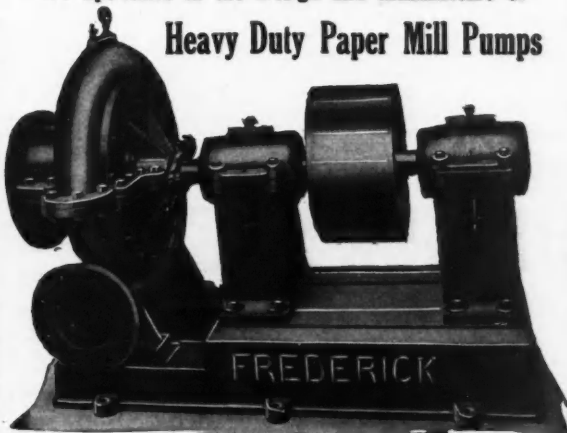
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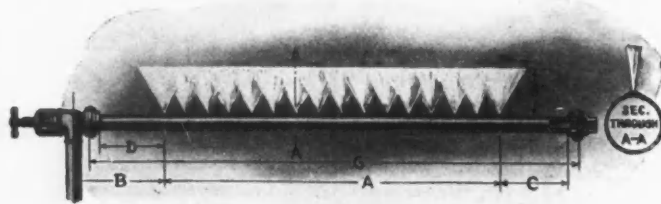


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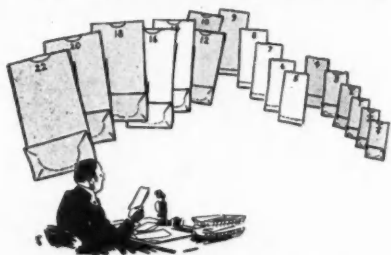
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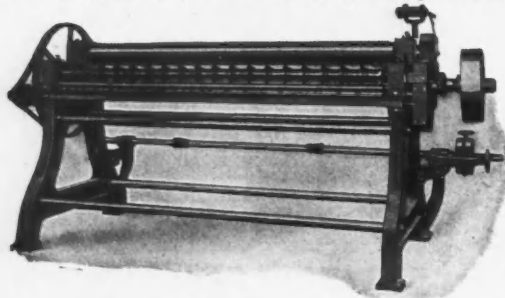
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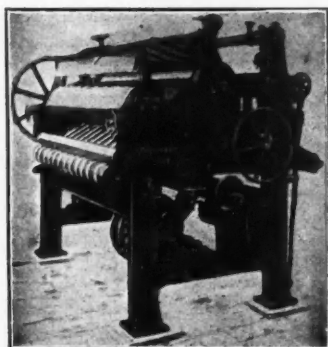
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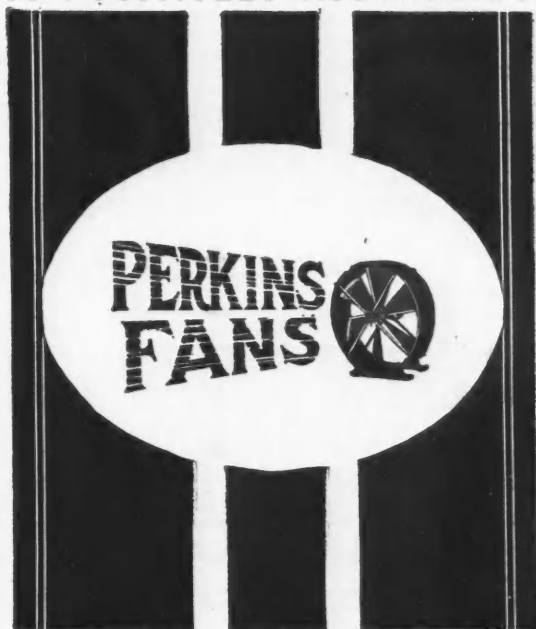
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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

## FIFTIETH YEAR

PUBLISHED EVERY THURSDAY BY THE  
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LESLIE R. PALMER, President

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NEW YORK AND CHICAGO

Thursday, May 18, 1922

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## NEWS PRINT MANUFACTURERS SIGN WITH SKILLED WORKERS

**As Result of Conference at Murray Hill Last Week, Possibility of Further Labor Trouble Is Probably Averted—John P. Burke Regrets Lack of Unity Shown by the Unions and Says It Means an Opening Wedge Through Which All Unions in the Industry Will Be Injured and Forms an Entry for the Open Shop—Mr. Burke States That the Fight Against the International Is to Continue.**

As a result of the recent wage conference in the Murray Hill Hotel of this city, the majority of the news print manufacturers, parties to the arbitration award, have signed agreements with the International Brotherhood of Paper Makers, represented by J. T. Carey, and comprising mostly skilled workers. Before leaving for Boston last week, John P. Burke, president of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, made the following statement: "I do not know what will happen as a result of the group that signed with the skilled men refusing to make an agreement with our union, which is the largest in the industry."

Immediately following the announcement of the fact that the St. Regis Paper Company, the Hanna Paper Corporation and several other independent companies had negotiated separate agreements with representatives of skilled labor, Mr. Burke expressed his disappointment in the lack of unity exhibited by the unions. "It is very regrettable," he said, "that the unions have shown a lack of solidarity at this time. It means an opening wedge through which all the unions in the industry will be injured and forms an entry for the open shop."

When asked regarding his attitude toward the International Paper Company, Mr. Burke stated that in any event this strike, which has been in progress for the last year, would be continued. "We are not going to give up this fight," he said.

It was officially stated that the agreement adopted between the unions and the Pejebscot Paper Company involved a reduction of five per cent on skilled labor, the establishment of a minimum rate of 35 cents an hour for day labor operating on a single shift basis, and a minimum rate of 38 cents an hour for common labor on tour work. It was also understood that many unskilled positions were reclassified and that a graded system was adopted. The company was to have the benefit of any further reductions which might be instituted at other mills in the locality. The total reduction involved in the payroll of this company amounted to approximately 14 per cent, it was stated, while that of the Great Northern Paper Company entailed a decrease of 15 per cent.

While the union represented by Mr. Burke has been unable to arrange agreements which all parties to the arbitration award would sign, he has drawn up contracts with several individual companies. Regarding those organizations with whom no arrangements have been made, he said, "We are still hopeful of getting agreements with these mills," and added, "I cannot tell at this time whether there will be any strike in the industry."

### Mr. Carlisle Says There Will Be No Strike

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., May 15, 1922.—"I do not expect there will be a strike anywhere," said Floyd L. Carlisle of the St. Regis Paper Company upon his return Saturday morning from New York where he passed the week negotiating an agreement with labor leaders. "I was informed by Mr. J. P. Burke, president of the International Brotherhood of Pulp and Sulphite Workers, that while he did not like the contract and did not sign it, under which many of his skilled and semi-skilled men will work, he did not expect that any of his men would cease work. As a matter of fact, the skilled men

were prepared to continue work regardless of whether the unskilled laborers decided to go on strike."

Mr. Carlisle brought back a contract signed for the St. Regis Paper Company and the Hanna Paper Corporation which fixes the wage rate for the year for skilled and semi-skilled employees the same as last year's schedule, with overtime eliminated for outside labor. The rate for common labor is not fixed, but the companies agree that the present wage will continue for at least four months. Unskilled labor may belong to the unions but this is not required.

The signers of the agreement on the part of labor were: the International Brotherhood of Paper Makers, International Brotherhood of Stationary Firemen and Oilers, International Association Machinists, United Brotherhood of Carpenters of America and the International Brotherhood of Electrical Workers.

Members of the manufacturer's group headed by Mr. Carlisle that also signed similar agreements were: Tidewater Paper Company, Abitibi Power and Paper Company, Minnesota and Ontario Paper Company and the St. Francis Paper Company. The Union Bag and Paper Corporation and the St. Morris Paper Company have not signed any agreement. The Spanish River Paper and Pulp Mills, Limited, signed with its local pulp workers' union for a year, cutting inside common labor from 38 to 32 cents an hour, with a provision that union membership shall be optional.

Among the companies outside the manufacturers' group, Mr. Carlisle said that the Ontario Paper Company practically retained last year's rates, but common labor at that mill never belonged to the union. The Pejebscot Paper Company and DeGrasse Paper Company entered agreements similar to last year with a clause providing that the company may take advantage of the rates paid elsewhere. J. P. Burke signed only the contracts with the latter three companies.

### Investigating Dumping of News Print

[BY OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., May 17, 1922.—The investigation which has been under way by officials of the Custom Service for some months into the dumping of news print from foreign countries on the American market is nearing completion.

It is expected that a report will first be made on the dumping of Canadian news print paper, following which reports will be made on German and Scandinavian news print.

One of the experts who had been working on this particular investigation was in Washington last week discussing with officials here tentative conclusions. Indications are that the Customs Service may find that Canadian mills are selling news print to American consumers at a cheaper price than the Canadian price because of the very large quantities which are purchased by individual consumers. Officials of the Customs Service, however, refuse to discuss the situation until definite recommendations have been made by the experts who are carrying on these investigations.

### To Increase Paper Export With Moving Pictures

The Information Service of the American Paper and Pulp Association has been co-operating with the United States Department of Commerce in a campaign to increase American exports, particularly to South America, through the use of motion pictures. The Federal department has put a specialist in motion pictures in charge of this work, and though it has not been possible as yet to have special pictures made for the industry as a whole, several companies whose films have been routed for the companies through the Information Service of the Association have been given an opportunity to submit their pictures for possible distribution in South America, under governmental auspices. The opportunity to send motion pictures out in this manner is open to paper companies not already owning motion pictures, but which are willing to have them made.

## COMBINED LOCKS PAPER CO. LEASES LITTLE RAPIDS MILL

Report Also That the Company Has Leased the Plant of the Pride Pulp & Paper Co. at Tomahawk, Wis., and It Is Understood That the Company Began Operating the Mill Last Week—White Rapids Paper Co. Announces That It Has No Plans for the Immediate Development of Its Property—To Put More Than \$800,000 New Capital into Property of the Peshtigo Paper Co. Under New Plan.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 16, 1922.—Rumors are circulating in the paper industry in Wisconsin that the Combined Locks Paper Company, with offices in Appleton, has leased the plant and property of the Pride Pulp and Paper Company at Tomahawk, Wis., for an indefinite period and that negotiations now are in progress for purchase of the property. A. J. McKay, general manager of the Combined Locks company, has declined to discuss the matter.

It is understood that the Combined Locks company began operating the Pride plant last week and several of its engineers are studying the property to ascertain its value.

The Combined Locks company has announced that it has leased the plant of the Little Rapids Pulp Company at Little Rapids from the Riverside Fibre and Paper Company, Appleton, and began operating it on Monday. There will be no change in the organization at Little Rapids. The mill manufactures ground wood pulp and is equipped with eight grinders. It is understood the product will be used in the two mills operated by the Combined Locks company.

The Pride Pulp and Paper Company plant was placed in operation about a year ago but was closed down about the end of 1921 and was idle until last week. The property consists of a paper mill with one machine, a de-inking plant, steam plant, and water power rights of considerable value. The water power has not been developed, however. Catalogue paper is the principal output of the mill. The company is officered quite largely by the same men who are at the head of the Tomahawk Pulp and Paper Company.

### White Rapids Paper Co. Plans

The White Rapids Paper Company, which recently applied to the Federal government for a permit to develop the water power at White Rapids on the Menominee river, has definitely announced that it has no plans for immediate development on its property. Nothing will be done this year and possibly not next year.

The corporation was formed, it was said, to take title to the property, which was owned by Hooper & Hooper of Oshkosh and others for more than twenty years. It was said the articles of incorporation do not restrict the company to paper business but it may engage in some other manufacturing business. No detailed plans for development of the power have been made. Application was made to Washington for permission to develop the water power at this time, it was explained, so that there would be no delay when the development was ready.

### Plans of the Peshtigo Paper Co.

Plans for the consolidation of the Peshtigo Pulp and Paper Company and the Peshtigo Fibre Company are outlined in a communication addressed to stockholders of the Peshtigo Fibre Company by J. P. Nugent, president of the fiber company. The new company will be known as the Peshtigo Paper Company.

More than \$800,000 new capital will be put into the property under the plan. About \$275,000 will go into improvements and additions. The remainder will go into working capital, for the payment of bank loans and other obligations. A part of the new capital is to come from the sale of \$600,000 of first mortgage bonds, a part will come from creditors who will take preferred stock for

their claims, and \$125,000 worth of it will come from the sale of preferred stock at par. The preferred stock will carry with it a bonus of four shares of no par value common stock with each share of preferred stock.

John G. Sutherland and J. B. Schubring have offered to provide the entire amount of \$125,000, but are willing that the stockholders shall be given an opportunity to raise three-quarters of this amount. Each stockholder in the fiber company is entitled to subscribe an amount equal to five per cent of the amount of the preferred stock of the fiber company now held by him, and each stockholder of the paper company is entitled to subscribe 10 per cent of the amount of the preferred stock of the paper company now held by him.

Subscriptions are payable and due on May 15, June 15, July 15, installments as follows, 20 per cent, August 15 and September 15, 1922. The full amounts may be paid at any time.

### Geo. W. Mead Honored

The twentieth anniversary of the arrival of George W. Mead, president of the Consolidated Water Power and Paper Company, at Wisconsin Rapids was made an occasion of considerable moment. The Rotary Club, of which Mr. Mead is a member, arranged a special observance of the event. Mr. Mead arrived at Wisconsin Rapids May 10, 1902, and although the ground was covered with about three inches of snow, he saw the possibilities of the water power and in a very short time he, with Isaac P. Witter, organized the big paper company. This plant is by far the most important in Wisconsin Rapids and is one of the most important in the entire state.

### Preparing Plans for Canadian Mill

L. A. DeGuerre, Wisconsin Rapids, who has designed several paper mills in Wisconsin, now is preparing plans for a mill to be built at Westminster, B. C., Canada, by American and Canadian interests. Promoters of the venture were at Wisconsin Rapids a few days ago to confer with Mr. DeGuerre but no announcements were made. It is understood that construction work on the project is to begin shortly.

### Signs of Business Revival

The Hayton Pump and Blower Company, Appleton, has reason to believe there is a very decided revival in the paper industry because of the large number of orders for pumps which it is receiving from paper companies. The demand for pumps is so heavy that it indicates many plants are in full operation and that some new building is being undertaken.

### Get Refund of Taxes on Non-Existent Timber Lands

[FROM OUR REGULAR CORRESPONDENT]

BANGOR, Me., May 15, 1922.—That the state of Maine was not justified in retaining \$22,462 received from De Forrest Keyes, of Albany, N. Y., in exchange for timberlands that Keyes was unable to locate after acquiring title from the state in connection with sales of tax titles, is held by the Maine Law Court in an opinion just delivered, awarding Keyes a verdict of the above amount with interest from 1902.

This ends the most famous timberland case in the history of Maine. Twenty years ago, Mr. Keyes availed himself of what he considered a chance to buy timberlands at a bargain by purchasing lands from the state on which the owners had not paid taxes. When he tried to find his timber limits, he discovered that they were non-existent. They could not be located. When he attempted to recover the amount paid from the Maine legislature, he was told, year after year, that he had taken his chances on acquiring a bargain and had simply lost out, and that it was useless to expect reimbursement from the state. Finally, in 1919, he received permission from the legislature to bring suit against the state of Maine for the amount paid for the timberlands that he couldn't find, and the state's highest court has now decided that Maine cannot conscientiously retain the money for which nothing was given in return.



## CANADIAN NEWS PRINT TRADE GROWING MORE ENCOURAGING

**Most of the Companies Are Now Booked Up on Orders for a Long Period Ahead—Talk of Some of the Companies Which Have Reduced or Entirely Deferred Their Dividends Resuming Payments on a More Generous Scale Soon—Salvage Department of the Abitibi Power & Paper Co. Meeting With Great Success—Attention Attracted to Forests of Yukon Territory.**

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 15, 1922.—Improvement continues in the news print market and the general opinion in the trade now appears to be that a new constructive period has definitely set in. Most of the Canadian news print mills are now booked up with orders a long way ahead and the general outlook is distinctly encouraging. There is talk of some of the companies which have reduced, or have entirely deferred, their dividends, resuming payments on a more generous scale at an early date. The general feeling, however, among the companies is that after the experience of the past two years the wisest course would be to make entirely sure of their financial prospects and the continuance of an improving market before departing from the present policy of conservation of financial reserves. Some improvement is also noticed in the demand for sulphite pulp, but ground wood sales are still slow. The demand for fine book and other classes of paper outside of news print is fair, although inquiries would indicate prospects of an improvement in the not distant future.

### The Forests of the Yukon

Some attention is being attracted to the forests of the Yukon Territory consequent upon a Government report showing that up to the end of the past fiscal year a total of 220,000,000 feet of lumber was cut in the Yukon Territory in addition to 350,000 cords of wood on which Crown dues were paid. The Crown has received dues for timber cut in the Yukon Territory of about \$611,000. These figures, however, are no indication of the total cut as wood, logs and lumber used for mining purposes are not subject to Crown dues. A rough estimate of the total cut would be 660,000,000 feet of timber and more than 1,000,000 cords of wood.

The principal forest trees of the Yukon are white and black spruce, balsam, poplar and birch. These occur on the mountain slopes up to twenty-eight hundred feet above the rivers and lakes. The white spruce is the most valuable tree and furnishes good timber for mining and building purposes. The best groves of these trees are found on the islands or the alluvial flats along the rivers, but good specimens have been encountered on the slopes of the hills to a height of two thousand feet above the rivers. As one goes farther north the spruce deteriorates in both appearance and size.

The balsam fir occurs only on the valley slopes mixed with spruce, beginning at an elevation of twelve hundred feet and continuing upward to the limit of the trees. Occasionally, in various parts of the territory, jackpine is encountered, though this tree is comparatively rare of occurrence. Other trees which prevail on the river flats in quantities are cottonwoods, aspen, alder, spruce and willows.

### Abitibi's Salvage Department

The Abitibi Power and Paper Company some months ago instituted a salvage department at the mills at Iroquois Falls and the experiment has met with great success. Two men have kept up an average of about \$1,500 worth of material saved a month. The average amount of scrap returned to the stores in good condition for issuing on requisition is valued at about \$700. Scrap classified

and sold runs about \$800, making a saving out of the scrap of about \$1,500 a month. A big part of the work of the salvage department is in rescuing material that is too light or too weak for the heavier jobs around the mill, but which can be used with perfect safety and perfect efficiency in some other part. For instance, valves and fittings which are beyond their usefulness in high pressure steam pipes, may with very slight attention be as good as new ones in another part of the system. This same applies to all kinds of material. Mr. Tierney, the head of the department, has found that thousands of dollars' worth of material which has had to be discarded from one department, is quite fit for use in another. Another big feature of the salvage department is in replacement of broken parts from other broken articles of the same type. Two valves, for instance, are discarded with certain parts broken, but from the two a perfect valve as good as new can often be made with expenditure of very little time and very little trouble. The refinishing of material such as bolts and nuts is another big item in the saving. Tons of bolts and nuts have been saved, refinished and returned to the stores as good as new. Long bolts which have been stripped are cut off and rethreaded as shorter bolts. Nothing is too small for Mr. Tierney's care. Even old rope is gathered together and sold for a few cents a pound. Copper cuttings bring about seven cents, old cast iron \$17 a ton, and similarly brass, lead and other material is segregated and shipped by carload or part carload lot. One of the finds of the salvage department is the gathering together of odd pockets of coal as they went about their daily work, making a saving of some thirty tons. Canvas, felt, and all such material is also gathered together and what is beyond use in the mill is sold, adding further to the revenue of the department.

### Great Northern Completing Logging Railroad

[FROM OUR REGULAR CORRESPONDENT.]

BANGOR, Me., May 15, 1922.—Construction of the Great Northern Paper Company's logging railroad extending from Seboomook lake to St. John's pond has been resumed with the departure of winter conditions and it is expected to complete the road this season. The main line of the road, which is standard gauge, will be eighteen miles in length when completed, and of this seven miles of track were laid last year and ten miles of roadbed completed. Branch lines will be constructed from time to time as they are needed, but the extent of that work has not yet been determined.

The building of this road marks a new departure in lumbering methods in the Moosehead Lake section of Maine, introducing transport of logs from deep woods to the river and lake by railroad. Up to this time, logging operations have always been carried on near enough to streams so that the logs could be hauled by horses or logging tractors to the rivers for driving purposes, but even the Great Northern Paper Company, owning hundreds of thousands of acres in this section of the state, is now forced to penetrate deeper into the woods for pulpwood, using the new logging railroad for hauling logs located miles from streams.

### New Rates on News Print from Canada

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 17, 1922.—The Interstate Commerce Commission has suspended from May 16 to September 13, the operation of certain railroad schedules of the Canadian Pacific Railway. The suspended schedules propose to increase the rates on news print paper in carloads, from various producing points in Canada to Nashville, Tenn.

As an illustration the commission states that the present rate on carloads of news print paper from Sturgeon Falls, Ont., to Nashville, Tenn., is 52 cents, while the proposed rate is 63½ cents. The rate from Iroquois Falls, Ont., to Nashville is now 53 cents and the proposed rate 64½ cents.



# May We Quote?

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## KALAMAZOO PLANNING FOR SUPERINTENDENTS' MEETING

**All Indications Point to a Record Attendance of Superintendents, and Cost and Technical Men of the Pulp and Paper Industry—Financial Conditions of the Eddy Paper Co. Is Outlined at Meeting of Stockholders of the Company—Louis P. Simon, Secretary and General Manager of the Birmingham-Proesser Co., Says Conditions in Paper Trade Are Very Much Improved.**

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., May 15, 1922.—Convention plans and ways and means occupied two busy hours at a joint meeting of superintendents and cost accountants, held Thursday evening at the Park-American Hotel, to discuss the convention called for June 1, 2 and 3, in this city.

A few minor differences regarding the general program were wiped out and the complete bill will be ready for publication soon.

The question of adequate accommodations for all delegates is being given serious consideration and special attention is to be paid to seeing that all visitors to Kalamazoo are well taken care of. The general reception committee, Jacob Parent and Paul L. Broesamle, joint chairmen, are instructed to see that accommodations are satisfactory.

There is every indication of a record attendance, by far the largest that has ever turned out for an international gathering of the American Pulp and Paper Mill Superintendents' Association. The fact that the 1922 convention is to be held in a papermaking city is appealing to the trade generally. Not only that, but the addition of the delegates from the cost association and many from the technical association, and an unusually large number of executives who have announced their intentions of being on hand, is swelling the numbers to unexpected proportions.

Local interest in the coming gathering is steadily increasing. Every paper mill executive in the Kalamazoo valley has expressed himself as keenly concerned in the success of the gathering and is offering his moral and financial support to the undertaking. It is generally recognized that it is going to be by far the most representative trade gathering ever held in this city. It is the first international convention Kalamazoo ever entertained.

### Eddy Paper Co. Stockholders Meet

The most enthusiastic shareholders' meeting ever held in Kalamazoo was that staged Wednesday evening of last week at the Chamber of Commerce rooms. It was the occasion of the gathering of stockholders of the Eddy Paper Company, called in special session by President C. A. Blaney to get from him first hand information regarding the financial condition of the company and to take definite action in the disposition of the unsold portion of a \$2,250,000 bond issue.

Hundreds of Eddy stockholders braved the torrid weather and turned out for the meeting. The Chamber of Commerce assembly room was jammed to capacity and other hundreds were forced away, owing to lack of room.

President Blaney explained the present status of the company, noting the general improvement in business and the fact that orders are now coming in regularly and that the outlook for the future is flattering. Mr. Blaney explained that it would be necessary for the stockholders to complete the purchase of the authorized bond issue to enable the company to secure adequate working capital for immediate needs, also to take care of certain pressing items of indebtedness.

Following Mr. Blaney, General Manager A. B. Thomas outlined recent improvements in the mechanical equipment of the mill and

the fact that the plant is now in position to handle a maximum production at a minimum of cost.

Other speakers during the evening were Fred Fenton, of Fenton, Davis & Boyle, Chicago; William Taylor, of Taylor, Ewert & Co., Chicago; Mr. Livingston, of Wattling-Lerch & Co., Detroit; and Charles E. Norton, of the Title Bond & Mortgage Company, Kalamazoo.

Mr. Blaney further explained that the directors, at a special session Wednesday afternoon, had authorized the sale of bonds on a partial payment plan, 40 per cent cash and the balance in six equal monthly payments.

"We feel that plan will be of material assistance in the sale of the bonds," said Mr. Blaney, "giving many of our stockholders who may not have ready cash to participate in purchases over a long period."

While no sales were made at the meeting, large numbers of the stockholders signified their intentions of taking their portion of the issue.

It is now practically assured that a syndicate made up of Fenton, Davis & Boyle and Taylor, Ewert & Co., Chicago; Wattling-Lerch & Co., Detroit, and Olmsted & Mulhall, Kalamazoo, will underwrite the entire issue and supervise disposition.

Of the original authorized issue of \$2,250,000, there remains unsold \$750,000. They are ten-year bonds and draw 7½ per cent interest.

"The meeting was a distinct compliment to me, at least I so construe it," said Mr. Blaney. "I was desirous to get affairs first hand before the stockholders, but had little idea my call would result in such an overwhelming response. There is now no question that the issue will be disposed of in a brief period."

While no official statement was made for the press, it is reported on what is considered good authority that the Eddy Paper Company has obligations amounting to between \$700,000 and \$800,000 that are to be taken care of immediately, with quick assets in excess of \$1,500,000. The gross assets are between \$5,000,000 and \$6,000,000, according to the most conservative estimates. Inventories have been written down to the lowest point. Production at the plant, while not yet on a 100 per cent basis, is good and improving steadily.

### Paper Trade Conditions Improving

A very much improved condition in the paper trade is reported by Louis P. Simon, secretary and general manager of the Birmingham-Proesser Company.

"There is considerably more buying than for months past," said Mr. Simon, "while orders are larger and in every way more satisfactory."

Mr. Simon added that stocks are low throughout the country, none of the big users having a surplus to draw on, a condition that existed when the slump came and aided in its maintenance.

"Mills in the Kalamazoo valley have never catered strongly to publication orders," remarked Mr. Simon, "but have produced enormous quantities of paper for mail order houses. If these latter-named concerns get an idea that prices are going to advance, they will place orders to lay in a reserve supply and then local mills will be worked to a frazzle. It will result in much the same kind of a rush as existed during the war-time period."

### Estate of Late John Russell

The late John Russell, former superintendent of the Superior division of the Bryant Paper Company, left an estate valued at approximately \$250,000. This was shown by the recent filing of his last will and testament in the probate court of Kalamazoo county.

By the terms of the will the entire estate goes to his widow, Mrs. Abbie C. Russell, with the exception of \$100 each to his son and daughter.

Inventory of the estate shows that it included 10,300 shares of stock in the Bryant Paper Company, 1,500 shares of the Eddy

(Continued on page 22)

# Announcement

The International Paper Company announces the opening of a Core Department. The Core will be known as the International Core, with an improved and patented steel cap.

Our Cores are made to stand hard usage and are certain to give complete satisfaction to other manufacturers as they have in the shipment of our own paper.

We will be very much pleased to mail you samples and give you quotations on these Cores, which make it possible to save large sums on freight, cartage, and labor.

Please address communications to the International Paper Company, Core Department, No. 30 Broad Street, New York City.

## PAPER DEMAND IN CHICAGO PROMISES DEVELOPMENT

**While Trade During the Past Week Has Been Somewhat Slower, This Is Thought to Be But a Temporary Condition—While Orders Are Not Coming in in Volume, Members of the Trade Are Optimistic and Look for a Considerable Betterment Soon—Century Paper Co., a Subsidiary of the Chicago Paper Co., Opens in Indianapolis—A. P. W. Paper Co. Moves to New Offices.**

[FROM OUR REGULAR CORRESPONDENT.]

CHICAGO, May 15, 1922.—Paper merchants in Chicago during last week said that business with them had grown a little slower but that they thought this to be but a temporary condition. During the first two weeks of May buying was retarded a little in comparison with what it was a few weeks previous. April for many of the local houses was fair.

The situation just now is one promising of development. The trade here is very optimistic and while orders are not coming in for volume, it is said that a better trend is sure to develop within a short time.

Much hope is being placed in the ability of salesmen here. The building up of a better buying trend depends almost entirely on how the salesmen handle the situation, was the opinion of several local paper merchants. According to one of these merchants, buyers need to have some confidence spread in their midst, and this is the duty of the sales staff.

### A. P. W. Paper Co. Moves

The A. P. W. Paper Company recently moved its offices to the Caxton building, 508 South Dearborn street, Chicago, where it has more adequate quarters to handle its trade. The new offices of this company are on the sixth floor of the building.

### Goes With Chicago Gummed Tape Co.

John W. Sterling, formerly identified with the Chicago production division of McLaurin-Jones Company, recently severed his identity with that firm and has become connected with the Chicago Gummed Tape Company. Mr. Sterling will be the vice-president of this recently established concern, which has located at 171 North Dearborn street.

### Century Paper Co. Formed

The Century Paper Company of Indianapolis was recently opened. The company is a subsidiary of the Chicago Paper Company, 801 South Wells street. Officers of the Indianapolis house are: R. W. Fleischer, president; W. N. Gillett, vice-president; H. A. Rowley, secretary-treasurer. The Chicago Paper Company was recently made the distributor for the Warren Paper Company line, of which it is now putting in a stock. The Indiana office will probably also carry a line of Warren papers.

### Printers to Vote on Long List

Printers of Chicago will have placed before them for a final vote the question of the adoption or rejection of the long price list, on May 25, when the Typothetae of Chicago will hold a regular monthly meeting at the City Club. Two special committees recently held a meeting when a resolution was passed to recommend the adoption of the long list to Chicago printers at this coming meeting.

### Seaman Paper Co. Advertising

The first piece of direct mail advertising matter in their planned campaign has been sent out by the Seaman Paper Company. This is a very handsome book of samples eleven by fourteen inches in size containing samples of Radium Enamel, Velvet Enamel, Crystal Enamel, Tuf-fold, No-Glare, White and India as well as Pictorial Enamel. These enamel sample books contain many very attractive

printed pieces showing the effect of printing on the different paper surfaces. It is being distributed from all of the Seaman territory offices.

The papers shown in these sample books are the product of the Bryant Paper Company of Kalamazoo, Mich.

### McNulty Paper & Twine Co.

A. W. McNulty, secretary-treasurer of the McNulty Paper and Twine Company, 535 West Chicago avenue, Chicago, is now in charge of the sales department of that company which was opened a few months ago, when an extensive tentative program was outlined. Mr. McNulty has been managing sales for the firm for the past few weeks and announced early this week that the sales program first made known last December would be carried out. Several salesmen have been added to the staff during the past months and recently two Chicago salesmen were enlisted. Robert Tillson, formerly of the A. P. W. Paper Company, here, and Charles Packard, formerly an advertising man, have both joined the McNulty forces.

Judge M. Hawk, who left the J. L. M. Smythe Company, Chicago offices, to manage sales for the McNulty house last December, severed his identity with this latter firm recently to return to J. L. M. Smythe. A. W. McNulty has succeeded Mr. Hawk. On May 1, the J. L. M. Smythe Company of Philadelphia discontinued its Chicago office in the Conway building, and it has been said they will transact all business from the Philadelphia headquarters from now on.

Early in the year, the McNulty Paper and Twine Company added several lines to their stock of wrapping papers and twines. They took over the product of three mills and are handling board and fine papers, as well as wrappings. Mr. McNulty has said that the plan to broaden out and take in new territories will be carried out as heretofore announced.

Since the discontinuance of the Smythe offices in Chicago, Mr. Hawk has not been connected with the trade, but it is expected that he will soon again be able to announce his identity. He is said to be counted among the best-known paper salesmen in the country, especially in the Middle West. He is looked upon as the "go-getter" calibre of paper men, and has been identified with the industry with various paper house sales forces for about a quarter of a century.

### Secretary Higgins Attends Meetings

Charters K. Higgins, secretary of the Middle and Central States Wrapping Paper Association, arrived in Chicago to spend a few hours at the association headquarters in the Conway Building early this week, after returning from the annual meeting of the Middle States Wrapping Paper Association held May 11 and 12. On Monday evening, May 15, he left for Pittsburgh to be in attendance at the annual meeting and election of officers of the Central States Wrapping Paper Association held in that city May 16.

## PLANS FOR SUPERINTENDENTS MEETING

(Continued from page 20)

Paper Company, 1,600 shares of the Kalamazoo Vegetable Parchment Company, certificates of deposit in excess of \$10,000, several parcels of real estate and other smaller blocks of stock.

He was one of the fortunate early investors in Bryant Paper common, and it was largely through the expansion of that company that he was able to return in more than comfortable circumstances.

### Estate of Late Noah Bryant

The will of the late Noah Bryant was filed Saturday with Probate Judge John Hollander, the value being stated at \$600,000. That is a very modest estimate and is certain to be materially increased when the report of the appraisers is made public. The bulk of the fortune will go to his daughter, Mrs. Frank H. Milham, and to his granddaughter, Mrs. Eleanor Milham Reynolds.



Established 1886

## Sentiment

*THE difference between inexperience and experience is the difference between intention and fulfillment.*

*THE fact that a seller's intentions are good, is poor compensation if his organization is bad. Sentiment is a poor substitute for efficiency.*

*OUR 36 years' experience makes "intention" spell fulfillment.*

## M. Gottesman & Company

INCORPORATED

18 East 41st Street  
New York, N. Y.

BRANCHES AT

Holyoke, Mass.  
Kalamazoo, Mich.

## DEMAND IN PHILADELPHIA IS CONSTANTLY IMPROVING

**Allen E. Whiting, President of the Paper Trade Association, Says That While Times Are Not Booming, Conditions Under All the Circumstances Are Satisfactory to All Who Are Building Up Their Organizations and Who Are Conducting Sales Campaigns—Paper Stock Market Slightly More Active—Printers to Make Arrangements for Co-operative Sale of Waste Paper.**

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, May 15, 1922.—From the point of view of the fine paper distributors particularly, President Allen E. Whiting of the Paper Trade Association of Philadelphia said this week, "I do not believe that anyone conversant with the exact conditions can dispute a very decided improvement in the paper business. It started in noticeably in early April and while there was a comparative lull toward the close of the month, progress again became marked in May. I do not propose to suggest that times are booming or that there is a great rush, but I do know that under all the circumstances, present conditions are most satisfactory to all in the industry who are building up their organizations and who are conducting sales campaigns. The orders are there for those who go after them hard enough." In the fine paper branch of the business, the week passed without marked development save the steady, slow but certain increase in the number of orders and in the average size. If there is any complaint that properly can be made, it is that so large a percentage of the volume of business done consists of very small orders on which, because of an overhead that cannot well be reduced, the margin of profit is commensurately too small or does not exist at all.

### Paper Stock Slightly More Active

A little activity after a long stagnation has crept into the paper stock trade. While there continues to be virtually no mill inquiry for the cheaper grades, particularly the mixed and commons, there did develop during the week a market for most of the better grades. Because of the very limited supplies of commons which are coming into the warehouses of the packers, there is no glut of this brand. In the case of the better grades, the supplies received are not very large either, but they are moving out just about as fast as they are baled for the mill. It has been noted in the trade for years that one grade in a class always lags far behind the others and now, while soft white, ledgers and book stock in the higher grade classification are moving well, hard white is far behind and has practically no market at all.

### Typhotetæ and Paper Men Getting Together

Influences were set at work following the meeting during the past week of the executive committee of the Typhotetæ of Philadelphia, which had before it a communication from the ten members of the Paper Trades Division who recently, although by individual letter, resigned in a body, which it is believed will shortly again restore official harmony between the two organizations. Both printers and paper distributors insist that notwithstanding official conflict, principally over the long price list, their personal relationship continued pleasant. No official action was taken at the meeting of the executive committee further than to refer the still pending resignations and a proposition in writing from the paper distributors looking to a harmonious solution of existing contentions, to a special committee which proposes this week to exercise its good offices in a get-together conference, the result of which it is believed will be the adoption of a program and a platform on which both printers and paper dealers can stand together.

### Co-operative Sale of Paper Waste

District Secretary J. O. Adams of the U. T. A., who for several weeks has been at Typhotetæ headquarters, has about completed installation of a credit bureau and is therefore ready to take up during the coming week the development of the long ago outlined but frequently postponed program for the collection under the terms of a single contract with a paper stock dealer, of all the waste from the establishments of those printers and publishers who desire to enter into the co-operative sales arrangements. While representative stock dealers express the opinion that no practical results will follow the effort, Mr. Adams is confident that he can develop a plan which will be beneficial to every one concerned.

### Pitman & Robinson Formed

Pitman & Robinson are about to engage in the business of mill agents for tissues and paper toweling. The firm will have headquarters at 1218 Filbert street. Its members are well known to the trade. They are, A. B. Robinson, for seventeen years with the Peerless Manufacturing Company of Norristown, and Frank T. Pitman, who served for an almost equal length of time on the sales staff of the White-Washburn Company of New York. The firm has made connections with the Paper Service Company, Inc., for its tissue distribution through New England, except Boston, and New York State except New York City, and with the Fort Howard Paper Company as local distributors for its Cream of the Forests paper toweling.

### General Trade News

The trade is much interested over the local distribution of the Valley Paper Company lines incident to the taking over of the general line by the newly incorporated firm of Wilcox, Walter & Furlong Paper Company. The D. L. Ward Company, which for some time was the sole distributor, will retain, it is announced, the Valley Company's Dominion, Old English, and Commercial Bond papers and the American, Victoria, Commercial Linen and Valley No. 1 Ledger papers. The new firm will carry the general Valley line. During the week the Wilcox, Walter & Furlong Paper Company added to its amount the Triton Bond made by the Miami Paper Company.

Upon his return from Asheville, N. C., where the National Association of Paper Box Manufacturers last week held its annual convention, Leon Beck of the Beck Paper Company as chairman of the Strathmore distributors, will proceed to Woronoco, Mass., for the annual get-together meeting of the Strathmore distributors. The representatives from the Philadelphia district who are expected to journey on to Maine are in addition to Mr. Beck, H. S. LeDuc and Fred Meinecke of the Beck company; Norbert A. Considine and Raymond J. Considine of the Paper House of Pennsylvania; Leonard Raymond of the Raymond-McNutt Company; Richard Hartung of A. Hartung & Co., and Thomas W. Fort, Jr., of the Thomas W. Price Company. A large delegation of salesmen from the Hammermill distributors here also will journey to Erie, Pa., for the notable Hammermill convention.

It became known during the week that John Frantz of the sales organization of A. Hartung & Co., who previously had intended to resign his position on May 15 to enter upon business for himself, had determined to remain with the firm with which he has been identified so long.

As a result of a recent trip through the South, of President Norbert A. Considine of the Paper House of Pennsylvania, the firm has determined to develop its sales of imported news print through the southland and to that end has closed negotiations for a lease on a warehouse in Savannah, where the paper will be stocked, distribution to be made through a distributor in the southern cities.

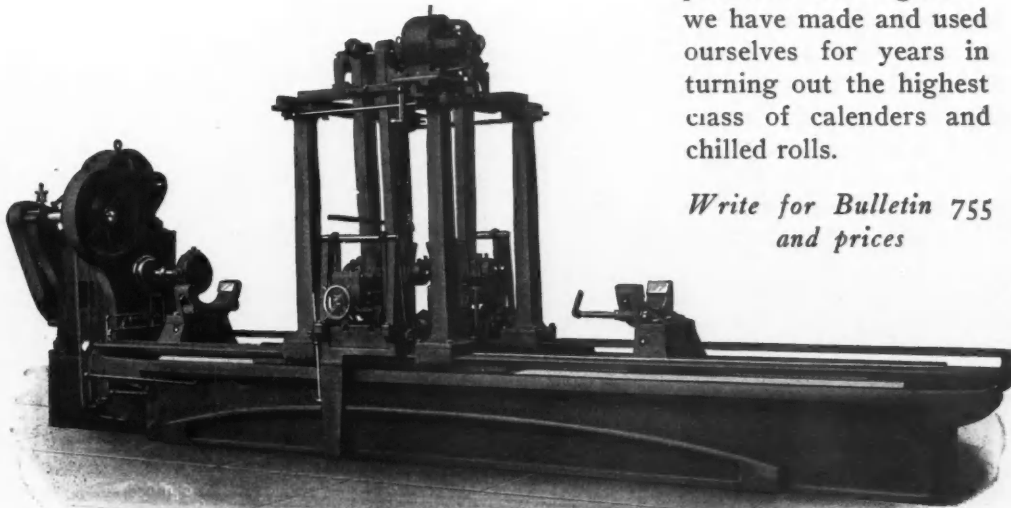
Among trade visitors of the week were W. E. Piper, manager of the New York office of the Crystal Tissue Company, Middletown, Ohio, and M. B. Spofford of the Saquoit Toilet Paper Company, New Hartford, N. Y.

# Roll Grinders

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For the sake of your product regrind your old Farrel rolls, or any others, on this heavy, sturdy instrument of precision—a roll grinder we have made and used ourselves for years in turning out the highest class of calenders and chilled rolls.

*Write for Bulletin 755  
and prices*



**Farrel Foundry & Machine Company**

*Established 1848*

**Ansonia, Conn.**

**Branch Plant:  
BUFFALO, N. Y.**

## CONSTANT IMPROVEMENT IN PAPER BUSINESS IN TORONTO

**May Has Been Showing Up Exceptionally Well and If the Improvement Continues the Record for the Month Will Be an Unusually Good One—Some Readjustments of Prices Are Announced in Kraft and Other Lines—Uncertainty Regarding Tariff Changes Causes Work to Be Discontinued Temporarily on New Book Mill of Provincial Paper Mills Co. at Port Arthur.**

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ontario, May 15, 1922.—There have been steady gains in the amount of business done in the paper line this month. If the record for the first two weeks holds out until the end of May there will be few complaints heard on the part of jobbers. The increase in other lines of business is having a good effect on the paper trade in general and, while there is no boom on and prices in some instances are uncertain, things are headed in the right direction and conditions are immeasurably improved over the corresponding period of last year.

During the past week there was a reduction of one-quarter to three-quarters of a cent on wrapping and kraft papers. It has been felt for some time that quotations have been too high. The new prices, in car lots to jobbers, are now as follows: Rag brown, \$.50; gray wrap, \$.50; news counter rolls, \$.525 (no change); B manila, \$.550; No. 1 manila, \$.675; fiber, \$.675; special trade mark brands of fiber, \$.675; kraft, unglazed, \$.800; kraft, glazed, \$.815. The only other change that has been made recently is patent coated board, which is now down to \$110 per ton, a reduction of ten dollars.

### Possible Tariff Changes Cause Uncertainty

It is announced that Hon. W. S. Fielding, Minister of Finance for Canada, will deliver his first budget speech under the new Liberal régime on May 23 and that certain changes in the tariff may be made known. For some time there has been an agitation on the part of certain publishers and others, who think they have been paying too much for book papers, to have the present duty of 25 per cent removed. The manufacturers have entered a strong protest against such a proposal and the Provincial Paper Mills Company of Toronto, which is erecting a twenty-five ton mill at Port Arthur, has called off further work until the tariff changes are known. The company also has given instructions to the Dominion Engineering Works, of Montreal, not to proceed with the building of the new 145 inch Fourdrinier machine until a decision regarding the duty on book papers is reached by the Federal authorities. In case the tariff is lowered the big project at Port Arthur may not be carried out at the present time.

### Mr. Huestis Is Home from Europe

A. M. Huestis, who for many years was sales manager of the coated paper mills at Georgetown, Ont., and is well known in the trade, being representative of the Kalbfleisch Corporation, of New York City, has returned to Toronto after an extended trip to Great Britain and the Continent and has opened an office at 8 Colborne street. He states that many paper makers in England are unemployed but that Swedish kraft mills and coated paper plants in Germany are very active at the present time.

### Appeal in News Print Case Dismissed

The appeal entered by E. W. Backus, of the Fort Frances Pulp and Paper Company, Fort Frances, Ont., was recently dismissed by the courts in Toronto. It will be remembered that an action was brought by several daily papers in Western Canada against the Fort Frances company to recover \$125,000 alleged to have been paid to the company for news print in excess of the prices fixed by the Federal paper controller during the war. Mr. Backus en-

tered a counter-claim for over two million dollars for the alleged differences between the market price and that at which his company was compelled to furnish news print. He also raised the constitutional point that the paper controller and paper control board were appointed under statutes and orders-in-council which were ultra vires. Judgment was given some weeks ago in favor of the western publishers with costs and the counter-claim was dismissed. The appeal of Mr. Backus has now been dismissed with costs, but it is rumored that a further appeal will be entered by him.

### Settling Disputes on Log Drives

Hon. Beniah Bowman, Minister of Lands and Forests for Ontario, has introduced a bill in the Legislature to codify the laws respecting the control of rivers and streams. It provides for a controller, who will decide disputes between lumber companies, pulp wood companies, power companies and other interests arising out of the changing of the levels of rivers. The bill is expected to have a far-reaching effect owing to the disputes that arise when two or more companies float logs down the same stream; also where the interests of the forest products driving firms clash with those of power development.

### Toronto Firms Make Fine Displays

At the recent convention of the Confectionery, Biscuit and Chocolate Industries of Canada, held in Montreal, splendid exhibits were made by the Rudd Paper Box Company, of Toronto, and the Dominion Envelope and Carton Company, of Toronto, both of which were neatly arranged and several new lines shown.

### Spruce Falls Co. Suffers Heavy Loss

A sudden rise in the Kapuskasing river at Kapuskasing of about fifteen feet has caused uneasiness regard a million dollars' worth of logs which have become jammed near the railway bridge. Men have been working desperately to remove the menace from the bridge. The Spruce Falls Company, of Neenah, Wis., which built a large sulphite pulp plant at Kapuskasing, Ont., is the owner of the logs. The company has already lost about \$100,000, it is reported, owing to the breaking of a boom when about 75,000 logs floated down the river.

### Shipments of Pulpwood from Port Arthur

Through jobbers in the Port Arthur, Ont., district, the Hammermill Paper Company of Erie, Pa., has bought about 45,000 cords of pulpwood during the past season. The company has an office in Port Arthur and it is estimated that, along with other concerns who have taken out considerable wood through contractors, about 120,000 cords of pulpwood will be shipped out from the Port Arthur area during the coming summer.

### Notes and Jottings of the Trade

Harry Frost, who has been for the past five years with the Abitibi Power and Paper Company at Iroquois Falls, Ont., has gone to Cleveland, Ohio, where he has taken a position with the Tyler Wire Company and will sell Fourdrinier wires.

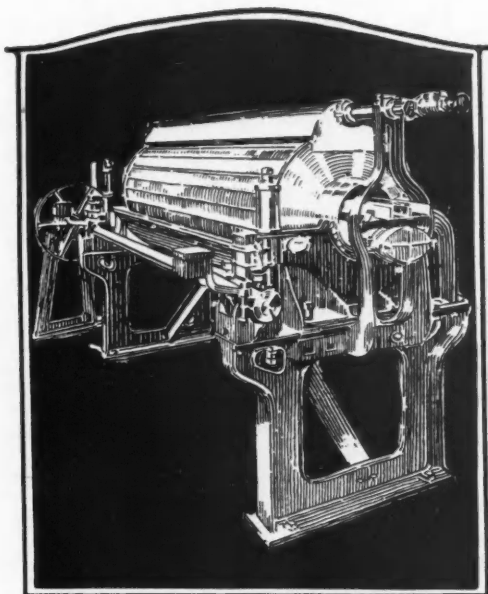
Mr. Wheeler, representing the Franklin Paper Company of Holyoke, Mass., was a recent caller on the trade in Toronto.

Hodge-Sherriff Paper Company, Toronto, is moving into larger and more commodious offices in the McKinnon building and its new quarters are among the finest in the city. W. H. Sherriff left this week on an extended business trip through Western Canada and reports the demand for kraft paper as being active.

Arthur Jewett, for several years a member of the sales staff of the Provincial Paper Mills Company, Toronto, has gone to the Montreal office, to which he will be attached owing to the poor health of William Gorman, eastern representative of the company. Mr. Jewett's work in Toronto is being taken up by B. Maguire.

Harry Hawkins of the sales staff of the Montreal office of the Canada Paper Company has been spending a few days in Toronto owing to the death of his father, a former newspaper man and widely known editor, who passed away last week.





## BUILT for SPECIAL SERVICE

The WALPOLE SCREEN is designed for screening long-fibred, slow-working stocks. It keeps the paper machine supplied continuously with clean stock well brushed out and free from strings, bunches and slime.

The WALPOLE SCREEN helps you to maintain uniform quality and continuous production.

If you are seeking to overcome the many difficulties usually found in the screening of long-fibred stock, it will pay to investigate.

### BIRD MACHINE COMPANY SOUTH WALPOLE, MASS.

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

*Canadian Builders of Bird Machinery:*  
Canadian Ingersoll-Rand Co., Ltd.,  
260 St. James St., Montreal, Quebec

88-216

# THE WALPOLE SCREEN

## MILL IN WATERTOWN SECTION TO BE REOPENED BY I. P. CO.

**Col. Haskell, Vice-President of the Company, Says that Mill A Will Be Reopened in the Near Future, Mill C May Be Reopened but the Company Has no Intentions of Continuing Operations in Mill B at the Present Time—Denies Report That Mill Is to Be Torn Down and Replaced by Large Hydraulic Development—Fred H. Clark, President, Retires from International Burr Corporation.**

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., May 15, 1922.—The "C. R." mill of the International Paper Company, listed by the company as "Mill B" of the Woods Falls Division and located at Glen Park, is to be torn down at once and replaced by a large hydraulic development, it has just become known through unofficial information obtained at that village. With the opening of the No. 4 mill comes instruction to proceed at once to provide offices in a wooden structure built as a double house. The officers of the company in this division will occupy the newly remodeled office building, giving way to the razing of the former offices in the C. R. mill.

No detail of the plans of the company could be obtained here. At Glen Park the report seemed to be general that the big mill there was to be replaced by a power plant, while at No. 4 mill operations were proceeding to make the frame building adjacent to the mill ready for offices.

That the decision to reopen the No. 4 mill was a decided surprise to every one in the section, including the local officials, was made clear. August Taffel, former superintendent of the mill, had closed his home only recently to go to Rumford Falls, and he was returned as general manager of the local mills. Fred E. King, who has been superintendent, has been transferred to Berlin, N. H., but came back over the week end to get things organized here.

The opening of the local mill, which had been closed since the strike of May 1, 1921, is said to be due to the fact that the company needs the production to meet orders. That no difficulty will be experienced in opening within a few days is indicated by experience of Monday morning. Robert Reed, an official of the company, was at the mill and there was a line of about sixty men on hand to seek positions. About half of them were former employees who went out on strike, and it was said at the mill that fully half the men listed for employment are members of the union.

A repair gang of about thirty-five men is hard at work getting the plant in shape for continuous operation. It is said that everything will be carefully adjusted and ready for starting the mill within a week. Some of the men were given assurances of return to their former jobs and others were told to return Thursday for further interview.

Edgar Shelley and W. C. Matteson were placed on duty as deputy sheriffs Saturday and they have found everything quiet. Monday forenoon a man took a position opposite the mill and remained there for a few hours, but said nothing. It was believed that he acted as a representative of the union, but no picketing has been started.

The Pulp Workers' local met Monday morning to consider the matter of the reopening and decided to leave decision to International heads. The Paper Makers' local met Monday afternoon, but no word of the decision could be obtained. Some of the members of the unions were at work at the mill. One of them said that he was through with the union. "We got \$260 a week apportioned to the local strikers for a while, but this figure was reduced to \$140 a week, and sometimes we got nothing. I for one got sick of that sort of life and am back to stay at work," he said.

The No. 4 mill formerly employed seventy-five men, but it is said at the plant that about sixty men will operate the plant under the

new plan. The production will be improved, if possible, it is said. No one would give the exact figures being offered men, but practically the scale offered a year ago will prevail. Unskilled labor is said to be receiving 38 cents an hour, and skilled labor will probably be paid accordingly.

There is an impression that later the Ontario mill will be opened, after it is ascertained what success is made with the opening of the No. 4 mill. The No. 4 mill has one large news print machine while the Ontario mill has two machines.

### Company Denies Rumor

Upon receipt of the rumor from Watertown to the effect that Mill "C. R." of the International Paper Company, known as "Mill B," was to be torn down and replaced by hydro-electric plants, together with the report of the reopening of Mill "No. 4," a reporter of the PAPER TRADE JOURNAL visited the offices of the company at 30 Broad street, New York, and secured an interview with Colonel W. E. Haskell, vice-president.

"Many rumors are current regarding the establishment of hydro-electric developments in the Woods Falls Division," said Mr. Haskell, "but these reports are absolutely groundless. If the company were to consider the installation of hydro-electric plants to supplant the paper mills they own in this region, they would, undoubtedly, extend their operations to include all three of the mills in this section.

"I know of no such mill as the No. 4 mentioned in your report, but it may refer to one of the three mills which we designate as mills 'A,' 'B,' and 'C.' Of these three, mill 'A' will be reopened in the near future; mill 'C' may be reopened, but the company has no intention of continuing operations in mill 'B' at the present time.

"There would be no object in converting a valuable paper mill into other channels as long as it could be operated at a profit in the manufacture of paper. The company believes that these three mills will prove a source of profit for several years to come, hence there is no foundation to the prevalent rumor that any of them will be used for hydro-electric purposes."

### Retires from International Burr Corp.

Fred H. Clark, president of the International Burr Corporation, with offices and shops in Newell street, has just sold his interests in the concern to William P. Aikin and retired from the business. On Saturday new officers were elected. The transaction places the entire ownership of the corporation in the hands of the Aikin family, both as to the local company and the one just established in Canada.

Just what Mr. Clark plans to do is not announced. Before taking an interest in the Burr Corporation he was an expert accountant. He is now interested in the Watertown Garage Corporation in State street, but it was impossible to reach him to inquire his future plans, he being in New York City.

The officers elected Saturday were: William P. Aikin, president; Nellie E. Aikin, vice-president; F. W. Aikin, secretary and treasurer. The same stockholders own the International Burr Company of Canada, Ltd., with the same officers, excepting Cecil B. Aikin as secretary and treasurer.

The Canadian corporation was recently organized and shops are just placed in operation at Belleville, Ont. The plant there is about half the size of the local one, but it is believed that within a few years it will expand to much larger proportions. "The Belleville plant will equal the Watertown plant in five years," said Mr. Aikin. "In ten years most of the pulp mills will be located in Canada and our business will naturally follow in importance."

Burrs for grinding pulp stones are manufactured in various patent forms by the local concern.

### St. Regis to Build Terminal Facilities

Extensive terminal facilities, including docks, wharves and ship-loading apparatus, will be built this summer by the St. Regis Paper Company on the Godbout River in Quebec. It is the preliminary

(Continued on page 30)



***There Is But One Way  
To Buy Liquid Chlorine in Bulk***

And insure absolute economy of purchase, with convenience and safety in handling and storing.

***Buy it—shipped in the***

***Mathieson***

***Multiple-Unit Chlorine Tank Car***  
(Patents Pending)

(A specially designed car carrying 15 one-ton individual containers of seamless, forge-welded steel, pressure tested to 500 lbs. per square inch complying with Interstate Commerce Commission specifications; inspected internally and cleansed before each charging.)

Mathieson "EAGLE-THISTLE" Brand Liquid Chlorine has an unimpeachable reputation for purity. Buying it in bulk by the Multiple-Unit Tank Car makes it the most economical to use.

Several plans for connection to your system can be suggested by us which will satisfy the most critical, and will save a large item of labor and meet the highest "Safety First" ideals.

We'll be glad to quote price  
and send detailed information



**THE MATHIESON ALKALI WORKS, (Inc.)**  
25 West 43d Street, New York, N. Y.  
Chicago, Ill. Philadelphia, Pa. Providence, R. I.  
Charlotte, N. C.  
Works:  
Saltville, Virginia    Niagara Falls, N. Y.



## Trade Marks Department

CONDUCTED BY NATIONAL TRADE-MARK CO., WASHINGTON, D. C.

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

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

**PALMETTO**—No. 158,502 White-Washburn Company, Inc., Hinsdale, N. H. For toilet paper.

**SILVERSHEEN**—No. 159,328 Strathmore Paper Company, West Springfield, Mass. For paper for writing, typewriting, printing, and engraving purposes; photomount and cover papers, cardboard, bristol board, and paper for picture and photograph mats.

**HEART OF AMERICA**—No. 147,026 Inter-Collegiate Press, Kansas City, Mo. For writing paper.

**FANCIES A COLOR FOR EVERY WHIM**—No. 154,291 Charles E. Weyand & Co. Inc., New York. For writing paper and envelopes.

**MT. NONOTUCK MILLS**—No. 157,292 American Writing Paper Company, Holyoke, Mass. For writing and printing papers.

**QUALITEX**—No. 157,952 Powers Paper Company, Springfield, Mass. For writing paper, printing paper, writing tablets, papeteries, correspondence envelopes, typewriter paper, and wedding stationery—namely, cards for invitation, announcement cards, and special finished paper and envelopes, either in box or in bulk form.

**FABRITEX**—No. 157,955 Powers Paper Company, Springfield, Mass. For writing paper, writing tablets, printing paper, papeteries, correspondence envelopes, typewriter paper, and wedding stationery—namely, cards for invitation, announcement cards, and special finished paper and envelopes, either in box or in bulk form.

### WATERTOWN I. P. MILL TO BE REOPENED

(Continued from page 28)

move toward the tapping of the 200,000 acres of virgin freehold timber owned by the company in that district. The shipping plant will be located conveniently for operations at a point on the river about 225 miles east from Quebec. The Godbout River empties into the St. Lawrence River, near the Gulf of St. Lawrence, and is navigable far into the timber tract. Next year it is planned to start lumbering on this enormous tract. There are 2,000,000 in this freehold tract.

This year the company is cutting 40,000 cords of pulpwood on the Oscalenea tract of 40,000 acres of virgin forest located on the International Railroad, about 250 miles northwest of Quebec. This is also freehold wood of the highest class of perfection. Practically all this wood will be brought into northern New York to the mills of the company.

"The St. Regis Paper Company now owns more pulpwood than ever before in its history," said an official today. "We are buying some wood when it is available at a reasonable figure, for we realize that our timber should be conserved as much as possible for future requirements."

#### Edward M. Hall Married

Announcements have just been received in this city of the marriage on May 3 at Canandaigua, N. Y., of Edward M. Hall, formerly prominent in the paper manufacturing business in this section, and Mrs. Jane Ray Cyener, of that place. It was a complete surprise to his many friends in this city.

Edward M. Hall is now president of the Shortville Paper Company, with mills at Shortville, N. Y. He has been identified with the paper business since a boy and has held important positions in numerous mills and paper companies in this section.

He started as a mere boy in one of the Brownville mills and by studious application worked himself forward until he achieved considerable prominence in the trade. For a period he was general

superintendent of the Remington mills in St. Lawrence county. Later he became one of the owners of the Cylinder Paper Company, with mills on Sewells Island in this city. He was next general superintendent of the St. Regis Paper Company mills, and it was while thus employed that he evolved an invention which greatly improved the pulp-grinding business throughout the country. He was the inventor of the Hall process, which is growing in popularity daily since. He later sold out his interests in the patent to Hall, Ward & Walker.

He left here and became one of the owners of the Hall-Richter Company, with mills at North UMBERLAND, N. H. He became president and treasurer of the Penn Paper Company at Downingtown, Pa., but about six months ago he sold out his interests there. He now heads the Shortville Paper Company, where he resides.

### New England Salesmen's Outing

BOSTON, Mass., May 15, 1922.—The New England Division of the Salesmen's Association of the Paper Industry will hold its annual summer outing June 9. The call for the meeting, signed by John E. A. Hussey, vice-president for New England, and Thomas Compton Walsh, chairman, Irving N. Esleeck, Herbert A. Wingate and Frederick W. Main, members of the executive council, is in part as follows:

"Assemble at Copley Plaza Hotel, Boston, Mass., at 10 a. m. Friday, June 9, when start will be made for Scituate, Mass., going via the famous Jerusalem Road, which runs along the coast where there are many attractive summer homes. On through the old town of Cohasset; thence to Egypt, where the famous Lawson estate "Dreamwold" is, which should be in a blaze of red Ramblers.

"After luncheon at the Scituate Country Club, the golf enthusiasts will have an opportunity of trying the course there, which is said to be very sporty. Suitable prizes will be offered to those entering beforehand and giving their handicap as well as name of their club.

"Leaving Scituate around 5 o'clock we motor on to the old historic town of Plymouth, which has just passed its tercentenary celebration. An hour or more can be spent very pleasantly here. Dinner will be served at 7:30 o'clock, after which we shall return to Boston over the road, and if the weather is favorable, as it should be, it ought to be an attractive ride in the full of the moon.

"If any members having automobiles will offer them for the trip, it will be much appreciated.

"The expense will not be over \$10 per member.

"President Howard Reynolds, in O. K.-ing this program, said no salesman either from New England or outside would miss this meeting if he had once attended a New England outing."

### A Correction

Owing to an inadvertence it was erroneously stated last week that the electric steam generator of the Kaelin system just started at the plant of the Laurentide Company, Grand Mere, Que., had been installed by the Electric Furnace Construction Company of Philadelphia. The installation was made by the Dominion Engineering Works, Ltd., Montreal, who have the sole manufacturing and selling rights for the Kaelin Electric Steam Generator in Canada in the same way that the Electric Furnace Construction Company controls the rights for the United States.

### Drawbacks Allowed on Paper

WASHINGTON, D. C., May 15, 1922.—The Customs Service of the Treasury Department has announced the allowance of drawback on carbon paper manufactured by the Carrib Manufacturing Corporation, of Rochester, N. Y., with the use of imported tissue paper.

The service has also announced the allowance of drawback on wallboard manufactured by the Plastergon Wall Board Company, of Buffalo, N. Y., with the use of imported wood pulp board.



***Mill Manager to Superintendent:***

"Fred, you and Charlie of the Cost Department as well as the rest of us around here are getting into a rut and we must get away from here for a few days to clear the cobwebs out of our thinking machines. So dust off your old Gladstone and prepare to go to

**KALAMAZOO**

and mix with regular fellows in a regular way, because there is going to be the largest gathering of Paper Makers in the largest Paper Making Community House in the largest Paper Making Center in the World, at any one time, and we want to be counted among those present. So boys, get busy."

***Fred:***

"All right. Watch me."

***Charlie:***

"And me."

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**Remember the Dates: June 1st, 2nd & 3rd  
and the place**

**KALAMAZOO**

***Kalamazoo Kalamazoo Kalamazoo***

## USE OF BAMBOO IN PAPER MANUFACTURE

George L. Logan, manager of the Philippine district office of the Bureau of Foreign and Domestic Commerce, has transmitted a report from the Director of Commerce and Industry of the Philippine Islands. In it the statement is made that a certain 2,000 hectare area in the Philippine Islands, surveyed by the Philippine Government in 1918, could, on a crop-rotation basis, supply a 20-ton mill indefinitely with material for a grade of book paper much like that made from soda wood pulp. The area in question is only one of a number of areas heavily wooded with bamboo. Only one species yields good paper—*Schizostachyum lumampao*. It is best adapted for pulping by the soda process. The detailed reports follows:

(a) *Acreege of bamboo surveyed by the Government in 1918.*—The caña bojo of the genus *Schizostachyum lumampao* is found in large stands in Bataan Province. There is an area of 2,000 hectares, of which it can be said with certainty that 50 per cent contains dense bamboo. This area does not include other bamboo groves in the islands, which have not been surveyed by Government or private entities. (One hectare = 2.47 acres.)

(b) *Approximate amount of pulp that may be obtained from a hectare covered with bojo (bamboo).*—An average hectare of *Schizostachyum lumampao* contains approximately 9,000 canes. Mr. Richmond, of the Bureau of Science, has found that an average green stem weighs 7.2 kilos; an air-dried stem, 4 kilos; and an air-dried one without the nodes, 3.75 kilos. Using this last figure, it will be seen that there would be 33.75 metric tons of dried material per hectare. It is estimated that 2 metric tons of dried material would give about 1 short ton of pulp. A hectare should, therefore, produce about 17 tons of pulp.

(c) *Approximate amount of supply and duration thereof.*—The acreage above mentioned is capable of supplying a 20-ton mill for three years without counting on the growth of the bamboo during this period. Working on a three-year rotation plan, the said area would supply a 20-ton mill indefinitely. Moreover, caña bojo is easily propagated. One person can plant daily about 400 prepared tubes, or he can prepare from 1,000 to 1,200 if the growing areas are not very far apart.

(d) *The price per thousand stems estimated in 1918.*—No exact figure concerning the cost of collection of *Schizostachyum* can be given. It is sold in Orani, Bataan Province, at from 8 to 12 per thousand stems, and it is estimated that a thousand canes could be transported over a distance of 1 or 2 kilometers at a cost of between 6.33 and 6.16 peso. All of these figures apply, of course, only to the crude primitive method employed in collecting this material. However, even at the price of 10 peso per thousand stems, the material for a ton of pulp would cost only 2.50 peso.

(e) Concerning the preparation of paper pulp by the soda process from *Schizostachyum lumampao*, the following is quoted from Mr. Richmond:

### Preparation of Paper Pulp by Soda Process

"It was found as the result of repeated trials with caustic-soda liquors under varying conditions of strength, pressure, and duration of cooking that bamboo chips invariably yielded 43 to 45 per cent of air-dry unbleached fiber under the following conditions:

- (1) Upright cylindrical stationary digesters.
- (2) Direct livesteam heat.
- (3) Fifteen to 20 per cent of 76 per cent caustic soda calculated on the air-dry weight of the raw material.
- (4) A duration of cooking of four to six hours.
- (5) A maximum temperature of 160° C. (320° F.), corresponding to a steam pressure of 45 kilos (90 pounds).

"Fiber thus prepared bleached to a splendid white with 12 to 15 per cent of bleaching powder. The fiber was strong, of good

felting capacity, and it made a more bulky sheet than wood pulp. Bamboo fibers average 2.5 to 3 millimeters in length, so that they are somewhat longer and materially narrower than spruce fibers.

"That bamboo is readily resolved by the suds process of treatment to a fiber which is easily blended has been proved beyond doubt, and further experiment in this direction is scarcely necessary. The fiber possesses the requisite length, strength, and felting capacity to meet the paper maker's demands, and the quantity of resistant cellulose per unit weight of the raw material is sufficient to warrant its extraction."

### The Sulphite Process

The following quotations, also from Mr. Richmond, give information concerning the sulphite process on *Schizostachyum lumampao*:

"Bamboo chips in lengths varying from 1.27 to 2.54 centimeters, but uncrushed, were well screened from dust and dirt and packed into a stationary, upright, lead-lined digester and heated with direct fire in the presence of sulphite liquors of different concentration and under varying conditions of temperature and time. Thirty-seven separate digestions were made, but in no instance was to produce from bamboo a pulp easy to bleach with bleaching powder, the universal bleaching agent employed in the industry at the present time.

"The process yields fully 50 per cent of unbleached pulp and with a much lower sulphur consumption than is required in commercial practice for wood. Well prepared but uncrushed chips pulp readily with liquors of ordinary strength in six to eight hours, but the unbleached fiber was not as light in colors as sulphite spruce and could only be used in the unbleached condition for wrappings, tags, etc., where strength, rather than color, is the important consideration. It is needless to say that all the conditions of the treatments were varied in every conceivable manner, with the main point in view of producing a pulp which would bleach readily and with a reasonable consumption of bleaching agent, but without success. If bamboo pulp were not suited for use in an unbleached state, then the sulphite process should be adopted by all means, but the material is not sufficiently light in color to be mixed with mechanical wood pulp in preparing news print paper; besides it is too good a fiber for the latter or for wrappings, for which it is entirely suited, so far as color is concerned. In my opinion, bamboo fiber is eminently fitted for paper for books and for certain grades of writing and lithographic papers, either alone or when blended with rag or sulphite wood pulp.

"Aside from the poor bleaching properties of bamboo sulphite fiber prepared under the above conditions, there are other factors both local and general, which tend to preclude the use of the sulphite process of treating bamboo at the present time.

"1. Bamboo fibers appear better suited for book printing and lithographic papers than for wrapping or news printing paper. This being the case bulk, softness, and capacity, which are the chief features of soda fiber, are what is desired.

"2. It is undoubtedly true that the sulphite process costs less than the other for chemicals. Sulphur at present quotations can be converted into sulphite liquor and thrown away after use at less expense than the cost of soda actually consumed plus the cost of its recovery. However, the local supplies of limestone are better adapted for making soda than sulphite liquor.

"The other chemicals, sulphur, on the one hand, and soda, on the other, used in the two processes are not produced locally; hence they would have to be imported from the most favorable foreign source."

(f) *Other species of bamboo.*—Mr. Richmond also investigated *Bambusa spinosa* as a source for paper pulp, and found that this species gave a smaller yield of cellulose than *Schizostachyum lumampao* and required an excessive amount of bleach (20 to 25 per cent) to produce at best a poor white pulp.



## Double Drinking Cup Safety in Vortex, the Pioneer

**VORTEX** Drinking Cups, clean and sanitary, protect the user from infections often traceable to the common drinking cup. They afford, in addition, another protection. They safeguard the user against any legal action which may arise from the use of a cup infringing on our fully protected patents.

Vortex, the pioneer paper cup, has been in use for years. It has won its leadership not alone because of its unique design, but because of its economy and sturdiness, which cannot be duplicated in a flimsy, cheaply made cup.

This unusual strength is due to the firm, heavy quality of the paper; its reinforcement, on the outside, with paraffin wax; and its extra reinforcement about the bottom. It is substantial and rigid; needs no holder.

Vortex Cups are needed in every office, factory, theatre, club, bank, hotel and store. They are manufactured in such enormous quantities that they can be sold, with *excellent profit*, at a *very low price*. Distributors are invited to write for prices and terms.

THE VORTEX MFG. CO., 421-431 North Western Avenue, Chicago

REG. U. S. PAT. OFF.

**THE Vortex**  
Drinking Cup

June 20, 1916  
March 26, 1918  
April 18, 1922  
Other Patents Pending

Canadian and Other Foreign Patents Granted and Pending

*Vortex Drinking Cups have these special features:*

Made of clean, strong, pure white paper.

Carefully sterilized in manufacture. Meet requirements of Pure Food and other existing Laws.

Reinforced on the outside with pure, fully refined paraffin wax. Strong and rigid.

Have no wax on inside; can be used for hot as well as cold drinks.

No glue is used in their manufacture. Sealed, under pressure, with paraffin. Cups are tasteless and odorless.

Spiral wrapping reinforces cup.

Extra reinforcement about bottom of cups prevents cups sticking together.

Will not absorb moisture or leak when left for an indefinite period.

Convenient in shape; no holders needed.

Packed in dustproof cardboard tubes; and shipped in sealed cartons.

Nested together and dispensed in inverted fashion; inside untouched by hands.

## Recent Incorporations

**RICHMOND HILL PAPER COMPANY**, Manhattan, New York; capital, \$5,000. Incorporators, S. Walter, S. Leff, H. Turkell. Attorney, A. D. Schanzer, 154 Nassau street.

**GLENMORE PAPER BOX COMPANY**, Brooklyn, New York; capital, \$6,000. Incorporators, M. and H. and D. Finkelstein. Attorney, M. Kaufman, 349 Stone avenue, Brooklyn.

**THE FORT GRISWOLD PAPER COMPANY**, Montville, Connecticut; capital stock, \$100,000, to begin with \$5,000. Incorporators: Arthur Perkins, John P. Harbism, and Edna Millard, of Hartford.

**THE MINOTTE E. CHATFIELD COMPANY**, New Haven, Connecticut; capital, \$100,000. Incorporators are Minotte E. Chatfield, Harry L. Perry and Sterling L. Chatfield.

**FRANK P. MILLER**, Camden, New Jersey, operate paper and pulp mills, \$1,500,000. Corporation Guarantee and Trust Company.

**HOLYOKE VACUUM SLUICE COMPANY**, Springfield, Massachusetts, paper board patents. Capital, \$80,000. Incorporators, Henry E. Lindquist of Springfield, John Hickey of Elmhurst, L. I., and Daniel H. Schwartz of Holyoke.

**SHULMAN, ADLER PAPER COMPANY**, Manhattan, New York. Capital, \$20,000. Incorporators, L. and S. Shulman, N. Adler; attorney, A. Falk, 501 Fifth avenue.

**PAPER UTILITIES COMPANY**, Manhattan, New York. Capital, \$165,000. Incorporators, J. L. Watson, F. H. Butehorn, R. A. MacLean; attorney, F. J. Knorr, Albany.

**STETSON & TURNER COMPANY**, Bangor, Maine, to conduct a general lumber and pulpwood business. Capital stock, \$100,000, of which \$25,000 is common and \$75,000 preferred stock; nothing paid in; par value, \$100; shares subscribed, five. Directors, Irving G. Stetson (president), Percival A. Hubbard (clerk and treasurer), Bangor; Arthur W. Turner, Frankfort.

### Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., May 17, 1922.—The Purchasing Officer of the Government Printing Office has received the following bids for 4,800 pounds of dark blue smooth cover paper 20 x 25—No. 48: Dobler & Mudge, \$.087 per pound; R. P. Andrews Paper Company, \$.0875; Knowlton Brothers, \$.0872; Old Dominion Paper Company, \$.0899; Thomas Barrett & Son, \$.092; Reese & Reese, \$.0882; American Writing Paper Company, \$.089.

The Purchasing Officer of the Government Printing Office will open the following bids on May 22:

4,000 pounds of rope manila paper, basis 24 x 36—70, in 11½-inch rolls, 18 inches in diameter, wound on wooden plugs without cores; bursting strength shall be not less than 70 points; stock shall be not less than 75 per cent manila and jute; the remainder shall be sulphite pulp; color and finish—deliveries must conform to the Government Printing Office sample.

4,375 pounds (50 reams) yellow commercial ledger paper, tub-sized, air or loft dried, 21 x 32½—87½—No. 48.

The Purchasing Officer of the Government Printing Office has received the following paper bids:

305 pounds 17 x 28—30½ No. 24, blue Safety writing paper: R. P. Andrews Paper Company, at \$7.75 per ream, and Dobler & Mudge at \$10.24.

4,800 pounds 20 x 25—48, Sage cover paper: Dobler & Mudge, at \$.0923 per pound; Knowlton Brothers, \$1.007; Mathers-Lamm Paper Company, \$.0938; Old Dominion Paper Company, \$.0949; Thos. Barrett & Son, \$.0971; Reese & Reese, \$.0928; American Writing Paper Company, \$.0927.

14,800 pounds 24 x 38—148 rope manila paper: Mathers-Lamm Paper Company, \$.1775 per pound; Maurice O'Meara Company,

\$.095; Dobler & Mudge, \$1.099; American Writing Paper Company, \$1.129.

1,000 5¼ x 7¾-inch woven linen envelopes: R. P. Andrews Paper Company, at \$19.20; Sherman Envelope Company, \$7.95; R. Carter Ballantyne, \$21.00.

The Purchasing Officer of the Government Printing Office will open bids on May 22 for the following:

10,400 pounds (100 reams) 26½ x 41—104 India tint coated cover paper, and for

7,800 pounds (100 reams) 38 x 48—78 No. 16, map paper, lithograph finish.

The C. L. LaBoiteaux Company has been awarded the contract by the Purchasing Officer of the Government Printing Office for furnishing 15,000 pounds of 24½ x 34—No. 35 boxboard lined on one side at \$55.56 per ton.

The Mathers-Lamm Paper Company will furnish 9,600 pounds (200 reams) of 20 x 25—48 smooth granite cover paper at \$.0858 per pound. Bids for these items were opened on May 8.

### Technical Photographers Form Society

The Technical Photographic and Microscopical Society was fully organized at a meeting held in the Chemists' Club, New York, on Wednesday, May 10. The nucleus of the organization was formed at the annual meeting of the American Paper and Pulp Association last month. Charles F. Roth, who acted as chairman of the meeting on Wednesday, gave an account of the organization work to date and outlined future possibilities. It is planned to hold a general convention of industrial and microscopical photographers in connection with an exhibition of photographic work, chemicals and apparatus to be held at the Grand Central Palace, Lexington avenue and Forty-sixth street, New York, during the National Exposition of Chemical Industries, September 11-16, 1922.

After hearing from nearly all in attendance, it was suggested that a permanent organization be formed by naming a president, vice-presidents and a secretary-treasurer.

James McDowell, of Sharp & Hamilton Manufacturing Company, Boston, was put in nomination for president and elected unanimously. John H. Graff, of the Brown Company, Berlin, N. H., and Bennett Grotta, of the Atlas Powder Company, Tamaqua, Pa., were chosen vice-president, while Thomas J. Keenan, editor of *Paper*, 251 West Nineteenth street, New York, was elected secretary-treasurer.

An active committee on membership and publicity was appointed consisting of A. E. Buchanan, chairman; Charles N. Winter, D. H. Killefer, Douglas G. Woolf, Ernest Eberhard, J. A. Scheick and M. D. Crawford.

The next meeting of the Technical Photographic and Microscopical Society will take place at the Hotel Astor, New York, and be preceded by a luncheon for which a nominal charge will be made. All interested in the development of the new society are urged to get into communication with the secretary at the address given above. The annual dues for membership have been fixed at \$5.

### Gilbert Pulp Mill Damaged by Fire

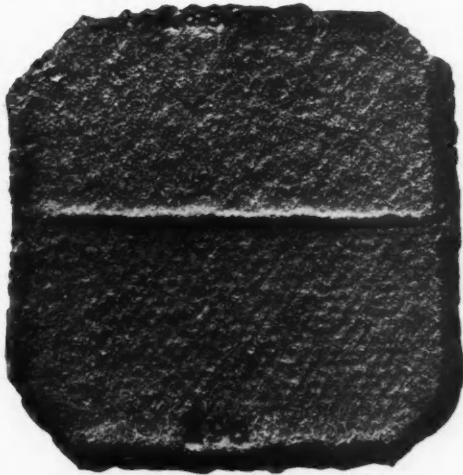
[FROM OUR REGULAR CORRESPONDENT]

COHOES, N. Y., May 15, 1922.—The old pulp mill of the Frank Gilbert Paper Company at South Saratoga and Spring streets was damaged by fire to the extent of about \$20,000 May 5.

The building, a three-story frame structure, is one of the oldest in Cohoes. It was erected more than a century ago and has been utilized as a pulp mill the greater part of the time.

A value of \$40,000 is placed on the building and the machinery including the huge water wheel and grinding machine which was saved by the firemen. Howard Coonradt, superintendent of the plant, placed the loss at about \$20,000, which he said was covered by insurance.





Finish given by  
Plain Felt.

Improved finish given by  
the Kenwood One-Sided  
Board Felt.

THIS illustration is a photographic comparison between the finish given by the Kenwood Plain Bottom Board Felt, which has up to now given such universal satisfaction, and the IMPROVED FINISH given by the NEW KENWOOD ONE-SIDED BOTTOM BOARD FELT. (The same relative improvement in finish is given by each of the other new Kenwood One-Sided Felts.)

## An Unusual Achievement in Board Felt Combinations Which GIVES BETTER FINISH PRODUCES DRIER BOARD INCREASES PRODUCTION

### Not an Expectation But a Demonstrated Fact

To obtain the finest degree of finish with the maximum removal of water equip your machines with

**Kenwood One-Sided Bottom Board Felts**

**Kenwood One-Sided Top Felts**

**Kenwood One-Sided Press Felts**  
and

**Kenwood One-Sided Super or Plate Press Felts.**

Where the finest finish is not required use Kenwood Plain Bottom Board Felts and balance of above specifications for Tops and Press. Kenwood Plain Bottom Board Felts are the strongest Bottom Board Felts made for use where felts are run under excessive strain.

---

**F. C. HUYCK & SONS**  
**KENWOOD MILLS**

Albany

N. Y.

#### How Kenwood Mills eliminate guesswork in the factors of Strength, Stretching, Porosity, Finish of Product and Life or Wear of Felts.

Especially designed and patented machines in the Kenwood Research Laboratories now measure the POROSITY (openness) of each Kenwood Paper Makers' Felt, and its capacity in the removal of water, just as accurately as you measure the strength of paper with a Mullen Tester. Every felt made in Kenwood Mills is now TESTED FOR POROSITY before being shipped.

The RELATIVE FINISH OF PAPER produced from any design of Kenwood Felt is now recorded in Kenwood Laboratories just as accurately as if paper were actually made on it.

The WEAR or LIFE of each Kenwood Felt design is now determined in the Kenwood Laboratories by running on a testing machine which duplicates a paper machine in all essential features.

The STRENGTH or STRETCH of felts at various loads is also recorded on special machines.

The result of this accurate knowledge is that the Kenwood Felt combination will meet your requirements whatever the type of paper you wish to make.

## Obituary

Thomas F. Judge

[FROM OUR REGULAR CORRESPONDENT.]

GRAND FALLS, N. F., May 15, 1922.—Thomas F. Judge, superintendent of the Anglo-Newfoundland Development Company's paper and pulp mills, died suddenly on May 12. He was born in 1876 at Biddeford, Me., graduating in electrical engineering at the University of Maine, Orono, in 1900. Afterward he was employed by the Great Northern Paper Company at Millinocket in the electrical department. He was then successively employed under the direction of George F. Hardy, mill architect, New York, in electrical construction with the Laurentide Company, St. Croix Paper Company, Champion Fibre Company, Canton, N. C., and afterward on electrical construction at Grand Falls. Since 1914 Mr. Judge had been superintendent of the *Daily Mail* and *Daily Mirror* paper mills of the Anglo-Newfoundland Development Company at Grand Falls and was very highly regarded by everyone. Mr. Judge was unmarried and is survived by one brother and two sisters. The remains will be sent to Biddeford, Me., for burial.

J. C. Newbrant

[FROM OUR REGULAR CORRESPONDENT.]

DAYTON, Ohio, May 15, 1922.—J. C. Newbrant, 73 years of age, who for nearly 35 years was connected with the Miami Paper Company, West Carrollton, and its predecessor, the Friend Paper and Tablet Company, died at the home of his daughter, Mrs. J. Frank Dunifer, West Carrollton, last week.

Mr. Newbrant was a conspicuous figure in the Miami Valley trade for many years. He filled many positions and during his later years served the Miami Paper Company in a more or less confidential capacity.

Mr. Dunifer, who is assistant general manager of the company, was in Los Angeles with Mrs. Dunifer when a telegram was received announcing Mr. Newbrant's death. They had arrived only a short time before and the message was sent to Mr. Dunifer in care of a Los Angeles paper concern. It happened that Mr. Dunifer was at lunch with a member of the firm, and in this manner prompt service was obtained. Mr. Dunifer then had some difficulty in locating his wife, who was calling on friends, but they succeeded in boarding a 4 o'clock train and reached Dayton last Tuesday, in time to take charge of funeral arrangements. Burial was made in West Carrollton.

Mr. Newbrant's death was due to an attack of apoplexy.

Always a leading resident of West Carrollton, Mr. Newbrant was found in the forefront of all civic activities. He organized the first lodge of Odd Fellows in the village.

### The Paper Industry in Brazil

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., May 3, 1922.—The entire Brazilian domestic demand for wrapping paper and cardboard bids fair to be met in a short time by the increasing national production, says Commercial Attaché Schurz in a special report to the Department of Commerce. The main sources of raw material are old newspapers and the native plant known as lirió grass. Several other domestic plants have been experimented with, but no industrial use has been made of them. At present the prospects for the further development of the industry center around the possibility of using Parana pine as raw material, though the practicability of using this material as a source for pulp was until recently seriously questioned. However, it is the belief of the advocates of the use of Parana pine that it can be utilized on a large scale for the manufacture of news print and other classes of paper. One of the advantages of the Brazilian pine is its comparative freedom from resin, which greatly facilitates the preparation of the pulp.

A legal difficulty in the way of using Parana pine has been a blanket bid held by Doctor Ferencz, an Austrian physician long resident in Curitiba. This bid constitutes the exclusive right to the use of any new device for the industrial utilization of Parana pine. Parties interested in its use for paper manufacture believe that an arrangement could easily be made with Doctor Ferencz.

As to the production of news print, it is the opinion of some persons that in order to survive Scandinavian competition, a Brazilian industry of this kind would have to be protected by an import tariff much higher than now prevails. As this would result in higher prices to the consuming newspapers, already favored by special concession from the Government, a protest would probably be made by this very important factor in the situation. However, interested parties are of the opinion that costs in Brazil could be kept to a point where the existing prices could be maintained.

One of the most important paper manufacturing concerns in Brazil is Klabin Irmaos & Cia. (Cia Fabricadora de Papel), which has an annual output of about 2,000 tons of cardboard and wrapping paper, and which has recently begun to use wood pulp in one of its mills. Another large concern is the Pernambuco Paper Mills (Ltd.), which is said to have an annual capacity of about 3,000 tons of wrapping paper. The Cia de Mellioramentos de Sao Paulo, manufactures writing, printing and wrapping paper, and has recently taken to producing news print paper. Its annual output is from 1,600 to 1,800 tons. The Parana Paper Company is an American concern which manufactures wrapping paper from lirió grass.

The Cia. Industrias Brasileiras de Papel, a subsidiary of the French-owned South Brazil Lumber & Colonization Co., plans to erect a large paper mill at Porta Uniao Parana, on the line of the Sao Paulo-Rio Grande, where that railway crosses the river Iguassu. This company was formerly one of the holdings of the Farquhar syndicate and possesses vast areas of pine in the State of Parana. The company plans to make use of its Parana pine, of which the estimated available supply within reach is over 3,000,000,000 feet, and to utilize the extensive water power from the Salto Grande do Iguassau, a few miles downstream from Porta Uniao. An effort will shortly be made to raise capital in the United States to finance this scheme. It is estimated that from \$1,500,000 to \$2,000,000 will be required. High grades of cardboard, wrapping paper, and strong, glazed, unbleached writing paper have recently been made in Hamburg from Parana pine obtained from the holdings of this company.

### Geo. Hunter Joins Chas. A. Esty Paper Co.

[FROM OUR REGULAR CORRESPONDENT.]

WORCESTER, Mass., May 15, 1922.—George Hunter, for many years with the American Writing Paper Company on the mill end at Holyoke and later for two years in their Boston sales office, who more recently was in charge of the New Hampshire, Vermont and Worcester territory for the Whitaker Paper Company, on May 8th, joined the sales force of the Charles A. Esty Paper Co.

His many friends through New England wish him a big success in his new connection.

### Strathmore Association to Meet May 18

[FROM OUR REGULAR CORRESPONDENT.]

MITTINEAGUE, Mass., May 15, 1922.—The annual meeting of the Strathmore Mill and Merchants' Association will be held here May 18 and 19. Several representatives from the large paper firms of Boston will attend this meeting, including J. H. Brewer and J. C. Hurd, announcement department manager and advertising manager, respectively, of A. Storrs & Bement Company; H. W. Morgan, sales manager of Carter, Rice & Company; Mr. Palmer, advertising manager of the same firm, and representatives from the firms of Cook Vivian Company, Arnold-Roberts Company, and Whitaker Paper Company.

**GROUND WOOD  
CHEMICAL PULPS**

**PERKINS-GOODWIN CO.**  
NEW YORK

**PAPER**

# Nilsen, Lyon & Co., Inc.

FORMERLY NILSEN RANTOUL & CO.

140 Nassau Street

New York, N. Y.

*Exclusive Representatives  
Canada and*



*in the United States,  
Mexico for*

## Diesen Wood Company

Wiborg,

Finland

MANUFACTURERS OF

**Superior Quality Easy Bleaching and Bleached Sulphate Pulps**

Stocks Carried at Baltimore and Boston for Immediate Delivery

Write for Samples and Further Information

### "A Book of Sample Papers"

The Champion Coated Paper Company has recently published a volume entitled "A Book of Samples of Papers." The cuts employed in this work were utilized to print properly all kinds of illustrations on all kinds of paper for the purpose of securing comparative results. The same subjects were used in the printing over and over again so that results could be carefully checked up.

In describing the use of the book, the author says: "Each exhibit is printed as well as it can be commercially on the character of the stock—the object being to show what should not be attempted as much as what should be. The first 328 pages are printed on papers suitable for the illustrations used. After page 328 the pages show all kinds of illustrations on all kinds of papers, so that comparisons of results may be made at a glance.

"This is a daring thing even to attempt; therefore, do not judge the results shown after page 328 in this book, as proving the value of the papers used, or the workmanship of the organizations producing the book, but rather as an encyclopedia of the Graphic Arts, showing what will happen if certain sorts of plates are used on certain grades of paper.

"This book is dedicated to the advancement of the printing trade and a clearer understanding of what can and cannot be accomplished by this Art of Arts."

The value of such a work as the one described above will be readily understood and appreciated by everyone in the paper industry interested in paper which will be used for printing purposes. The Champion Coated Paper Company has taken infinite pains to make the series of tests compiled in the book fair ones, and besides its assurance that all paper and boards used were taken from warehouse stock and not made specially for this book, letters from the De Vinne Press, Charles Francis Press and Redfield-Kendrick-Odell Company, all of whom participated in the printing of illustrations, testify to the fact that no attempt at a "show" job was made in the printing. C. P. Odell, vice-president of the latter concern, stated in this connection: "The same result ought to be obtained by any good printer, provided his plates, make-ready and ink were proper for the work."

The book contains 635 pages and is carefully indexed for both the various grades of "Champion" papers and processes employed. The latter include ben day, halftone, gelatine, lithography, offset process, photogravure, steel engraving, type, woodcut, and zinc line engraving, many of them with various modifications. The effects of screens ranging from straight No. 65 to 4-color process No. 133 and high-light 150 screen are shown in illustrating halftones, and, as the author has stated, as much care is taken in pointing out what combinations should be avoided as those that should be employed. It is a unique work and should serve its purpose well.

### Miami Valley Superintendents Meet

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 15, 1922.—A well-attended meeting of the Miami Valley Division of the American Pulp and Paper Mill Superintendents' Association was held Saturday night, last, at Hamilton, a dinner having been served at the Y. M. C. A.

The principal matter under discussion was the value of vocational education as it pertained to the paper trade. C. W. Plessinger, superintendent of schools at West Carrollton, where most of the inhabitants are identified in some manner with the paper mills, was the speaker of the evening.

He presented an exhaustive and comprehensive argument for the establishment of vocational schools directly in the paper mills, believing this plan would be beneficial to all concerned. He did not view with favor some of the vocational institutions connected with the schools of today, declaring they lacked experience so necessary in the training of workmen. An exception, he believed, was the agricultural school which usually proved successful on account of

practical principles being applied, most of the colleges having large farms on which actual operations are conducted.

Prof. Plessinger took the stand that the foremen and superintendents of the future will be found among the rank and file of today and will be recruited from the apprentices, who in time will become trained paper makers.

Various members of the superintendents' branch also discussed plans for the meeting to be held soon in Kalamazoo, Mich.

A. C. Rolfe, chairman, of the Champion Coated Paper Company, presided at the meeting.

### Maine Superintendents to Meet

[FROM OUR REGULAR CORRESPONDENT.]

WATERVILLE, Me., May 17, 1922.—The annual meeting of the Northeastern Division of the American Pulp and Paper Superintendents' Association will be held at the Elmwood Hotel, in this city, Thursday, May 25. Business meeting will commence at 11 o'clock, with lunch at 12. From 2 to 5 in the afternoon the members will visit the Keyes Fibre Company plant at Fairfield and Shawmut, and the Waterville Iron Works, which specializes in pulp-mill machinery. At 6.30 p. m. a banquet is to be served in the Elmwood Hotel. Following the banquet, Robert B. Wolf will speak on "Advantages of Bleaching Pulp at High Densities." The remainder of the evening will be devoted to discussion of this subject and other points of interest that any member may wish to bring before the association.

### Paper Mill for Yucatan

Exhaustive experiments in manufacturing paper from the leaves of the henequen plant, conducted by the San Rafael Paper Company of Mexico City have proved so successful that that company will build a large mill at Merida, Yucatan, for the purpose of utilizing the raw product in the manufacture of paper pulp, it is authoritatively announced. The San Rafael Company has for many years operated a large paper mill in Mexico City. Paper made from the pulp of leaves of the henequen plant is of unusually high grade, it is asserted. The output of the proposed mill will be used to supply the home demand, and whatever surplus there may be will find a market in Central American countries, it is expected.

### Japan After Canadian Lumber

According to Mr. J. Sito, of Kobe, who arrived in Victoria, B.C., with a party of Japanese lumber and pulpwood buyers, said to represent \$35,000,000, Japan is to make an unprecedented demand for Vancouver Island lumber this year. The principal reason for this heavy foreign buying is that Japan has banned the production of lumber from native forests. Inquiries for almost every type of lumber have for some time been pouring into the Vancouver Island market.

### Sandy Hill Iron & Brass Works Election

HUDSON FALLS, N. Y., May 8, 1922.—At the annual meeting of The Sandy Hill Iron & Brass Works, Hudson Falls, N. Y., held May 1, the following directors were elected: A. J. Kennedy, R. C. Tefft, Jr., C. W. Kellogg, H. L. Broughton, J. M. Ferris.

After the stockholder's meeting the directors met and elected the following officers: A. J. Kennedy, president; R. C. Tefft, Jr., vice-president; J. M. Ferris, secretary-treasurer.

### To Be Superintendent of Lincoln Mill

[FROM OUR REGULAR CORRESPONDENT]

LINCOLN, Me., May 15, 1922.—George W. Verow, for many years with the Brewer mill of the Eastern Manufacturing Company, has been appointed superintendent of the Lincoln mill of the Eastern. Mr. Verow was very popular with his fellow workers in Brewer, winning their admiration for his honesty and square dealings.





**C**UT down excessive wrapping paper investment. Why carry two wrapping paper lines for one wrapping paper purpose?

### MOSINEE

presents a perfect wrapping paper, weight and strength for each wrapping purpose. Made in all weights, from 15 lb. to 100 lbs. basis. The one complete, standardized and economical line of wrapping paper sold.

### MOSINEE KRAFT

*"The Wrapper That Delivers the Goods"*

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TRADE MARK REG. U.S. PAT. OFF.

## PAPER

*"It more than Wraps—  
It Advertises"*

AdPax—A family of papers.  
Not for one retail business—  
But one for every retail  
business.  
And each as profitable  
as the other.

**FRED C. STRYPE**  
320 Broadway, New York

# Clay

300 Tons daily

Some portion of our clay production is **pulverized**. That part of it which is **pulverized** is, as far as we know, the only **pulverized clay** which is washed and refined before being pulverized.

This insures greater freedom from impurities and an exceedingly uniform product.

Prices on M-E<sup>1</sup> pulverized clay may surprise you even considering this additional treatment.

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110 William Street  
New York



*Yours for Bigger  
and Better Business*

**K·V·P** Genuine Vegetable Parchment  
Pure White Waxed Paper  
Bond—White and Six Colors  
Manifold—Substance 8 and 10.



## New York Trade Jottings

R. S. Kellogg, secretary of the News Print Service Bureau, was in Washington on business Monday and Tuesday of this week. He returned to New York Wednesday morning.

\* \* \*

Dr. Hugh P. Baker, secretary of the American Paper and Pulp Association, is in Washington this week attending the annual meeting of the Chamber of Commerce of the United States.

\* \* \*

The Woodlands Section of the American Paper and Pulp Association has notified its members of quite a number of offerings of pulpwood in various parts of New England, Quebec and Nova Scotia.

\* \* \*

E. H. Naylor, secretary of the Fine Paper Association, will discuss association work with the cost men of the Connecticut Valley Division of the Cost Association on Monday, May 29. The dinner meeting will be held at the Nonatuck Club, Holyoke, Mass.

\* \* \*

The Printers' Paper Stock Company, Inc., of 398 West Broadway, filed schedules in bankruptcy last week, listing liabilities of \$15,942 and assets of \$808. The principal creditor listed is the United States Government for income taxes and penalties aggregating \$6,176.

\* \* \*

The Bureau of Information of the American Paper and Pulp Association has arranged for the sending of an eight-reel film on the manufacture of paper to be exhibited before a class in paper making in Orono, Maine. The film is the property of the Mead Pulp and Paper Company of Dayton, Ohio.

\* \* \*

The Morton Paper Stock Company, with offices in the Borden building, 350 Madison avenue, has recently incorporated under the laws of New York and is handling all grades of waste papers. Morris Feinberg, who has been in the paper stock business in Boston, Mass., is president of the new concern.

\* \* \*

The Albemarle Paper Manufacturing Company, of Richmond, Va., has reopened its New York office, which was temporarily discontinued. It is now located in Room 408 of the Stewart building, 280 Broadway, under the direction of Samuel C. Knode, vice-president of the company, with the 'phone number, Worth 5952.

\* \* \*

Stereopticon slides on the making of paper have been lent to the Sloan School of Indianapolis by the Bureau of Information of the American Paper and Pulp Association. These slides will be shown before district school children who are making a study of paper manufacture in connection with the printing and editing of their school magazine.

\* \* \*

H. H. Jensenius, who has been associated for some time with Calvin Robinson, has severed his connection with that firm and is now with Nilsen, Lyon & Co., 140 Nassau street, New York. Mr. Jensenius is a practical pulp maker, having spent several years in the mills. As a pulp salesman for various concerns, he has covered a large territory over which he is well known. In his new connection he will concentrate on the eastern mills.

\* \* \*

The New York Committee of the Salesmen's Association of the Paper Industry has set the date of its next luncheon here in the city for May 31. L. B. Seward, honorary president of the organization, invited the committee to spend its summer outing at Malba, Long Island, where he acted as host last year. Delegations from the New England, Chicago, Miami Valley and Philadelphia sections are ex-

pected to be in attendance at the outing, which will be held July 12, according to present plans.

\* \* \*

The sales office of the Valley Iron Works Company of Appleton, Wis., which has been located at 334 Fifth avenue, New York, owing to the rapidly increasing business in the eastern territory has been moved to the new Borden building, 350 Madison avenue, New York. Harry Bennett, formerly associated with George F. Hardy, has joined the sales organization as sales engineer and will co-operate with W. H. Burns, the sales manager of the company, in the eastern territory.

\* \* \*

The many friends of J. Robert Hewitt, who has been connected with the PAPER TRADE JOURNAL for a number of years, will be interested to learn of his resignation to become associated with Halle & Stieglitz, 30 Broad street, New York, members of the New York Stock Exchange. Mr. Hewitt is a graduate of Williams College, a former student at New York University School of Law, and was an ensign in the U. S. Navy. For many years a student of business conditions, Mr. Hewitt is exceptionally well equipped to give expert advice on industrial and financial affairs as well as the management of business.

### James Logan Given Birthday Dinner

WORCESTER, Mass., May 15, 1922.—James Logan, general manager of the United States Envelope Company, was seventy years old May 6. "Men of Worcester who cherish his friendship, and appreciate his life of service," to quote from the inscription on splendid silver which was his birthday gift from them, did him honor on the evening of his birthday at the Worcester Club. Fifty of them sat down to a "Friendship Dinner," the like of which was never given in Worcester. Congressman Samuel E. Winslow came on from Washington for the sole purpose of being the toastmaster. William B. Scofield journeyed from New Jersey that he might read a poem to help dedicate the occasion.

James Logan was born in Glasgow, Scotland, May 6, 1852, and came to America with his parents when he was three months old. At the age of 9 he went to work in a woolen mill in Valley Falls, and continued in that employment until he was fifteen, when he started to learn bookkeeping. He worked as a bookkeeper in several business houses and finally with G. H. Whitcomb & Co., envelope manufacturers.

He established the firm of Logan, Swift & Brigham, and when the United States Envelope Company was organized in 1898 became its general manager, which position he has held ever since, the head of the largest envelope manufacturing concern in the world.

He was mayor of Worcester four years, from 1908 to 1911 inclusive, and while mayor secured the three Carnegie branch libraries for the city.

He has been prominent in various other activities, among them the Y. M. C. A., the Worcester Polytechnic Institute, the presidency of which he was offered some years ago, and a trustee of which he has been for many years; and the Chamber of Commerce. He was an advisory member of President Wilson's Industrial Conference Commission in 1919, and this year was appointed on Secretary Hoover's Advisory Committee on Foreign Commerce to represent the paper trade.

For over forty years he has been prominent in Central Congregational Church. He is a lecturer upon business topics at the Tuck School of Administration and Finance of Dartmouth College, and in 1904 received the degree of master of arts from Dartmouth.

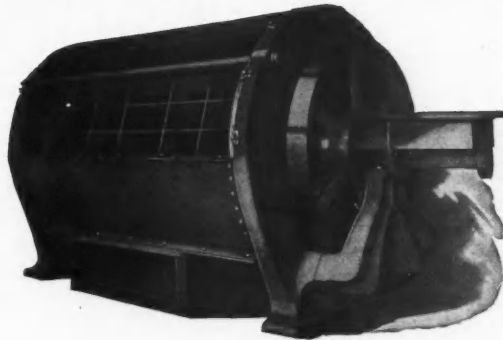
### Greenville Paper Company Chartered

COLUMBIA, S. C., May 15, 1922.—The Piedmont Paper Company of Greenville has been chartered by the Secretary of State recently with a capital stock of \$20,000. Officers are: J. W. Keys, president; W. S. Mills, vice-president; J. C. Keys, secretary and treasurer.

# "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

# WHALEN SULPHITE PULPS

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

**SNOWWHITE  
BLEACHED  
SULPHITE**

**GLACIER  
EASY BLEACHING  
SULPHITE**

**SWAN  
STRONG  
SULPHITE**

As exclusive Sales Agents for all of the products of the WHALEN PULP & PAPER MILLS, LTD., in addition to stocks at the mills, we will carry large stocks of the above well-known brands in New York, thus insuring prompt deliveries.

Your inquiries addressed to any of our offices will bring prompt quotations by wire.

**CANADIAN ROBERT DOLLAR CO., Limited**  
VANCOUVER, B. C.

*U. S. ADDRESSES*

Robert Dollar Co., Robert Dollar Bldg., San Francisco.  
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Shanghai, Hong Kong,  
Hankow, Tientsin,  
Ichang, Chungking, and  
Pekin, China; Kobe,  
Japan; Calcutta, India;  
Manila, P. I.; Singapore,  
S. S.

# Editorial

Vol. LXXIV New York, May 18, 1922 No. 20  
FIFTIETH YEAR

## The Golden Anniversary Number

The fiftieth anniversary number of the PAPER TRADE JOURNAL, judging from the numerous kindly expressions that have reached this office by word of mouth, by letter, and by reviews in other publications, made a most excellent impression. Nothing that can compare with this number has ever been attempted in the paper trade and it cannot fail to take high rank as compared with any special number of any kind ever issued in any trade.

In preparing this number the publishers were anxious to make it not only so interesting and valuable and handsome that they would be proud of it themselves but to make it so impressive as to reflect credit on the entire paper industry. This hope was realized more completely than it was dared to expect if such spontaneous commendation as the following from the *Weekly Naval Stores Review* count for anything:

"When one looks at the magnificent Fiftieth Annual Number of the PAPER TRADE JOURNAL, a volume in itself of 420 pages, the consciousness is at once thrust on the mind that trade journalism in the United States, represented by such sterling publications, has made wonderful progress in recent years. It would be interesting to compare the first issue of the PAPER TRADE JOURNAL with this latest issue.

"It might be hard to realize that from such an humble beginning had come the superb weekly trade journal and special issues that now keep the world so thoroughly posted on the developments in the paper industry and trade.

"Nothing in American journalism is more illustrative of the spirit of our people than the development of the papers devoted to scientific, industrial and trade affairs, as distinguished from the purely news papers.

"The industrial and trade press of the industry is not known as it should be to the masses of the people but its power for good is unquestioned, and it has beyond doubt been a great factor in the expansion of our industrial and business life.

"When one receives such an issue as this golden anniversary number of the PAPER TRADE JOURNAL a feeling of pride in the trade press as a whole is awakened and one is more than ever convinced of its stability and of its future increasing importance in the great world of affairs to whose vital interests such journals are devoted."

The publishers regret that lack of space prevents them from presenting many other testimonials printed in various other publications. All of them are greatly appreciated, as are the numerous kindly letters that have been received regarding the golden anniversary number.

They make the big effort that was extended in issuing this number seem decidedly worth while and they will serve as an inspiration to make the PAPER TRADE JOURNAL even more representative, if possible, of the great paper and pulp industry than it has been in the past.

## Foreign Paper Trade Expands

The exports of paper for March showed an encouraging increase according to figures just published by the Department of Commerce. The figures for the month were \$2,074,373 as compared with \$1,486,480 for February and \$2,537,557 for March of last year. The figures for the nine months ending with March amounted to \$14,214,557 as compared with \$51,152,293 for March of 1921.

The exports of news print especially showed a good increase, the figures for March being \$246,275 as compared with only \$75,886 for February and \$169,847 for March of last year. The exports of news print for the nine months ending with March were \$1,249,952 as compared with \$4,120,615 for the same period of last year.

The imports for March of cover paper were \$16,319 against \$12,092 for February, of kraft wrapping \$11,737 against \$4,905 for February, of other wrapping \$200,793 against \$166,943 for February, of writing paper \$99,259 against \$62,049 for February, of tissue and crepe paper \$48,910 against \$47,791 for February, of toilet paper \$45,700 against \$33,325 for February, of bristols and bristol board \$14,304 against \$8,720 for February, of paper board and straw board \$160,873 against \$121,347 for February, of sheathing and building paper \$17,387 against \$14,035 for February, of wall board of paper or pulp \$44,024 against \$20,782 for February, and of paper bags, \$98,592 against \$102,780 for February.

The imports of paper also showed some increase as compared with February but continued considerably behind the same period last year. The imports for March were valued at \$7,150,576 as compared with \$6,767,836 for February and \$9,729,076 for March of last year. The imports of paper for the nine months' period ending with March were valued at \$64,113,661 as compared with \$77,935,215 for the same period last year.

While the imports of most other lines of paper, however, increased during March news print was one of the few exceptions in which a decrease was shown. The imports of news print for March were valued at \$5,455,889 as compared with \$5,709,753 for February and \$8,300,695 for March of last year. The imports of news print for the nine months' ending with March were valued at \$54,558,188 as compared with \$64,534,034 for the same period last year.

The imports of rags for March were valued at \$331,526 as compared with \$322,111 for February and \$223,155 for March of last year. The imports of rags for the nine months ending with March were valued at \$2,227,530 as compared with \$5,283,386 for the same period last year.

The imports of all other kinds of paper stock for March were valued at \$259,189 as compared with \$297,355 for February and \$176,898 for the same period last year. The imports of all other kind of paper stock for the nine months' period ending with March amounted to \$2,248,790 as compared with \$4,595,948.

The imports of ground wood for March showed a fair increase over February, the figures for the former being \$296,035 and for the latter \$263,895. The imports for March a year ago were \$115,979. The imports of ground wood for the nine months ending with March were valued at \$4,485,762 as compared with \$11,492,780 for the same period of last year.

The imports of unbleached sulphate for March were valued at



\$850,459 as compared with \$1,072,050 for February and \$495,915 for March, 1921. The imports of unbleached sulphate for the nine months ending with March were valued at \$10,205,777 as compared with \$13,318,302 for the same period in 1921.

The imports of unbleached sulphite for March were valued at \$952,139 as compared with \$1,858,023 for February and \$999,099 for March, 1921. The imports of unbleached sulphite for the nine months ending with March were valued at \$13,735,528 as compared with \$28,592,893 for the same period last year.

The imports of bleached sulphate for March amounted to \$14,527 as compared with \$16,477 for February and \$2,725 for March of last year.

The imports of bleached sulphate for the nine months ending with March amounted to \$311,743 as compared with \$1,178,657 for the same period last year.

The imports of bleached sulphite for March amounted to \$1,108,642 as compared with \$1,088,514 for February and \$754,338 for March of last year.

The imports of bleached sulphite for the nine months ending with March amounted to \$8,819,709, as compared with \$14,754,741 for the same period last year.

### New Uses a Problem of Paper Industry

The need for finding new uses for paper to take up the present surplus of machine capacity over present markets, was one of the most notable features of the forty-fifth annual convention of the American Paper and Pulp Association.

The evidences of returning prosperity were probably the most striking phase of the convention, as brought out in general discussions, formal addresses, and through statistical reports made before the various groups.

The attention of the manufacturers, which has hitherto been devoted to study of the depressed business conditions, was turned again to the future with the certain signs that the tide had turned for the better, and the problem of utilizing present surplus capacity now faces the industry.

How this has been met in the writing paper field is shown by the great increase in the market for sulphite bond through the development of office and factory efficiency forms. Meanwhile the rag and rag content papers have held their former tonnage.

The paper industry before the war was operating at about 80 per cent of capacity, but during the war years this over-capacity was absorbed. With business getting back to normal, however, the industry is faced with a worse condition than before the war, for there have been added in the last three years 120 new machines, with an annual capacity of 1,675,000 tons, an increase of 23 per cent in the capacity of the industry.

Inasmuch as under normal conditions, the 1922 production would be 6,800,000 tons, or 76½ per cent of capacity, it will take until 1925 for the industry to get back to the 82 per cent production of 1914, if only the normal growth of 200,000 tons per year in consumption is maintained. That is presuming that no new machines are added in the meantime. It will take under the same conditions until 1928 to get the industry up to 90 per cent of capacity.

The new machine situation is most noticeable, in the case of fine papers, in the book paper division. The addition of twenty-four new machines in three years has increased the capacity in that group 28 per cent over 1919, and with an annual growth of 40,000 tons in this division, it will take five or six years to absorb this additional tonnage, and even longer to have its capacity balance with its normal production.

Nine machines have been added in writing, increasing the capacity 10 per cent, as compared with 1919, and this should be absorbed

in a year, though it will take several years to have the capacity balance with its normal production. No new cover machines have been added. In tissue, the increased use of paper towels is helping accelerate the normal growth. Eighteen machines, however, have been added in the last two years, increasing the capacity 45 per cent. Most of this is on towel paper to meet the new market. The normal increase in tissue consumption is 8,000 tons a year.

Inasmuch as a paper machine can only be operated successfully when running to capacity, or approximately so, the finding of new outlets for the product of the machines is the only solution of the question.

### Abolish War Time Bonus

[FROM OUR REGULAR CORRESPONDENT.]

BANGOR, Me., May 15, 1922.—Announcement of abolishment of 50 cents per day of the high cost of living extra wage granted by the Eastern Manufacturing Company during war days has just been made here by S. B. Copeland, vice-president and resident manager of the company. This applies to all wage earners and all salaried employees, both men and women. The matter was thoroughly discussed with the employees' representatives organization before taking action, and it was agreed that because the business outlook in the paper industry has not been good and is not particularly bright at this time on account of the low selling prices demanded by the buying public, combined with a recent reduction in the price of pulp, wise business policy demanded abandonment of the war bonus. Vice-president Copeland states that the company has been fortunate in obtaining a fairly good volume of business, which has enabled the company to provide reasonably steady employment during the winter.

### Pulpwood Cut in Maine Less Than Last Year

[FROM OUR REGULAR CORRESPONDENT.]

SKOWHEGAN, Me., May 15, 1922.—Log driving has started on the Kennebec river and millions of feet of pulpwood and long lumber are now floating down to the mills at Waterville, Augusta and Gardiner. The total cut is estimated to be only 60 per cent of the average for the past ten years, the cut of the past season having been about 60,000,000 feet, against a ten-year average of 100,000,000 feet. The total cut of the Hollingsworth & Whitney Company is 6,000,000 feet; that of the Pine Tree Pulp Company, a new concern operating a mill in South Gardiner, 704,000 feet, while the Cushnoc Paper Company, which is recovering from financial difficulties, did not cut any wood. The company had considerable pulpwood carried over from last year which will go down river this spring. Pulpwood reserves of Kennebec river mills are getting low and indications point to a much larger cut next winter, with the return of better business conditions.

### Bank Mill at Montville Sold

[FROM OUR REGULAR CORRESPONDENT.]

MONTVILLE, Conn., May 15, 1922.—As stated in a brief item in the PAPER TRADE JOURNAL last week, the Gibbs-Brower Company, paper and pulp mill brokers, have sold for the S. W. Board Company, in conjunction with H. G. Craig & Co. of 52 Vanderbilt avenue, New York, the former Bank Mill of the Robertson Paper Company at Montville, New London County, Conn., to W. W. Goodnow, whose present address is 98 Riverside Drive, New York city.

Mr. Goodnow has been in the paper mill business the greater part of his life, and when the war broke out was vice-president of the Fort Orange Paper Company of Castleton-on-Hudson, N. Y. He joined the British Air Forces early in the war and served in France with distinction. Like many other men of paper mill experience, he knew that the time was right to purchase a mill, and he expects to produce at Montville different paper specialties, for which there is always a good market.



**Exclusive**

**Manufacturers**

*Ryan-Seaman Process*

# DRY SATIN WHITE

The Latest Development in The Coated Paper Industry

**Casein**  
**Crystal Boro Phosphate**  
(A solvent for casein)

**ALUM**  
Both Commercial and Iron Free  
**FOR PAPER MAKERS**

**Pulp Satin White**  
**English China Clay**

**THE KALBFLEISCH CORPORATION**  
200 FIFTH AVENUE, NEW YORK, N. Y.

**OFFICE**      **HOSPITAL**      **BANK**

**HOTEL**      **SHOP**

**BURT'S DRINKING CUP**

**These Prospects**

Are all waiting for you to take their order for \$5 dispensers and cups—and then will send in regularly repeat orders for Burt's Drinking Cups.

**BURT'S DRINKING CUPS ARE:**  
Lowest in cost. Conical. Always open. Without bottom to fall out or

set aside on. Withstanding hot drinks. Without wax to affect taste. Trebly reinforced. Without waste in dispensing.

**LOWEST COST PER DAY TO KEEP SICKNESS AWAY**  
and cut down sick pay or maintenance expense in factory, office or institution.

**F. N. BURT COMPANY, Ltd.**

::

**Paper Cup Division**

::

**Buffalo, N. Y.**

## 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

## TECHNICAL ASSOCIATION PAPERS—SERIES V.

### Advertisements

In arranging for the publication of the proceedings of the Annual Convention in its customary form the executive committee has authorized the inclusion of advertising pages at the beginning and end of the volume.

### Members Favored

It is decided to offer the available space first to the members of the Technical Association and through them, the companies they represent or in which they are interested.

### Value

The volume is received by every member and serves as the permanent yearly record of the association.

This is a unique opportunity of bringing before the technical men of the paper industry and the allied industries the commercial activities of the members so engaged.

### Space Available

There is planned approximately twenty pages of advertising, each page divided into eighths or quarters.

### Rates

Quarter page (3½ in. by 4¾ in.) \$10.00.

Eighth page (2¼ in. by 3½ in.) \$6.00.

Copy and cuts to be furnished by the advertiser.

Orders must be in the hand of the secretary 18 E. 41st street, New York, before June 1, 1922, when the publication is expected to go to press.

### Dr. Johnsen on Engineering Education

At the conference on commercial engineering education held in Pittsburgh on May 1 and 2, the Technical Association of the Pulp and Paper Industry was represented by Dr. Bjarne Johnsen who has submitted a very valuable report on the proceedings.

The present practice in the different engineering schools was explained, indicating that practically all State controlled schools include in their commercial engineering course, such subjects as economics, business law, corporation finance, cost accounting, and administration in addition to those on engineering proper.

It was stated that the experiment being carried on by the Massachusetts Institute of Technology in co-operating with several of the large industrial concerns in the engineering courses seemed to be very successful although still regarded as an experiment. It was stated in criticism that some of the colleges are attempting to cover too broad a range of subjects in order to turn out executives

rather than men with a thorough training in the fundamentals of engineering as a foundation for their later experience. Throughout the conference it was generally accepted that the teaching of fundamentals is the most important function of the college, at the same time to train the student to think clearly and to express his ideas in concise language rather than to attempt the production of specialists.

It was agreed that the most important requirements of an executive can not be taught in a college. The faculty of directing others and the development of ability along the lines of human relationships can only be acquired in actual experience. The reaction in general of the problem of technical training in relation to the paper industry, is very ably expressed by Doctor Johnsen:

"It is important that our Technical Association very soon should take up the matter of arranging for instruction of highly trained technical for the paper industry.

"It is the pretty general impression that the colleges are 'fussing' too much with their students. It may be that this is the feeling especially with those who have been accustomed to the European schools where there is academic freedom and where the student himself is more responsible for his education. It is not a question there how many hours he has put in on each subject and how well he has attended the lectures. It is a question how much knowledge he has acquired, not the manner in which he has acquired it. It is required from the student before he enters the college that he have a certain practical experience and he cannot obtain a degree unless he has had sufficient practical experience in a particular line. In order to get the degree of 'Diploma Engineer' in paper making it was necessary for me to have two years of experience in pulp and paper mills. It was necessary in order to be admitted to the course to have had at least one year of practical experience. From recent European periodicals I see that the Swedish Pulp and Paper Mill Association has decided not to permit any engineer to the position of mill engineer unless he has had at least twenty months' experience in a paper mill or eighteen months in a pulp mill.

"By having had this practical experience as laborer, the student has acquired some experience in contact with other men which could not have been taught in a college.

"I believe that students before entering college would have no difficulties in finding employment in the paper industry and I believe that the mills would be willing to help such young fellows along with the view of giving them as much useful experience as possible, and that they would be glad to keep in contact with the students while they are at college in order to advise them with regard to their studies in general."



## LIGNIN SULPHONIC ACIDS

BY RALPH H. MCKEE AND GEORGE BARSKY\*

The technology of the sulphite pulp process is quite involved. The yield and the character of the pulp varies with the cooking liquor and with the manner in which the cook is carried out. Chemically, the process consists of the digestion of the wood in calcium bisulphite solution containing an excess of sulphurous acid. The digestion takes place under pressure and lasts about 10 hours.<sup>1</sup> The net result of this operation is the conversion into soluble materials of all the non-cellulose constituents of the wood. Some of these constituents dissolve without reaction, others merely undergo hydrolysis, while the balance react with the bisulphite and sulphurous acid in the liquor.

In this investigation we have been concerned with the nature of the substances which have reacted with bisulphite and sulphurous acid. Our primary purpose was to ascertain whether there is but one, or several such substances. Our results led to the conclusion that there is a number of such substances.

A large number of woods are characterized by constituents of an adventitious or transient nature, such as the tannins, gums, essential oils, alkaloids, etc. In some cases these have been thoroughly investigated and a few are widely used in industry and in the arts. But comparatively little is definitely known of the fundamental tissues which we may speak of as the wood-substances. There have been many attempts to resolve these wood-substances into proximate constituents but so far these attempts have met with but little success. The problem is fraught with many difficulties and though it has been attacked by many investigators<sup>2</sup> the results are as yet inconclusive. So far as they lend themselves to interpretation they would seem to indicate that there is some degree of uniformity in composition despite the structural disparity and the widely varying character of the substances found in the woods of different species.

The gradation from the cotton cellulose, through the different kinds of cellulose, on through the so-called lignin or non-cellulose, is really so gradual that it is not possible to make a sharp line of demarcation. The celluloses obtained from woods, being products of the resolution and decomposition of the wood, vary both in character and proportion with the treatment by which they are prepared.

Closely related to cotton cellulose, which is usually taken as the standard type of cellulose, are the celluloses of flax, hemp, china grass and others. These are obtained from the plants in question by some purifying process. They present slight differences from cotton cellulose in external physical characteristics and chemical properties. This indicates slight differences in chemical constitution.

Next we have the celluloses which are characterized by a higher percentage of oxygen, the presence of active carbonyl groups and sometimes the presence of methoxyl groups. These are further characterized by the splitting off of furfural on treatment with hydrochloric acid. They may be termed natural oxycelluloses.

We have still a further group, that of the hemicelluloses, closely resembling the true celluloses but easily hydrolyzed into simple carbohydrates by the action of dilute acids or alkalis. Then we have the carbohydrates known as the lignins which represent still further variation of cellulose structure.

\*Part of a thesis submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in the Faculty of Pure Science (Dept. of Chemical Engineering), Columbia University, New York.

1. A typical cook would be approximately for ten hours at 140°C. with a pressure of about 90 lbs. At the start of the cook the liquor would contain about 4.4% total sulphur dioxide of which 1.3% would be combined as calcium bisulphite.

2. The chemical literature in general and the literature on cellulose abounds with references on this subject.

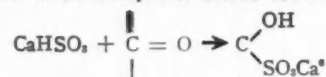
In brief, we have in wood tissues combinations of these substances and of the celluloses making up the fibers. These are termed "lignocelluloses."

Most authors<sup>3</sup> assume that the form of combination existing between cellulose and lignin (terms which we use in the generic sense) is either (a) that of an ether, or (b) an ester, or a form involving both. In support of (a) it may be said that the ligneous material in sulphite waste liquor has alcoholic hydroxyl groups. Cellulose is known to contain alcoholic hydroxyl groups. It is the union of these groups that gives the ether linkage. For (b) it is necessary to assume that lignin is an acid. Evidence of this acidic character is given by the solubility of lignin in alkalis and by the acid character of groups, such as acetyl, that may be split off from it.<sup>4</sup> In addition to these two linkages, we may add the possibility of an acetal, since the waste liquor shows certain aldehyde reactions, e. g., with phenylhydrazine. All these forms of combination between lignin and cellulose are in accordance with the characteristic property of the lignocelluloses, that of responding to hydrolytic treatment.<sup>4</sup>

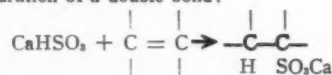
We may regard the reactions in the digester as made up of a hydrolysis, followed, or rather accompanied, by the interaction of the non-cellulose products of the hydrolysis with the chemicals of the cooking liquor. In this way the reverse reaction, that of condensation, is prevented, the hydrolysis promoted, and the undesirable substances made soluble.

In the sulphite process, consideration of the possible reactions that may take place reveals that there may be any or several of the following:<sup>5</sup>

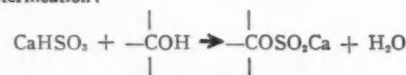
- (1) The formation of an aldehyde or ketone addition product:



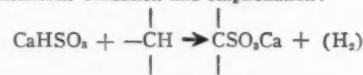
- (2) The saturation of a double bond:



- (3) Esterification:



- (4) Simultaneous oxidation and sulphonation:



In all cases where a separation is effected between the cellulose and the non-cellulose, it is unsafe to assume that the bond between the two classes of materials is merely broken. There probably always occurs some alteration of one, and more likely both, of the substances dissolved and the substances remaining insoluble in the reagent. Of the two major constituent groups, the celluloses have been much investigated because of their many uses. The lignin compounds have had no uses and accordingly have been more or less neglected.

The sulphite waste liquor remaining after the digestion of the wood and the removal of the cellulose varies in color from a light yellow to a dark brown, is slightly acid and smells slightly of SO<sub>2</sub>. It has a specific gravity of about 1.05 and contains about 10 per

3. Schwalbe, C. G. . . . . Die Chemie der Cellulose. 1911.

4. Cross and Bevan. . . . . Cellulose. 1918.

5. Schwalbe, C. G. Loc. cit.

6. ca =  $\frac{1}{2}$  Ca.



cent of solids. It is strongly reducing to Fehling's solution and reacts with phenylhydrazine to give a copious tarry mass.

Lindsey and Tollens<sup>7</sup> found that after removal of sulphuric acid from the sulphite waste liquor by means of barium hydroxide, they could obtain a heavy precipitate with lead acetate. It had a composition, the organic portion of which was expressed as  $C_{22}H_{10}O_{12}$ . They also obtained a precipitate with hydrochloric acid and assigned the formula  $C_{28}H_{10}SO_{10}$  to it. A brominated derivative was also prepared to which they assigned the formula  $C_{28}H_{10}Br_2SO_{10}$ . They concluded that the major part of the dissolved organic substances behaves as a homogeneous complex as they were unable to resolve it into its proximate constituents.

Seidel and Hanak<sup>8</sup> after removal of sulphuric acid precipitated certain material by adding alcohol. The percentage of CaO was determined and a part of the precipitate then converted into the barium and a part into the zinc salt. The authors found that the ratio of the metals combined in the salts was practically the same as that of their atomic weights. From this they concluded that the precipitate obtained was a salt of a definite organic acid which is the principal constituent of the organic matter in the waste liquor.

Krause<sup>9</sup> obtained a chlorine derivative by adding bleaching powder to the liquor. This derivative, after purification with alcohol and ether, showed on analysis a composition corresponding to the formula  $C_{28}H_{10}CHSO_{10}$ .

Klason<sup>10</sup> separated "calcium lignosulphonate" by adding crystallized calcium chloride as long as any went into solution. He obtained a heavy precipitate which was filtered and washed with alcohol. This salt was decomposed by adding sulphuric acid in just sufficient quantity to react with all the lime present. The calcium sulphate formed was filtered off and the solution concentrated. Alcohol was then added to complete the precipitation of the calcium sulphate. The alcohol was evaporated from the filtrate, the solution diluted and neutralized with barium hydroxide. Any barium sulphate found was allowed to settle out. The addition of alcohol then precipitated the so-called barium lignosulphonate. Analysis of this salt pointed to the formula  $C_{40}H_{14}O_{17}S_2Ba$ . Molecular weight determinations gave results in the neighborhood of 6,000. Accordingly Klason assigns the formula  $(C_{40}H_{14}O_{17})_2$  to the lignin. To the  $C_{40}H_{14}O_{17}$  Klason assigns 3.7 methoxyl groups and 1.1 hydroxyl groups. Of this work it may be said that there is nothing involved in the method that would allow us to consider this material a compound. In fact the analytical data immediately indicate that it must be a mixture. Hence it is a little far fetched to make deductions concerning lignin with this as a basis.

Klason<sup>11</sup> later discovered that there was a "calcium lignosulphonate" which was not precipitated upon the addition of calcium chloride but which remained in solution. It could be precipitated by means of naphthylamine hydrochloride. This latter he terms a  $\beta$  lignin derivative. That precipitable by calcium chloride he called an  $\alpha$  lignin derivative.

Hönig and Spitzer<sup>12</sup> attempted to separate the material of the liquor by fractional precipitation with alcohol but all their fractions with one exception, calculated as salts of lignosulphonic acid, showed sensibly the same composition.<sup>13</sup> Melander<sup>14</sup> found that the product salted out of waste liquor with codium chloride differed from the product obtained by Klason with calcium chloride.

The precipitation schemes given above are in agreement with the

7. Lindsey and Tollens... Ann. 267, 341 (1892). J. Soc. Chem. Ind. 11, 835 (1892), 12 287 (1893) Z. angew. Chem. 5 154 (1892).  
 8. Seiden and Hanak... J. Soc. Chem. Ind. 17 596, 863 (1898).  
 9. Krause, H. .... Y. Soc. Chem. Ind. 25 493 (1906).  
 10. Klason, P. .... Beitrage zur Kenntnis der Chemischen Zusammensetzung der Fichtenholzes. 1911.  
 11. Klason, P. .... Chem. Zentr. 90 92 (1919). J. Soc. Chem. Ind. 38 570A (1919).  
 12. Hönig, M. .... Monatsb. 39 871 (1918).  
 13. Klason, P. .... Ber. 53B 1864 (1920).  
 14. Melander, K. H. A. ... Cellulosechem. 2 41, 69, (1921), Paper 28 No. 21 p. 19 (1921). J. Soc. Chem. Ind. 40, 620A (1921). Chem. Soc. Abs. 116Pt, (1919).

customary schemes for the precipitation of an emuloid colloid by the use of a strong electrolyte or by the addition of alcohol. Where we have present a mixture of substances in the colloidal state, in general such methods would result in the precipitation of mixtures.

By precipitating, dissolving and reprecipitating, Hofmeister<sup>15</sup> succeeded in obtaining pure albumen (*i. e.*, crystallized) from colloidal albumen. Von Weimarn,<sup>16</sup> adopting the same principle, prepared crystalline gelatine and agar, typical colloids. We have adopted a similar procedure to separate the material precipitated with calcium chloride, with the idea of studying its purity. We have fractionally precipitated and then refractionated after dissolving. These experiments were as follows:

Three liters of liquors<sup>17</sup> were evaporated to about 800cc, and the calcium sulphate filtered off. The resultant solution was placed in a beaker and stirred mechanically. Calcium hydroxide suspension was added until the solution was neutral to litmus paper. Crystallized calcium chloride was then added in 50 g portions until a precipitate appeared, and the solution heated on the water bath for about two hours, *i. e.*, until the precipitate coagulated. Thereupon it was filtered off with suction, sucked as dry as possible, and weighed. In all cases the procedure was exactly the same, so that the percentage of moisture in the precipitate was the same. An additional 50 g of calcium chloride were added to the filtrate and the precipitate so obtained treated in the same manner as the preceding one. The addition of calcium chloride was continued until no further precipitation took place. In this way, a fractionation of the calcium chloride precipitate was effected and the data given in Table I obtained and curve in the figure drawn. The wide range during which precipitation takes place, 150 g to 400 g of calcium chloride, would seem to indicate that there is a mixture being precipitated.

Table I

Total g CaCl <sub>2</sub> added	Ppt.	Ppt.	Grams total Ppt.
50	None	0	0
100	None	0	0
150	Ncuc	0	0
200	A	95	95
250	B	85	180
300	C	80	260
350	D	45	305
400	E	15	320
450	..	0	320

The precipitates A, B, C, D, and E were dissolved in proportionate amounts of water, 2 cc. per gram. The appearances of the different solutions were quite distinctive: A, muddy; B, black; C, dark wine color; D and E, a lighter brown. These solutions were treated in a manner similar to the original evaporated liquor in an attempt to accomplish a still further separation of the compounds. The data are shown in the Tables II, III, IV, from which precipitation curves similar to that in the figure can be drawn.

Table II

Total g CaCl <sub>2</sub> added	Ppt.	Grams Ppt.	Grams total Ppt.
0	..	0	0
25	A <sub>1</sub>	25	25
50	A <sub>2</sub>	17	42
75	A <sub>3</sub>	7	49
100	..	0	49

Table III

Total g CaCl <sub>2</sub> added	Ppt.	Grams Ppt.	Grams total Ppt.
0	..	0	0
10	..	0	0
20	..	0	0
30	..	0	0
40	B <sub>1</sub>	40	40
50	B <sub>2</sub>	10	50
60	B <sub>3</sub>	6	56
70	..	0	56

15. Hofmeister, F. .... Z. physiol. Chem. 14, 165 (1889), 16 187 (1892).  
 16. Von Weimarn, P. P. ... Grundzüge d. Dispersoid Chemie. 1911.  
 17. By courtesy of the Ham-mermill Paper Co.

Table IV

Total g CaCl <sub>2</sub> added	Ppt.	Grams Ppt.	Grams total Ppt.
0	..	0	0
10	..	0	0
20	C <sub>1</sub>	14	14
30	C <sub>2</sub>	10	24
40	C <sub>3</sub>	4	28
50	..	0	28

A<sub>1</sub>, B<sub>1</sub>, C<sub>1</sub>, D and E (D and E were not fractionated because of the small quantity) were then converted to the barium salt by the method described by Klason. The method used for the several fractions was the same. In every case the final precipitation was accomplished by pouring the aqueous solution into twice its volume of 95 per cent alcohol. The precipitates were sucked dry, washed with 95 per cent alcohol, and dried for several days over concentrated sulphuric acid.

These barium salts were then analyzed by organic combustion<sup>18</sup> to determine the percentage of carbon and hydrogen. The sample subjected to combustion was contained in a platinum boat. To provide against any sulphur that might be burned off, a plug of lead peroxide-minimum mixture was inserted in the combustion tube in the manner usual for such compounds. The percentage of ash was determined by weighing the residue from the combustion. The analytical data are given in Table V.

Table V

	Wt. of sample	Wt. of ash	H <sub>2</sub> O found	CO <sub>2</sub> found	% Ash	% C	% H
A <sub>1</sub>	.2116	.1136	.0547	.2132	53.69	27.48	2.89
B <sub>1</sub>	.2035	.0398	.0848	.3559	19.56	47.69	4.66
	.2181	.0431	.0936	.3858	19.75	48.24	4.80
C <sub>1</sub>	.2368	.....	.1016	.3975	Av. 19.66	47.97	4.73
	.2121	.0453	.0849	.3531	21.36	45.67	4.80
					21.36	45.40	4.48
D	.2257	.....	.0950	.3358	Av. 21.36	45.54	4.64
	.2220	.0592	.0915	.3278	26.66	40.55	4.41
					26.66	40.26	4.61
E	.2028	.0510	.0824	.3184	Av. 26.66	40.41	4.51
	.2029	.0524	.0790	.3189	25.14	42.82	4.54
					25.82	42.88	4.36
					Av. 25.48	42.85	4.45

Because of the likelihood of there being extraneous mineral matter such as barium chloride, etc., contaminating the barium salts, the analyses were calculated to the ash-free basis. The results are given in the following table. (Table Va).

Table Va

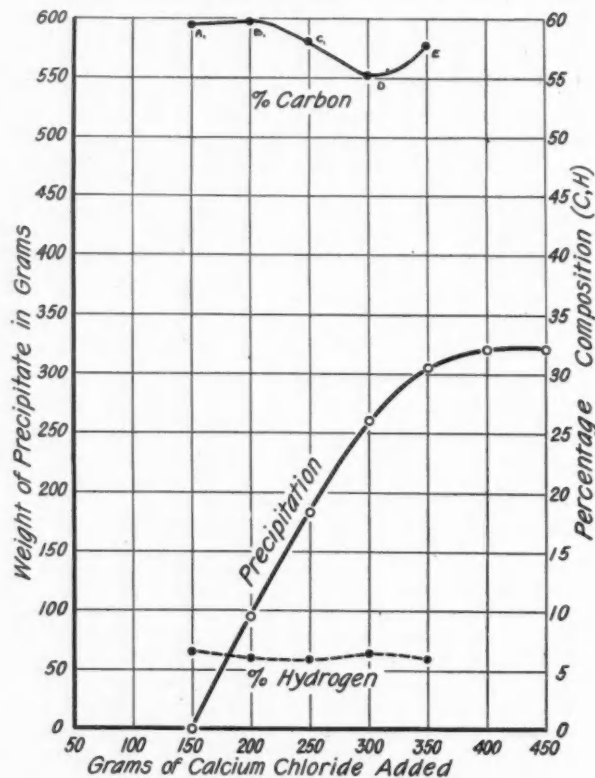
	% Ash	% Combustible	% C	% H	Ash-free Basis		Ratio C/H
					% C	% H	
A <sub>1</sub>	53.69	46.31	27.48	2.89	59.4	6.2	9.7
B <sub>1</sub>	19.66	80.34	47.97	4.73	59.7	5.9	10.1
C <sub>1</sub>	21.36	78.64	45.54	4.64	57.9	5.9	9.8
D	26.66	73.34	40.41	4.66	55.1	6.4	8.6
E	25.48	74.52	42.85	4.45	57.6	6.0	9.6
Cellulose					44.2	6.3	7.0

We can now plot a curve showing the composition of the material fractionated by the calcium chloride precipitation. For example, A<sub>1</sub> is the material which comes down when precipitation starts, B<sub>1</sub> the material precipitated when 200 grams of calcium chloride have been added, and so on. This curve is plotted on the same sheet as the one showing the course of the precipitation, with the grams of calcium chloride as abscissæ.

After sufficient calcium chloride has been added to start precipitation, there occurs a steady precipitation of lignin mixtures for the range that the precipitation curve is a straight line. When the lignins have all been precipitated, or nearly so, the most difficultly precipitable material comes down. This stage is represented

by the section of the curve from D to E. During this interval the curve of precipitation is not a straight line, but indicates from its shape that the substances coming down are not as readily precipitated as those preceding it, and consequently might be expected to differ from them in composition.

The elementary analyses show percentages of carbon varying from 59.7 to 55.1, percentages of hydrogen varying from 6.4 to 5.9.



The ratio of percentage of carbon to that of hydrogen varies from 8.6 to 10.1. This ratio for cellulose is 7.0. In other words, the ratio of carbon to hydrogen is higher in lignin than in cellulose.

The above all leads to the interesting conclusion that the barium salt accepted by Klason and others as a more or less single definite compound is not by any means a single substance, but on the contrary, contains several substances of varying composition. This mixture accounts for the strange values Klason obtained for the hydroxyl number, etc., of his salts and for the discrepancies that have been found by various workers.<sup>19</sup>

### Preserve the Technical Association Section

As was intimated some time ago, those who value the technical matter appearing weekly in the PAPER TRADE JOURNAL should take means to preserve it for future reference. This may be done by having the Journal bound in two or three volumes for the year. Another method which a number are following is the removal of the Technical Association Section from the journal each week and placing it in a binder. In response to a number of requests for a suitable binder, the Secretary has arranged for a supply made of strong imitation leather paper of attractive design and of a size to receive the section for several months. These are available at 25 cents each by placing an order with the Secretary of the Technical Association, at 18 East Forty-first street, New York.

18. Fisher, H. L. ....Laboratory Manual of Organic Chemistry, 1920.

19. Loc. cit. 7, 8, 9, 12, 14.

# THE DETERMINATION OF SULPHUROUS ACID AND LIME IN SULPHITE LIQUORS\*

By B. DEUTSCH

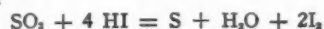
Sulphurous acid is a very unpleasant compound; this is seen from its piercing and persistent odor. From the chemical point of view it is a volatile compound and very difficult of analysis. In a physical sense, also, the compound is abnormal in that it departs, for example, from Boyle-Mariott's law.

## Analysis Not Simple

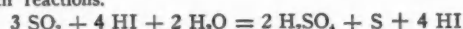
The analysis of sulphurous acid is not simple and requires considerable experience. It is known that sulphurous acid may be determined by titration with iodine, using starch as the indicator, in which the sulphurous acid is oxidized to sulphuric acid by the iodine. At the end of this reaction the excess iodine colors the starch blue. The reaction



is quantitative only when there is a maximum of 0.04 per cent  $\text{SO}_2$  in the solution. If more is present one obtains unreliable results. This fact was established by Bunsen. A large literature has grown up regarding the cause of this abnormal reaction. Thus Volhard maintains that the hydriodic acid reduces a part of the sulphurous acid to sulphur



If sulphur dioxide is passed into iodine, oxidation occurs, reversing both reactions.



Raschig has opposed this view (and in my opinion rightly) for he ascribes the irregularities to the dilution of the sulphurous acid. It is a fact that satisfactory results can only be obtained when the sulphur dioxide is introduced into the iodine solution. This is practically impossible in the plant laboratory. One must therefore introduce the iodine solution into the sulphur dioxide solution.

The three classes of liquids may be clearly distinguished from each other; they are the tower or system acid, the cooking liquor and the waste liquor. The relations in the tower acid, that is, the liquor introduced into the digester, are comparatively simple. This consists of a solution of calcium bisulphite in water, containing in addition, possibly calcium sulphate and carbon dioxide. The relations become more complex in the cooking liquor, for this has become contaminated with a series<sup>6</sup> of organic compounds resulting from the cooking process, especially lignin constituents, volatile organic acids, as formic and acetic, and so on, which interfere seriously with the titration with iodine. The analysis of the waste liquor is very unsatisfactory and this dark, sticky liquor adds greatly to the work of the laboratory.

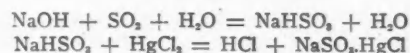
## Winkler-Höhn Method

Among the many proposed methods we have first that of Winkler-Höhn. Winkler determined the total sulphurous acid by means of iodine and in a second sample determined the free acid by means of tenth normal sodium hydroxide and phenolphthalein. Höhn combined the two titrations, titrating the total acid with tenth normal iodine, destroying the blue color with a drop of sodium thio-sulphate and then titrating with tenth normal sodium hydroxide and phenolphthalein to the end. One obtains in this way, since the resulting sulphuric acid corresponds to the original sulphurous acid present, the free sulphur dioxide; from the difference, the bound acid and stoichiometrically the lime. This very generally used method is, in my opinion, at best suitable for the tower liquor, since the only source of error will be the carbon dioxide which is present. If applied to the cooking liquor, how-

ever, the presence of the organic acids will render the results of very doubtful value. It is not known whether other methods, such as that of Streeb, which is based upon the fact that bisulphite behaves toward phenolphthalein as an acid and towards methyl orange as a neutral compound, or that of Dieckmann-Sander, in which, after titration with iodine, the addition of potassium iodate liberates iodine, which is titrated with thiosulphate, have an extensive use. All of these methods, however, are impractical because they without exception determine the easily volatile, and therefore difficult precipitable, constituent, sulphur dioxide, and from this value calculate the lime (calcium), while I hold it to be better to determine the more stable constituent, the lime, and from this to calculate the sulphurous acid. In Waldhof we analyze the cooking liquors by first titrating the total sulphurous acid with iodine and in a second portion precipitating the lime by means of ammonia and oxalic acid as oxalate, dissolving this oxalate in sulphuric acid and titrating it with potassium permanganate. The results are very satisfactory. From the combined lime we calculate the bound acid and from the difference we obtain the free sulphurous acid. The only error in this method is that one may obtain too high values for the  $\text{SO}_2$ , since in the precipitation of the lime, one obtains all the lime present and not simply that bound as calcium bisulphite; calcium bound to the ligninsulfonic acids will also be determined. Naturally this has been recognized and one may use other methods; for example Öman has proposed to avoid the error due to carbon dioxide and other sources by precipitating with ammonia, washing the precipitate with ammonia water and dissolving the precipitate in hydrochloric acid, which is then titrated with iodine. Klason rightly questions this procedure, for calcium sulphite is very easily oxidized to the sulphate. In addition to this there must occur a loss of sulphurous acid upon dissolving the precipitate in hydrochloric acid. The method has been discarded, personally, on this account. Hägglund has proposed a similar method, yet I scarcely believe that all these methods are used in the plant laboratories of Germany.

## Possanner-v. Ehrenthal and Sander Investigations

The cooking liquor offers further complications in that they contain thionates and polythionates. Possanner v. Ehrenthal and Sander have carried out extensive investigations regarding these. In this connection it may be mentioned that in 1919 the Americans Sweeney, Outcault and Withrow described a method for the determination of sulphurous acid by means of potassium permanganate, in which the sulphurous acid is oxidized to sulphuric acid. This reaction does not proceed smoothly, however, for thionates are probably formed and thus a quantitative conversion does not take place. I have tested the method in the laboratory but did not obtain satisfactory results. A very noteworthy observation is contained in the proposed method of Sander (1920), who worked with mercuric chloride. It is based on the fact that sodium hydroxide and sulphur dioxide, using methyl orange as indicator, forms sodium bisulphite and that this with an excess of mercuric chloride forms a complex compound, sodium mercurous chloride sulphite



The acid reaction product is then further titrated with sodium hydroxide until the reaction is neutral. In this way one first determines the free acid and secondly the free and bound acid. The difference is the bound acid, from which is calculated the lime.

\*From *Zollstoff und Papier*, March, 1922. Abstracted by Clarence J. West, Chairman, Committee on Bibliography, Technical Association of the Pulp and Paper Industry.



The errors have been avoided in this procedure, and the method will be employed in the works of our concern, in so far as the titrations of the tower liquors are concerned. Satisfactory results have not been obtained with cooking liquors because the color change is indistinct and cannot be recognized by the unpractised eye of the ordinary observer. For this determination the oxalate precipitation must be retained.

#### Ultimate End of the Methods

These are the usual methods. But we must not lose sight of the fact that the ultimate end of even simple methods is to ascertain the constituents of a system. This system is composed of: sulphurous acid, calcium bisulphite and calcium sulphite. We must admit that we know practically nothing concerning the relation of these compounds to one another. From experience it is known that a tower liquor is satisfactory if it has the composition: 3 per cent total sulphur dioxide and 1 per cent calcium oxide. It then contains exactly 1.14 per cent of bound  $\text{SO}_2$  and 1.86 per cent free  $\text{SO}_2$ . The relation between free and bound acid is thus established. The digestion process proceeds normally and the pulp, using such liquor, and apart from numberless other conditions, is satisfactory. Further than this we know practically nothing. We do not know, for example, the form of combination between the lime and the sulphurous acid. Perhaps calcium sulphite is dissolved in aqueous sulphurous acid, and perhaps it is calcium bisulphite which is in solution. The Japanese, Marusawa, on the basis of physico-chemical investigations, came to the conclusion that calcium bisulphite is not present. The investigations of Schwarz and Müller-Clemm are, therefore, very timely and acceptable. They established that calcium bisulphite in solution is always associated with a definite amount of sulphurous acid, which is independent of the temperature, and does not react with the undissolved calcium sulphite which is present. At the same time it was established that at lower temperatures a calcium bisulphite was formed, the optimum being at  $26^\circ$  (for the total  $\text{SO}_2$  and at  $29^\circ$ ) for the bound  $\text{SO}_2$ , a fact already known from practical work. They also found that the ratio between the bound and free acid was independent of the temperature and of the initial concentration.

A considerable complication of the relations is introduced if one attempts to apply the views of Klason. In studies made during the war on the digestion process, Klason reached the conclusion that the sulphurous acid was present in the digestion liquid in four different conditions. The first was as the free acid; the second as the half-free acid or "disponible" acid, that is, the acid present as bisulphite and taking part in the digestion; the third, the completely bound sulphurous acid; and the fourth, the loosely-bound or "reversible" acid. The last mentioned is that part of the acid which, on long standing, as in the waste liquors, is precipitated as calcium sulphate. The free sulphurous acid does not take part in the digestion, but acts as a catalyst, accelerating the reaction. This raises the number of unknowns to three.

#### A Dark Chapter

All the above mentioned methods refer to the tower or cooking acids. When I now turn to the sulphite waste liquors, I come, in a true sense of the word, to a dark chapter. A work of Kerp and Wöhler treats of the form of occurrence of the sulphurous acid in waste liquors. Since only a part of the sulphurous acid may be titrated with iodine, it must be present both as free and as bound acid. The bound sulphurous acid, according to these investigators, is in the form of an aldehyde-sulphurous acid, the organic complex being composed of aldehydes (furfural) and sugars. The idea was also advanced that calcium lignosulfonate was not an individual compound. Since the waste liquor is an important commercial product today, especially in the preparation of sulphite alcohol, it is important, specially since the sulphurous acid has a harmful effect upon the course of the fermentation, that

we know the amount of sulphurous acid present. The titration of the liquor offers great difficulty. Indicators cannot be used because of the dark color of the liquor, and in addition the organic constituents interfere. It would seem obvious that the sulphurous acid could be distilled out, using a stronger acid, and collected in an iodine solution. The resulting sulphuric acid could then be precipitated with barium chloride and the sulphurous acid thus determined as barium sulphate. Investigations have shown, however, that one obtains not only the free acid and that bound to the calcium, but also that acid which is bound to the sugar, etc., and in addition, if the distillation is continued sufficiently long, a part of that bound to the lignin. Therefore Stutzer has proposed to use the weaker acetic acid. Under these conditions the method has only a comparative value, for the distillation must be carried out under the same conditions for a definite time. The excess of iodine is determined and the sulphurous acid calculated. It is not accurate, of course. In Waldhof we determine the so-called free acid by simple titration with tenth normal iodine, while the so-called total acid is determined on another sample by treating 10cc. of the waste liquor with 10cc. of a 6 per cent potassium hydroxide solution, allowing the mixture to stand 15 minutes, then acidifying slightly with sulphuric acid and titrating with iodine and starch. This gives the free  $\text{SO}_2$  and that resulting from the sulfo-acids. The expression "total acids" should not be used; a better term is "sulphite acids," for the total acids are determined according to Schwalbe and Bernheimer in which the waste liquor is treated with fuming nitric acid, thus destroying the organic substances. All the sulphur is transformed into sulphuric acid, which is precipitated by means of barium chloride. On the other hand, some of the sulphurous acid is lost. It is probable that the method gives lower values than that proposed by Adler, who treats the liquor with sulphate-free soda and evaporates to dryness in a porcelain vessel in an air bath. The dried mass is pulverized, placed in a nickel crucible, mixed with a mixture of sulphate-free soda and sodium peroxide, and gradually heated, with the usual precautions, until a thin liquid melt is obtained. After cooling this is dissolved in water and treated with bromine water. The silicic acid is removed by acidifying and evaporating and the filtrate precipitated with barium chloride. The determination of the "sulfone sulphur," that is, the sulphur bound to the lignin, is difficult. One must be satisfied to obtain approximate, comparative values by precipitating from the liquor the calcium lignosulfonate by excess of salt. The excess of salt must be very large and undissolved crystals must remain after standing a long time. The flocculent precipitate is filtered, washed with concentrated salt solution, the residue dried and the sulphur determined in the same way as the total sulphur. The determination of sulphur present in the waste liquor as calcium sulphate is not practicable. Lime is determined as usual. If one has the total acid, the sulphite and "sulfone sulphur," one has covered the practical side of the sulphur question of waste liquors.

#### The Only Practical Analytical Methods

From the above discussion it is readily seen that, as far as the works laboratory is concerned, the only practical analytical methods are those of sulphurous acid and lime in the tower and cooking liquors; the conditions are too complicated to warrant analysis of the waste liquors. While there are many methods, it seems to me that the simplest and most satisfactory methods are those of Sanders and the older precipitation of calcium as oxalate. To be sure, for rapid analyses requiring only approximate accuracy the method of Winkler-Höhn may be used.

#### Continental Paper Co. Running Full

BOGOTA, N. J., May 15, 1922.—The Continental Paper Company has started up its No. 1 paper machine, which was shut down last December. Both machines are now running full.



## BIBLIOGRAPHY OF PAPERMAKING FOR 1921

Technical Association of the Pulp and Paper Industry, Committee on Bibliography, Contribution No. 36

BY CLARENCE JAY WEST, CHAIRMAN, COMMITTEE ON BIBLIOGRAPHY, T. A. P. I.

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## 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

**Hydrolysis of Cotton Cellulose.**—G. W. Monier-Williams.—*Chem. Soc. Trans.*, cxix, 803-805, (1921). Crystalline "glucose" representing 90.67 per cent of the yield theoretically obtainable from the crude material (containing 6.93 per cent moisture and 0.13 per cent ash), was obtained by hydrolysing 10 g. of cotton-wool with 50 cc. of 72 per cent sulphuric acid for one week at room temperature, diluting with water to 5 liters, and boiling under a reflux condenser for 15 hours. After filtering and evaporating to dryness at 40 mm., the alkalinity being kept down by repeated addition of decinormal sulphuric acid, the residue was extracted with methyl alcohol free from acetone, and the extract filtered, decolorized with animal charcoal, and evaporated in a current of dry air at a low temperature. The product has a melting-point of 144 to 145 degrees C. (uncorrected and yielded a phenylsazone with melting-point 204 to 205 degrees (uncorrected). No other products of hydrolysis could be detected. (Compare Ost and Wilkening, *J. Soc. Chem. Ind.*, xxix, 688, (1910); Irvine and Soutar, this journal, lxxiii, No. 14, p. 40, Oct. 6, 1921.—A. P.-C.

**Suspension of Cuttings and Weevil Damage.**—Franz Scheidter.—*Forstwiss. Centralbl.*, xlii, 144-150, (1920); *Botan. Abs.*, vii, 19, (Feb., 1921). The author discusses the life history of the weevil, and shows that it cannot be eliminated from a forest by temporarily suspending cuttings as has been proposed. Suggested control measures include cleaning up cuttings, with grubbing out of stumps as soon as possible after logging; smearing individual trees, where practicable, with bands of glue or tar; and the construction of traps by blazing fresh stumps just above the ground and covering the blazes with loose bark, from beneath which the beetles can be scooped up daily or oftener.—A. P.-C.

**Forestry in Sweden.**—Edward Beck, Publicity Dept., Can. Pulp & Paper Association.—*Pulp and Paper*, xix, 685-686, 715-716, 737, 761-762, (June 30, July 7, 14, 21, 1921); *Paper*, xxix, No. 7, 19-21, (Oct. 19, 1921). A description of the manner and means obtaining in Sweden for utilizing their forest resources to the best advantage and to ensure their permanency, contrasting these means with those employed in Canada.—A. P.-C.

**Forestry in Finland.**—Edward Beck, Publicity Dept., Can. Pulp & Paper Association.—*Pulp and Paper*, xix, 785-786, (July 28, 1921). Discussion of the importance of the forest in the economic development of Finland, with an outline of the forestry policy of that country.—A. P.-C.

**Forestry in Norway.**—Edward Beck, Publicity Dept., Can. Pulp & Paper Association.—*Pulp and Paper*, xix, 811-812, (Aug. 4, 1921). Brief discussion of the importance of the forest in the economic life of Norway, together with an outline of the forestry policy of that country.—A. P.-C.

**Forestry in Britain.**—Edward Beck.—*Pulp and Paper*, xix, 829-831, (Aug. 11, 1921). An analysis of the requirements of the British Isles in wood and wood products and of the present state of the forests, together with an outline of the forestry policy and of the work accomplished by the Forestry Commission since it was created in 1919 on account of the very serious conditions brought about by the intensive felling which had to be resorted to during the war.—A. P.-C.

**Forestry in France.**—Edward Beck.—*Pulp and Paper*, xix, 855-856, (Aug. 18, 1921). Brief outline of the damage wrought to French forests during the war and of the work which is being carried out with a view to restoring to their former state of productivity.—A. P.-C.

**The Gasometric Determination of Hypochlorites by Hydrazine.**—A. K. Macbeth.—*Chem. News*, cxxii, 268, (1921); *J. Soc. Chem. Ind.*, xl, 506A, (July 30, 1921). Hypochlorites may be determined by treating them in a Van Slyke nitrometer with an alkaline solution of hydrazine (5 to 10 g. of hydrazine sulphate and 10 to 15 g. of potassium hydroxide in 100 cc. of water), and measuring the nitrogen evolved. In the absence of free chlorine reliable results are obtained. The method is applicable to the determination of available chlorine in bleaching powder. For the estimation of chlorates it proved unsatisfactory.—A. P.-C.

**Chemical Equilibrium of Sulphite Liquor.**—R. Schwarz and H. Muller-Clemm.—*Z. angew. Chem.*, xxxiv, 272-275, (1921). Translated by W. B. Van Arsdell in *Paper*, xxix, No. 3, 9-14, (Sept. 21, 1921).—From a study of the conditions of equilibrium between sulphurous acid and calcium bisulphite in presence of an excess of calcium sulphite it is shown that in this system, at any temperature, and independent of the initial concentration of sulphurous acid up to 6.5 per cent before the addition of the calcium sulphite, the quotient of the combined sulphurous acid by the free sulphurous acid is a constant, namely 2. At higher initial concentrations than 6.5 per cent experimental difficulties occurred owing to the evolution of gas as soon as calcium sulphite was added to the solution, and the equilibrium was thereby disturbed. In the equilibrium solution the quantity of bisulphite formed and the free sulphurous acid increase with decreasing temperature, except that irregularities occur between 30 and 22 degrees Centigrade which result in an intermediate or local minimum solubility of calcium sulphite at 26 degrees, followed by a decline to 22 degrees, after which the regular increase once more sets in. If a solution in equilibrium at a particular temperature is saturated with sulphur dioxide an increase of combined sulphurous acid occurs, accompanied by a proportionately greater increase in free acid.—A. P.-C.

**Chemical Equilibrium of Sulphite Liquor.**—M. Groger.—*Z. angew. Chem.*, xxxiv, 383, (1921); *J. Soc. Chem. Ind.*, xl, 580A (Aug. 31, 1921). (See preceding abstract).—The author has recalculated from the figures given by Schwarz and Muller-Clemm the ratio between the combined sulphurous acid and the free sulphurous acid in equilibrium in the system sulphurous acid-calcium sulphite, and shows that it is 2.36:1 and not 2:1 as found by the latter authors.—A. P.-C.

**Chemical Equilibrium of Sulphite Liquor.**—R. Schwarz and H. Muller-Clemm.—*Z. angew. Chem.*, xxxiv, 599-600, (1921); *J. Soc. Chem. Ind.*, xli, 9A, (Jan. 16, 1922).—The conclusions drawn in a previous communication (compare two preceding abstracts) are now admitted to be incorrect. The quotient of combined sulphurous acid by free sulphurous acid is not constant but depends on the temperature. It falls with increasing temperature to 24 deg. C., and then increases again on further temperature rise. In the temperature range 20 to 33 deg., the maximum for free sulphurous acid lies at 24 deg. C., for combined acid at 29 deg., and for total acid at 26 deg. The quotient also depends on the initial concentration of sulphurous acid, increasing from 2.0 at the highest examined concentration (6.5 per cent) to 4.2 at 2 per cent.—A. P.-C.

**Process of Making Mechanical Wood Pulp.**—Can. patent No. 215,314, E. F. Millard, Jan. 24, 1922. Addition to Can. patent No. 91,435, Feb. 14, 1905. A stone of relatively soft material (e. g., sandstone) is used, and the wood is pressed against it with the minimum amount of pressure necessary to



cause it to engage the stone. For short-fibered pulp a fine grit stone must be used, and a coarse grit for long fibers.—A. P.-C.

**Valley Iron Works Machinery and Testers.** *Paper*, xxix, No. 22, 10-12 (Feb. 1, 1922).—A brief description of the Henderson grinder regulator, of the Valley size tester, and of the Valley wet machine, and of their merits.—A. P.-C.

**Clean Water as a Preservative for Storing Mechanical Pulp.**—R. J. Blair, Pathologist and E. Parke-Cameron, Associate Chemist, Forest Products Lab., Montreal, Canada. *Pulp and Paper*, xx, 64-67 (Jan. 26, 1922); *Paper Ind.*, iii, 1528-1532 (Feb., 1922); *PAPER TRADE JOURNAL*, lxxiv, No. 9, 47-50 (March 2, 1922).—Part of the pulp was stored in water, and the remainder was left in the building with the storage tanks and was left freely exposed to the air. After seventeen months this latter material was found to be in a very bad condition. A comparison between fresh lapped pulp and that stored in water shows that after seventeen months there was slight deterioration in all cases. For pressed pulp the same condition held but was more noticeable. In stored slush stock the freeness was much higher than in the case with either laps or pressed pulp stored for the same length of time under the same conditions, and the strength tests were also somewhat lower. In making a comparison between the different methods of water storage, running water apparently gave a better result than either a weekly or daily change. In cold storage little deterioration seems to occur. The results indicate that water storage is superior to air storage for groundwood pulp.—A. P.-C.

**Evaporation of Sulphite Waste Liquor.**—Can. patent No. 214,450, H. A. E. Nilsson, Nov. 29, 1921. The liquor is treated at 90 to 100 degrees C. with a suitable precipitant (milk of lime, pulverized limestone, etc.), the precipitate is removed, and the liquor is then evaporated by a vapor compression system.—A. P.-C.

**Sulphur Burning Device.**—Can. patent No. 214,022, T. A. Clayton, Nov. 1, 1922. The air is fed to the chamber containing the burning sulphur through a curved pipe having a series of holes directed downwards which send the air directly against the sulphur, and another series of holes directed upwards which send the air into the mass of gases rising from the burning sulphur so as to mix them and burn any sulphur which has sublimed.—A. P.-C.

**Oxidizing Device for Sulphur Burners.**—U. S. A. Patent No. 1,410,061, A. G. Hinzke, March 21, 1922. The outlet from the burner has two rows of perforations, at some distance one above the other, the amount of air admitted through each set of perforations being regulated by means of a sleeve with similar perforations which can be made to register with those in the outlet.—A. P.-C.

**Purification of Sulphur Dioxide.**—U. S. A. Patent No. 1,410,535, Chas. M. Bullard, March 21, 1922. The sulphur dioxide from the coolers is passed through a tower where it is sprayed with water, which absorbs the sulphur trioxide and some sulphur dioxide. The acid solution thus obtained is heated to drive off sulphur dioxide, which is returned to the system.—A. P.-C.

**Continuous Wood Pulping Process.**—U. S. A. Patent No. 1,402,201, M. A. Adam, Jan. 3, 1922. Wood is brought to "a finely-subdivided form," i. e., of such fineness that on mixing with water it forms a true pulp which will flow freely. It is then subjected to suitable chemical action. By treating groundwood at a consistency of 10 per cent with sulphite acid at 170 degrees C. for 30 minutes, a chemical pulp apparently free from all incrusting matter was obtained.—A. P.-C.

**Determination of Sulphur Dioxide (and Sulphur Trioxide) in Burner Gases.**—B. C. Stuer and W. Grob.—*Chem. Zeit.*, xlv,

553-554, (1921); *J. Soc. Chem. Ind.*, xl, 506A, (July 30, 1921).—A. Sander.—*Ibid.*, 555.—The authors dispute Sander's contention that mercury has a strong catalytic action on mixtures of air and sulphur dioxide; the high percentage of sulphur trioxide found by him in burner gases is more probably due to oxidation when sulphur dioxide is absorbed by sodium hydroxide, as in his method. (Cf. *Paper*, xxvii, No. 14, Dec. 8, 1920; this journal, lxxii, No. 25, p. 50, June 16, 1921.) In a determination of sulphur trioxide by difference, after estimating sulphur dioxide by Reich's method and total acidity by Lunge's method, 0.4 per cent was found, whereas Sander's method gave 2.8 and 2.3 per cent. The latter figures are regarded as erroneous. In a reply Sander contends that if the sulphur dioxide is introduced into the alkali in a fine stream, and agitation is avoided, appreciable oxidation of the sodium bisulphite will not take place. He further maintains that his results for sulphur dioxide are in close agreement with those obtained by the Reich method, and that therefore the sulphur trioxide value, which is derived from the difference between total acidity and sulphur dioxide figures, must also be correct.—A. P.-C.

**Determination of Sulphur Dioxide in Burner Gases.**—E. Berl.—*Chem. Zeit.*, xlv, 693, (1921); *J. Soc. Chem. Ind.*, xl, 580A, (Aug. 31, 1921). (Compare preceding abstract.)—The absorption of sulphur dioxide from gas mixtures containing it in the presence of oxygen, by means of caustic soda, yields low results, especially if the liquid is shaken vigorously or contains positive catalysts, such as copper sulphate. Good results are obtained, on the other hand, by the addition of small quantities of negative catalysts, especially stannous chloride. It is recommended to add to each assay 10 cc. of a 0.001 molar solution of stannous chloride (0.23 g. of  $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$  per liter) before absorption. The gases are passed through the liquid, which is then acidified and titrated with iodine in the usual way.—A. P.-C.

**The Proper Lubrication of Ball Bearings.**—H. Burrie, Société des Roulements à Billes SKF. *Industrie Chimique*, viii, 276-277, (July, 1921).—The function of lubrication in ball bearings is protection against corrosion and facilitating the longitudinal motion of the journal when such is required. The lubricant must be free from acids or alkalis (maximum 0.1 per cent), lime (maximum 0.5 per cent) and resins, and from all traces of impurities which might cause friction. The best lubricant is a high grade oil of suitable viscosity (depending on the nature of the work). If grease is used, it must not melt at the working temperature of the bearing. Graphite should never be used in ball bearing lubricants. Simple tests for detecting acidity, alkalinity, and resins, and for determining the melting-point are given.—A. P.-C.

**The Use of Ball Bearings for Table Rolls on Paper Machines.**—H. Burrie, Technical Director, Société des Roulements à Billes SKF. *Papeterie*, xliii, 640, (July 25, 1921).—The author takes exception to the statement of Nuttall at the meeting of the English Technical Association to the effect that table rolls mounted on ball bearings do not run smoothly, and that those paper manufacturers who had tried them were going back to smooth bearings. Theoretically ball bearings are superior to smooth bearings, and in practice if they are properly mounted they give entire satisfaction. The only reason for failure of ball bearings for table rolls would be incomplete protection from water, causing rust and wear of the balls. In Sweden all the new paper machine table rolls are mounted on ball bearings and are giving entire satisfaction.—A. P.-C.

**The Treatment of Rags—Defibering and Shredding.**—Porphyre.—*Papeterie*, xliii, 626-633, (July 25, 1921).—A discussion of the merits of shredding rags before cooking them, instead of defibering them after cooking, showing that there is

greater production, lower consumption of fuel, chemicals and power, and lower initial cost for the equipment.—A. P.-C.

**Evaporation by Vapor Compression.**—Burton Dungleinson.—*Chem. Met. Eng.*, xxv, 246-247, (Aug. 10, 1921).—Brief description of the Söderlund-Boberg evaporator. It consists of three elements connected with a multi-stage turbo-compressor. The steam from the evaporating space of all the elements is compressed to a sufficient extent in the first stage of the compressor for use in the heater of the first element. The excess of steam over that required in the first element is then compressed in the second stage of the compressor to render it fit for the second heater, and the residue from the second heater is then finally compressed in the last stage of the compressor to render it available for the last heater. Each element has its own circulation pump and the hot condensate from the three elements is combined and supplied to a common feed heater. One of the important facts in connection with the claims for this system is that the film of liquid under treatment circulates downward in the tubes. The rapid circulation and uniform wetting to which the surface is subjected reduce the tendency to scale formation to a minimum.—A. P.-C.

**Filling a Pulp Stone Cavity.**—W. A. Munro.—*Pulp and Paper*, xix, 837, (Aug. 11, 1921).—Cavities may develop in pulp stones on account of sand pockets or other imperfections in the texture of the stone, such condition not being apparent before the stone was put into operation in the grinder room. The hole is cleaned of sand, made deeper and wider, at least four inches deep and preferably one or two inches deeper. It should be wider at the bottom than at the top, and the sides should be made corrugated so as to give the filling a better hold. The composition for filling consists of new and best quality cement and of old pulp stones which have been broken up, about 33 per cent of which is finer than one-eighth inch. The bottom of the hole, up to the point to which the stone will wear down, is filled with a mixture of equal parts of cement and broken stone, and the remainder of the cavity with a mixture of 50 per cent cement, 25 per cent fine sand or binding particles, and 25 per cent of coarse sand or cutting particles. After allowing to set for 24 hours the surface is smoothed by cutting down gradually with a coarse diamond burr. The filling wears down at the same rate as the remainder of the stone, the production is not lessened and no difference can be observed in the quality of the pulp produced. (Another pulp manufacturer claims it is dangerous practice to do this.—J. N. S.)—A. P.-C.

**A Unique Canadian Industry—Manufacture of Kraft Pulp.**—W. H. Sherriff.—*Pulp and Paper*, xix, 833-834, (Aug. 11, 1921).—Outline of the numerous uses to which kraft pulp is being put: wrapping paper, envelopes, bags for foodstuffs, lime, cement, hardware, etc., clothing, twine, etc., etc.—A. P.-C.

**Chemical Control of the Process of De-Inking Paper.**—C. M. Joyce, Leominster, Mass. *Chem. Met. Eng.*, xxv, 242, (Aug. 10, 1921); *Pulp and Paper*, xix, 1030, (Oct. 6, 1921); *Paper*, xxix, No. 6, 26 (Oct. 26, 1921).—The paper maker of today has little faith in new de-inking processes, because most of the processes proposed during the last 15 or 20 years have been studied merely from a theoretical point of view without taking into consideration such factors as the use to which the reclaimed stock is to be put, cost of raw materials and chemicals, value of the finished product, etc. The form of apparatus used for de-inking is less important than the careful chemical control of the process. To obtain the desired quality of product, maximum production and minimum cost of chemicals the following factors must be considered: (1) ratio of water to weight of paper treated; (2) amount and kind of chemicals used; (3) rate of circulation of the alkaline bath; (4) temperature; and (5) time. These factors are briefly discussed.—A. P.-C.

**New Synthetic Bearing Metal.**—*Chem. Met. Eng.*, xxv, 207, (Aug. 3, 1921).—A new bearing material, called "Genelite," consists of a mechanical mixture of a high grade "synthetic bronze," and graphite, the latter amounting to about 40 per cent by volume of the mass. It is made by mixing very finely divided oxides of tin, lead, copper (mixed in the proportions required to form a high grade bronze) and graphite in sufficient excess to reduce the oxides to metals and still leave the required content in the finished material. The tensile strength is very low and the compressive strength high. It is porous to the extent of absorbing 2.5 per cent by weight of oil. A bearing made from this material never seizes or "freezes." It is especially valuable for self-lubricating bearings.—A. P.-C.

**The Relation of the Office to the Factory.**—C. N. Moisan, Standard Paper Box Co., Ltd., Montreal.—*Pulp and Paper*, xix, 787 (July 28, 1921). The object of the office is not only to take care of all the details incident to a business, but also to keep a close watch on factory production to see that a profit shall result from its operation. Hints are given on the methods to be used for co-ordinating the various departments of the factory.—A. P.-C.

**The Engineer's Part in Industrial Safety.**—C. P. Tolman, president National Safety Council.—*Chem. Met. Eng.*, xxv, 203-205 (Aug. 3, 1921). It is brought out that properly conducted accident prevention work pays larger return on investment and operating cost than any other department of an ordinary industrial plant.—A. P.-C.

**The Filtration of Water in Paper Mills.**—H. Lhomme and M. Argy.—*Papeterie*, xliii, 634-638 (July 25, 1921). A description of the Gail and Noël Adam water filter and of its method of operation, together with a comparison of its cost as against that of a sand filter, showing great advantages in favor of the former, as regards both first cost and cost of operation.—A. P.-C.

**Determination of Methyl Alcohol in Sulphite Spirit.**—R. Sieber.—*Papierfabr.*, xix, 189 (March 4, 1921); *Paper*, xxviii, No. 12, 22-23 (May 25, 1921). Translation by C. J. West. Owing to the composition of sulphite spirit, the usual oxidation methods in which the methyl alcohol is oxidized to water and carbon dioxide are not suitable as other impurities are oxidized to carbon dioxide. Denigès' method, based on the oxidation of methyl alcohol to formaldehyde and determination of the latter by means of Schiff's reagent (fuchsian sulphuric acid) is shown to give satisfactory results, with an accuracy of 0.1 to 0.2 per cent, according to the methyl alcohol content of the spirit. The procedure of the method is described in detail. The disadvantages of the method are that the color type is not proportional to the methyl alcohol content, and that the color tones of the final solutions are different, depending on the alcohol content.—A. P.-C.

**Dyeing of Straw Pulp.**—Heinrich Press.—*Papierfabr.*, xix, March 25, April 22, 1921; *Papèr*, xxviii, No. 16, 23-24 (June 22, 1921). Translation by C. J. West. Investigation into the behavior of straw pulp (prepared by cooking with milk of lime) towards different dyestuffs. The method used consisted in treating a 3 per cent suspension of the pulp with an excess of the dye for about 20 minutes, filtering, and determining the excess of the dye in the filtrate as follows: aliquots of the filtrate from the dyed pulp and from undyed pulp are diluted to the same volume, and the undyed solution is titrated with a dye solution of known strength until the colors match. It was found that substantive dyes were most completely fixed by the pulp, basic dyes coming second and acid dyes last. The retention of mineral pigments depends both on the fineness of the pigment and on the character of the pulp, and depends more on the beating of the pulp than on its origin.—A. P.-C.

**Process for Bleaching Vegetable Materials by Means of Hypochlorous Acid.**—Fr. patent No. 516,262, George Ornstein, U. S. A., Dec. 4, 1920.—*Papier*, xxiv, 255-256 (June, 1921). Chlorine is dissolved in water in such proportions that the reversible reaction  $\text{Cl}_2 + \text{H}_2\text{O} = \text{HCl} + \text{HOCl}$  goes nearly to completion. Though this solution is stable only for a limited time, it does not deteriorate appreciably during the time normally taken to bleach paper pulp. At ordinary temperatures the amount of chlorine dissolved is 0.1 g. per l.; and for higher temperatures the chlorine content can be increased. The solutions as used contain 0.01 to 0.05 per cent of hypochlorous acid ( $\text{HClO}$ ), and they bleach as satisfactorily and as quickly as the usual bleach liquors. Higher concentrations can be used by suitably neutralizing the hydrochloric acid formed, avoiding the formation of hypochlorites. This may be done by using weak bases which do not combine with hypochlorous acid, such as sodium carbonate, potassium carbonate, borax, sodium phosphate, sodium sulphate, chalk, limestone, zinc oxide, zinc carbonate, barium carbonate, strontium carbonate, etc. But even in this case the concentration of  $\text{HClO}$  should not exceed 0.3 per cent to avoid deterioration of the material to be bleached.—A. P.-C.

**Process for the Preparation of Liquid Sulphur Dioxide from Dilute Sulphurous Gases.**—Fr. patent No. 514,025, Manufacture de Produits Chimiques du Nord.—*Industrie Chimique*, viii, 270-271 (July, 1921). The dilute sulphurous gas is compressed and sent upwards through a tower where it is absorbed by a descending stream of heavy tar oil (other than anthracene oil), preferably having a specific gravity of about 1, which absorbs large amounts of sulphur dioxide. The oil saturated with sulphur dioxide is heated in a heat exchanger, and the pressure is then relieved, whereby it loses the greater part of the dissolved gas, together with a certain amount of volatile constituents. The latter are recovered, while the gas is compressed to the liquid state.—A. P.-C.

**List of Abbreviated and Full Titles and of Addresses of the Journals from Which Abstracts Have Been Prepared for This Issue**

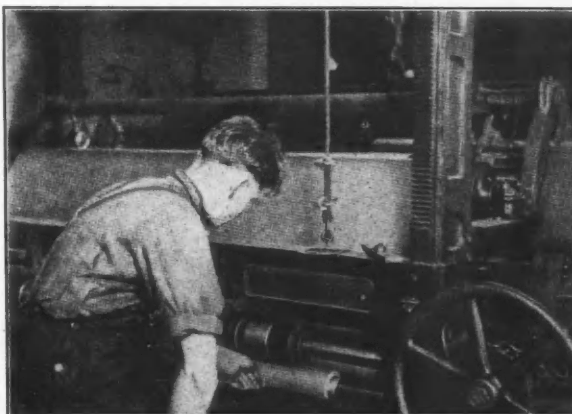
Botan. Abs. ....	Botanical Abstracts. Williams and Wilkins Co., Mount Royal and Guilford Avenues, Baltimore, Md.
Chem. Met. Eng. ....	Chemical and Metallurgical Engineering. McGraw-Hill Co., Inc., Tenth Ave. at 36th St., New York City.
Chem. News ....	The Chemical News and Journal of Physical Science, 57 Shoe Lane, London, E. C. 4, England.
Chem. Soc. Trans. ....	Journal of the Chemical Society—Transactions. Gurney & Jackson, 33 Paternoster Row, London, E. C. 4, England.
Chem. Zeit. ....	Chemiker Zeitung. Walter Roth, Cöthen, Germany.
Industrie Chimique ....	L'Industrie Chimique. H. Mounier, 32 Rue Le Peletier, Paris (9 <sup>e</sup> ), France.
J. Soc. Chem. Ind. ....	Journal of the Society of Chemical Industry. Central House, 46 and 47 Finsbury Square, London, E. C. 2, England.
Monit. Papeterie Française ....	Le Moniteur de la Papeterie Française. 154 Boulevard Haussmann, Paris (8 <sup>e</sup> ), France.
Paper ....	Paper. 251 West Nineteenth St., New York City.
Papeterie ....	La Papeterie. 9 Rue Lagrange, Paris (5 <sup>e</sup> ), France.
Papier ....	Le Papier. 16 Rue du Rocher, Paris (8 <sup>e</sup> ), France.
Papierfabr. ....	Der Papier-Fabrikant. Otto Elsner, Oranienstr. 140-142, Berlin, S. 42, Germany.
Pulp and Paper ....	Pulp and Paper Magazine of Canada. Gardenvale, Que., Canada.
Z. angew. Chem. ....	Zeitschrift für angewandte Chemie. Verlag für angewandte Chemie, G. m. b. H., Nürnberger Str. 48, Leipzig, Germany.

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- Strachan, James.** Relation of paper manufacture to other industries. Paper 27, No. 18, 9-10, 32 (Jan. 5, 1921).
- Thiele, William F.** Paper mill engineering. Paper 29, No. 1, 14-16 (Sept. 7, 1921).
- Three shift day in the paper and pulp industry.** Monthly Labor R. 12, 335-339 (Feb., 1921); Paper 28, No. 7, 129-130 (Apr. 20, 1921).
- Werner, N. J.** Standardization of sizes in the manufacture of paper. Am. Printer, Feb., 1921; Paper 28, No. 2, 9-10, 36 (Mar. 16, 1921).
- Why must it always be paper.** Wochbl. Papierfabr. 52, No. 12, 904-905 (Mar. 26, 1921).
- West, Clarence J.** U. S. papermaking patents for 1920. Paper 27, No. 20, 19-21; No. 21, 25-27 (Jan. 19, 26, 1921).
- West, C. J.** German patents on pulp production. Paper 28, No. 6, 28, 41; No. 12, 23, 46 (Apr. 13, May 25, 1921).
- Williams, S. M.** Pressroom requirements. Paper Trade J. 72, No. 24, 44-46 (June 9, 1921); Paper Ind. 3, No. 3, 473-479 (June, 1921). Paper 28, No. 20, 14-16 (July 20, 1921).
- Wolf, Robert B.** Human engineering in papermaking. Paper Trade J. 72, No. 24, 25-26 (June 9, 1921).

**You Have Often Seen This Done**



N. E. P. Co.'s Bulletin, the mill organ of the Nekoosa Edwards Paper Company, Port Edwards, shows this photograph and asks for suggestions to safeguard this kidder winder. The operator is winding a string on the shaft to prevent the roll from slipping. Sometimes his hand is drawn into the pinch.



## PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending March 31, 1922, and for the Nine Months Ended March 31, 1922, as Compared with Corresponding Months of Two Previous Years.

PAPER AND MANUFACTURES OF.	IMPORTS—PAPER.							
	March 1921		March 1922		Nine Months Ended March 31, 1921		Nine Months Ended March 31, 1922	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Books, Music, Maps, Engravings } Free		\$449,071		\$593,770		\$4,034,267		\$3,071,469
Etchings, Photographs, and other } Dut.		195,944		189,896		1,862,070		1,600,779
Printed Matter								
Decalomania paper, not printed. Free		17,342		9,719		173,501		69,144
Lithographic Labels and Prints (except Post Cards)	77,696	77,280	105,448	58,980	904,832	633,616	1,146,483	548,637
Paper Hangings		51,737		63,228		278,205		315,992
Photographic	262,811	54,791	356,758	101,900	1,188,346	314,256	1,785,246	369,237
Printing Paper—								
News print	133,581,913	8,300,695	156,062,992	5,455,889	1,164,637,587	64,534,034	1,370,084,529	54,558,188
All other	250,721	25,812	19,600	2,267	4,043,697	511,675	296,517	41,400
Post Cards, Souvenir		5,560		4,404		160,466		85,445
Pulp board, in rolls, not laminated	5,023,076	149,977	8,512,367	228,345	61,423,753	2,000,836	31,463,810	839,785
Surface-coated	118,175	25,160	101,685	21,677	990,500	269,247	534,792	117,803
Wrapping	496,804	37,630	3,834,392	139,707	4,765,903	420,343	14,665,758	556,080
All other		338,077		280,794		2,742,699		1,939,702
Total Paper, and Manufactures of		\$9,729,076		\$7,150,576		\$77,935,215		\$64,113,661
CRUDE PAPER STOCK.								
Rags (except woolen)	9,357,314	\$223,155	20,372,471	\$331,526	140,247,620	\$5,283,386	149,242,012	\$2,227,530
All other kinds of paper stock	8,296,796	176,898	10,671,795	259,189	125,739,904	4,595,948	104,549,056	2,248,790
WOOD PULP.								
Mechanically ground	2,396	\$115,979	11,094	\$296,035	148,454	\$11,492,780	171,935	\$4,485,762
Chemical—								
Unbleached—								
Sulphate	4,807	\$495,915	12,989	\$850,459	105,442	\$13,318,302	169,549	\$10,205,777
Sulphite	8,531	999,099	17,994	952,139	200,878	28,592,893	244,053	13,735,528
Total	13,338	\$1,495,014	30,983	\$1,802,598	306,320	\$41,911,195	413,602	\$23,941,305
Imported from—								
Norway			550	\$26,661	6,273	\$996,761	8,560	\$418,569
Sweden	1,006	\$136,703	3,171	185,101	79,262	11,361,767	171,102	9,359,976
Canada	9,220	917,983	20,422	1,269,827	195,218	25,639,262	179,999	11,335,632
Other countries	3,112	440,328	6,840	321,009	25,567	3,913,405	53,941	2,827,128
Bleached—								
Sulphate	24	\$2,725	176	\$14,527	8,357	\$1,178,657	4,979	\$311,743
Sulphite	5,588	754,338	12,034	1,108,642	78,647	14,754,741	101,748	8,819,709
Total	5,612	\$757,063	12,210	\$1,123,169	87,004	\$15,933,398	106,727	\$9,131,452
Imported from—								
Norway	1,246	\$147,118	1,723	\$159,016	9,990	\$2,255,910	15,512	\$1,433,597
Sweden	95	19,280	612	46,138	12,483	2,116,087	12,204	853,022
Canada	4,222	584,164	8,702	835,734	56,540	10,102,110	64,017	5,789,820
Other countries	49	6,501	1,173	82,281	7,991	1,459,291	14,994	1,055,013
CHEMICALS AND OTHER PAPER MAKERS' MATERIALS.								
Colors or dyes, n.e.s.	156,198	\$248,768	301,214	\$378,863	2,675,251	\$4,110,952	2,495,452	\$3,541,066
Imported from—								
Germany	39,612	\$81,343	118,812	\$128,596	1,044,470	\$1,525,725	1,135,543	\$1,699,827
Switzerland	76,413	93,699	142,338	213,000	840,351	1,658,900	933,441	1,365,825
United Kingdom	24,104	35,754	30,029	25,757	230,089	294,774	270,962	263,776
Other countries	16,069	37,972	10,035	11,510	560,341	631,553	155,506	211,638
Indigo—								
Natural	9,649	\$13,950			121,038	\$285,123	20,619	\$26,626
Synthetic	1,471	1,588	16,726	\$38,345	266,804	203,065	429,918	262,494
Alizarin and alizarin dyes	37,344	45,174	27,356	54,235	275,388	336,242	318,909	492,789
Lactarene or Casein	1,040,249	117,212	1,170,524	74,962	10,954,548	1,293,433	7,488,837	472,682
Lime, Chlor. of, or bleaching powder	319,214	7,980	1,000,634	14,225	2,647,648	96,102	16,057,321	243,595
Magnesite, not purified	6,931	141,247	7,853	170,785	37,689	638,574	44,050	826,641
Potash, Hydrate of	367,503	31,892	637,740	34,108	1,338,106	275,880	10,261,193	419,482
Sulphur or Brimstone						30	2	134
China clay or kaolin	8,568	98,228	13,085	140,215	224,498	2,533,183	129,025	1,333,521
PULP WOOD.								
Rough	38,108	\$436,089	11,986	\$123,706	285,402	\$3,603,048	124,635	\$1,499,571
Peeled	106,235	1,602,214	66,098	684,498	934,405	13,921,565	420,165	4,626,276
Rosseed	7,292	139,222	4,325	53,148	149,994	2,807,476	52,581	801,330
Total	151,635	\$2,177,525	82,409	\$861,352	1,369,801	\$20,332,089	597,381	\$6,927,177

(Continued on page 60)

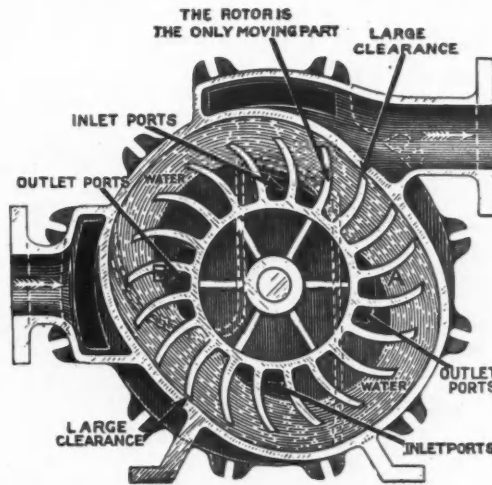


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were developed after many years' experience, and will give you better results, at a considerable saving in power.

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**CHICAGO, ILL.**

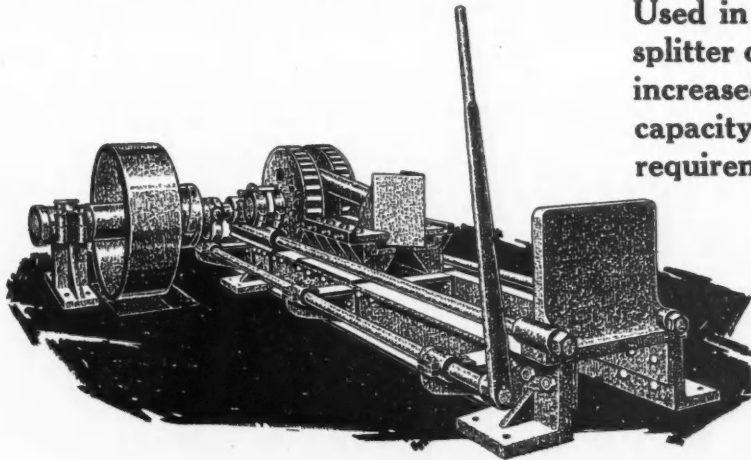
## PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(Continued from page 58)

PAPER AND MANUFACTURES OF.	EXPORTS—PAPER.							
	March				Nine Months Ended March 31			
	1921		1922		1921		1922	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Paper, except printed matter (total).....		\$2,537,547		\$2,074,373		\$51,152,293		\$14,214,557
<b>PRINTING PAPER—</b>								
News Print.....lbs.	2,191,874	\$169,847	5,581,681	\$246,275	56,689,348	\$4,120,615	26,289,747	\$1,249,952
<b>Exported to—</b>								
Canada.....	59,428	\$3,036	219,066	\$16,250	1,145,711	\$91,266	486,455	\$35,513
Cuba.....	747,137	56,284	1,362,443	56,904	14,177,291	1,032,788	12,116,760	551,741
Argentina.....	661,907	48,733	2,097,657	81,808	23,041,646	1,358,302	4,957,826	195,102
Brazil.....	5,193	612	43,506	5,093	1,081,841	124,115	164,190	14,436
Uruguay.....	34,719	2,604	118,380	5,623	1,680,183	105,894	191,635	9,139
Other South America.....	44,149	4,816	389,356	19,351	4,227,487	391,965	1,708,211	87,459
China.....	59,480	4,826	505,355	18,206	1,651,058	169,283	899,976	37,012
Philippine Islands.....	367,942	29,434	539,892	25,795	2,879,607	200,702	2,489,335	127,006
Australia.....			306,026	17,245	735,827	80,238		192,544
Other countries.....	211,919	19,502			6,069,697	566,062	3,275,359	
Bible or India paper.....lbs.			900	\$196			18,308	\$1,855
Other book paper, not coated.....lbs.	4,489,628	\$644,289	1,725,990	\$185,339	71,774,311	\$11,766,193	14,206,780	\$1,587,663
<b>Exported to—</b>								
Greece.....					756,384	\$98,100		
United Kingdom.....	73,550	\$17,841	29,570	\$5,942	1,035,254	229,434	283,766	\$55,906
Canada.....	184,524	30,427	207,258	32,164	3,719,533	545,380	2,018,248	240,418
Mexico.....	221,567	36,300	17,558	16,790	1,782,845	343,296	2,279,546	260,102
Cuba.....	205,329	38,613	395,975	42,853	10,557,995	1,866,292	1,783,646	185,224
Argentina.....	940,474	127,334	5,528	248	11,970,348	1,672,939	266,857	36,276
Brazil.....	59,531	13,263	90,405	12,443	4,787,176	888,290	437,911	67,218
Chile.....	8,476	1,363	13,476	1,740	933,978	173,328	64,920	8,702
Colombia.....	46,204	9,344	57,879	6,258	1,346,413	232,801	280,696	29,109
Peru.....	60,882	10,672	10,200	882	1,087,927	191,029	294,897	29,258
Uruguay.....	3,027	444			1,910,149	267,524	325	43
Venezuela.....	2,389	546	49,573	4,860	1,206,718	220,405	461,833	54,758
British India.....	152,835	24,932	22,054	2,608	2,939,072	469,014	417,644	41,405
China.....	644,830	83,369	65,581	4,866	6,257,949	1,050,702	1,166,563	117,509
Dutch East Indies.....	6,006	740			1,191,582	191,203	7,186	914
Japan.....	326,112	36,804	303,112	21,632	1,434,538	197,672	1,793,429	162,762
Philippine Islands.....	443,414	56,883	91,146	10,548	4,366,526	740,132	902,726	98,635
Australia.....	738,338	102,206	65,257	5,998	7,614,852	1,092,166	501,553	49,582
Other countries.....	372,040	53,208	141,558	15,507	6,875,072	1,296,486	1,245,034	149,842
Cover paper.....lbs.			100,148	\$16,319			129,991	\$46,465
Grease-proof and waterproof paper.....lbs.		\$9,980	90,487	9,515		\$313,391		61,775
Wrapping paper.....lbs.	1,417,687	144,163			36,806,887	4,717,685	*11,682,845	*777,175
Kraft wrapping.....			139,003	11,737			1265,797	121,570
Other wrapping.....			3,484,964	200,793			18,224,474	1,512,273
Writing paper and envelopes.....		374,251				7,488,930		*1,033,894
Writing paper, except in papeteries.....lbs.		542,438		99,259			11,611,458	*277,152
Surface-coated paper.....lbs.		305,943		66,039			173,365	150,372
Tissue and toilet paper.....		67,994				1,501,855		*398,118
Tissue and crepe paper.....lbs.			208,549	48,910			555,214	132,830
Toilet paper.....			425,541	45,700			1,015,963	111,911
Paper towels and napkins.....lbs.		12,002	108,955	15,190		325,770		110,464
Bristols and bristol board.....			142,367	14,304			128,480	134,994
Paper board and straw board.....		203,496	4,101,399	160,873		4,417,717		1,113,552
Sheathing and building paper.....			375,249	17,387			985,656	138,666
Wall board of paper or pulp.....sq. ft.		87,725	1,248,389	44,024		1,202,934		274,639
Cigarette paper and books.....lbs.			94,132	43,203			1180,265	180,284
Photographic paper.....			157,509	126,324			1406,665	1375,660
Paper hangings (wall paper).....yard		92,627	2,722,745	64,479		921,718		310,247
Paper bags.....		55,530	1,067,292	98,592		1,808,466		617,371
Boxes and cartons.....lbs.		85,285	898,555	58,008		1,731,581		747,985
Carbon paper.....lbs.		37,343	71,010	57,606		713,968		331,298
Envelopes.....lbs.			194,575	38,766			1569,060	1109,803
Indurated fiber ware.....			50,798	1,609			167,812	76,320
Playing cards.....pack		45,006	243,524	38,553		938,684		287,288
Cash-register and adding-machine paper.....lbs.		17,851	70,021	6,754		229,732		81,186
Papeteries (writing paper in boxes).....lbs.			8,622	3,956			140,587	116,685
Other paper and paper products, n.e.s.....lbs.		490,158	2,255,048	354,663		8,953,054		3,315,110
<b>Books, maps, pictures, and other printed matter.....lbs.</b>		\$1,904,223		\$631,928		\$19,749,675		\$9,481,915
Books and Pamphlets.....			1,737,808	\$631,928			14,521,327	11,683,189
Maps and charts.....			4,941	8,575			132,228	149,720
Music in books or sheets.....			54,313	38,115			1114,548	185,067
Souvenir post cards.....			165,825	21,444			1522,778	169,370
Lithographically printed matter, except post cards and maps.....lbs.			183,002	99,138			1427,648	1208,137
Other printed matter.....lbs.			1,608,711	564,227			14,770,791	11,683,042
<b>WOOD PULP AND PAPER STOCK.</b>								
Wood Pulp.....tons	2,229	\$186,580			21,161	\$2,331,386	*11,740	*\$614,098
Mechanical wood pulp.....tons							11	159
Sulphite wood pulp.....tons			1,738	\$69,217			15,180	1227,334
Soda wood pulp.....tons			390	36,427			1901	184,660
Kraft wood pulp.....tons								
Other wood pulp.....tons			587	13,434			1840	131,438
Rags, and other paper stock.....lbs.	2,541,193	61,416	11,567,865	167,924	50,238,168	1,611,294	50,066,863	755,416
<b>PAPER AND PULP MILL MACHINERY.</b>								
Paper and pulp-mill machinery.....		\$352,959				\$3,043,013		*\$1,376,074
Pulp-mill machinery.....lbs.			22,052	\$4,849			173,377	119,614
Paper-mill machinery.....lbs.			631,539	178,193			12,152,724	1723,191

\*July 1 to Dec. 31, 1921. †Jan. 1 to Mar. 31, 1922.

# HORIZONTAL WOOD SPLITTERS



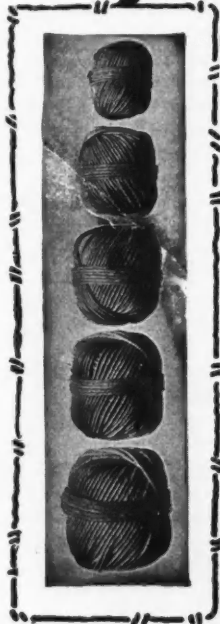
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FINE AND COARSE POLISHED TWINES	
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The name "AMERICAN" as applied to cordage means "more value in every way." Send for copy of our General Catalogue, Prices and samples. Address Department M.

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NOBLE AND WEST STREETS, BROOKLYN, NEW YORK CITY

# CORDAGE

### Dr. Baker and the Flood Situation

Because of the relation of the water-power problem to the paper industry, Dr. Hugh P. Baker, Executive Secretary of the American Paper and Pulp Association, has taken issue with an editorial in the *New York Evening Post*, which discusses the flood situation in the lower Mississippi and other rivers. He says:

"Having spent some time in Germany and France in a study of forestry, and having gone over with a great deal of care the unusual work of the French Government in their stream-correction work in Savoy in Eastern France, I am greatly surprised in one statement of the above-mentioned editorial. In the last paragraph you state that 'Adequate reservoirs are impossible, and Government experts dismiss the idea that reforestation will help.' It would be very interesting to know what Government experts have dismissed the idea that reforestation will help the flood control, and also why you assume that adequate reservoirs are impossible and that the only method of correcting the flood situation on the lower reaches of our larger rivers are levees, bank revetments, and channel enlargements.

"Floods, like forest fires, occurred in this country no one knows how many times before this country was known to white men. We are going to continue to have some forest fires and some floods even with all that man can do to prevent these destructive agencies. That is, they will occur at intervals, sometimes years apart. Abnormal conditions such as the sudden breaking of spring weather where there are unusual amounts of snow on the hills and mountains, at the headwaters of streams, with warm rains causing the unusual amounts of water to be precipitated into the streams to rush onto the low lands, carrying soil and debris that will be destructive to property of all kinds.

"Impounding flood waters, either at headwaters of streams or along their lower courses, will be exceedingly helpful in preventing floods. This idea of storage reservoirs is being used in the Pittsburgh district, in the Miami Valley, and elsewhere in this country, with promise of great good. Long and thorough investigations in the older countries of Europe, however, have shown that storage reservoirs alone are not capable of insuring a stream against floods. Combined with storage reservoirs, a satisfactory forest cover on the hills and mountains on the headwaters of streams, will prevent floods.

When Savoy, which is a mountainous province, was taken from Italy by Napoleon it was poorly handled for a number of years. France finally awoke to the fact that she was pretty nearly losing a province by failure to make the best use of the soil of the province, largely by allowing destruction of low lands by constant floods. She thereupon outlined a campaign, which in the end will mean the spending of millions of francs, used in the building of stone dams like steps up the narrow gorges, in the building of storage reservoirs, and finally, and, in the minds of the French engineers, most important, the covering of the watersheds at the heads of streams with an evergreen forest. Not only in Savoy but elsewhere in the mountainous sections of France is this work being carried on. Switzerland began similar work years ago, and Germany and Austria, profiting by the experience of France, were doing the same work before the war. In every case it was considered that the building of levees, etc., was a temporary expedient and that the solution of the problem lay in the combination of impounding reservoirs and reforestation.

Competent engineers in this country who have looked into this matter, and who are now advising the Pittsburgh Flood District, are not only recommending dams for the impounds of water but the complete covering of headwaters with continuous forests. The action of our Federal Government in spending large sums of money under the so-called Weeks Law for the purchase of forest lands at the headwaters of streams is a far-sighted move, which has already meant much in preventing floods among streams having their head in the Southern Appalachian Mountains. The flood situation on the Mississippi, which, of course, is the greatest problem of its kind in

the country, can be solved only with combination of impounding reservoirs and a very far-sighted policy for the re-covering of the watersheds at the headwaters of the Mississippi and Missouri with forests.

"It would be out of place here to attempt to describe the value of the forest in preventing rapid run-off of water from melting snow, and from unusual downpour of rain. Suffice it to say that the forest cover breaks the force of rain, shades the snow so as to allow its gradual melting, lets the water work into the soil along the roots of the trees, to come out gradually in the springs and streams.

"This country has been so rich in her natural resources that she has been standing idly by for years and letting floods destroy great areas of fertile bottom lands, and now in many instances we are beginning at the wrong end of the problem by attempting to build up the banks of streams instead of going back to the headwaters where the problem can be solved."

### News of the Boston Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 17, 1922.—A representative of one of the big firms dealing in kraft paper who has just returned from Germany stated that the market for that make of paper in Germany has been during recent months a sellers' market rather than a buyers' market. He also said that the firms of that country were swamped with orders, sufficient to take care of their entire output for some time to come. The demand for the kraft paper, he stated, was so great that it was a difficult proposition even to obtain quotations and that liberal margins of profit were allowed on the orders obtained in order to take care of any possible fluctuation in exchange rates.

The Andrews Paper Company of 54 India street, New England distributor for the Brown Company of Portland, Me., is handling a new line of Brown goods, the Nibro Kraft Towels, which are proving a great seller. The new towels, made from selected resinous northern woods, are both antiseptic and cleansing. The slogan adopted by the firm in its selling campaign is "One Wipes Dry."

The W. H. Claflin & Co., Inc., of 332 Summer street, is conducting a drive on Champion papers, which are proving popular in Boston. The firm has issued a comprehensive booklet giving styles, weights and prices of the paper, for which there is a good demand in this city. The firm is also pushing Stadium Bristol cards and are offering attractive prices for quantity lots. A new line of envelopes put in by the company recently is the XX White Wave, high cut, 6 $\frac{3}{4}$ , which they are advertising as a postage saver, the prices running close to \$1.30 per thousand. The Parsons Mercantile Record paper and other Parsons paper are proving popular in Boston and are carried by the Claflin firm, which recommends them for blank books, loose leaf systems and general office use.

John Carter & Co., on Atlantic avenue, are issuing an attractive display booklet of "Sunburst" Covers showing samples of one ply and of two ply white lined in different colors, made by the Hampden Card and Glazed Paper Company of Holyoke, Mass. A new price list will be issued by the firm the twenty-fifth of the month which will be an up-to-date list including all of the standard lines which the company has carried for some years, as well as the newer ones.

Mr. John C. Hurd, advertising manager of the A. Storrs & Bennett Company, will address the annual meeting of the Strathmore Mills and Merchants Association to be held at the Mittineague and Woronoco mills of the Strathmore Company just outside of Springfield today and tomorrow. The meetings will be held in the new Memorial Hall at the Woronoco Mills, built in memory of the men of the company who lost their lives in France during the World War. Mr. Hurd will speak on "Sales Service."

The John E. Perry Company, paper box boards manufacturer, has moved its office from 910-913 Rice building, 10 High street, this city, to Room 516, the same building.



Howard Bond



Howard Ledger

**"The Paper of Many Uses"**

*Manufactured by*

**THE HOWARD PAPER COMPANY,**

**Urbana, Ohio**

**FORGE LAP-WELDED**

**SOFT STEEL**

**DIGESTERS**

**ALL SEAMS LAP-WELDED**

**AMERICAN WELDING COMPANY**

**CARBONDALE, PA.**

**VERTICAL  
SEAMS  
HEATED WITH  
FURNACES  
AND WELDED  
WITH  
HYDRAULIC  
POWER**

**CIRCUMFEREN-  
TIAL SEAMS  
HEATED WITH  
FURNACES  
AND HAMMER  
WELDED**

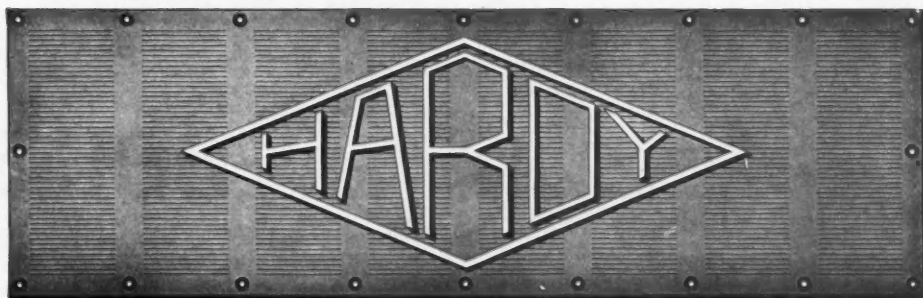
**Felt Test—Lowest Cost per Ton**

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.

**THE ORR FELT & BLANKET COMPANY, Piqua, Ohio**

**WILLIAM A. HARDY & SONS COMPANY, Fitchburg, Mass., U.S.A.**



# PULP STONES

of absolutely the finest quality

**Lombard & Co., Incorporated**

*Importers and Dealers*

236-238 A Street : BOSTON, MASS.

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## BLUE RIDGE FIBRE

Bleached Soda Pulp

Manufactured and sold by

**COLUMBIAN PAPER COMPANY**  
BUENA VISTA, VIRGINIA

*Samples and prices upon application*



**SERVICE  
WOOD  
ROLLS**

A Construction  
for  
Every Service

*Free Roll Blue Prints*

**RODNEY HUNT MACHINE CO.**

No. 63 Maple Street

Orange, Mass.

## REMOVAL NOTICE Hungerford & Terry, Inc.

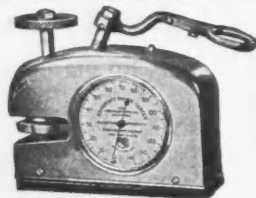
Engineers and Manufacturers of  
Water Filters

Announce the removal of their offices to  
their recently completed factory at

**CLAYTON, N. J.**

New England Representative: Hurricane Engineering  
Company, 53 State St., Boston, Mass.

Southern Agent: H. G. Mayer, Charlotte, N. C.



**The Ashcroft  
Paper Tester**

Actual necessities for all those who make, sell or purchase paper in  
any form. The thousands in daily use testify to their efficiency.

**THE ASHCROFT MFG. CO.**

119 West 40th Street New York  
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Canadian Sales Agents: The Canadian Fairbanks Morse Co., Montreal and Toronto.



**The Ashcroft  
Thickness Gauge**

## COLORS FOR PAPERMAKERS

**KUTTROFF, PICKHARDT & CO.**

INCORPORATED

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BOSTON - 157 Federal St. PHILA. - 111 Arch St.  
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**GRISSINGER**  
Patented  
**AUTOMATIC  
TUBE  
MACHINE**

Wire Stitched Tube  
TOILET PAPER  
MACHINERY

**GRISSINGER MACHINE WORKS  
PHILADELPHIA, PA.**

Patented June 24, 1913.  
August 10, 1915

# HEINE

LARGE-UNIT

# BOILERS

LONGITUDINAL AND  
CROSS DRUM TYPES  
WASTE-HEAT BOILERS  
ALL CONFORM TO ASME CODE

*Heine Boiler Company Saint Louis U.S.A.*

BOILER MANUFACTURERS FOR 40 YEARS



**The John W. Higman Co.**

29 Broadway New York City

**QUALITY  
CLAYS**

FOR ALL PURPOSES

ENGLISH AND AMERICAN

**PAPER MAKERS CHEMICAL CO.  
WESTERN PAPER MAKERS CHEMICAL CO.**

EASTON HOLYOKE KALAMAZOO  
JACKSONVILLE PENSACOLA ST. AUSTELL

CLAYS ROSIN SIZE  
SATIN WHITE FOAM KILLER

FELT SOAP and OTHER SPECIALTIES

**The Lockport Felt**

Use a Lockport *Cylinder Bottom* and *Top* combination for *Board* and watch your *Felt Cost*

ASK THE MEN WHO RUN THEM  
YOURS FOR SERVICE

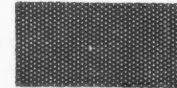
**LOCKPORT FELT COMPANY**  
NEWFANE, N. Y.

**Perforated Metal Screens**

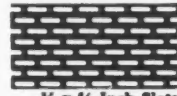
For Pulp and Paper Mills

STEEL, COPPER, BRASS, BRONZE  
and other Alloys

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



36 Inch Round



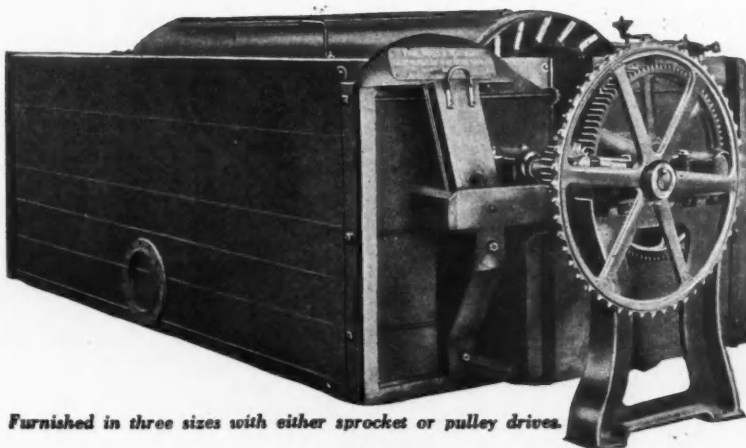
3/4 x 1/2 Inch Slots

**CHARLES MUNDT & SONS**  
53-55 FAIRMONT AVE. JERSEY CITY, N. J.

**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.

MADE BY  
**GLENS FALLS MACHINE WORKS**  
GLENS FALLS, N. Y.

Try our Split Cams for your Flat Screens

**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 high-grade materials.

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

## New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,  
WEDNESDAY, May 17, 1922.

A general picking up in every division of the paper industry was apparent throughout the past week, though there were no very great alterations in fundamental conditions. Recent reports show that the unemployment situation is being gradually alleviated, but this process is necessarily so slow that no immediate reaction upon market conditions could be anticipated. John Sullivan, director of the Municipal Industrial Aid Bureau, estimates that there are still in the neighborhood of a quarter of a million people out of work in Greater New York alone. This figure is, however, just half the estimated number of unemployed persons in the city during last fall and the early winter months.

"I am confident that the acute unemployment crisis has passed," said Mr. Sullivan, "but I believe there will be a recurrence next fall. This, however, probably will not be so serious as was the last." Such a situation is bound to affect, not only the paper industry in its every branch, but industry as a whole. It is generally recognized that if the millions of unemployed over the country could automatically have their earning power and consequent spending power restored to them, the top-heavy supply of manufactures would be readily consumed and the additional installations of machinery to provide for the abnormal demand, which occurred as a result of the war, could again enjoy capacity production.

Not that this single factor is the predominating cause for the depression which the paper industry has suffered, but it is one of the many important situations which will have to be overcome before normal conditions are restored. As an illustration of this, the fact that the impending strike in the news print industry was averted has tended greatly to increase confidence in the firmness of the market and give ground to the belief that the present period of prosperity in this line will continue unabated.

Another development which has been noted in the New York market lately is the comparative failure of the present coal strike to cripple those industries which require the greatest quantities of this product. Germany is buying large quantities of coal in this country due to the French control of the mines and the prohibitive prices which are being charged in Europe.

German publishers are urging the retention of news print paper for the market there, and this should have its consequent effect on the manufacturers of this country. Business continues to flourish, and such evidences of diminished competition from foreign countries as this point to a protracted period of healthy conditions.

Book paper has not changed appreciably during the week, but the continually increasing number of inquiries points to further improvement to the market in general. Activity has been developing gradually for some months.

While the domestic consumption of fine papers has not made any spectacular advances of late, confidence is being restored everywhere and a very gradual improvement is all that may be anticipated for some time. Export of fine papers is, however, redeeming this branch of the industry by showing an activity that is really brisk. European countries are demanding considerable quantities of good grade sulphate bonds as well as many other items, and this trade is serving to tide many manufacturers over the relatively light consumption in the domestic market.

Tissue seems to be on a much surer footing than it has been since the Rochester clothing strike was declared. Preparations are being made to supply this trade as before when normal conditions again prevail. Prices are fairly firm and transactions involve increasingly larger quantities.

Despite the fact that prices on No. 2 Domestic kraft took a slight drop, merchants enjoyed a fairly steady volume of business in wrapping papers throughout the week, and all other grades of kraft remained firm.

Board evinced some signs of life during the past week, at least as far as inquiries are concerned. Dealers are inclined to believe that the long period of dullness is rapidly nearing an end, and the percentage of chronic pessimism is becoming relatively lower. Box-board, however, continues in good demand.

### Mechanical Pulp

That the ultimate consumer is coming to accept the present prices in this market as fair ones, is evidenced by the fact that the turnover registered marked advances during the last few days while prices have remained firm. Ground wood dealers are exhibiting more interest again in the better grades of mechanical pulp, and the gigantic strides which have been taken by the news print industry thus far in 1922 forecast an unusually heavy drain on this market for the balance of the year. Due to the fact that many news print mills are enjoying capacity production at the present time, and in view of the increased likelihood for this progress to continue, since a strike has been averted in the industry, it is not even probable that this market will be greatly affected by the general "slump" of the summer months.

### Chemical Pulp

A great deal more activity is being noted in the chemical pulp market on the part of consumers. Not only are many substantial orders materializing, but mills that have been closed many months are reopening, confident that it is again profitable to manufacture the commodity. Competitive foreign sulphites have kept domestic brands at exceedingly low levels, so that despite the increased interest which consumers have shown, not much profit is yet to be made on turnovers.

### Old Rope and Bagging

The situation in the markets for these two commodities has remained so nearly constant for the past two or three months that it is only by standing off at a distance and comparing present conditions with those that prevailed a year ago that the unmistakable progress can be detected. The absurdly low prices in most of the grades of old rope and bagging have led many consumers to inquire for quotations recently and a number of these have resulted in sizable orders.

### Waste Paper

Western competition in this market for the last few weeks has evidently had a stimulating effect upon the consumption in the east. Several dealers reported that they were somewhat behind in deliveries during the preceding week, and this increased activity, combined with the advantageous prices which have been quoted, has produced a marked scarcity of the better grades, such as book and shavings.

### Rags

The rag market has followed close on the heels of the waste paper market in point of progress. Higher grades of thirds and blues, as well as Nos. 1 and 2 whites, have bolstered up considerably and are in constant demand. Firm price levels have generally characterized the market, and the comparative scarcity of those grades which are in greatest demand has led many manufacturers to make inquiries before a possible soaring of prices should occur. Western dealers are competing actively in this field, as well as in the waste paper market, and this unusual demand for a few lines has done much to hasten the return of normal conditions to the industry.

### High Level Paper Products Co. Formed

CLEVELAND, Ohio, May 15, 1922.—E. L. Roe, manager of the Cleveland plant of the Mid West Box Company has resigned from that concern and has organized under the laws of the State of Ohio a company known as the High Level Paper Products Company. The new concern will manufacture fiber containers in a plant to be located at Berea, Ohio.



Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations May 16, 1922:

Table of Paper Company Securities including American Writing Paper, International Paper Company, and Union Bag & Paper Corporation.

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

Paper

Table of Paper products including Leggers, Bonds, Writings, News, Rolls, Sheets, Side Runs, Book, Cased, Engine Sized, Tissues, Kraft, Manila, Fiber Papers, Common Bogus, Card Middies, News, Straw, Binders' Board, Sgl. Mla. Ll. Chip, Wood Pulp, Container, Wax Paper, Glassine, Bleached basis 25, Bleached basis 20, Mechanical Pulp, Chemical Pulp, Sulphite (Imported), Bleached, Easy Bleaching, No. 1 strong unbleached, No. 2 Strong unbleached, No. 1 Kraft, Sulphate, Bleached, Sulphite (Domestic), Bleached, Strong unbl'ch'd, Easy Bleaching, News Sulphite, Mitscherlich, Kraft (Domestic), Soda Bleached.

Domestic Rags

Table of Domestic Rags including Prices to Mill, New White, Silesias, New Unbleached, Washables, Fancy, Cotton, Blue Overall, New Blue, New Black Soft, New Light Sec-onds, O. D. Khaki Cuttings, Men's Corduroy, New Canvas, New Black Mixed, White, Repacked, Miscellaneous, White, No. 2, Repacked, Miscellaneous, St. Soiled White, Thirds and Blues, Repacked, Miscellaneous, Black stockings, Cloth Strippings, No. 1, No. 2, No. 3, No. 4, No. 5A.

Foreign Rags

Table of Foreign Rags including New Light Silesias, Light Flannelettes, Unbl'ch'd Cottons, New White Cuttings, New Light Oxford, New Light Prints, New Mixed Cuttings, New Dark Cuttings, No. 1 White Linens, No. 2 White Linens, No. 3 White Linens, No. 4 White Linens, Old Extra Light Prints, Ord. Light Prints, Med. Light Prints, Dutch Blue Cottons, German Blue Cottons, Ger. Blue Linens, Checks and Blues, Dark Cottons, Shopery, French Blues.

Bagging

Table of Bagging including Gunny No. 1, Foreign, Domestic, Wool, Tares, light, Wool, Tares, heavy, Bright Bagging, No. 1 Scrap, Sound Bagging, Manila Rope, Foreign, Domestic, New Bur. Cut, Hessian Jute Threads, Foreign, Domestic, Mixed Strings.

Twines

Table of Twines including Cotton (F. o. b. Mill), No. 1, No. 2, No. 3.

Table of Paper products including India, No. 6 basis, Light, Dark, B. C., 18 Basis, A. B. Italian, Basis, Finished Jute, Light, 18 basis, Dark, 18 basis, Jute Wrapping, 3-6 Ply, No. 1, No. 2, Tube Rope, 4-ply and larger, Fine Tube Yarn, 5-ply and larger, 4-ply, 3-ply, Unfinished India, Basis, Paper Makers Twine, Balls, Box Twine, 2-3 ply, Jute Rope, Amer. Hemp, 6, Sisal Hay Rope, No. 1 Basis, No. 2 Basis, Sisal Lath Yarn, No. 1, No. 2, Manila Rope.

Old Waste Papers

Table of Old Waste Papers including Shavings, Hard, White, No. 1, 3.75 @ 4.00; Hard, White, No. 2, 3.30 @ 3.55; Soft, White, No. 1, 3.20 @ 3.30; Flat Stock, Stitchless, 1.55 @ 1.65; Over Issue Mag., 1.55 @ 1.65; Solid Flat Book, 1.40 @ 1.50; Crumpled No. 1, 1.05 @ 1.15; Solid Book Ledger, 2.00 @ 2.25; Ledger Stock, 1.55 @ 1.65; No. 1 White News, 1.65 @ 1.75; New B. B. Chips, .50 @ .55; Manilas, New Env. Cut, 2.60 @ 2.85; New Cut No. 1, 1.60 @ 1.75; Extra No. 1, Old 1.50 @ 1.60; Print, .80 @ .95; Container Board, .60 @ .70; Bogus Wrapper, .55 @ .60; Old Krafts, machine compressed, Bales, 1.60 @ 1.70; News, Strictly Overissue, .75 @ .85; Strictly Folded, .55 @ .60; No. 1 Mixed Paper, .45 @ .50; Common Paper, .35 @ .37 1/2.

CHICAGO

[FROM OUR REGULAR CORRESPONDENT.]

Paper

Table of Paper products including All Rag Bond, No. 1 Rag Bond, No. 2 Rag Bond, Water Marked Sulphite, Sulphite Bond, Sulphite Ledger, Superfine Writing, No. 1 Fine Writing, No. 2 Fine Writing, No. 3 Fine Writing, No. 1 M. F. Book, No. 1 S. & S. C., Book, Coated Book, Coated Label, News-Sheets, mill, No. 1 Manila, No. 1 Fiber, No. 2 Manila, Butchers' Manila, No. 1 Kraft, No. 2 Kraft, Wood Tag Boards, Screenings, Boards, per ton, Plain Chip, Solid News, Manila Lined, Chip, Container Line, 85 Test, 100 Test.

Table of Paper products including Binders' Board, Solid Wood Pulp, Straw Board, Filled Pulp Board.

Old Papers

Table of Old Papers including Shavings, No. 1 Soft Shav., 2.50 @ 2.75; No. 1 Mixed, 1.00 @ 1.10; No. 2 Mixed, 1.00 @ 1.10; White Envel. Cuttings, 3.00 @ 3.25; Ledgers and Writings, 1.50 @ 1.75; Solid Books, 1.25 @ 1.50; No. 1 Books, light, .90 @ 1.00; Blanks, 1.75 @ 2.00; Ex. No. 1 Manila, 1.90 @ 2.00; Manila Envelope Cuttings, 2.00 @ 2.10; No. 1 Manilas, .90 @ 1.00; Folders News (over issue), .80 @ .85; Old Newspaper, .70 @ .75; Mixed Papers, .65 @ .70; Straw Clippings, .70 @ .75; Binders Clippings, .70 @ .75; Kraft, 1.75 @ 2.00; New Kraft Cuts, 2.00 @ 2.10; Roofing Stock, f.o.b. Chicago, Net Cash, No. 1, 21.00 @ 22.00; No. 2, 19.00 @ 20.00; No. 3, 17.00 @ 18.00; No. 4, 17.00 @ 18.00.

PHILADELPHIA

[FROM OUR REGULAR CORRESPONDENT.]

Paper

Table of Paper products including Bonds, Ledgers, Writings, Superfine, Extra fine, Fine, Fine, No. 2, Fine, No. 3, Book, M. F., Book, S. S. & C., Book, Coated, Coated Lithograph, Label, News, No. 1 Jute Manila, Manila Sul., No. 1, Manila No. 2, No. 2 Kraft, No. 1 Kraft, Common Bogus, Straw Board, News Board, Chip Board, Wood Pulp Board, Binder Boards, Per ton, Carload lots, Tarded Felts, Regular, Slaters.

Table of Paper products including Best Tarded, 1-ply (per roll), 1.35 @ 1.50; Best Tarded, 2-ply (per roll), 1.00 @ 1.15; Best Tarded, 3-ply, 1.50 @ 1.65.

Bagging

Table of Bagging including Gunny No. 1, Foreign, Domestic, Manila Rope, Sisal Rope, Mixed Rope, Scrap Burlaps, Wool Tares, heavy, Mixed Strings, No. 1, New Lt. Burlap, New Burlap Cuttings.

Old Papers

Table of Old Papers including Shavings, No. 1, Hard White, 3.50 @ 3.75; No. 2, Hard White, 3.00 @ 3.25; No. 1 Soft White, 3.00 @ 3.25; No. 2 Soft White, 1.75 @ 2.00; No. 1 Mixed, 1.50 @ 1.75; No. 2 Mixed, 1.00 @ 1.25.

(Continued on page 70)

# Imports and Exports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

## NEW YORK IMPORTS

WEEK ENDING MAY 13, 1922

### SUMMARY

News Print	200 bls., 521 rolls
Printing Paper	35 cs.
Photo Paper	1 cs.
Paper Hangings	34 bls., 3 cs.
Wall Paper	35 bls.
Tissue Paper	10 cs.
Cigarette Paper	.91 cs.
Crepe Paper	136 cs.
Filter Paper	3 cs.
Writing Paper	30 cs.
Wrapping Paper	65 bls., 66 rolls
Packing Paper	115 bls.
Miscellaneous Paper	111 cs., 6,332 rolls, 450 bls.

### CIGARETTE PAPER

P. J. Schmeitzer, Cpto, Marseilles, 50 cs.  
British Amer. Tobacco Co., Carmania, Liverpool, 41 cs.

### TISSUE PAPER

Meadows, Nye & Co., Carmania, Liverpool, 7 cs.  
Meadows, Nye & Co., O. N. State, London, 3 cs.

### WALL PAPER

R. F. Downing & Co., O. N. State, London, 15 bls.

A. Murphy & Co., Cedric, Liverpool, 9 bls.  
W. H. S. Lloyd & Co., Port MacQuarie, London, 10 bls.

A. Murphy & Co., Wuerthemburg, Hamburg, 1 bl.

### PAPER HANGINGS

W. H. S. Lloyd & Co., Dakarian, London, 21 bls.  
W. H. S. Lloyd & Co., by same, 3 cs.  
A. C. Dodman, Jr., Baltic, Liverpool, 13 bls.

### PHOTO PAPER

J. J. Ganin, Baltic, Liverpool, 1 cs.

### PRINTING PAPER

B. F. Drakenfeld & Co., Baltic, Liverpool, 3 cs.  
B. F. Drakenfeld & Co., Cedric, Liverpool, 5 cs.  
Oxford University Press, by same, 10 cs.  
Kupper Bros. & Co., Innoko, Rotterdam, 17 cs.

### NEWS PRINT

The Agros Corp., Songelo, Helsingfors, 104 rolls.

J. Harris & Co., Inc., by same, 243 rolls.  
Sonnen O. Kesknokunta, by same, 174 rolls.  
Irving National Bank, Oscar II, Copenhagen, 107 bls.  
Atlantic National Bank, by same, 93 bls.

### CREPE PAPER

Globe Shipping Co., Ryndam, Rotterdam, 136 cs.

### FILTER PAPER

H. Reeve Angel & Co., Ryndam, Rotterdam, 3 cs.

### WRITING PAPER

E. Dietzgen & Co., Cpto, Marseilles, 30 cs.

### WRAPPING PAPER

H. Reeve Angel & Co., Songelo, Helsingfors, 19 rolls.  
Chase National Bank, Oscar II, Copenhagen, 47 rolls.  
Paper Manufacturing Co., Tarantia, Glasgow, 65 bls.

### PACKING PAPER

Wilkinson Bros. & Co., Orbita, Hamburg, 115 bls.

### PAPER

Japan Paper Co., Dakarian, London, 4 cs.  
Republic Bag & Paper Co., Schoharie, Hamburg, 2,888 rolls.

Baldwin Shipping Co., by same, 17 cs.  
Chemical National Bank, by same, 102 bls.

Japan Paper Co., Colombo, Genoa, 67 cs.  
J. P. Heffernan Paper Co., Oscar II, Copenhagen, 126 rolls.

J. P. Heffernan Paper Co., by same, 58 bls.  
Irving National Bank, by same, 38 bls.

Irving National Bank, by same, 83 rolls.  
C. H. Boulin, Cpto, Marseilles, 28 cs.

Parsons & Whittemore, America, Bremen, 2,505 rolls.

Louis Schalman Co., by same, 241 rolls.  
Irving National Bank, by same, 489 rolls.

Irving National Bank, by same, 80 bls.  
Lasher & Lathrop, by same, 72 bls.

Birn & Wachenheim, by same, 100 bls.  
J. W. Hampton, Jr., Co., Wuerthemburg, Hamburg, 8 cs.

F. L. Kraemar & Co., by same, 7 cs.

### RAGS AND BAGGINGS, ETC.

E. Butterworth & Co., Storm King, Antwerp, 119 bls. baggings.

B. D. Kaplan & Co., Baltic, Liverpool, 477 bls. rags.

Mutnick Bros., by same, 23 bls. rags.  
R. F. Downing & Co., by same, 62 bls. rags.

Castle, Gottheil & Overton, Schoharie, Hamburg, 46 bls. rags.

Castle, Gottheil & Overton, La Bourdonnais, Havre, 205 bls. new cuttings.

E. J. Keller Co., Inc., by same, 108 bls. baggings.

Stone Bros., Therwin Co., by same, 75 bls. rags.

Johnson & Faulkner, by same, 30 bls. rags.  
Ladenburg, Thalman & Co., Cedric, Liverpool, 281 bls. rags.

Ladenburg, Thalman & Co., by same, 117 bls. baggings.

B. D. Kaplan Co., by same, 415 bls. rags.  
E. J. Keller Co., Inc., Tarantia, Glasgow, 20 bls. paper stock.

Irving National Bank, Troubador, Buenos Aires, 102 bls. rags.

F. P. Gaskell & Co., America, Bremen, 54 bls. rags.

American Woodpulp Corp., Wuerthemburg, Hamburg, 69 bls. rags.

Castle, Gottheil & Overton, Ryndam, Rotterdam, 154 bls. rags.

State Bank of N. Y., by same, 26 bls. new cuttings.

R. F. Downing & Co., by same, 149 bls. rags.  
R. F. Downing & Co., by same, 250 bls. baggings.

### OLD ROPE

First National Bank of Boston, Ryndam, Rotterdam, 88 coils.

First National Bank of Boston, Blair, Rotterdam, 91 coils.

Brown Bros. & Co., Francisco, Hull, 111 coils.  
D. M. Hicks, Inc., by same, 209 coils.

R. F. Downing & Co., Dakarian, London, 102 coils.

### WOOD PULP

Castle, Gottheil & Overton, Schoharie, Hamburg, 500 bls., 110 tons.

E. M. Sergeant Co., Stavangerfjord, Kristiania, 215 bls.

Perkins Goodwin Co., by same, 800 bls.

J. Andersen Co., by same, 450 bls.  
Tidewater Papermills Co., Schr. Evelyn Wilkie, Liverpool, N. S., 5,734 bls., 573 tons.

Tidewater Papermills Co., Schr. Nova Queen, Liverpool, N. S., 8,116 bls., 811 tons.

Nilsen Lyon & Co., Inc., America, Bremen, 600 bls., 100 tons.

M. Gottesman & Co., Inc., Ryndam, Rotterdam, 580 bls.

E. M. Sergeant Co., Songelo, Grecker, 1,750 bls., 350 tons.

Irving National Bank, Songelo, Helsingfors, 1,050 bls., 196 tons.

### WOOD PULP BOARDS

Lagerloef Trading Co., Songelo, Helsingfors, 1,894 bls., 295 tons.

### WOOD FLOUR

Alkar Chemical Co., Orbita, Hamburg, 787 bags,  
The Hansa Co., by same, 318 bags.

B. L. Soberski, Stavangerfjord, Kristiania, 3,020 bags.

### CASEIN

T. M. Duche & Sons, Haliartus, Buenos Aires, 417 bags.

T. M. Duche & Sons, Troubador, Buenos Aires, 417 bags, 25,020 ks.

Atterbury Bros., Inc., by same, 336 bags, 20,160 ks.

Atterbury Bros., Inc., La Pourdonnais, Havre, 188 bags.

## PHILADELPHIA IMPORTS

WEEK ENDING MAY 13, 1922.

E. M. Sergeant Co., Songelo, Grecker, 750 bls. wood pulp, 150 tons.

Lagerloef Trading Co., Songelo, Helsingfors, 1,232 bls. wood pulp, 203 tons.

H. Reeve Angel & Co., by same, 945 reels news print.

Johnston Paper Co., by same, 71 bls. news print.  
Paper House of Pennsylvania, by same, 551 reels news print.

Baldwin Universal Cons. Co., Innoko, Rotterdam, 20 cs. paper.

First National Bank of Boston, by same, 231 bls. rags.

Castle, Gottheil & Overton, Hudson, Routen, 55 bls. new cuttings.

## NEW ORLEANS IMPORTS

WEEK ENDING MAY 13, 1922.

E. J. Keller Co., Inc., Leerdam, Rotterdam, 248 bls. rags.

E. J. Keller Co., Inc., Misscuri, Rouen, 390 bls. bagging.

Castle, Gottheil & Overton, De La Salle, Rouen, 1,060 bls. rags.

## BALTIMORE IMPORTS

WEEK ENDING MAY 13, 1922.

R. F. Hammond, Alexandra, Kristiania, wood pulp, 300 tons.

R. F. Hammond, Carlholm, Gothenburg, wood pulp, 300 tons.

## Attack Rates on Paper From Kalamazoo

WASHINGTON, D. C., May 17, 1922.—A complaint has been filed with the Interstate Commerce Commission by the Texas Farm and Ranch Publishing Company of Dallas, Tex., against the Ahnapee & Western Railway Company and associated carriers, docket No. 13802, in the movement of paper, from Kalamazoo and other points in Michigan and Dallas.

The publishing company referred to above publishes *Holland's* and the *Texas Farm Ranch* magazine. It attacks the rates prior and subsequent to August 26, 1920, on print paper from Kalamazoo, Niles and Quinnesec, Mich., Sartell, Minn., Hamilton, Ohio, Ap-

pleton and Kimberly, Wis., as contained in Leland's Southwestern Lines Tariffs as being unjust, unreasonable and illegal. They ask for a cease and desist order, the establishment of just and reasonable through routes and joint rates on a minimum of not to exceed 40,000 pounds.

## Griswold Paper Co. Incorporated

MONTVILLE, Conn., May 18, 1922.—Arthur Perkins, J. P. Harbison and Edna Millard, of Hartford, Conn., have incorporated the Port Griswold Paper Company in this city with capital stock of \$50,000. Paper and paper substitutes and articles therefrom will be manufactured by the new concern.

# TAYLOR, BATES & CO.

Members New York Stock Exchange  
Members New York Cotton Exchange

100 Broadway, New York  
Tel. Rector 1140



Branch Office  
41 East 42nd Street  
Tel. Murray Hill 5631



## St. Louis Southwestern Ry. Co.

1st Cons. Mort. 4% 1932  
To Yield About 7.35%  
to Maturity

*Descriptive circular upon request*

# MG. SULPHITE PAPER

Pure or mixed with any percentage of Mechanical Wood Pulp.

Basis 24 x 36" --10 lbs. to 60 lbs.,

**Highest Quality at Lowest Market Prices.**

*For Samples and Quotations  
Kindly Apply to*

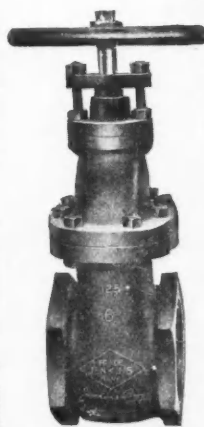
## FERNSTROM PAPER CO., Inc.

Scandinavian Paper Mills' Representatives

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Telephone: Beekman 5891

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### Jenkins Standard Iron Body Gate Valve

Double face, solid wedge type. Body and bonnet of high grade cast iron. Bronze spindle and seat rings. A durable valve throughout made for maximum service.

Wedges have guides which are fitted to slide true and easy on ribs in body and thus prevent disc from chattering when partially open, or from touching seat except at point of final closing.

Valves can be packed when wide open and under pressure.

Know the genuine by the Jenkins "Diamond" and signature.

Fig. 325, Jenkins Standard Iron Body Gate Valve with inside screw, and stationary spindle. Screwed ends.

#### JENKINS BROS.

New York Boston Philadelphia  
Chicago London Montreal



EVERYTHING IN

# PULP & PAPER

## J.F. PATTON CO., Inc.

342 Madison Ave.  
New York City

(Cable address - Pulp.N.Y.)





## Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,  
WEDNESDAY, MAY 17, 1922.

**ALUM.**—While the demand for alum is still below normal, the market is steadily active. Lump is quoted at 3.50 cents a pound, ground at 3.65 and powdered at 3.90.

**BLEACHING POWDER.**—Due largely to the inability to store this by-product of caustic soda during the summer months, manufacturers are curtailing bleach production as far as is practical. The weak demand offset by ample stocks at the plants has held the price at \$1.60 per pound, works.

**BLANC FIXE.**—Signs of firmness characterize the market for blanc fixe though the demand is still light. Increased activity is noticeable, however, at the quoted price of 3.50 to 3.75 cents per pound.

**CASEIN.**—Holding firm at 10.00 cents a pound, New York, this commodity is still in strong demand. Merchants are holding out for more attractive prices, in the main, and the general scarcity of the Argentine product makes it difficult to secure sizable quantities.

**CAUSTIC SODA.**—Quoted at 3.26 cents a pound, f. o. b. works, caustic is in ever increased demand. Manufacturers of the chemical are not producing at capacity, however, due to the difficulty of storing or marketing the by-products at this season. Export of caustic soda is heavy, great quantities of it being in demand in Germany and France. Export prices range from 0.25 to 0.50 cents a pound higher than domestic.

**CHINA CLAY.**—Continued activity in the China clay market has tended greatly to strengthen the tone of the situation. English clays are still quoted at \$13 to \$18 a ton, domestic unwashed at \$6 to \$8 and the washed at \$8 to \$10.

**LIQUID CHLORINE.**—At prices ranging from 5.50 to 7.00 cents per pound in cylinders of 100 pounds, the slack demand for chlorine is making it difficult to meet depreciation costs and no profit is represented at this figure. Prices have been shaded considerably for tank-car quantities.

**ROSIN.**—280-pound barrels of rosin continue to be quoted at the firm price of \$5.20 for grades E, F and G, and the demand, both from abroad and from domestic manufacturers, has increased steadily.

**SALTCAKE.**—The firmness in this market may be directly traced to the small production occasioned by the poor demand for the acids from which the various grades are derived. Acid cake is still quoted at \$20 to \$21 a ton and chrome cake at \$18.

**SATIN WHITE.**—With conditions improving slowly, this product is quoted in the neighborhood of 1.50 cents a pound.

**SULPHUR.**—The opening up of navigation has somewhat stimulated the activity of brimstone due to lower water rates. The price of \$15 to \$17 per net ton and \$18 to \$20, f. o. b. New York, has remained fairly steady ever since December, 1920, although the general outlook is much better than it was a year ago.

**STARCH.**—Paper makers' starch is being quoted at 2.32 and 2.60 cents a pound for bag and barrel quantities, respectively, while pearl starch is selling for 2.22 and 2.50 cents. Considerable activity is in evidence.

**SULPHATE OF ALUMINA.**—While the aluminum sulphate market is not too firm, the product has been selling in the East for 1.40 to 1.50 cents a pound despite the greatly reduced figure quoted by Western manufacturers. Iron free holds at 2.15 to 2.35.

**SODA ASH.**—With a demand somewhat below normal, the soda ash market has been progressing steadily. Coal difficulties have curtailed production somewhat and the price is still quoted at 1.50 cents a pound, works.

**TALC.**—No new developments have occurred in the talc market, the quotation of \$16 to \$18 per ton holding fairly firm.

## Market Quotations

(Continued from page 67)

Solid Ledger Stock.	2.00	@	2.25	New Black Soft.	.03	@	.03 3/4
Writing Paper.	1.80	@	2.00	New Light Sec-			
No. 1 Books, heavy.	1.50	@	1.75	onds	.02	@	.02 1/4
No. 2 Books, light.	1.20	@	1.50	Khaki Cuttings	.02 1/4	@	.03 1/4
No. 1 New Manila.	2.75	@	3.00	Corduroy	.02	@	.02 1/2
No. 1 Old Manila.	1.50	@	1.75	New Canvas	.07	@	.07 1/2
Container Manila.	1.00	@	1.10	New Black Mixed	2.75	@	3.00
Old Kraft	1.90	@	2.00	Old			
Overissue News	.75	@	.80	White, No. 1—			
Old Newspaper	.50	@	.60	Repacked	.06	@	.06 1/4
No. 1 Mixed Paper	.45	@	.50	Miscellaneous	.04 1/4	@	.04 3/4
Common Paper	.40	@	.50	White, No. 2—			
Straw Board, Chip	.40	@	.45	Repacked	.03	@	.03 1/4
Binders' Bd. Chip	.40	@	.45	Miscellaneous	.02 3/4	@	.02 3/4
Domestic Rags—New.				Thirds and Blues—			
Price to Mill, f. o. b. Phila.				Repacked	1.65	@	1.80
Shirt Cuttings				Miscellaneous	1.40	@	1.55
New White, No. 1	.09 1/4	@	.09 3/4	Black Stockings	1.75	@	2.25
New White, No. 2	.05	@	.06	Roofing Stock—			
Silecias, No. 1	.04 1/4	@	.05	No. 1	.90	@	1.00
New Unbleached	.08 1/4	@	.08 3/4	No. 2	.80	@	.90
Washables	.03	@	.03 1/4	No. 3	.70	@	.80
Fancy	.04 1/4	@	.05	No. 4	.70	@	.80
Cottons—according to grades—				No. 5A			nominal
Blue Overall	.04	@	.04 1/4	B			nominal
New Blue	.02	@	.02 1/4	C			nominal

### BOSTON

[FROM OUR REGULAR CORRESPONDENT.]

<b>Paper</b>				Wood, Vat Lined	47.50	@	
Bonds	.06 1/4	@	—	Filled News Board	37.50	@	
Ledgers	.07 1/4	@	.09	Solid News Board	42.50	@	45.00
Writings	—	@	.05	S. Manila Chip	52.50	@	
Superfine	.13	@	.13	Pat. Coated	70.00	@	75.00
Fine	.08 1/4	@	.09				
Books, S. & S. C.	.06 1/4	@	.07	<b>Old Papers</b>			
Books, M. F.	.05 1/4	@	.06 1/4	Shavings—			
Books, coated	.07 1/4	@	.08 1/4	No. 1 Hard White	3.50	@	3.75
Label	.08 1/4	@	—	No. 1 Soft White	3.00	@	3.25
News sheets	3.05	@	—	No. 1 Mixed	1.50	@	1.75
News, rolls	3.75	@	4.00	Ledgers & Writings	.03	@	—
Manilas—				Solid Books	1.75	@	2.00
No. 1 Manila	\$6.75	@	—	Blanks	1.30	@	1.45
No. 1 Fibre	6.00	@	6.25	No. 2 Books Light	.60	@	.70
No. 1 Jute	8.50	@	9.00	Folded News, over-			
Kraft Wrapping	7.00	@	—	issues	\$11.50	@	12.50
Common Bogus	3.00	@	—	Mixed paper	47.50	@	50.00
				Gunny Bagging	.75	@	.80
<b>Boards</b>				Manila Rope	4.25	@	4.50
(Per Ton Destination)				Common Paper	.35	@	.40
Chip	\$33.50	@	—	Old News	.80	@	—
News, Vat Lined	35.00	@	37.50	Old Kraft	1.75	@	1.80

### TORONTO

[FROM OUR REGULAR CORRESPONDENT.]

<b>Paper</b>				Sulphite, bleached	.90.00	@	95.00
(Mill Prices to Jobbers f. o. b. Mill)				Sulphate	70.00	@	—
Bond—							
Sulphite	.11	@	.12 1/4	<b>Old Waste Papers</b>			
Light tinted	.12	@	.13 1/4	(In carload lots, f. o. b. Toronto)			
Dark tinted	.13 1/4	@	.15	Shavings—			
Ledgers (sulphite)	—	@	.13	White Env. Cut.	3.75	@	—
Writing	.10 1/4	@	.13 1/4	Soft White Book			
News, f. o. b. Mills—				Shavings	3.15	@	—
Rolls (carloads)	3.50	@	—	White Bl'k News	1.60	@	—
Sheets (carloads)	—	@	4.25	Book and Ledger—			
Sheets (2 tons or over)	—	@	4.50	Flat Magazine and			
Book—				Book Stock (old)	1.45	@	—
No. 1 M. F. (car-				Light and Crum-			
loads)	9.50	@	—	pled Book Stock	1.30	@	—
No. 2 M. F. (car-				Ledgers and Writ-			
loads)	8.50	@	—	ings	1.80	@	—
No. 3 M. F. (car-				Solid Ledgers	1.80	@	—
loads)	8.00	@	—	Manilas—			
No. 1 S. C. (car-				New Manila Cut	2.00	@	—
loads)	10.00	@	—	Printed Manilas	.90	@	—
No. 2 S. C. (car-				Kraft	2.25	@	—
loads)	9.00	@	—	News and Scrap—			
No. 1 Coated and				Strictly Overissue	.90	@	—
litho.	15.00	@	—	Folded News	.90	@	—
No. 2 Coated and				No. 1 Mixed Pa-	.60	@	—
litho.	14.00	@	—	pers			
No. 3 Coated and				Domestic Rags—			
litho.	13.25	@	—	Price to mills, f. o. b. Toronto.			
Cated and litho.,				Per lb.			
colored	15.25	@	—	No. 1 White shirt			
Wrapping—				cuttings	.09 3/4	@	.10
Grey	4.50	@	—	No. 2 White shirt			
White Wrap	5.00	@	—	cuttings	.05 1/4	@	.05 3/4
B' Manila	5.50	@	—	Fancy shirt cut-			
No. 1 Manila	6.75	@	—	tings	.05	@	—
Fibre	6.75	@	—	No. 1 Old whites	.04	@	—
Kraft, M. F.	8.00	@	—	Thirds and blues	.02	@	.02 1/4
M. G.	8.15	@	—	Per cwt.			
				Black stockings	1.75	@	1.85
<b>Pulp</b>				Roofing stock:			
(F. o. b. Mill)				No. 1	1.35	@	—
Ground wood	\$25.00	@	32.50	No. 2	1.20	@	—
Sulphite easy bleach-				Roofing stock:			
ing	.60.00	@	65.00	Manila rope	.04 1/4	@	.04 1/2
Sulphite news grade	50.00	@	60.00	No. 2	.01 1/4	@	—
				Gunny bagging	1.00	@	1.25



*The Home of Quality*



FACTORY  
132<sup>ND</sup> TO 133<sup>RD</sup> ST & BROOK AVE

# PAPER BAGS

Sacks and Specialties

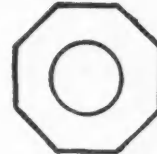
ESTABLISHED 1901

## SCHORSCH & CO.

Manufacturers

500 East 133d Street : New York

This Registered Trade  
Mark Octagon



on a Paper  
Bag Vouches for  
Its Good Quality

## CLAFLIN CONTINUOUS BEATERS

NOW IN USE

Demonstrate the fact that they will do BETTER BEATING, BRUSHING and REFINING, produce a STRONGER, SMOOTHER and MORE UNIFORM PULP than is possible with ANY OTHER BEATER.

Whether run in tandem or singly in connection with regular Beating engines, they are GLUTTONS in the amount of work they will do.

*Write Us for Details*

THE CLAFLIN ENGINEERING COMPANY  
LANCASTER, OHIO

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## “DRAPER”

# FELTS

*For Any Grade of Paper or Pulp*

### ARE GUARANTEED

*To Give Entire Satisfaction*

MANUFACTURED BY

DRAPER BROS. CO., CANTON, MASS.

# Norwood

Mechanical Filtration Plants  
Gravity and Pressure Types

*Write for Information*

NORWOOD ENGINEERING CO.

Florence, Mass., U. S. A.

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## Papier-Zeitung

BERLIN SW 11 (GERMANY)

*Founded by Carl Hofman, 1876*

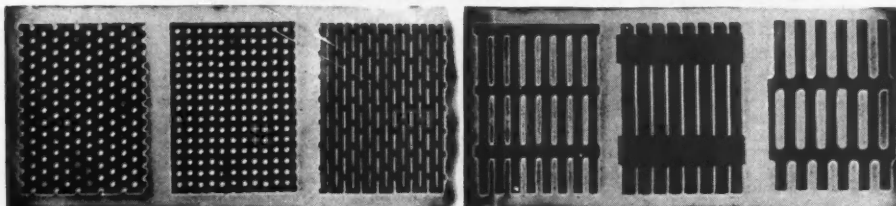
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Covers the whole paper trade (paper making, transforming, stationery). More than 12,500 bonafide subscribers all over the world.

Subscription: 4 Dollars

## PERFORATED METALS

*All sizes  
and  
shapes  
of Holes*



*All kinds  
and  
thicknesses  
of Metal*

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

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# WANT AND FOR SALE ADVERTISEMENTS

## CLASSIFIED RATES

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

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

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

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

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

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

## HELP WANTED

**SALESMAN WANTED** to sell regular line of wrapping papers, twines, tissues, etc., in New York and Brooklyn. Give full particulars in letter, which will be held in strictest confidence. Address, Box 5070, care Paper Trade Journal. My-18

**WANTED:** Superintendent for solid container box factory operating Swift Automatic Cutters and Creasers. Address, Box 5024, care Paper Trade Journal. Jf

**SALESMEN: TOILET PAPER**—Experienced men who can sell quality toilet papers to the better class of jobbers. Our line will require carrying a complete set of samples in order to show the grades and exact appearance of the finished product. Good territory available. Universal Crepe and Tissue Mills, Inc., 117 East 18th St., New York City. My-25

**WANTED**—Boss finisher, mill making high grade bonds and ledgers; located Western Massachusetts. In replying give age, experience and references. Address, Box 5073, care Paper Trade Journal. Jf

**WANTED**—Machine tenders, back tenders and finishers for a new one machine mill to make high grade book, writing and bond papers. Located in a good city—two tours. Highest wages paid to steady and experienced men, no others need apply. Non-union men preferred. State age, married or single. Previous employers. Correspondence treated confidentially. Address, Box 5074, care Paper Trade Journal. My-18

**WANTED**—Two first class beatermen experienced in beating cotton for high grade blotting, writing, bonds and ledger papers. Must be first class color men also. Two tours. State age, married or single, and where employed. Correspondence confidential. Address, Box 5075, care Paper Trade Journal. My-18

**WANTED**—Experienced General Superintendent for Kraft Pulp and Paper Mill. Good salary paid to right man. Give full particulars. Address, Box 5077, care Paper Trade Journal. My-18

**WANTED**—Superintendent for Kraft Pulp Mill. Good salary paid to right man. Only experienced men need apply. Address, Box 5078, care Paper Trade Journal. My-18

**WANTED**—Thoroughly competent man to run calender and press roll grinder. Lobbell machine. News mill. Address, with full particulars, Box 5084, care Paper Trade Journal. My-25

**WANTED**—Finisher capable taking charge stock and deliveries, Jobber's Warehouse. Give experience and wages expected. Address, Box 5089, care Paper Trade Journal. My-25

## HELP WANTED

**MACHINE DESIGNER WANTED:** One having experience in designing pulp screens, thickeners and wet machines preferred. Plant located half way between Boston and Providence. Address, Box 5043, care Paper Trade Journal. Je-8

**WANTED** at once. Draftsman, experienced in paper machine design. State full particulars, experience and salary expected. None but experienced men need apply. Address, Box 5092, care Paper Trade Journal. Je-1

**WANTED:** Millwright to take charge of Repairs, Engines and Boilers in 15-ton Board Mill, located in New England. Address, Box 5091, care Paper Trade Journal. My-25

**MANAGER WANTED** for the Twine and Cordage Department of one of New England's leading Jobbing Houses. A liberal salary and a splendid opportunity for a high grade man. Applications will be held in strict confidence, so write fully about experience and general qualifications. Address, Box 5093, care Paper Trade Journal. My-18

**WANTED:** Salesman. Leading dyestuff house has position open for energetic, live, and experienced man. Must be thoroughly acquainted with the paper trade and know dyestuffs and their application. State experience and references. Address, Box 5094, care Paper Trade Journal. My-25

**WANTED:** An experienced Machine Tender for two Cylinder Machine making Kraft Paper. Only one who desires something permanent need apply. We are not looking for Rolling Stones. Bloomsburg Paper Co., Bloomsburg, Pa. My-18

**WANTED:** Draughtsman for work on reconstruction of a Soda Pulp Mill located in West Virginia. Please state experience had and salary expected. Address, Box 5095, care Paper Trade Journal. My-25

**WANTED AT ONCE  
OPERATOR FOR BELLOIT SHEET LINING  
MACHINE. GIVE REFERENCE AND STATE  
SALARY EXPECTED.  
Address Box 5090, care  
Paper Trade Journal.**

My-18

The Want Columns  
of the  
Paper Trade Journal  
are  
Result Getters  
—  
TRY THEM

## SITUATIONS WANTED

**POSITION WANTED** by practical paper maker and mechanic and good organizer. What kind of position have you to offer? Address, Box 5079, care Paper Trade Journal. Je-2

**WANTED**—By a practical paper maker, a position as salesman with reliable wire or felt manufacturer. Address, Box 5080, care Paper Trade Journal. My-18

**PAPER SALESMAN** in New York City who can produce a large volume of business with adequate co-operation, desires connection. Drawing account on Commission basis. Correspondence invited. Address, Box 4635, care Paper Trade Journal. Jf

**WANTED POSITION**—As superintendent. Twenty-one years' experience; used to Specialties, Colors and Wrapping, all grades of Boards and Fibres. Knows how to handle help. Can keep up repairs. Used to Fourdrinier and Cylinder Machines. Address, Box 4786, care Paper Trade Journal. Jf

**DOES YOUR MILL** pay? If not, why not have a superintendent with proven ability and experience that will make it pay? Address, Box 4977, care Paper Trade Journal. Je-2

**SUPERINTENDENT** of ability open for position with good company making box board, container board, wall board, Bristol board or straw. A man that understands a plant thoroughly and gets good results. Address, Box 4997, care Paper Trade Journal. Je-3

**SUPERINTENDENT - MANAGER** position. Twenty years' experience on all grades paper. Expert on colors. Fourdrinier and cylinder machines. Best references. Address, Box 4988, care Paper Trade Journal. MA-18

**MASTER MECHANIC** desires position. Twenty years' experience in mills of all grades of paper and pulp, also on steam, water and electric power. Best references. Address, Box 5014, care Paper Trade Journal. J-16

**SITUATION WANTED** by beater engineer with 25 years' experience in fast news mills in States and Canada. Good color man. Best references. Address, Box 5015, care Paper Trade Journal. My-18

**BOOK AND BOND PAPER VERSUS CURLY PAPER.**—Papermaker now employed, with references as to character and experienced in increasing the capacity of mill equipment and in eliminating defects in manufacturing. Invites inquiries from mills with production limited by any particular department, equipment or difficulty. Assurance that correspondence will be held confidential, would be appreciated and inquiries from mill executives will be so considered. Address, Box 5034, care Paper Trade Journal. My-18

**MAN**—Desires to represent paper manufacturer. New York City. Employed by prominent Paper Export House. Excellent knowledge of paper trade, all phases of traffic accounting, import, export, capable correspondent. Address, Box 5081, care Paper Trade Journal. My-18

**WANTED**—Position as superintendent. Twenty-five years' experience on book, coating, hanging, and tissue papers. Familiar with rag, wood, jute, and old paper stock. Fourdrinier and cylinder machines. Address, Box 5087, care Paper Trade Journal. Je-2

**SITUATION WANTED** as superintendent in fibre board factory. Twenty years' experience in making counter board, insulating board, friction board, gun wadding and various others. American. Address, Box 5048, care Paper Trade Journal. My-18

**SITUATIONS WANTED**

**BEATERROOM FOREMAN** open for engagement, expert on colored bristles, twisting fibers, tags, high grade writings, tissues, wrappings, covers and ground wood papers, also rag papers. Twenty years' experience and highest references. Address, Box 5051, care Paper Trade Journal. My-18

**POSITION WANTED:** First class cylinder machine tender, 15 years' experience on all kinds of boards. Good references. Can go anywhere. Address, Box 5053, care Paper Trade Journal. My-18

**EXPERIENCED BOSS BEATERMAN** and color man wants position. Twenty-five years' experience with leading and largest mills making most all grades and colors. Best references. Address, Box 5054, care Paper Trade Journal. J-1

**SULPHATE SUPERINTENDENT** who can increase pulp production to a recognized standard for mill in U. S. and Canada, is now open for engagement. Knows mill construction and equipment that is necessary for maximum results. Best of references. Address, Box 5066, care Paper Trade Journal. My-25

**BEATER ENGINEER:** Open for position. Experienced on all grades of Box Boards, tests, etc., also bonds, ledgers and book. Address, Box 5068, care Paper Trade Journal. My-18

**EXECUTIVE:** Thorough knowledge of the Buying and Selling of Fine and Coarse Papers, Paper Products and Specialties, Twines, etc. Would like to connect with a new jobbing house or an old house which desires further extension or rejuvenation. Have had many years' experience on the road and can handle salesmen. Moderate salary to start. Employed at present but wish to make a change. Address, Box 5096, care Paper Trade Journal. My-18

**WOODPULP AND PAPER MILL SUPPLIES MAN,** with about 10 years' experience in selling and purchasing these materials, who has shown splendid result in past work, desires connection with progressive firm. All references. Address, Box 5097, care Paper Trade Journal. My-18

**EXECUTIVE** with managerial ability, trained office manager, accountant and cost expert, student of Walton School of Commerce, Alexander Hamilton Institute and Industrial Extension Institute; specially experienced in paper mill administrative problems, seeks position of trust and responsibility. Highest references given. Address, E. J. E., P. O. Box 760, Cincinnati, Ohio. Je-8

**SUPERINTENDENT** of ability open for position June 1. High grade man on Kraft and Specialties. I have the ability plus a determined desire to work and make every effort to develop my opportunities. Address, Box 5099, care Paper Trade Journal. Je-1

**WANTED** position as superintendent or assistant superintendent, 19 years' experience on box board and container board. Good on repairs and can get results. Good references. Address, Box 5052, care Paper Trade Journal. Je-8

**WANTED:** To correspond with a manufacturer of news print with object of him considering a try-out of an important new invention. Address Box 5098, care Paper Trade Journal. My-18

**SITUATIONS WANTED**

**POSITION WANTED:** Experienced accountant wants position with progressive paper mill. Have had twelve years' experience with present employer in Container Board Mill. Capable and anxious to assume responsibilities. Best of references. Married. Address, Box 5101, care Paper Trade Journal. My-18

**SALESMAN:** One who is acquainted with the Paper Mill Trade and has a following in the Western & Southern Territory is desirous of locating with a reliable firm in the Paper Mill Industry. Best of references furnished. Address, Box 5102, care Paper Trade Journal. My-25

**SPECIALTY SALESMAN,** experienced in handling quantity business, wants good line to sell direct for a manufacturer. New Jersey Territory preferred. Commission. Address, Box 5103, care Paper Trade Journal. My-25

**FOR SALE**

**FOR SALE—Taylor; Stiles No. 2B Tandem Rag Cutter** Graphite Bushings in Loose Pulleys. Extra set of knives. Norwood Engineering Co., Standard Rag Thresher N. S. adjustable screen. Holyoke Machine Co., R. H. 5' x 15' Fan Duster. Above new and in perfect condition. Houston Stanwood & Gamble Co. Steam Engine, 11 x 18 slide valve. 16" x 78" pulley. Wheel governor. Correspondence solicited. The Albemarle Paper Mfg. Co., Richmond, Va. My-25

**FOR SALE:** 14 Calender Rolls, 58" face, 3' 14" diameter. 2 No. 1 Claffin Engines. 1 small Jordan Engine. 1 8" Horizontal Water Pump. 2 Air Fans. Complete triple-deck frames for 44 Dryers. Will arrange terms to suit. Chesapeake Paper Board Co., Baltimore, Maryland. tf

**FOR SALE:** 1 Revolver, 2 hand truck and 1 platform truck. Address, Box 5100, care Paper Trade Journal. My-18

**FOR SALE:** \$11,000 Purchases outright from Owner 2 Machine Wall Paper Plant, complete equipment for double rack system. Exceptional bargain. Excellent opportunity. Requires no experience. Can establish any place. Substantial earning capacity. Richard Rose, 238 East 23rd Street, New York. My-18

**Do You Want Help?**

Or have you some machinery you would like to dispose of?

**Try the Want Pages**  
of the  
**Paper Trade Journal**

**FOR SALE**

**FOR SALE**

**New Multi-Cylinder Board Machine**

(Packed ready for immediate delivery)

7 Vats, 3 Presses, 1 pair Smoothing Rolls, 120-42" Dryers, 3 Stacks Calenders—120" wide on face, complete with Winder, Duplex Cutter and Slitter.

This machine is modern in every respect, only having just been completed. Trimmed width 112/114". For further particulars apply:

Box 5041 care Paper Trade Journal.

**Rebuilt Paper Mill Machinery in Stock and Guaranteed NOT WHERE IS AND AS IS**

- FOURDRINIER TISSUE MACHINE**—One 96", one 68".
- FOURDRINIER PARTS**—Fusey & Jones 118", 100". Kutter Trowbridge 96".
- PRESS PARTS FOR PAPER MACHINES**—Fusey & Jones bell crank housing two sets 18"x96", Black & Clawson swing arm housings with rolls.
- DRYERS**—Four 48"x111", thirteen 36"x95", four 48"x68", one 84"x67", eleven 42"x66".
- MARSHALL DRIVES**—Two Black & Clawson self-contained stand with friction clutch cone pulley and 6" mortise gears. Mortise gears and pinions for Fusey & Jones Marshall drives 5" to 8" face.
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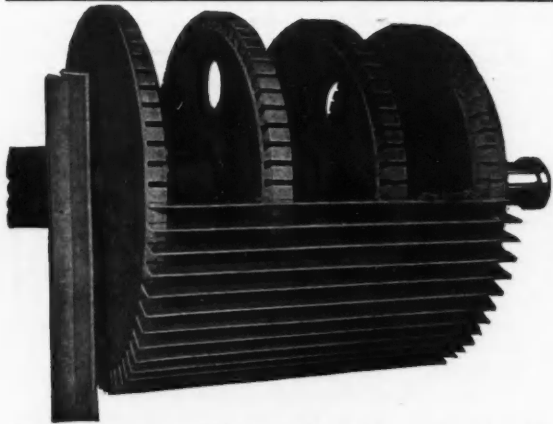
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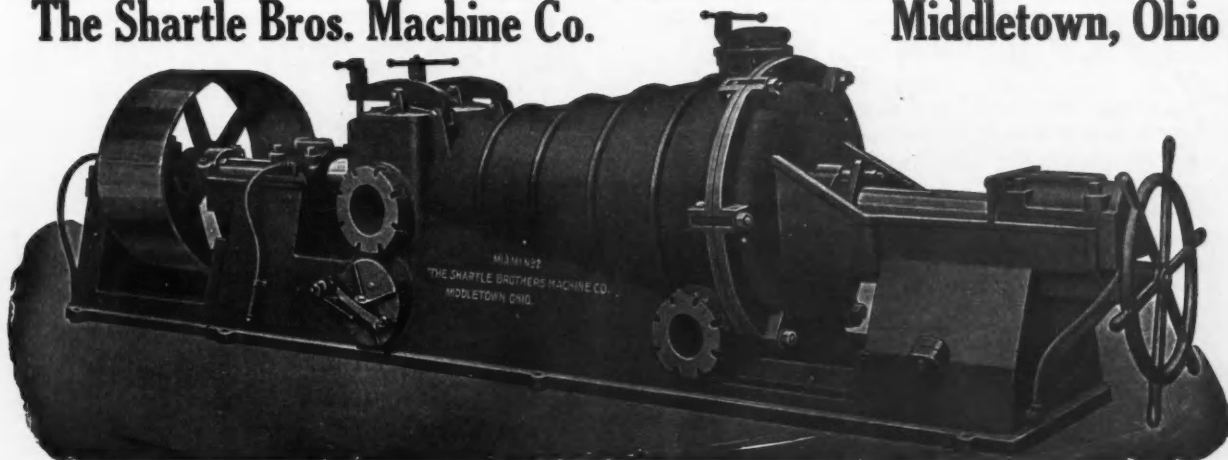
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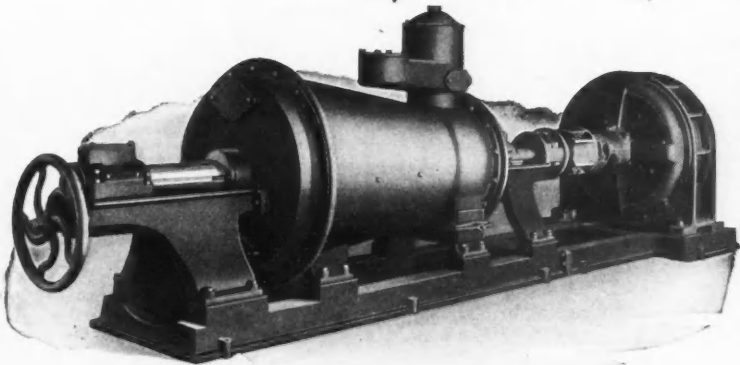
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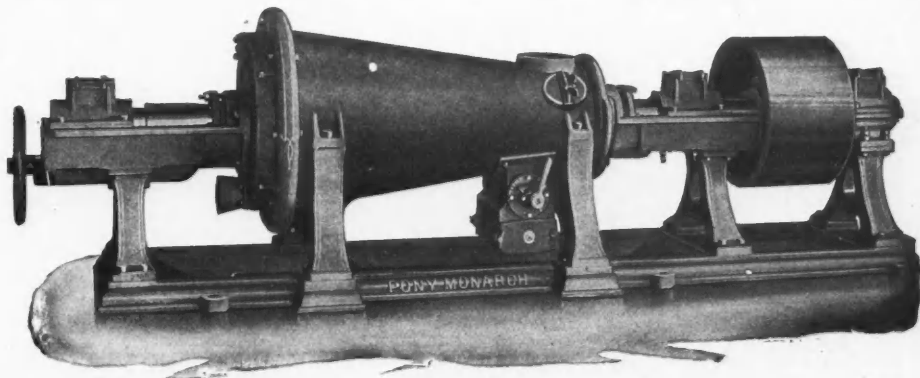
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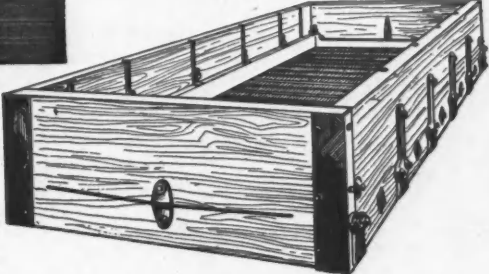
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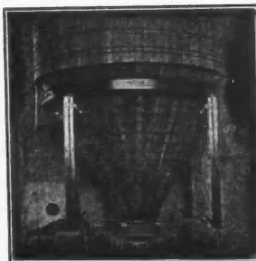
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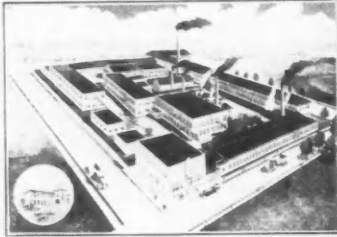
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