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PAPER TRADE JOURNAL

ESTABLISHED IN 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

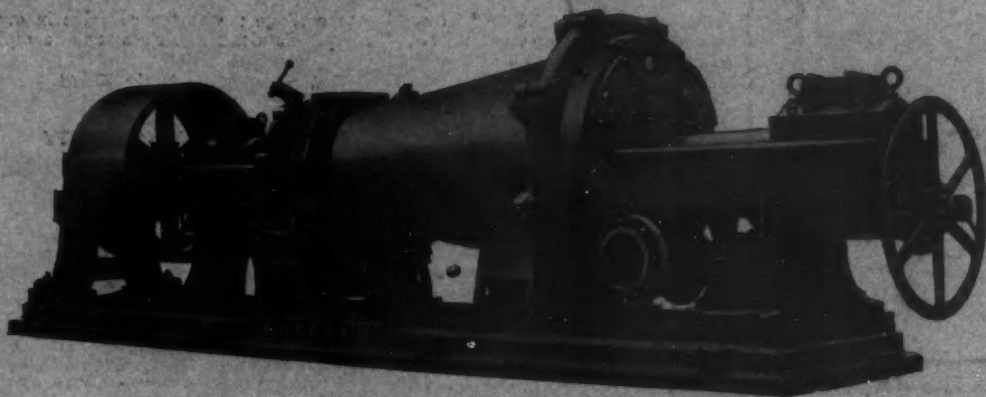
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FIFTY-SECOND YEAR

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Per Annum, \$4.00.
Single Copy, 10 Cents



Dependable Jordans are as essential to the making of high grade papers as good pulp.

Plug and shell must be of the correct length and taper, knives must be of the proper thickness for the stock and properly spaced. Plug must be kept perfectly central for fine work and good stock, and the means provided for keeping the alignment perfect. The bear-

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All of these and more, are features of our Type D Jordans, illustrated above. They are made in four sizes; a size to suit every condition.

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The Noble & Wood Machine Co.

HOOSICK FALLS, N. Y., U. S. A.

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PAPER MAKERS TWINE TUBE ROPE
 WALL PAPER TWINE HAY ROPE
 FINE AND COARSE POLISHED TWINES
 “AMERICAN” BRAND MANILA ROPE
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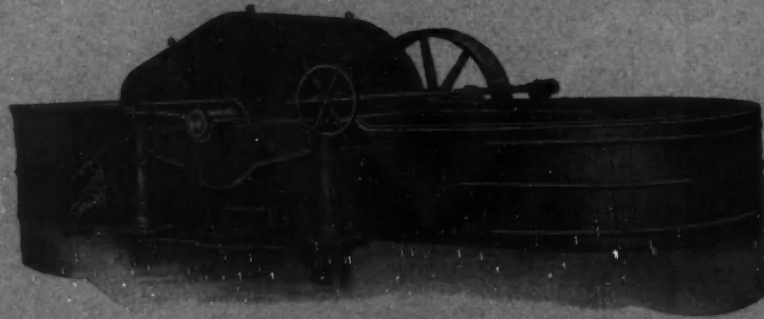
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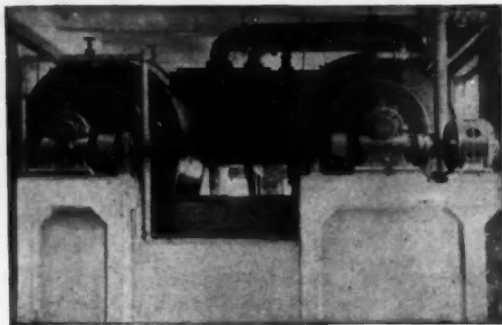
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There are only two moving parts to the Cleveland Worm Gear Reduction Unit—the worm and the gear, bearings excepted. And there is only *one* feature that requires attention, namely, to see that the oil level is maintained. Doesn't that seem like real simplicity?

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America's Worm Gear Specialists

CLEVELAND, OHIO

Cleveland WORM GEAR REDUCTION UNITS

PAPER TRADE ESTABLISHED 1872 JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER
AND PULP INDUSTRY AND THE PIONEER
PUBLICATION IN ITS FIELD
FIFTY-SECOND YEAR
Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., INC.

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STRONG AND EASY BLEACHING

SULPHITE PULPS

OF EXTRA GOOD QUALITY

PAPER TRADE JOURNAL

ESTABLISHED IN 1872

Vol. LXXVII. No. 12

NEW YORK AND CHICAGO

Thursday, September 20, 1923

CHEMICAL INDUSTRY SHOW UNUSUAL SUCCESS

Ninth National Exposition which Opened for the Week at the Grand Central Palace on Monday Proves Rich in Innovations and Educational Features—Exhibits Offer Displays of Special Interest to the Paper Industry and Visitors Pronounce Exposition Best Ever Held — Technical Association of Pulp and Paper Industry Hears Worth-while Papers Read.

With approximately 400 exhibitors taking part and with numerous innovations of educational and scientific importance, the Ninth National Exposition of the Chemical Industries, now in progress at Grand Central Palace, has already gone on record as a success second to none of its predecessors.

The attendance has been larger than usual and among the visitors have been some of the leading scientists of the country. They have unanimously pronounced the exposition one of unqualified success from every standpoint.

Waste Elimination Keynote

There are several things which make this year's exposition something of a departure from the expositions of former years. Science is today directing its efforts to the large problem of waste elimination and waste elimination may be said to form the keynote of the exhibit for the visitor will find much of interest as he roams from booth to booth to show him what inventive genius has already done to convert waste into something of practical value. The educational side of the exposition has been well developed and, in a practical way, the whole show tells the story of what chemistry has done to build up American industry.

Perhaps the most important exhibit to the professional mind is that devoted to the two new medical discoveries—insulin and intravin, both for the treatment of diabetes and either of which may prove to be a specific for that dreaded disease.

The exhibits occupy three floors, and aside from chemicals there are shown a wide range of exhibits such as acid resisting materials, air conditioning equipment, alloys, all sorts of automatic machinery, concrete hardening and waterproofing, conveying equipment, crushing and grinding equipment, drying equipment, dust collectors, dyes and intermediates, electrical instruments, evaporators, fertilizers, furnaces and accessories, glass enameled apparatus, labeling machines, magnetic separators, metals, paints, refractories, scientific instruments, spraying systems, steam appliances, ultra-violet lighting apparatus, water purification machinery and all sorts of laboratory and power equipment.

National In Its Scope

This year the display comes entirely from the United States and Canada. Everywhere is seen displays of products which America was forced by necessity to develop during the World War when the European products were not available.

At the Chemical Warfare Service booth on the third floor is shown what the government is doing during peace times. Since the close of the war much research has been done in the field of poison gas and masks which will be proof against gas attacks.

Realizing the power of the motion picture as an educator the promoters of the chemical show arranged a program of pictures for 2 o'clock each afternoon and 7:30 each night. Educational sermons preached through this medium have included "The Story of Steel,"

"Gold Mining in Northern Ontario," "The Diary of an Abrasive Stone," "The Story of Fire Clay Refractories," "The History of Transportation," "King Cotton," "Electricity at Work," "Forge Welding," "The Story of Asbestos," "The Manufacture of Portland Cement," "Water Power," "The Story of Sulphur and How it is Secured."

Society Meetings and Banquets

In connection with the exposition the American Ceramic Society held a meeting at which interesting papers were read yesterday afternoon, with dinner in the evening at the Commodore Hotel. The American Institute Chemical Engineers also seized upon the occasion for their dinner on Wednesday evening, which was held at the Park Avenue Hotel.

At 2:30 this afternoon a meeting of the Technical Association of the Pulp and Paper Industry was held in the conference room. Howard S. Taylor, the president, presided. No business was transacted but the following papers were read and discussed:

"The Attitude of Men to Educational Opportunities of Study in Pulp and Paper Mills," by T. L. Crossley, Pulp and Paper Magazine of Canada; "The Standardization of Paper by Test," by Hubb Bell, United States Testing Co., Inc., N. Y.; "Application of the Cottrell Electrical Precipitator to the Pulp and Paper Industry," by N. W. Sultzer, Research Co-operation, New York; "The Preparation of Bleaching Liquors from Liquid Chlorine," by J. H. MacMahon, the Mathieson Alkali Works, N. Y.; "The Mining of Sulphur," by Raymond F. Bacon, Texas Gulf Sulphur Co., New York; "Silicate of Soda in the Paper Mill," by James G. Vail, Philadelphia Quartz Co., Philadelphia, Pa.

Several of these papers are published in the Technical Section of this issue of the PAPER TRADE JOURNAL.

This evening the Salesmen's Association of American Chemical Industry banqueted at the Commodore Hotel. Tomorrow afternoon the Conference Room will be occupied by the Technical Photographic and Microscopical Society, which has an interesting program prepared.

Announces Alkali Prices

For several years, the Mathieson Alkali Works, Inc., has taken advantage of Chemical Show Week to hold a Sales Convention at that time, and the company has in New York for this conference all salesmen, district sales managers, plant executives and research men.

The company went farther this year, and included in its convention plans, representatives of the fifty distributors, who are acting as local agents for the Mathieson Company.

Such conditions are ideal for co-ordination of effort from all branches of the organization. The company's plans and policies were announced, and the most important of these was the announcement of contract prices on alkali for delivery over all of 1924.

The following prices, effective September 20, 1923, and subject to change without notice, will apply on contracts for 1924.

	Per 100 Pounds
58% Light Soda Ash	
In bulk	\$1.33
In 200-pound bags.....	1.45
In 300-pound barrels.....	1.69
58% Dense Soda Ash	
In bulk	1.42
In 300-pound bags.....	1.51
In 400-pound barrels.....	1.75
76% Solid Caustic Soda	
In 700-pound drums.....	3.165
76% Ground Caustic Soda	
In 425-pound drums.....	3.60
In 425-pound barrels.....	3.85
76% Flaked Caustic Soda	
In 400-pound drums.....	3.60
In 400-pound barrels.....	3.85
U. S. P. Bicarbonate of Soda—Powdered	
In 112-pound kegs.....	2.25
In 330-pound barrels.....	2.00
In 400-pound barrels.....	2.00
In 200-pound paper lined bags.....	1.90
In 200-pound plain burlap bags.....	1.875
In bulk	1.75
Prices on Granular U. S. P. Bicarbonate of Soda are 3 7/8c per 100 pounds higher.	

Among exhibits of special interest to the paper industry were the following:

Westinghouse Elec. & Mfg. Co.

One of the most elaborate exhibits of the show was that of The Westinghouse Electric and Manufacturing Company of East Pittsburgh, Pa. A West Muffle Furnace with automatic temperature control was shown in operation while various types of air space heaters, new type squirrel-cage motor recently developed for chemical service, motor starters, etc., were displayed. An automatic flasher designed for flashing any desirable length also attracted much attention. An exhibit of metals for repairing broken pieces and for building up was carefully studied by many visitors. Another feature that proved a magnet was a map of the super-power system for the United States which has already received much publicity and on which subject General Guy E. Tripp, chairman of the company's Board of Directors, has lectured extensively.

Nash Engineering Company

Visitors at the show found plenty to interest them at the space occupied by the Nash Engineering Company of South Norwalk, Conn. Here was shown the Nash Hytor air compressor and vacuum pump, the Jennings Hytor condensation pump and an all bronze Nash Hytor air compressor.

Texas Gulf Sulphur Company

H. R. Wentworth, sales manager; E. W. Meagher and A. S. Cosler, who were in charge of the exhibit of The Texas Gulf Sulphur Company, had a great deal of explaining to do to the steady stream of visitors who crowded their space. Pictures were shown of the actual equipment of the underground wells with explanatory charts showing the process of loading of sulphur by so-called superheated water and refining the pure sulphur. Samples were shown of a block of sulphur containing over one and one-half tons. Pictures were also displayed showing the loading plant at Galveston with a capacity of 800 tons an hour.

D. H. Litter Company

The D. H. Litter Company of Woolworth Building, New York City, had an exhibit showing the products of the Ajax Chemical Company at San Francisco, manufacturers of "Calalith" Lithopone, a sun-proof product; California Blanc Fixe, a dry neutral soft

product; Sodium Sulphide, Barium Carbonate, Barium Chloride and Bleached Barytes; Metro-Nite, the extender produced by the Metro-Nite Company of Milwaukee, Wis.; the products of the Ohio Pail Company of Middlefield, Ohio, which boast of a cover with lugs with an apron which allows one receiving the package to grasp this apron with a pair of pliers and pull open the cover without prying it open in the old manner; the products of the American Container Company of Philadelphia, which consist of light steel shipping containers from 5 to 55 gallon; products of the Import Mineral Products Company of Vermega, Cuba, manufacturers of a high grade chalk.

United States Testing Company, Inc.

Those of a scientific turn of mind paused longer than usual at the space occupied by the United States Testing Company, Inc., 316 Hudson street, New York city. Here was graphically shown the great scope of the company's activities including sampling scientifically done by standard official methods; general laboratory work in the making of all sorts of analyses; making of analyses and tests of coal, fuel oil and coke; analyses and tests of gasoline, greases, soaps, waxes, etc.; chemical analysis of metals and alloys; bacteriological and sanitary analysis of drinking water, microscopical examination and physical tests of paper; analyses and tests of textiles; tests of dyestuffs, etc.

The Bristol Company

The Bristol Company of Waterbury, Conn., showed a great number of recording instruments and featured in their exhibit the new Bristol Fuller valve for controlling the temperature of oils, gas, steam and water. Several of these were shown in operation and attracted general interest. A line of recording pressure gauges for thermometers, etc., were also shown. The company's new electric tachometer for keeping "tabs" on printing machinery production attracted wide attention from the paper men. This new equipment has already met with popular demand and those who inspected it during the show were loud in their praise of its practical efficiency. A long distance transmission system laid out in this exhibit also drew many interested spectators.

The Arabol Manufacturing Company

The Arabol Manufacturing Company of 110 East Forty-second street, New York City, presented a most convincing display of its adhesives, confining its exhibits to the company's products which are adapted to labeling, wrapping and sealing. Massed in the exhibit were scores of nationally known products which use the Arabol adhesives in putting up their goods. Over one hundred classes of trade find use for the Arabol specialties. They even reach the shoe manufacturing trade which uses the Sphinx Shoe Cement Paste, Gloria Shoe Paste, Sphinx Heel Building Powder, Heel Seating Cement, Box Toe Gum and Ground Cork, all Arabol specialties. The company's exhibit is surmounted by a large streamer bearing the company's slogan—"There's a Guaranteed Arabol Adhesive for Every Purpose."

Shartle Brothers Machine Company

A complete line of the Shartle Quick Opening Valves were shown by the Shartle Brothers Machine Company of Middletown, Ohio. Manufactured originally for paper machinery the Shartle valves have gone into universal use. Their simplicity and ruggedness are two of their outstanding qualities and much of their popularity is due to the fact that they will not clog. This exhibit entertained an unusually large number of visitors during the show. D. H. Montville of Northampton, Mass., Eastern representative, was in charge of the exhibit.

Oliver Continuous Filter Company

The Acid Resistant Centrifugal Pump manufactured by the Oliver Continuous Filter Company of New York City was the central figure of that company's exhibit. Shown in operation, it was constantly surrounded by interested spectators who plied the at-

tendants with questions. The company's new type of condenser which is said to possess all the advantages of all other condensers combined was also shown.

Morse Chain Company

The Morse Chain Company of Ithaca, N. Y., had for its feature one of its regular standard spreading frame drives in full operation, and also displayed chain drives in various sizes. Many pictures of the company's workmanship also augmented the exhibit, showing the wide variety from the largest chain drives to the smallest.

General Electric Company

A huge electric welder dominated the stage at the exhibit of the General Electric Company of Schenectady, N. Y. This machine is especially adapted to the building up of worn out shafts and was therefore of especial interest to paper manufacturers. The welder also does efficient work in repairing large tanks. A steam generator and G. E. Repulsion Induction Furnace were also shown in operation.

The Crane Company

The Crane Company of Chicago was represented by a representative line of the Crane cast steel valves and fittings ranging from those suitable for steam working pressure up to 150 pounds and temperature of 500 degrees Fahrenheit to the valves and fittings adapted to cold water, oil or gas working pressures up to 3,000 pounds.

W. S. Tyler Company

Hundreds investigated the "Hum-mer" Electric Screen exhibited by the W. S. Tyler Company of Cleveland, Ohio, and shown in operation. The screen vibrates at high speed by use of an electric magnet and has found a demand in a large and varied field. It is used extensively by mining men and boasts of its ability to screen anything that is within range of screenability, whether it is wet or dry.

Vallez Rotary Filters

The paper industry men found something to interest them in the Vallez Rotary Filters manufactured in Bay City, Mich. The filter is used for filtering black soda liquor to remove the fibre before it goes to the evaporator.

The Dorr Company

The Dorr Company of 247 Park avenue, New York city, exhibited the Dorr Sewage Clarifier, which is already utilized by various paper mills in the treatment of waste waters. A miniature clarifier showed how sewage and waste waters can be clarified and stream pollution guarded against.

Mathieson Alkali Works

The Mathieson Alkali Works, Inc., 25 West 43rd street, New York city, had an elaborate exhibit. The company, which manufactures heavy chemicals, occupied booths 206, 207 and 208. There were exhibited the company's model bleach plant for paper mills, showing the preparation of bleach liquor from Liquid Chlorine by the Mathieson System. There were also displayed samples of various chemicals and literature was distributed describing the Mathieson Hypochlorite Process for refining gasoline and kerosene and booklets explaining the uses of Mathieson products in other industries.

The booths were in charge of J. W. Boyer, Manager of Sales and R. J. Quinn, Assistant Manager of Sales, who were assisted by E. E. Routh, W. D. Marshall, J. B. Peake and Philip DeWolf, District Sales Managers.

Market for Soft Wood

TREZEVANT, Tenn., Sept. 19, 1923.—Farmers of the eastern part of this country have found a market for soft woods such as willow, gum and other timbers and they are hauling it into the shipping points and shipping out in car lots to the Columbia Paper Company, Bristol.

New York Trade Jottings

The Scandinavian Pulp Agency, Inc., will on September 25 remove its offices from 50 East 42nd street to 342 Madison avenue.

* * *

R. D. Magill of New York is among the incorporators of the Rochester Envelope Company of Rochester, N. Y., which has just filed articles of incorporation with the Secretary of State at Albany to manufacture envelopes, capital stock \$110,000.

* * *

Frank Smith, of the Sorg-Oglesby interests and head of the new Frank Smith Paper Mills of Middleton, Ohio, is expected to return to New York from Europe about September 16. Mr. Smith has made an extensive tour of Europe, visiting all the principal paper-making countries.

* * *

A petition in bankruptcy has been filed against the Audubon Printery, Inc., 550 West 167th street, by Majestic Mills Paper Company, Inc., for \$2,000; Milton Paper Company, \$200; Henry Lindenmeyr & Sons Paper Company, \$110. The corporation made an assignment for benefit of creditors to Harry Miller.

* * *

A petition in bankruptcy has been filed against the George Washington Press, Inc., 550 West 167th street, by Majestic Mills Paper Company, Inc., for \$400; Milton Paper Company, \$106; Henry Lindenmeyr & Son Paper Company, \$274. The corporation made an assignment for benefit of creditors to Harry Miller.

* * *

The Milton Paper Company, 110-112 Greene street, New York, has purchased from W. M. Pringle & Co., Inc., the right, title and interest and all their dandy rolls consisting of the following popular brands of paper: Penman's Linen Ledger, Old Abbey Bond, Fleur de Linen Bond, Torchon Bond, Justice Linen Ledger and Justice Linen Bond.

* * *

Talcott Williams Powell, a member of the editorial staff of THE PAPER TRADE JOURNAL and son of Dr. Lyman Pierson Powell of Mountain Lake, N. J., was married Saturday afternoon to Miss Ysabel Allen Loney, daughter of Mr. and Mrs. Henry Edward Loney of Mountain Lake. The ceremony was performed in St. John's Church, Boonton, N. J., the bridegroom's father, formerly president of Hobart College, officiating. The bride is a granddaughter of Mrs. Belle de Rivera and a niece of Mrs. George Bruce-Brown, Mrs. Harry S. Abbott and Mrs. Frederick Roosevelt. The bridegroom's father, Dr. Powell, is now educational director of The Cosmopolitan Magazine.

* * *

T. J. Burke, secretary of the Cost Association of the Paper Industry, has become Secretary of the Salesmen's Association of the Paper Industry. The offices of both associations will continue to be in the suite occupied by the American Paper and Pulp Association. Dr. Hugh P. Baker was for the early part of its career secretary of the Salesmen's Association, while it was being developed to its present importance, and later O. M. Porter relieved him of the duties of the salesmen's organization. The importance of the work of the parent association, however, has grown to such an extent that it was thought inadvisable for the American Paper and Pulp Association officers to continue to handle the affairs of the salesmen so the duties of the secretaryship were taken over by Mr. Burke.

Hampshire Mill Resumes Operation

SOUTH HADLEY FALLS, Mass., Sept. 19, 1923.—The Hampshire Paper Company, of this place, whose mill has been idle since August 1, has resumed operations on a full time basis.

POLITICAL CAMPAIGN AIDS PHILADELPHIA PAPER MEN

Vigorous Battle is Being Fought on the Printed Page in Municipal Primary Scrap and the Trade Receives Vigorous Boost as a Result—Several Changes Made in Staff of Garrett-Buchanan Co.—Substantial Addition Made to Plant of Thomas M. Royal Co.—John Murphy Expected Home October 1 from Extended Business Trip Through Europe—Notes of the Trade.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, Pa., September 18, 1923.—While reasons for the general improvement in paper sales conditions among the fine paper distributors, brought out in a visit to all the leading establishments, were almost as varied and as numerous as the business places visited, there runs through all the uniform note of complete satisfaction with present day doings and the experiences of the first half of the month of renewal of activity after the summer lull. The specific betterment of the past week lies in the circumstance of a decidedly increased buying in the cheaper grades of book paper and of post card stock, and though a majority of these sales is attributable to an unusual circumstance the pending primaries for the mayoralty nomination, enough of increase arising solely from general and lasting industrial improvement existed to justify the optimistic views everywhere entertained. The political battle is being conducted almost entirely through the printed page in an effort by independents to arouse the elector. The organization is in turn also utilizing the press to counteract. The immediate result is a veritable flood of transient newspapers, circulars and a variety of announcements, actually large enough in volume to give a spurt to the printing industry and consequently a benefit to the paper distributors. There has been noted too by those firms featuring the higher grades of book paper, bonds and coated papers a continued increase in the number of catalogues and direct by mail advertising pieces.

Coarse Paper Market Improves

In the coarse paper market general conditions parallel those in the fine but the market as a whole lags considerably behind the fine paper. Both orders and inquiries for the whole line of wrapping papers showed during the week a decided improvement over the preceding week. Textile mills which have not been in the market for months are now buying, not heavily but in steadily increasing amounts, though most of the paper requirements of the big department stores are purchased under contract. Their buying in the open market still is large and it is moving upward quite rapidly. All the grades of building papers, roofing, sheathing and deadening are in active buying. The building program is being speeded up in anticipation of the closing of the season for many outdoor operations.

Nearly all of the paper stock dealers while characterizing the aggregate of the business done during the week as satisfactory, complain, however, over the uncertain and spotty character of it. The largest local consumer during the week advanced its quotations for stock after two previous lowerings of prices.

Changes in Garrett-Buchanan Co.

Coincidentally with the reoccupancy by the Garrett-Buchanan Company, of the building 16, 18, 20 South 6th street, and the properties abutting on the rear at 7, 9, 11 South Marshall street, re-arrangements and changes in personnel took place. Gilbert S. Spare, manager of the Garrett-Buchanan Credit Department and for 17 years a member of the organization, terminated his relationship with it. Mr. Spare is widely known in trade circles and, announcement of his retirement, occasioned much comment. He has been succeeded

as manager of credits by John R. Kohl for more than a decade connected with the accounting department. James E. Malone, head of the ruling department and for upwards of 15 years a Garrett-Buchanan employee, also has severed his connection with the firm. The ruling department will be under the direction of Joseph Miller. During the week all the floors of the new five-story warehouse and garage, 3 and 5 S. Marshall street, were completed and stock was placed on some of them even though the walls are not yet in position. There also was begun the excavation of ground on the street level in order to prepare for the combined garage and delivery service. It is proposed to have the floor of this department just a few feet below the street level so that teams can back up and have their body floors even with the main floor and with the big platform which is to run around the inside of the garage. There also was begun during the week storage of stock on the upper floors of the buildings 16, 18 and 20 S. 6th street, the one in which the greater structural damage was done by the Palm Sunday fire. Although final disposition of the stock will not be made until arrival of the stock it is proposed in a general way to utilize all the floors of No. 16 for coarse papers, this department being in charge of Joseph S. Weaver, while the second and third floors of 18 and 20 will be given over to open stocks of bond papers and the fourth and fifth floors to book papers. The firm's stationery department has been given increased space on the second floor of 12 and 14 S. 6th street.

H. J. Hogg Paper Co. in New Home

During the week there entered into complete occupancy of its new home at 127 Arch street the H. J. Hogg Paper Company, whose proprietor is nearing the end of a quarter of century of activity in trade circles. The new home is owned by Harry J. Hogg, head of the company, and it was given a very thorough renovation in order to arrange its five floors for the expeditious and economical handling of the varied stock of coarse papers and of bags in which the firm deals. New rail lines also will be added to the large number of present representation enjoyed by the Hogg Company. Among the improvements was the installation of a 2,000 pounds elevator, the strengthening of floors, new lighting system introduced and decorations. Mr. Hogg began his paper career at 133 Arch street just a few doors away from his present location. For the past six years he was associated with the Shuttleworths, Hogg and Mather Company on 2nd street above Arch and still is a stock holder in this company now trading as the C. W. Mather Company at Front and Arch streets. To the sales force two men have been added. They are C. B. Simons and Hilton L. Krause.

Unique Literature from Across Seas

Two communications from opposite sides of the Atlantic, but both of interest, came during the week in almost the same mail to the Paper House of Pennsylvania, 28 N. 6th street. The one was from Germany, the other from Cuba. The German communication from an authority there on trade conditions said, "As a result of the from one day to another more and more disappearing value of the mark, the whole outlook of the German paper industry is dark." In the same mail there came from Dresden an envelope with German made papers. Although the stamps were each of a 3,000 mark denomination, it required 90,000 marks to carry the parcel across the sea. The entire back of the letter was plastered over with the postage stamps and a considerable portion of the front also was decorated. The letter from Cuba was addressed Paper House of Pennsylvania, Main 4974. Lombard 7860. Philadelphia. The Paper House has both Keystone and Bell Telephone Service and the numbers properly were copied down in Cuba.

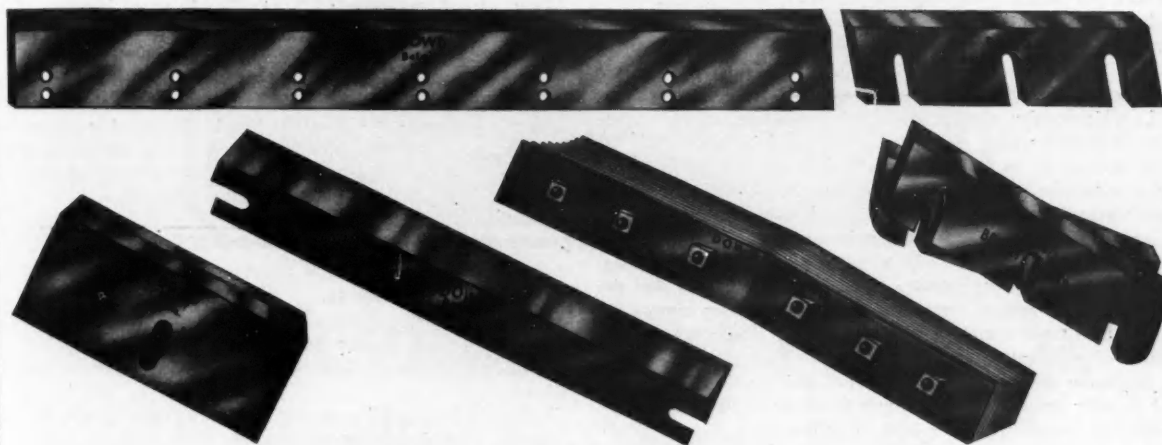
John Murphy Returns Oct. 1.

John Murphy, son of Daniel J. Murphy, stock dealer, and importer with offices in the Brown Building, Fourth and Chestnut streets, who has been in Europe since July 21 is planning to return

(Continued on page 38)

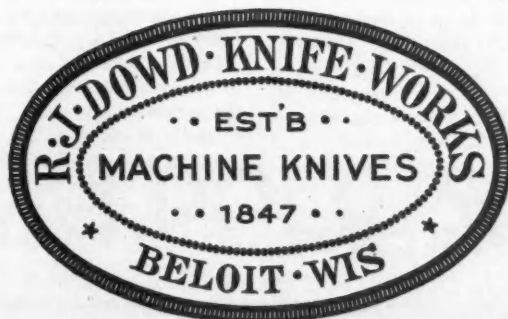


In paper mills where costs are watched closely Dowd products have always been the choice of careful buyers.



Illustrating a few of the many types of knives made by Dowd.

We realize that the reputation of any company is dependent upon its being able to maintain a fine quality.



New York Office
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CANADA TO ENFORCE AGAIN TARIFF OF STUMPAGE DUES

Order-in-Council Adopted by the Cabinet Will Restore Regulations Suspended in 1921—Decision Made in Spite of Wide Demand to Keep 1918 Tariff in Force—Royal Commission on Embargo Proposition Prepares to Hold Public Hearings—Japan to Draw Heavily on Canada's Timber Resources for Rebuilding Program—More Details About Riordon Company's Reorganization.

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., September 18, 1923.—The 1920 tariff of stumpage dues, the highest ever enforced in the Quebec Province, which has been suspended for the season 1921-22 and 1922-23, will be in operation this year, according to an order-in-council adopted by the Cabinet. Regions affected by forest fires, which, however, can still be exploited will benefit by a reduction of 50 per cent, on that tariff. This decision was arrived at by the Cabinet, notwithstanding representations made to keep the 1918 tariff in force. The renewed activity in the lumber industry and the general improvement in conditions are said to have warranted this move, which will bring increased revenues. The 1920 tariff was only enforced for the season 1920-21, its enforcement having been suspended successively in 1921-22 and 1922-23 at the request of the lumbermen, who pointed out that the industry was in such a condition that the new tariff would prevent the operation of many lumber camps, and that the 1918 tariff would still bring sufficient revenues with possibilities of exploitation on a larger scale. Last year, there was talk of closing the lumber camps at first, and the Government decided to offer to maintain the lower tariff, upon the understanding that the camps would be kept in full activity to relieve unemployment. This agreement was carried out and a record year was finally recorded. By granting a reduction of nearly 50 per cent on the 1920 tariff on burnt timber, the Government expects to encourage timber limit holders to exploit those affected reserves more than the other forestry limits, and thus preserve a large area of timber. Forecasts that notwithstanding the fact that the cutting of timber has begun earlier than usual this year, and that great activity is reported in the lumber camps, the cutting will not be much over the average. Wages of lumberjacks are said to be taking a serious rise, which may reduce the activity in some camps, as much as \$80 and even \$100 per month being now paid.

Embargo Commission Starts Work

The Royal Commission investigating the pulpwood resources of Canada with a view to advising the Government on the question of the pulpwood embargo on pulpwood is now engaged in preliminary study of the situation on material which has been prepared for it by Assistant Secretary F. H. Byshe of the Forestry branch Interior Department. Preparations are being made to circularize various interested organizations throughout Canada with a view to giving them an opportunity to prepare their cases for submission when the commission holds public hearings. No announcement has yet been made in regard to the itinerary of the commission. Arrangements have been made for the commissioners to visit one of the local pulp and paper plants.

Canadian Lumber to Help Rebuild Tokio

British Columbia lumbermen are expecting to export large quantities of lumber to Japan to aid in the rebuilding of Tokio and Yokohama. In the past few years a very extensive trade in British Columbia timber has been developed in the Japanese Empire and if Japan rapidly recovers economic stabilization and proceeds to its job reconstruction with the characteristic vigor and resource-

fulness of the race of Nippon, this trade is hardly likely to be disturbed by the recent earthquake, and it is even considered that it may be accelerated to some degree. Canada sold \$385,000 worth of wrapping paper in Japan in the twelve months ended March 31 last. In addition, \$736,000 of bleached sulphite pulp, and \$730,000 of unbleached sulphite pulp, was sold to Japan in the same period. The Wayagamack Pulp and Paper Company had an extensive Japanese trade in kraft wrapping paper, and the Whalen Pulp and Paper Mills sold large quantities of bleached and unbleached sulphite pulp in the flowery kingdom. Large quantities of cedar logs and square timber suitable for piling was sold by British mills to Japan. This piling was necessary by reason of the condition of the soil of Japan.

In the twelve months ended March 31 last, Canada shipped 30,000,000 board feet of cedar logs, valued at \$725,000; 2,000 cords of shingles, valued at \$40,000; 18,000,000 board feet of fir planks, and boards, valued at \$532,000; 4,000,000 board feet of hemlock, planks and boards, valued at \$98,000; 6,000 board feet of spruce planks and boards, valued at \$560, and 2,900,000 board feet of other planks and boards valued at \$74,000. There was also shipped to Japan from Canada 13,000,000 board feet of Douglas fir square timbers, valued at \$292,000; and 3,400,000 board feet of other square timbers, valued at \$86,000. This represents a very substantial source of revenue to the Canadian timber industry and the effect of the earthquake on this trade will be watched with interest.

The Re-Organized Riordon Company

The following is the list of directors of the re-organized Riordon Company, of Montreal:

Senator N. Curry, Montreal, chairman, Canadian Car & Foundry Co., Limited, and director Bank of Nova Scotia.

Wallace B. Donham, Cambridge, Mass., Dean Harvard Business School.

Archibald Fraser, Edmundston, President Fraser Companies, Ltd.
George W. Grier, Montreal, President G. A. Grier & Sons, Limited, lumber merchants.

Robt. F. Herrick, Boston, President Pacific Mills.

I. W. Killam, Montreal, President Royal Securities Corporation.

George M. McKee, Ogdensburg, N. Y., President Algonquin Paper Co.

Sir William Price, Quebec, President Price Bros. & Co.

F. N. Southam, Montreal, vice-president Southam Press.

Fred R. Taylor, K. C., St. John, N. B., Weldon & McLean, bar-risters.

N. A. Himmons, Montreal, President Hollinger Gold Mines and St. Lawrence Paper Mills.

Frank D. True, Portland, Me., President Portland Savings Bank.

Colonel James W. Woods, Ottawa, President Woods Mfg. Co.

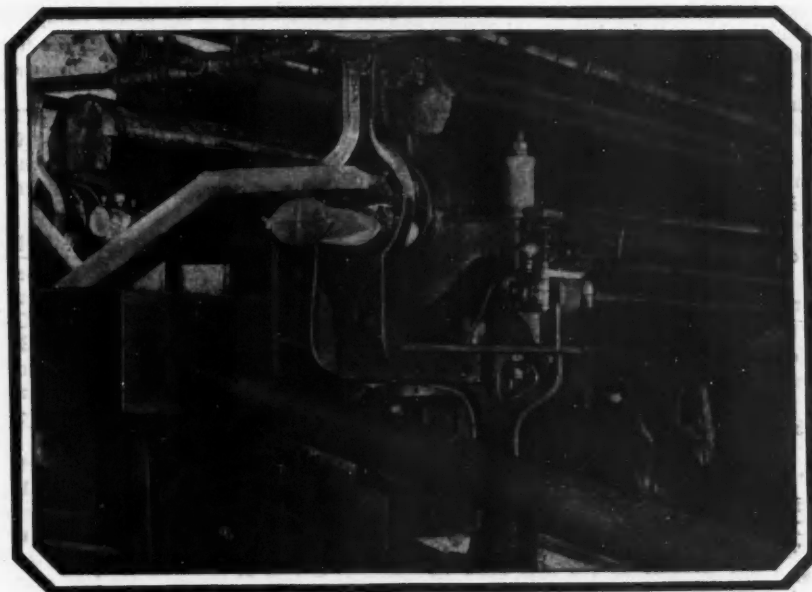
It is, of course, too early yet to obtain any definite indication as to the extent to which subscriptions will be received for the securities of the reorganized Riordon Company from the shareholders of the old company but it is expected that success will be achieved and an announcement of a positive nature seems likely to be made well before the date fixed for closing of subscriptions, September 28.

Unlike the former plan, the success of the present depends only to a comparatively small extent on the contributions received from the present shareholders. The contributory basis to the extent of several millions of dollars was the crux of the old plan, while it seems certain that \$2,000,000 set out as the amount that will be required of the shareholders in cash contributions the receipt of a fraction of this sum will place the success of the new plans beyond a doubt.

Basis of Figuring Subscriptions

One of the methods of figuring on the final working out of the basis of subscription or the preferred shareholders is to consider the

(Continued on page 41)



The Westfield River Paper Co.

Specializes on Glassine Paper

For five years the two Walpole screens illustrated above have supplied the machine making glassine paper with sufficient stock to met their daily production requirements of 10 to 15 tons.

BIRD MACHINE COMPANY

SOUTH WALPOLE

MASSACHUSETTS

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

Canadian Builders of Bird Machinery
Canadian Ingersoll-Rand Co., Ltd.
260 St. James Street,
Montreal, Canada

THE WALPOLE SCREEN

Obituary

James Richard Carter

BOSTON, September 17, 1923.—James Richard Carter of Newton, Mass., known throughout the United States as one of the leading paper merchants, died at his summer home at Jefferson Highlands, N. H. last Thursday night. He had been critically ill for the past two months. He was in his seventy-fifth year at the time of his death.

The deceased had been in ill health since the death of his wife last January. Despite his ill health Mr. Carter attended to his business daily until the latter part of June.

He is survived by his daughter, Miss Evelyn Carter of Newton, and three sons, Winthrop L. and Eliot A. Carter, both of Nashua, N. H. and Hubert L. Carter of Newton.

Mr. Carter was born in this city January 4, 1849, the son of Richard R. and Lucy (Hobart) Carter. He attended the old Latin School in this city, completing his education at the English High School, this city. While preparing for college, Mr. Carter's health was much impaired and, because of his ill health, he had to cast his college ambition aside.

Following a two-years' stay in Europe Mr. Carter regained his health and returned to this city when 22 years old and founded the firm of Carter, Rice & Co., which has become famous. It is now the Carter, Rice & Co., Corporation. This was in 1871 and he had been half owner, treasurer and manager of the firm since its incorporation in 1884.

In 1873 Mr. Carter married Carrie Giles, daughter of Rev. Chauncey and Eunice (Lakey) Giles of Philadelphia.

In recognition of the fiftieth anniversary of the establishing of Carter, Rice & Co., in 1921, business associates of Mr. Carter gave him a complimentary dinner at the Algonquin Club this city.

Mr. Carter had been treasurer of Carter's Ink Company since 1896; president of the Carter, Rice & Carpenter Paper Company of Denver; the Nashua, N. H. Gummed and Coated Paper Company; a trustee and executor of estates, treasurer of the general convention, New Jerusalem Church, and director of the New Church theological school. Mr. Carter was also interested in the firm of Rice, Kendall Company, large paper house of this city.

Numerous times Mr. Carter was requested to be a candidate for high political offices but declined to seek office, preferring to devote his time to his business interests. In his political belief Mr. Carter was independent. In 1898 the deceased accepted a position as a member of Mayor Josiah Quincy's Municipal Committee of the City of Boston.

Mr. Carter became president of the Boston Merchants' Association following the resignation of James R. Lesson. He was formerly president of the Paper Trade Association and was vice-president of the Associated Board of Trade. He had been a director in the Freeman's Bank. Years ago in a speech, while taking part in a debate on the Philippine question, Mr. Carter showed the general trend of his principles and voiced his patriotism in the following manner:

"In these days of machinery and the marvelous motive forces of modern times, the old poetic thought that the sails of our commerce shall whiten every sea has passed away, never to return, but we shall share in the belief that the day is not far distant when the masterpieces of the American shipbuilder shall again carry the flag to every quarter of the civilized world. And certainly we all share in the hope and the desire that the flag may be to all an emblem of power not abused, of progress and of peace and good will to all mankind."

Mr. Carter had been a member of the Boston and Newton Chambers of Commerce, the Boston City Club, Commercial Club, Nashua Country Club, Exchange Club, Neighborhood Club of West New-

ton, Brae-Burn Country Club and the Newton Club of which he was formerly president.

Mr. Carter was a great lover of tennis. As a young man he did much hunting for big game as is shown by the fact that a bison's head has long hung in his Boston office.

During his younger days Mr. Carter travelled very extensively for pleasure, he having made a trip around the world and several trips to Europe.

Funeral services for the deceased were held yesterday afternoon at the Church of the New Jerusalem, Newtonville, the services being conducted by Rev. John Goddard, pastor, assisted by Rev. J. W. Spiers. Burial was at Forest Hills Cemetery.

Abraham George Boland

MONTREAL, Que., September 18, 1923.—One of the best known timber estimators in eastern Canada, died at Ottawa during the week, after a week's illness, in the person of Abraham George Boland, 61, timber cruiser for J. R. Booth, Ltd., for the last 25 years. Death was due to paralysis and pneumonia. His judgment and opinions on forest lands were highly valued. He was well-known in Ontario, Quebec, and British Columbia as an estimator of timber whose judgment was absolutely sound. His services were in constant demand when boundary disputes were brought to the courts by various lumbermen. Until 1913 he lived in Sturgeon Falls. Mr. Boland was born in Eganville, Ont. Besides his widow, he is survived by three sons, William, Lloyd and John Boland, Ottawa; three daughters, Miss Dorothy Boland, New York; Mrs. E. R. Tufford, Ottawa, Miss Frances Boland, Vancouver; two brothers, William Boland, Eganville; John Boland, Sturgeon Falls; and two sisters, Mrs. P. McGregor Douglas and Mrs. W. Evans, Sturgeon Falls.

Dimmen den Bleyker

KALAMAZOO, Mich., Sept. 18, 1923.—Dimmen den Bleyker, founder of the Cascade Paper Company, Tacoma, Washington, died at Anchorage, Alaska, about two weeks ago. His remains were brought to Kalamazoo, his native city for interment. It was not until Mr. den Bleyker moved from Kalamazoo to Tacoma that he became interested in the paper industry. Seeing the possibilities of a successful mill on Puget Sound, he promoted the Cascade Paper Company, which is now in operation.

Mr. den Bleyker was 71 years of age, the youngest son of Paul den Bleyker, one of the first of a long list of famous Holland emigrants to settle in Michigan. During the latter years of his life, he made a special study of Dutch art and possessed a fine collection of paintings.

Request from Milk Producers

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., September 19, 1923.—It is understood on good authority that the National Milk Producers Federation has filed an application with the United States Tariff Commission asking that the duty on coated and glazed paper be equalized as to foreign and domestic production costs.

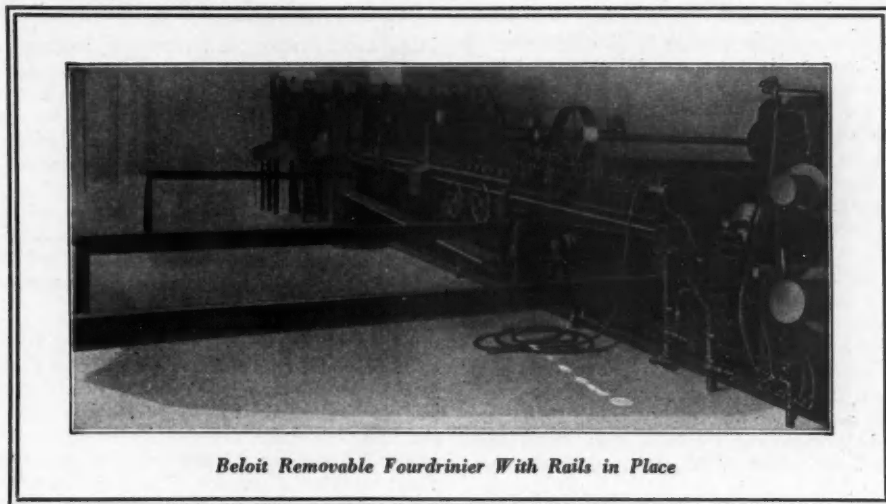
During the casein hearing which was held some time ago by the Tariff Commission, John D. Miller, president of the Federation, publicly stated that he would file an application with the commission asking for a reduction of duty on coated and glazed papers. While the Federation does not ask for any specific reduction in the duty, it does ask that when the commission hands down a decision in connection with casein it at the same time takes action on coated and glazed paper. The commission has not yet acted upon the application of the Federation.

An official hearing is to be held here on September 25 in connection with the casein investigation, at which time interested parties will also be given an opportunity to file briefs with the commission.



Wire Changes Now Made In an Hour or Less Beloit Removable Fourdrinier

IN INTRODUCING our Removable Type of Fourdrinier, it is perhaps advisable first to consider the ordinary method used in changing a wire on the machine. As all paper makers know, it is necessary practically to wreck the Fourdrinier end in making this change. This change occurs every two to eight weeks, depending upon speed, good luck and a number of other factors. It ordinarily takes from two to six hours to make this change, depending largely upon the length of the wire, its width, number of men used in making the change, their training in this particular line, as well as facilities for handling the various heavy parts.



Beloit Removable Fourdrinier With Rails in Place

THE time element, while important, does not tell the whole story. In old types of Fourdriniers every roll has to be removed. This is a back-breaking job for the operators. It also takes the rolls out of their individual bearings, covers the operators and the rolls themselves with grease or oil and always entails the chance of damaging the rolls as they are taken out or put in. The breast roll has to be removed and the heavy suction boxes taken out and handled carefully. When all of these parts are replaced after the wire is in place, there is always the possibility of dropping a roll through the wire or crimping the edge, besides the danger of pinching the operator's fingers as the various rolls and boxes are put back into place.

To eliminate all this trouble, danger and time required, we have developed our Remov-

able type of Fourdrinier. The Fourdrinier part is arranged so that by placing tracks on the front side of the machine, it is possible to run, by means of power, the entire Fourdrinier out to the front side of the machine, string the wire in place and then run the entire Fourdrinier back into the loop of the wire. The illustration at the top of the page shows the Fourdrinier with these rails in place. Wire changes are thus made in an hour or less.

Send your specifications to Beloit.

Beloit Iron Works



Beloit, Wis., U. S. A.

PULPWOOD CUT SUFFERS AS ONTARIO SEEKS MORE HELP

Extensive Construction Work Lures Many Axmen from Their Former Jobs and in Some Sections Cut Will Be But One-Quarter of What It Was Last Year—Two Companies Awarded Timber Cutting Rights—Fort William Encourages Great Lakes Paper Company's Proposition—Thunder Bay Paper Co. Buys Property Occupied by Its Mill—H. J. Crowe Gets Back of Plans for Big Industry.

[FROM OUR REGULAR CORRESPONDENT.]

TORONTO, Ontario, Sept. 17, 1923.—Owing to the large amount of construction work going on in Northern Ontario in connection with railways, power development schemes, mining operations, etc., there has been a great scarcity of labor during the past season in the production of pulpwood. Every able-bodied man has joined the ranks of the well-paid workers on these outside jobs and the cutting of pulpwood has been neglected. All the grown-up sons of the settler, his relatives and all other active laborers have been temporarily weaned from the soil and the bush to laying tracks, building dams or delving for gold and silver. The extension of the T. & N. O. Railway 40 miles north of Cochrane on its projected route to Moose Factory, the big power development project at Des Quinze Falls and the boom in mining have cleared the country of axmen who formerly felled spruce, balsam and poplar trees during the months of May, June, July and August. This observation applies particularly to the district around Cochrane but in other parts of Ontario about the same quantity of pulpwood as last season will be taken out.

Speaking of the probable amount of wood that has been cut in the vicinity of Cochrane, a leading operator stated recently that it would be only about one-quarter of what it was last year, while in other districts the output will be about the same.

One of the largest contracting companies who specialize in pulpwood is the Thompson & Heyland organization, of Toronto, who have been handling the product for the last eight years. During the past season this company bought and distributed about 50,000 cords and for 1923-24 will handle about 60,000 cords. Contracts were made in April last for 5,000 cords in the section around Cochrane and 15,000 cords in the territory between North Bay and Orillia, and 15,000 cords along the Central Ontario Railway in the vicinity of Maynooth, Haliburton and Cobocok.

Wood Must Be Peeled

All wood bought by the Thompson and Heyland Company must be peeled and this year fully one-third of the stock will be poplar for which there is a growing demand. Last season the quantity of poplar bought was small. North of North Bay the prevailing price for peeled spruce and balsam, f. o. b. cars, is \$8 to \$10 per cord and for peeled poplar \$5 to \$7 per cord. North Bay is some 227 miles north of Toronto while Cochrane is 480 miles.

Recent heavy rains throughout Northern Ontario have relieved the minds of the Department of Lands and Forests of the possibility of another serious outbreak of forest fires in the north country this fall. While little or no rain fell in the bush from June until late in August, the rainfall for the month of August was heavier than that of last year immediately prior to the big northern fire. Hon. James Lyons, Minister of Lands and Forests, anticipates that the Department will have little difficulty in the way of fires before the snow flies as long as caution is observed by hunting parties and tourists.

Fort Frances Co. Gets More Limits

The Shevlin-Clarke Lumber Company, Fort Frances, principals in the recent timber controversy and defendants in an action brought

by the Drury Government when in office, are again among successful tenderers for timber-cutting rights. They were the only tenderers on nine square miles of timber lands between Clear Water and Trout Lakes, Rainy River. For red and white pine they will pay \$3.05 per thousand; jack pine, \$2.50; spruce logs, \$2; spruce pulp, 80 cents a cord; other pulp, 40 cents; fuel wood, 25 cents, all prices inclusive of usual Crown dues.

The Pigeon River Lumber Company, Port Arthur, was successful bidder on 13 square miles of burnt-over area in McGregor township, Thunder Bay, receiving cutting rights for \$9.50 per thousand on pine timber; \$7 on spruce timber; \$1.65 a cord on spruce pulp and 80 cents a cord on other pulp.

Bank's Loans to Pulp Co.

President H. J. Daly, of the Home Bank, Toronto, which recently suspended payment, is able to be around again after a prolonged illness. In answer to a query he said there was sure to be an investigation of the affairs of the bank and, when questioned about the loans to the Western Canada Pulp and Paper Company, Port Mellon, B. C., which a considerable time ago got into financial trouble, he said these loans had been made before he was president of the bank.

Securities of Spanish River Co.

President George H. Mead, of the Spanish River Pulp and Paper Mills, Limited, made the statement to newspapermen a year or so ago, that his aim was to see the securities of his company earn for themselves in the markets, a strictly investment status. If financial reports and balance sheets mean anything, the Spanish River report would seem to indicate that Mr. Mead will realize his ambition long before many people have thought. The report is unquestionably better than expected, for general expectations have been for a showing of 12 to 14 per cent on common, as against the 16.7 per cent actually shown. With respect to the future, Mr. Mead says that he expects the news print business will continue very fair throughout 1924. The report states that a number of improvements were made during the period.

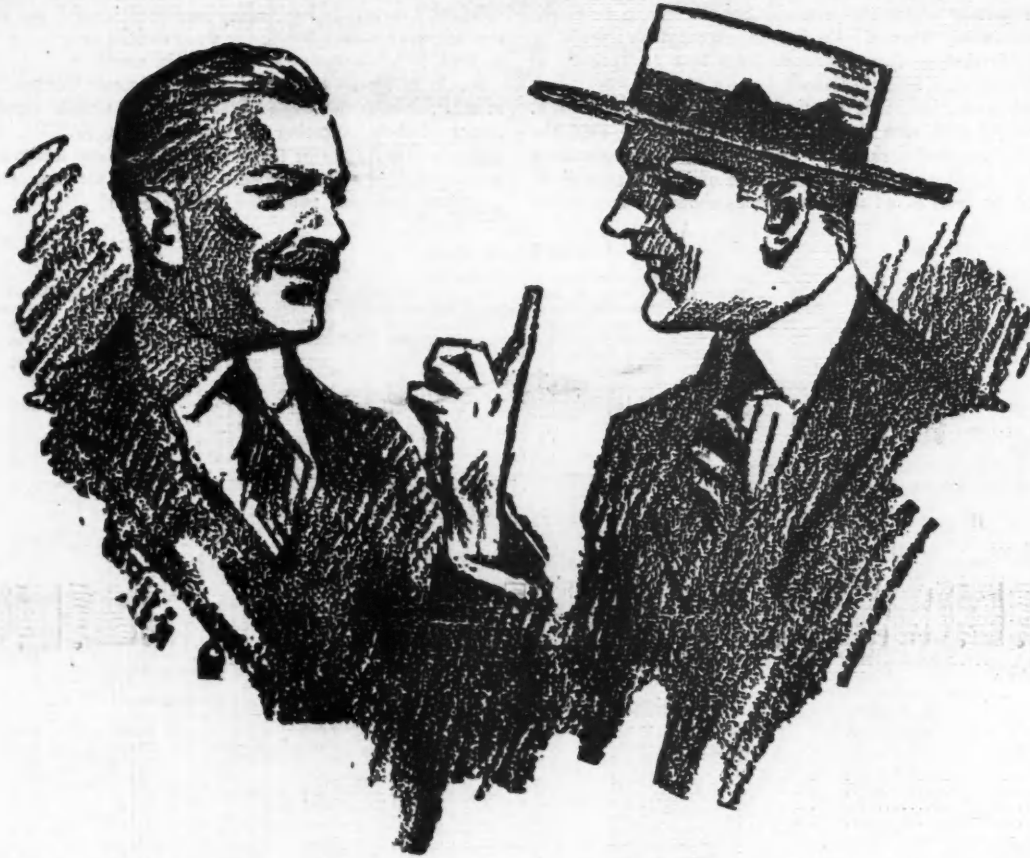
Great Lakes Plant Going Ahead

By an almost unanimous vote the city of Fort William recently passed a by-law granting aid to the Great Lakes Paper Company and the rural municipality of Neebling in which a portion of the plant will be located, passed a similar by-law. The company has commenced work on the spur tracks to the property and it is expected that the construction of the big pulp mill will be proceeded with rapidly. If the predictions of the company's representatives are verified, the operation of the industry will come so rapidly as to surprise the most sanguine of the supporters of the by-law.

George W. Pauline, managing-director of Ritchie & Ramsay, coated paper manufacturers, Toronto, has returned from an extended visit to England where he went to see his father, George Pauline, of Manchester, who was for many years with the Fletcher Manufacturing Company and is now in business for himself in the wholesale paper line. Mr. Pauline had an enjoyable trip and reports the paper business generally rather dull in the United Kingdom.

Thunder Bag Paper Co. Buys Property

The Thunder Bay Paper Company, Port Arthur, have decided to purchase the site which the mill at present occupies and have offered the Parks Board \$25,000 for it. The property consists of about 15 acres. The latter body has appointed a committee to take up the matter with the Thunder Bay Paper Company and have passed a resolution that the offer for the site be accepted. The Thunder Bay Paper Company purchased the rights of the Kaministiquia Pulp and Paper Company, which established the business on the land under a ninety-nine year lease from the Parks Board five years ago. Since acquiring the property the company has enlarged the plant and made improvements to the value of upwards of \$200,000, and is desirous of further enlarging the industry which now furnishes steady employment to about one hundred men.



“We can Speed up our Paper Machines —without pitching the wire”

“And what is more we feed the stock directly on to the wire at any speed we find necessary without the use of slices, and we are making, besides, a sheet of uniform thickness.”

“It is all due to a new device that we installed a short time ago. It can be adjusted quickly and easily, and so accurate and fine are the adjustments that the sheet can be made uniform over its entire width. Our wires last

longer, too, because we eliminated the slices that used to wear them down.”

“The new device was easy to install. We put it right in, in combination with the flow box that we had on the machine. It is called the Voith High Pressure Stock Inlet.”

This has been the experience of all manufacturers installing the new Voith Inlet. We will be glad to give you full information regarding it. A post card will bring an interesting illustrated pamphlet.

Valley Iron Works Company Plant: Appleton, Wis.
New York Office: 350 Madison Ave.

Builders of Fourdrinier & Cylinder Paper Machines, Niagara and Holland Beaters, P. A. P. A. Rotary Pulp & Paper Screens, Wolf Chippers, Valley Wet Machines, and other high grade paper and pulp mill equipment.

PRODUCTION OF NEWS PRINT FOR AUGUST

The following statistics on the production and shipments of news print are furnished by the News Print Service Bureau, New York:

The 68 reporting companies produced 247,325 tons and shipped 243,128 tons during August. Production exceeded shipments by 4,197 tons. Production figures include 2,415 tons of hanging, of which 1,137 tons were made in Canada.

Comparing production of 51 identical companies during the first eight months of 1923 with that of the same period of 1922, the United States companies show an increase of 76,953 tons or 9 per cent, the Canadian companies an increase of 137,405 tons or 19 per cent and the total of all these companies shows an increase of

214,358 tons or 14 per cent. These figures are most satisfactory.

The average daily production of news print paper by these 51 companies reporting for August amounted to 97.5 per cent of the average daily output during the three months of greatest production in 1922, with allowances for changes in machines.

Stocks of the same companies during August increased 2,852 tons at mill points in the United States and 704 tons in Canada. Total stocks of these reporting mills amounted to 37,183 tons or 3,556 tons more on August 31 than on July 31. These stocks are equivalent to 4.3 days' average production, about 18 per cent of which was at British Columbia mills that ship by water.

United States Mills										
	Days in month	Companies reporting	*Average in tons		Production			Shipments Total tons during month	Per cent of average	Mill Stocks. Tons
			Per month	Per day	Per month	Per day	Per cent of average			
1923—January	27	31	122,661	4,543	114,539	4,242	94.4	111,560	90.9	18,345
February	24	31	109,032	4,543	102,901	4,288	94.4	103,310	94.8	17,873
March	27	31	122,661	4,543	116,894	4,329	95.3	117,864	96.1	16,886
April	25	31	113,200	4,528	109,890	4,396	97.1	111,010	98.1	16,060
May	27	31	122,256	4,528	121,833	4,512	99.7	121,428	99.3	16,074
June	26	31	117,728	4,528	119,579	4,599	101.6	118,302	100.5	17,237
July	25	31	113,200	4,528	112,241	4,490	99.2	111,042	98.1	18,700
August	27	31	122,256	4,528	115,158	4,265	94.2	112,911	92.4	21,552
8 Months	208	..	942,994	4,534	913,035	4,390	96.8	907,427	96.2	21,552
1922—8 Months	207	..	973,755	4,704	856,082	4,039	85.9	839,900	86.3	15,372
Total of all companies reporting for August, 1923	..	48	..	..	132,604	..	..	129,173	..	25,674

Canadian Mills										
	Days in month	Companies reporting	*Average in tons		Production			Shipments Total tons during month	Per cent of average	Mill Stocks. Tons
			Per month	Per day	Per month	Per day	Per cent of average			
1923—January	26	19	100,464	3,864	99,797	3,838	99.3	95,040	94.6	11,614
February	24	20	92,664	3,861	92,048	3,835	99.3	91,157	98.4	10,741
March	27	20	108,027	4,001	107,250	3,972	99.3	105,399	97.6	12,677
April	25	20	100,025	4,001	101,835	4,073	101.8	101,986	102.0	12,357
May	27	19	109,242	4,046	112,135	4,153	102.6	110,845	101.5	13,610
June	26	19	106,756	4,106	108,832	4,186	101.9	108,909	102.0	13,538
July	25	19	102,650	4,106	105,716	4,229	102.9	104,329	101.7	14,927
August	27	20	113,508	4,204	114,721	4,249	101.1	113,955	100.4	15,631
8 Months	207	..	833,336	4,026	842,334	4,069	101.1	831,620	99.8	15,631
1922—8 Months	206	..	743,569	3,610	704,929	3,422	94.8	706,451	95.0	11,713

United States and Canadian Mills										
	Days in month	Companies reporting	*Average in tons		Production			Shipments Total tons during month	Per cent of average	Mill Stocks. Tons
			Per month	Per day	Per month	Per day	Per cent of average			
1923—January	..	50	223,125	8,407	214,336	8,080	96.1	206,600	92.6	29,959
February	..	51	201,696	8,404	194,949	8,123	96.7	194,467	96.4	28,619
March	..	51	230,688	8,544	224,144	8,301	97.2	223,263	96.8	29,563
April	..	51	213,225	8,529	211,725	8,469	99.3	212,996	99.9	28,417
May	..	50	231,498	8,574	233,968	8,665	100.1	232,273	100.3	29,684
June	..	50	224,484	8,634	228,411	8,785	101.7	227,211	101.2	30,775
July	..	50	215,850	8,634	217,957	8,710	101.0	215,371	99.8	33,627
August	..	51	235,764	8,732	229,879	8,514	97.5	226,866	96.2	37,183
8 Months	1,776,330	8,560	1,755,369	8,459	98.8	1,739,047	97.9	37,183
1922—8 Months	1,717,324	8,314	1,541,011	7,461	89.7	1,546,351	90.0	27,185
Total of all companies reporting for August 1923	..	68	..	..	247,325	..	..	243,128	..	41,305

*Represents average daily production during best three months of 1922, with allowances for changes in Machines.

NEW MACHINES											
Started in 1923					To Start in 1923						
Company	No.	Make	Size	Tons	Month	Company	No.	Make	Size	Tons	Month
Ft. William	1	P. & J.	196	80	January	Algonquin	1	B. & S.	204	80	September
Washington	1	B. & S.	164	60	January	Consolidated	1	Beloit	160	65	October
St. Lawrence	1	D. E.	164	60	February	Belgo	1	D. E.	232	85	November
Belgo	1	Walms.	232	85	February	Kenora	1	D. E.	234	100	December
Ft. William	1	P. & J.	196	80	April	Total	4			330	
St. Lawrence	1	D. E.	164	60	May	Grand total	12			855	
Oswegatchie	1	B. & S.	164	50	July						
Bathurst	1	Walms.	160	50	August						
Total	8			525							

Connecticut Valley Superintendents

[FROM OUR REGULAR CORRESPONDENT.]

LEE, Mass., September 18, 1923.—The Connecticut Valley Division of the American Pulp & Paper Mill Superintendents' Association will hold their next meeting here on Saturday, September 29. Luncheon will be served at Greenock Inn at 12:30, followed by a business meeting. Various mills in the vicinity will be visited and in the evening the Division will enjoy a clambake at Greenwater Pond. The number of responses already received indicates an unusually large attendance of members.

Crocker-McElwain Distributors

HOLYOKE, Mass., Sept. 17, 1923.—The two days' session of the distributors of the products of the Crocker-McElwain Company and Chemical Paper Manufacturing Company on Monday and Tuesday of last week were highly satisfactory from all points of view. There were 130 who attended the banquet Monday night. C. A. Crocker, president of the Crocker-McElwain Company, presided and the speaker was Rev. James Gordon Gilkey of Springfield. A golf tournament at the Mt. Tom Golf Club Wednesday closed the convention.

Established 1886

The Fact Is

That the buyer who is seeking maximum service at a minimum cost, can get exactly what he is looking for by placing his contract with our organization.

And the merit of this claim lies in the fact that it is conceded by many of the most important pulp and paper manufacturers in the country.

M. GOTTESMAN & COMPANY

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Stockholm, Sweden.*

New Forest Experiment Stations

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., Sept. 19, 1923.—Experimental work for the furtherance of forestry in the United States will receive a great stimulus through the opening of two new forest experiment stations, for which Congress provided at its last session in the appropriations for the Forest Service of the United States Department of Agriculture.

One of the new stations is called the Northeastern Forest Experiment Station, and will have its headquarters at Amherst, Mass., in cooperation with the Massachusetts Agricultural College. The other is known as the Lake States Forest Experiment Station and will be located at St. Paul, Minn., where it will cooperate with the Minnesota Agricultural College.

Under the terms of an agreement for the Massachusetts Station between the college and the Department of Agriculture, the college will furnish laboratory and office facilities for members of the station staff, will provide facilities for experimental work in the 700-acre tract of woodland belonging to the school, as well as provide for a small nursery. The department is to maintain the headquarters of the station at Amherst, will give a series of lectures on forestry, and will provide for and make possible research work by those students who care to undertake such studies.

The establishment of this new forest experiment station is part of the program the department has in mind whereby each important forest region will have its own station to work on local forest problems, as well as upon broader phases of the fundamentals of growth. One of the many activities of the new station will be the organization of a research council on which will be representatives of the forest schools, state forestry departments, agricultural colleges, and the forest industries throughout the entire region. Its main function will be to consider the advisability of new projects, location of field work, and agencies capable of undertaking or cooperating in the work.

S. T. Dana, formerly Forest Commissioner of Maine, has been appointed director of the station. He has had wide experience in forestry in the United States, and at one time was in charge of the forest investigations work of the Forest Service. He is thoroughly conversant with the region in which his work will lie, and has been identified with forest work there for a number of years. Walter H. Meyer, who has just recently returned from a year's study in the forest schools of Sweden, will assist Mr. Dana. Other members of the station staff have not yet been announced.

POLITICS IN PHILADELPHIA

(Continued from page 28)

to America by the first of October. While abroad he visited all the important concerns in the British Isles, Germany, Belgium, France and Holland and made arrangements for the importation of a large quantity of rag stock from these centres. This is in pursuance of a new policy of the firm to get out of the ancient stock trade and to develop its import department.

Addition to Thomas M. Royal Co. Plant

With the completion of an addition measuring 90 by 120 feet, to the already immense fancy bag and paper converting plant of the Thomas M. Royal Company, in Bryn Mawr, just outside of Philadelphia, the productive capacity of the plant is to be increased, more firmly than ever establishing its claim of being the largest establishment of its kind in the world. Into this addition there are to be placed 15 more machines especially constructed for bag manufacture. All of these are of a specially designed type for the production in large quantities of high class light weight flat and square opening bags, for department stores, confectionery trade the textile industry and coffee and tea packers. With the addition the firm's plant now covers three acres in the center of Bryn Mawr section and leading into it is a siding from the Pennsylvania Rail-

road main line. The head of the firm, Thomas M. Royal, has just returned from a combined business and pleasure trip abroad, in the course of which he placed orders in Germany and England for the additional machinery equipment. While abroad he unexpectedly had the pleasure of meeting in London, President Allen E. Whiting, of the Whiting Patterson Company and together they toured Northern Germany for ten days. Mr. Royal expresses his surprise at the large amount of building construction being done in Germany and the evidences he found of a swiftly returning industrial prosperity.

News Notes of the Trade

A trip through New England, visiting the coarse paper mills of that section, has been completed by President Simon Walter, of S. Walter, Inc., 144 N. 6th street. By the latter part of September or early October Mr. Walter will make a two weeks' tour through the coarse paper mills of the Middle West.

President Henry Stokes of the American Pulp and Paper Association is dividing his time between the affairs of the York Haven Paper Company and the completion of a program for the annual fall conference of manufacturers' jobbers which will take place the week of October 8 in the Drake Hotel, Chicago.

The Japanese earthquake and tidal wave holocaust enforced postponement of the trip to Japan which Charles Matthias of the Matthias and Freeman Company, 117 N. 7th street, was about to set out for on the very eve that the cable brought word of the catastrophe.

George Thomas, Philadelphia manager of the A. P. W. Paper Company, whose local headquarters are at 1001 Chestnut street in the Victory Building visited the Albany, N. Y., mills during the week.

Samuel S. Alcorn, paper broker, who for the past four years had been located in the Victory Building, following the dissolution of the Megarge-Gare Company, with which he had been associated for many years, will remove at the end of the month from his offices in Room 509 to Room 813 Atlantic Building, Broad and Spruce streets. He is engaged in both coarse and fine papers direct mill business.

Charles H. Clinton of the C. H. Clinton Paper Company, 10th and Chestnut streets, returns at the end of the week from a two weeks' tour of the New England paper mills.

Two additional salesmen have been secured by the Atlas Paper Company, 129 Vine street. They are H. Gattissield and D. Bragger, both formerly with the Weaver Paper Company and they will represent the Atlas Company in Northern Philadelphia and Central city section. The Atlas Company is specializing in paper napkins and other allied lines made by the N. M. Ellis Company of New York.

With the sale of the former business of the Gandler Brothers to the United Bag and Paper Company, the former proprietors, Samuel Gandler and George Gandler, have severed their connection with the paper trade and entered the real estate business at 725 Walnut street.

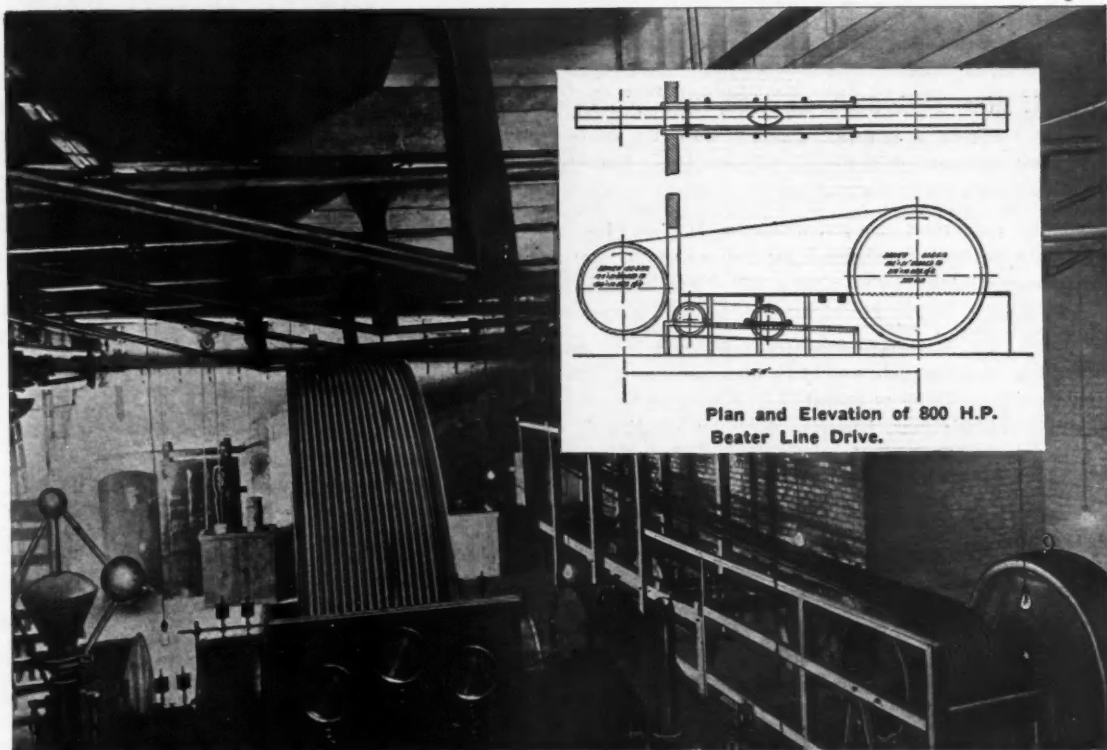
J. Bradford Ramsey, Jr., mill representative, is enjoying a belated vacation this week in Chelsea, Atlantic City.

Fire of unknown origin during the week caused slight damage in the warehouse of the Hancock Paper Company, 149 S. Hancock street.

After October 1 the Philadelphia offices of the Robert Gair Company, now at 911 Pennsylvania Building, 15th and Chestnut streets, will be located in the City Center Building, Broad and Cherry streets. Albert E. Gelsthorpe is in charge.

Mill Now Under New Name

WINCHESTER, Va., September 18, 1923.—The name of the Winchester, Va. mill of the old American Strawboard Company, recently purchased by N. H. Carpenter of Coshocton, Ohio, has been changed to the Shenandoah Boxboard Corporation. Robert Stevens, formerly General Superintendent, of the National Folding Box Company, New Haven, Conn., is in charge.



One of three Dodge rope drives installed in 1913 still going strong and good for years to come

It was a case of new belts or a rope drive with the Monarch Mill of the Allied Paper Mills. Here is what decided them on the Dodge system of rope driving. It might decide you.

Converting the flywheels to sheaves by means of hardwood lagging and the necessary ropes, etc., practically equalled the cost of new belts—but—when replacements were considered the ropes represented an investment of about one-eighth as much as would be necessary to buy new belts.

The three drives aggregating 1200 H.P. have been operating continuously since 1913. The Chief Engineer says:

“The drives are still operating in a satisfactory manner. We have every reason to believe that from its present appearance and performance that it is still good for a number of years.”

Dodge rope drives are equally well adapted for simple or intricate situations and can be successfully used under conditions far beyond the range of belting practice.

Submit your problems to Dodge engineers—they will prepare practical recommendations on request.

Complete Power Equipment for Paper Mills.

The complete Dodge line includes everything for the mechanical transmission of power—pulleys, pillow blocks, gearing, clutches, collars, couplings, etc.—stock sizes from your local dealer—special equipment on order through branches.

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Philadelphia
Pittsburgh
Boston
Cincinnati
Newark

Chicago
Atlanta
Minneapolis
St. Louis-Houston
Seattle
San Francisco

Editorial

Vol. LXXVII New York, September 20, 1923 No. 12

HENRY J. BERGER, Editor

PAPER EXPORTS CONTINUE SLOW

The figures for the exports of paper, which have just been published by the Department of Commerce for July and which are the latest figures available, give no promise of an early improvement in the expansion in the sale of paper to be sent overseas. The figures for July, in fact, as compared with June, show a decline amounting to almost half a million dollars. The July exports were valued at \$2,079,267 as against \$2,434,313 for June. The figures for July of this year, however, showed a considerable increase over July of last year when the exports of paper were valued at only \$1,991,165. The exports of paper for the seven months ending with July amounted to \$15,258,295 as compared with \$13,815,231 for the same period last year.

The decline in the value of paper exports for July was especially noticeable in news print which, for the month, amounted only to \$102,561 as compared with \$167,336 for June. The exports for July a year ago were valued at \$190,527. The exports of news print for the seven months ending with July were valued at \$999,506 as compared with \$1,524,008 for the same period last year.

The exports of book paper for July as compared with June, on the other hand, showed some increase, the figures for the former month being \$326,817 and for the latter only \$311,083. The exports for July of last year were \$288,461. The exports of book paper for the seven months ending with July were valued at \$1,889,561 as compared with \$1,582,428 for the same period last year.

The exports of wrapping paper also showed a considerable decline, the figures for July being \$165,187 as compared with \$225,007 for June and \$194,266 for July of last year. The exports of wrapping paper for the seven months ending with July were valued at \$1,296,765 and \$1,302,609 for the same period last year.

The exports of paper board and strawboard for July were valued at \$227,060 as compared with \$301,416 for June and \$164,215 for July of last year. The exports of paper board and strawboard for the seven months ending with July were valued at \$1,550,700 as compared with \$1,152,276 for the same period last year.

The exports of writing paper, except papeteries, for July were valued at \$77,790 as compared with \$100,318 for June and \$80,913 for July of last year. The exports of writing paper, except papeteries, for the seven months ending with June were valued at \$601,886 as compared with \$665,104 for the same period last year.

The exports of surface coated paper for July were valued at \$51,780 as compared with \$58,880 for June and \$23,224 for July of last year. The exports of surface coated paper for the seven months ending with July were valued at \$385,722 as compared with \$337,262 for the same period last year.

The exports of tissue and crêpe paper for July were valued at

\$78,746 as compared with \$60,336 for June and \$66,984 for July of last year. The exports of tissue and crêpe paper for the seven months ending with July were valued at \$443,163 as compared with \$343,377 for the same period last year.

The exports of wall board of paper or pulp for July amounted to \$58,606 as compared with \$44,295 for June and \$29,729 for July of last year. The exports of wall board of paper or pulp for the seven months ending with July were valued at \$306,891 as compared with \$214,607 for the same period last year.

The imports of paper during July as compared with June also showed a decline of more than half a million dollars. The figures for the former month were \$9,145,907 as compared with \$9,710,883 for the latter. The imports for July a year ago, however, were valued at only \$6,620,570. The imports of paper for the seven months ending with July were valued at \$66,268,919 as compared with \$46,688,898 for the same period last year.

The decline was especially marked in news print, the figures for which, during July, amounted only to \$7,734,707 as compared with \$8,090,355 for June. The figures for July of last year were \$5,618,152. The imports of news print for the seven months ending with July were valued at \$55,664,210 as compared with \$39,549,694 for the same period last year.

The imports of wrapping paper showed a marked gain, the figures for July being \$398,027 as compared with \$220,795 for June and \$273,323 for July of last year. The imports of wrapping paper for the seven months ending with July were valued at \$2,364,323 as compared with \$1,166,719 for the same period last year.

The imports of rags for paper stock for July were valued at \$445,119 as compared with \$559,843 for June and \$246,583 for July of last year. The imports of rags for the seven months ending with July amounted to \$4,142,856 as compared with \$2,150,147 for the same period last year.

The imports of mechanical pulp for July were valued at \$521,889 as compared with \$568,534 for June and \$417,507 for July of last year. The imports of mechanical pulp for the seven months ending with July were valued at \$4,798,699 as compared with \$2,446,930 for the same period last year.

The imports of unbleached sulphite pulp for July were valued at \$1,755,134 as compared with \$2,772,301 for June and \$1,866,799 for July of last year. The imports of unbleached sulphite pulp for the seven months ending with July amounted to \$14,345,127 as compared with \$10,457,222 for the same period last year.

The imports of bleached sulphite for July amounted to \$1,874,708 as compared with \$2,172,109 for June and \$1,368,606 for July of last year. The imports of bleached sulphite for the seven months ending with July were valued at \$13,756,555 as compared with \$9,247,088 for the same period last year.

The imports of unbleached sulphate pulp for July amounted to \$1,328,374 as compared with \$1,457,006 for June and \$1,389,746 for July of last year. The imports of unbleached sulphate pulp for the seven months ending with July amounted to \$8,155,395 as compared with \$8,067,836 for the same period last year.

The imports of bleached sulphate pulp for July were valued at \$111,840 as compared with \$111,371 for June and \$179,964 for July of last year. The imports of bleached sulphate pulp for the seven

months ending with July amounted to \$844,481 as compared with \$444,001 for the same period last year.

INSURANCE AND THE HOLOCAUST

Nothing in the way of statistics has been more carefully studied out than the statistical reckonings on which fire and life insurance rates and premiums are computed. The life statistics have been so carefully worked out that the death losses in any 1,000 risks vary hardly a hair from the death losses in any other 1,000. The same accurate conclusions are written into the fire statistics. These statistics take into consideration not alone the individual loss of life that occurs here and there but also makes due allowance for the great calamities which come now and then—the conflagration that sweeps great areas causing great loss of life and property, the flood that sweeps all before it and the earthquake which handles the great buildings of a mighty city as though they were but paper playthings.

But, occasionally, comes a holocaust so terrible that it defies statistical contemplation. The earthquake disaster in Japan is an instance and the Japanese insurance companies find themselves today facing an unlooked for crisis because the calamity so far exceeded anything they could contemplate.

The fire insurance companies, with capital aggregating 200,000,000 yen (\$100,000,000 approximately) and reserves of \$75,000,000 face estimated losses of \$1,000,000,000.

It is a situation such as our own companies faced at the time of the Chicago fire and later on the occasion of the San Francisco earthquake. The manner in which most of the companies met their losses on those two occasions, however, raised them to a new position of public confidence and went far toward stimulating American insurance for the great strides it has since made. In the same manner the Japanese ordeal will probably be met.

Talk Over Salesmen's Meeting

George K. Gibson, former president of the Salesmen's Association of the Paper Industry, came to New York yesterday to confer with Secretary Thomas J. Burke of the association on final plans for the big salesmen's meeting and banquet to be held at Chicago on Wednesday, October 10, during the Fall Business Conference of the American Paper and Pulp Association.

Mr. Gibson is representing the Chicago division of the association, which has charge of convention arrangements, and he says that the Chicagoans expect to make this year's meeting an even greater success than that of 1922 which established a new high record for interest.

Dr. E. O. Merchant will be one of the features of the afternoon session of the convention, speaking on "Trade Statistics." The trip of Mr. Gibson, however, is with the hope of securing a figure of national importance for the evening banquet. The salesmen will begin their meeting with a buffet luncheon, followed by the afternoon program. The evening banquet, the social event of the conference week, will be held Wednesday evening. The original plan of making Tuesday the salesmen's day of convention week has been changed, Wednesday being selected instead.

Meanwhile plans are also going forward for the program on Thursday, the joint conference day of the American Paper and Pulp Association and the National Paper Trade Association. The forenoon session will be devoted to business discussions, while the annual joint luncheon in the afternoon will be the concluding event of convention week.

Kalamazoo Plant Has Flood

[FROM OUR REGULAR CORRESPONDENT.]

KALAMAZOO, Mich., September 18, 1923.—Damage to the extent of about \$20,000 resulted, when the huge filtration plant at the mill of the Kalamazoo Vegetable Parchment Company gave way, Wednesday afternoon, and precipitated a torrent of water that not only resulted in wrecking the filtering basin, but also tore up interurban track, smashing steel high tension line poles and completely flooding the yards and basement of the plant of the Western Paper Makers' Chemical Company.

The accident was caused by a small leak in a pipe under the filtration reservoir. Insignificant at first this increased until it had weakened the foundations of the outer wall until it fell outward, carrying the inner wall with it. President Jacob Kindleberger and Ralph Clark, member of the company's engineering staff, were inspecting the leak at the time of the break and it was only by inches that they managed to escape.

The rushing torrent swept across the Michigan Railway right of way and rushed madly through the yards of the Western Paper Makers' Chemical Company. Thousands of cylinders of resin and other paper making materials were tossed about like corks. The basement of the Chemical plant was flooded. Service over the Michigan Railway lines was interrupted for about 24 hours. H. L. Vanderhorst, contractor, has already started to rebuild the damaged structure. The accident will not interfere with the operation of either plant.

Gives Tips on Care of Cores

MONTREAL, Que., September 19, 1923.—The Canadian Pulp and Paper Association is sending to newspaper publishers copies of a small booklet on the proper care of news print cores in publishers' press rooms. The mishandling of cores causes a great deal of loss each year to both newspaper publishers and news print manufacturers and the little booklet is therefore well worth careful perusal. The book contains several illustrations and the many tips to publishers and suggestions to shipping departments are all right to the point.

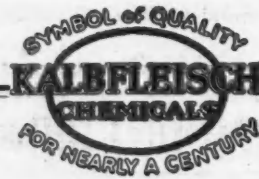
CANADIAN STUMPAGE DUES

(Continued from page 30)

original unit of purchase price of \$1,000 giving ten shares of the 8 per cent preferred. For a contribution of \$600 cash the present shareholders will receive \$720 par value of the new preferred stock and 30 shares of the new common. This would bring the total cost to him for his old stock and his new to \$1,600. The expectation is that the prior preference stock, in paying a dividend regularly for some time of seven per cent, would reach a valuation, say, of 98 to 99, which would make it necessary for the thirty shares of common to sell at about \$30 a share to bring the total value of the new prior preference, and the new common, up to the value of the cost of the old preferred and the new contribution. This \$30 a share would represent a condition where the new security would have to show an earning power and be fairly well in line for a dividend.

In figuring out the earning power of the reorganized company it is understood that the management are counting on the dividend for the prior preference being not only earned but paid regularly with a surplus sufficient probably to cover the second preference, which is not cumulative until 1925. Earnings available for the common stock, it is figured, will come from the development of the Chelsea Water Power and one or two other powers, and also later on from the establishment of a news print mill on the Gatineau.

The available pulpwood on the Gatineau limits would enable a mill with a capacity of 400 tons a day to be operated for 25 to 35 years. It is understood that the waterpowers can be developed without any reference to the existing bond holders as these are apart from liens held by them.



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Section of the

Technical Association of the Pulp and Paper Industry



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



Conducted by **W.G. Mac NAUGHTON, Secretary**

REPORT, DISCUSSION AND COST FIGURES ON THE EFFICIENCY OF ELECTRIC PAPER DRYING MACHINE

By JOHN E. ALEXANDER, NEKOOSA-EDWARDS PAPER CO.

In calculating and determining the efficiency of the electric drying unit, the figures involved in the calculation are directly comparative with the figures and results obtained on a commercial paper drying machine using steam as the drying medium.

The following three factors, whether it be in drying paper by electricity or by steam, are the ones that directly determine the efficiency of the process and upon which the cost of drying per ton of product will be increased or reduced.

Drying Paper by Electricity

- 1—Pounds of water evaporated per lb. of paper.
 - (a) Per cent moisture going into drier.
 - (b) Per cent moisture in finished paper on reel.
- 2—Kw.-hr. required to dry 1 pound of paper.
- 3—Cost per kw.-hr.

Drying Paper by Steam

- 1—Pounds of water evaporated per lb. of paper.
 - (a) Per cent moisture going into drier.
 - (b) Per cent moisture in finished paper on reel.
- 2—Pounds of steam consumed per lb. of paper.
- 3—Cost per lb. of steam.

From not hundreds, but thousands of tests run in the paper testing laboratory and at the mills of the Nekoosa-Edwards Paper Co., it has been found in news print paper that there is an average figure of 69 per cent water in the paper after it leaves the last press and goes onto the first drier and an average figure of 8 per cent water in the paper after it has come off of the last drier, goes through the calender stacks and is wound up on the reel. Therefore, in this report which will be divided into the two processes, namely, the drying of paper by electricity versus the drying of paper by steam, the figures of 69 per cent and 8 per cent have been used so the results are directly comparable.

Figures, Data and Discussion Regarding the Efficiency of Drying Paper by Steam

In carrying through these figures, let us first consider the three factors given above.

From a formula which has been carefully worked out and checked we can determine the pounds of water evaporated per pound of paper. The formula is as follows:

$$\frac{\text{Per cent bone dry paper on reel}}{\text{Per cent bone dry paper to driers}} - 1 = \text{lb. water evaporated per lb. of paper}$$

As mentioned above figures of 69 per cent and 8 per cent have been found to constitute a good average for these particular conditions. Therefore, applying the formula, we have:

$$\frac{92}{51} - 1 = 1.97 \text{ lb. water evaporated per lb. of paper.}$$

In applying factor two, we have a large number of tests which have been made by weighing all the condensate from the driers, and it has been found that 3 pounds of steam are used to dry one pound of paper. It is true that this is a low figure; but in good paper machine operation, it has been demonstrated by actual tests that this figure under good working conditions can be obtained.

As regards factor three, as has been mentioned at the very beginning of the report, this will be a variable quantity, and will probably not be the same at any two mills. The price of coal which, of course, is the largest item in steam cost, will vary under different conditions and at different localities. However, in our particular mill and for use in the figures in these tests, we find that it cost us \$0.65 per 1,000 lb. of steam or \$0.00065 as the cost per lb. of steam. Our table, now filled out and completed, would look something like this:

1. 1.97 lb. water evaporated per lb. paper.
2. 3 lb. steam per lb. paper.
3. \$0.00065 per lb. steam.

From our steam table we find that 1 lb. steam at 5 lb. gauge press will give up 960 B. t. u. in condensing, therefore, 3 lb. of steam will give up 2,880 B. t. u.

Assuming the temperature of the water and sheet as it comes off the fourdrinier end and goes onto the first driers to be 70° F. We find that in evaporating from 70° F. to 190° that there is about 120 B. t. u. in the heat of the liquid and 984 B. t. u. latent heat, or a total latent heat of 1,104 B. t. u. that is required to evaporate water from 70° F. to 190° F.

I have given the figure above of 1.97 lb. of water evaporated per lb. of paper. Therefore, $1.97 \times 1,104 = 2,180$ B. t. u. given up in the drying.

$$\text{Thermal efficiency} = \frac{\text{input}}{\text{output}} \text{ or } \frac{2180}{2880} = 75.5\% \text{ efficiency.}$$

for the steam paper drier.

Specific figures have been used in the above case as they represent results and figures from actual tests that we have conducted. The above efficiency, however, represents the average and the figure would be applicable to any standard paper drying machine.

The last and important figure that we now come to is the

lb. of steam, we have $0.65 \times 6,000 = \$3.90$ for the steam cost alone to dry one ton of paper, it should be remembered that the figure of \$3.90 is for the drying alone of the paper, and in most mills this cost will exceed the above figure, as the use of 3 lb. of steam per pound of paper is nearly perfect.

Figures, Data and Discussion Regarding the Efficiency of Drying of Paper by Electricity

In applying our figures in the electric drying, the results are comparable with the steam drying and the same conditions adhered to as exactly as possible. All foreign figures that do not appear in the other method are the figures from actual tests and results obtained therefrom.

Factor one as used before remains the same in this case, being 1.97 lb. water evaporated per pound of paper. This was derived by using the same formula and same moisture percentages going in and out of machine.

Factor two in this table will be 0.66 kw-hr. The figure of 0.66 kw-hr., which is the kw-hr. required to dry one pound of paper, represents an average figure of over one hundred tests, extending over a long period of time, and is figured as follows:

In tests which an efficiency of 97 per cent has been obtained it was found by actual measurement that 0.581 kw-hr. were consumed to dry one pound of paper and in the drying of the paper and using 0.581 kw-hr. 1.733 lb. of water was evaporated per lb. of paper.

As stated in the first part of this report, in standard practice in paper drying 1.97 lb. water per pound of paper is evaporated when the paper goes onto the machine with 68 per cent moisture in it and comes off on the reel with 8 per cent moisture in same. In the test mentioned above where 0.581 kw-hr. were used and 1.73 lb. of water evaporated per pound of paper, there was 70 per cent moisture in paper going in drying chamber and 18 per cent moisture in paper at reel. Therefore, in order to get the paper in the reel both on the same dry basis, namely 8 per cent, we have 0.581×1.97

$$\frac{0.581 \times 1.97}{0.97} = 0.66 \text{ kw-hr. instead of } 0.581 \text{ kw-hr.}$$

1.73

Factor three, and in our particular base and at these mills, is \$0.0075 per kw-hr.

Our completed table would now read as follows:

1. 1.97 lb. water evaporated per lb. of paper.
2. 0.66 kw-hr. required to dry 1 lb. of paper.
3. \$0.75 per kw-hr. cost of electric energy.

The next figures that I wish to present are figures from an actual test, giving the efficiency of this particular machine. The results are as follows:

1. Test number.....	200
2. Type of drying system.....	Electric (Alexander)
3. Duration of test.....	1 hr. 45 min.
4. Number of drying sections.....	5
5. Grade of paper made.....	Com. Butchers Sulphite
6. Basic weight (480 sheets per ream 24x36).....	31.5
7. Average per cent b.d. stock delivered to drier....	30%
8. Average per cent b.d. stock in finished paper.....	82%
9. Strength factor finished paper (Mullen).....	0.517
10. Width of paper.....	14 in.
11. Speed of paper in drier.....	41 ft.
12. Production, pounds dried.....	78.5 lb.
13. Temperature in section 1.....	192° F.
14. Temperature in section 2.....	224° F.
15. Temperature in section 3.....	231° F.
16. Temperature in section 4.....	302° F.
17. Temperature in section 5.....	266° F.
18. Kw-hr. used for test.....	45.6 Kw-hr.
19. Kw-hr. used per lb. paper.....	0.581 Kw-hr.
20. Pounds of water evaporated per lb. of paper.....	1.733 lb.
21. Total B.t.u. supplied per pound of paper.....	1,982 B.t.u.
22. B.t.u. required to heat up and evaporate water....	1,927 B.t.u.
23. Moisture in paper going to drier.....	70.0%
24. Moisture in paper going to reel.....	18.0%
25. Thermal efficiency of system.....	97.2%

cost to dry one ton of paper. Using factor three of \$0.65 per 1,000

The efficiency of the machine, of course, means the actual amount of water evaporated as compared to the theoretical amount of water evaporated and the number of B. t. u. used in each case. In test 200 it will be noted there is 18 per cent water at the reel; but this would not change the efficiency of the unit whether it was 18 per cent or 8 per cent water in the paper at the reel. In reality, there was only 8 per cent water in the finished paper on the reel in this test; but the paper after leaving the electric drying chamber, passed through a steam-heated calender stack. On account of the slow speed of only 41 feet per minute, tests before and after the stack showed the steam-heated stack to be removing 10 per cent moisture in the sheet. Therefore, this additional 10 per cent moisture was added to the actual electric drying figures and cost, and this accounts for the figure 18 per cent that reads "Moisture in paper at reel" as per item 24 on the test sheet.

In figuring the cost per ton of paper from the results given in test 200, we have the following:

In test 200, it took 0.581 kw-hr. to evaporate 1.73 lb. water from the sheet; but as shown in item 24 on test, this sheet contained 18 per cent moisture. In good paper mill practice today, 1.97 lb. water is evaporated per pound of paper. In our case 1.73 lb. of water was evaporated per pound of paper.

$$0.581 \times 1.97$$

Therefore, $\frac{0.581 \times 1.97}{0.97} = 0.66 \text{ kw-hr. required to dry one lb.}$

1.73

of paper, the paper having 69 per cent moisture content going into drier and 8 per cent moisture content leaving drier. The cost to dry a ton of paper is figured as follows:

$$\text{Kw-hr. used per lb. paper} \times \text{cost per kw-hr.} \times 2,000 = \text{cost to dry one ton paper } 0.66 \times 0.75 \times 2,000 = \$9.90.$$

As efficiency is a direct comparison of the heat required to evaporate so many pounds of water per pound of paper in practice as compared to the theoretical amount of heat required, it will be of value to check through our cost per ton figure on the following basis:

To evaporate water from 70° F. to 190° F. takes the following:

- 994 B.t.u. for latent heat.
- 120 B.t.u. for heat of the liquid.

$$1,104 \text{ B.t.u. total heat required.}$$

Using the following standard formula:

$$\frac{\% \text{ b.d. paper on reel}}{\% \text{ b.d. paper to driers}} - 1, \text{ we have}$$

$$\frac{92 \text{ (8\% out)}}{31 \text{ (69\% in)}} - 1 = 1.97 \text{ lb. water evaporated per lb. of paper. There-}$$

fore, $1.97 \times 2,000 = 3,940 \text{ lb. water evaporated per ton of paper.}$

At 100 per cent efficiency, we have, therefore, $3,940 \times 1,104 = 4,350,000 \text{ B.t.u. required to evaporate the water in making one ton of paper.}$

At 97 per cent efficiency (test 200) we have:

$$\frac{4,350,000}{97} = 4,483,000 \text{ B.t.u. required to evaporate the water in making one ton of paper.}$$

It is known and a standard factor that 1 kw-hr. = 3,412 B.t.u. Therefore,

$$\frac{4,483,000}{3,412} = 1,314 \text{ kw-hr. required to dry one ton of paper electrically.}$$

Using our figure of \$0.0075 per kw-hr. for electricity, we have: $\$0.0075 \times 1,314 = \9.86 the cost to dry one ton of paper by electricity. The checks fairly close with the figure of \$9.90 per ton, worked out direct from test 200, the error of a few cents being in cutting off figures in using long numbers in multiplying and dividing.

It must be remembered that the above figure of \$9.86 per ton is with electricity at \$0.0075 per kw-hr. With electricity at \$0.0050 and \$0.0025 per kw-hr. we have the following cost figures:

$$\$0.0050 \times 1,314 = \$6.57 \text{ per ton to dry.}$$

$$\$0.0025 \times 1,314 = \$3.28 \text{ per ton to dry.}$$

Although it is true that test 200 is a particularly good test, hundreds of tests have proven that the efficiency of this system runs from 90 to 98 per cent.

Below is an average of 16 tests to show that this machine actually has an efficiency of 91.3 per cent. This average is taken so that there may be no criticism of taking any one particular high test and showing an unusual high efficiency figure.

1. Test number	300 through 317 (ave. 18 tests)
2. Type of drying system	Electric (Alexander)
3. Duration of test	2 hr. 33 min.
4. Number of drying sections	5
5. Grade of paper made	Com. butchers' sulphite
6. Basic weight (480 sheets per ream 24x36)	39.9 lb.
7. Average per cent b.d. stock delivered to drier	31.4%
8. Average per cent b.d. stock in finished paper	81.88%
9. Strength factor finished paper (Mullen test)	0.541
10. Width of paper	20 in.
11. Speed of paper in drier	42 ft.
12. Production, lb. paper dried	129.3 lb.
13. Temperature in section 1	192° F.
14. Temperature in section 2	224° F.
15. Temperature in section 3	231° F.
16. Temperature in section 4	302° F.
17. Temperature in section 5	266° F.
18. Kw.-hr. used for test	74.5 kw.-hr.
19. Kw.-hr. used per lb. of paper	0.576 kw.-hr.
20. Pounds of water evaporated per lb. of paper	1.605
21. Total B.t.u. supplied per lb. of paper	1,955
22. B.t.u. required to heat up and evaporate water	1,785
23. Moisture in paper going to drier	68.6%
24. Moisture in paper going to reel	18.12%
25. Thermal efficiency of system	91.3%

Conclusions

In examining the curves showing the relation between cost to dry paper by steam and by electricity, the following figures must be considered:

The present method of drying paper in the John Edwards Mill is to take live steam at 110 lb. pressure and put same through a steam engine or steam turbine and take the exhaust from the engine, at 5 lb. pressure, and use same in driers.

3 lb. of steam is required per lb. of paper. If live steam were used, this would cost at \$0.65 per 1,000 lb. $\$0.65 \times 6,000 = \3.90 per ton of paper. The curves, however, figure that exhaust steam is worth 77 per cent of live steam. However, now as only the exhaust steam from the engine is used in the driers, this must be figured on the exhaust steam cost or $77 \times \$0.65 = \0.50 per 1,000 lb. Therefore, in reality the blueprint figures that one lb. paper is being dried by 3 lb. of exhaust steam and at \$0.50 per 1,000 lb. it would be \$3 per ton for drying. Figuring the value of the live and exhaust steam on the B. t. u. basis, we have:

1 lb. live steam at absolute pressure 126 lb. (111 lb. gage pressure) contains total heat of 1,190 B. t. u.

1 lb. exhaust steam at absolute pressure of 20 lb. (5 lb. gage) contains total heat units of 1,156 B. t. u.

Therefore, the difference between 1,190 and 1,156, or 34 B. t. u., represents the B. t. u. lost in drying but given up for power in driving the engine. This equals a thermal loss of 2.89 per cent, which is used for the engine.

Now, if live steam containing 1,190 B. t. u. per lb. cost \$0.65 per 1,000 lb., then exhaust steam containing 1,156 B. t. u. per lb. will cost \$0.63 per 1,000 lb. Therefore, if the above figures are true, instead of having a figure of \$3 per ton with exhaust steam at \$0.50 per 1,000 lb. we will have a figure of $\$0.63 \times 6,000 = \3.78 for the cost to dry one ton of paper. This figure including the power for driving the paper machine engine.

According to the chart, therefore, it costs \$3 per ton to dry paper with exhaust steam at \$0.50 per 1,000 lb.; but with a value of exhaust steam at \$0.63 per 1,000 lb. the cost will be \$3.78 per ton. With electricity at \$0.0075 per kw.-hr. it cost \$9.90 to dry one ton of paper, but with current at \$0.0050, it will cost \$6.60.

During the month of June it cost \$6.16 for steam and power per ton of paper in the John Edwards mill. If only 3 lb. of steam were used for drying per lb. of paper, which would cost at the lowest figure \$3 per ton, this leaves a figure of \$3.16 per ton for all other uses in the mill outside of drying.

It has always been my opinion that the greatest use of steam in any paper mill was for the drying. Here, however, over 50 per cent was consumed in bringing same from power house and used elsewhere around the mill. The month of June was a mild month, so very little would have been used for heating the buildings. However, on our books it actually cost \$6.16 for steam per ton of paper made.

During the month of March, which was a very severe month

this year, the total cost for steam and power was \$6.88 per ton, or only a difference of 72 cents per ton compared with June. Undoubtedly, this extra 72 cents per ton was used in heating.

In any event, June costs were \$6.16 per ton, and it is hard to say just how much of the cost was actually used in the drying of the paper. If only 3 lb. of steam, amounting to \$3 per ton of the \$6.16 total was used, then steam was wasted somewhere in the process which might be anywhere from the boiler house to the mill. If the steam was not wasted in other places in the mill and from the boiler house, it would indicate that more than 3 lb. of steam per lb. of paper was actually employed in the drying process.

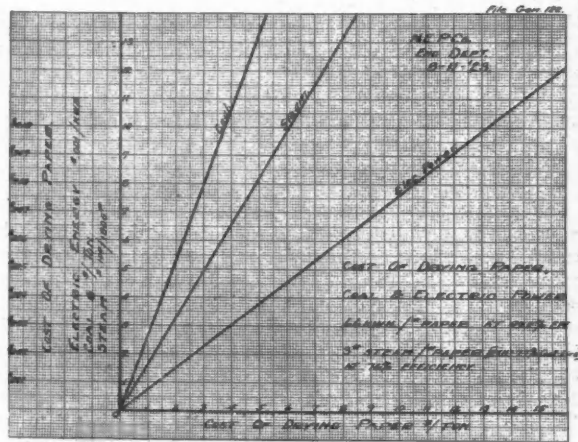
In final conclusion, however, the figures and comparative cost for each of the two processes can be read directly from the curves. After charging the value of the live steam for drying the engine, it will cost either \$3 or \$3.80 per ton, depending upon the value of the exhaust steam.

TABLE OF COSTS

Cost of electricity per kw.-hr.	Cost to dry 1 ton paper	Cost of exhaust steam per 1,000 lb.	Cost to dry 1 ton of paper
\$0.0100	\$13.20	.....	.....
.0075	9.90	.....	.....
.0050	6.60	\$0.63	\$3.78
.0025	3.30	.50	3.00

In the above 3 lb. steam per pound of paper, no live steam has been figured in use in the driers.

The curve below will enable one to determine the cost in



dollars per ton of paper, knowing the cost figures of either coal or steam and electric power.

It should, however, be borne in mind that the figure of 3 lb. of steam per pound of paper and the cost of same giving the cost to dry one ton of paper as shown on the graph, has not taken into consideration the steam to heat the air in the paper machine room.

I am sure that anybody that is familiar with paper machine room heating and ventilating will agree that it costs money to heat air no matter where it is. The measurement of the condensate from the driers in which an almost perfect figure of 3 lb. of steam per lb. of product was obtained is not representative of the whole cost of drying the paper. Although it might be true in mills that are doing exceptionally well and that do not guess but actually weigh their condensate a figure of 3 lb. of steam per lb. of paper is required the fact still remains that most people in figuring pounds of steam per pound of paper forget all about the air they are heating in the process. This costs money, and therefore to say that 3 lb. of steam are used per lb. of paper is forgetting what takes place before the steam reaches the drier and other losses that would not show up in the weighing and measurement of the condensate from the driers.

Although the graph to determine the cost to dry one ton of

paper is based on the figure of 3 lb. of steam per lb. of paper when the bills are paid they show that about 4 lb. of steam are used per pound of paper. Our table of costs would then read as follows:

Cost of electricity per kw. hr.	TABLE OF COSTS		
	Cost to dry 1 ton paper	Cost of exhaust steam per 1,000 lb.	Cost to dry 1 ton of paper
\$0.0100	\$13.20	\$0.70	\$5.60
.0075	9.90	.65	5.20
.0050	6.60	.63	5.04
.0025	3.30	.50	4.00

In the month of March of the present year I sent out a questionnaire to about seventy of the leading paper mills of the United States and Canada, and received replies from forty of them. Thirty of the forty mills answering filled out the questionnaire so

far as they were able to do, while the other ten wrote letters making various inquiries and showed exceptional interest.

Average Cost of Electricity

Of the thirty mills twenty-five reported that their average cost for electricity \$0.0046 per kw.-hr. as compared to average for electricity generated by water power of \$0.0080.

In reporting the price of coal, twenty-six mills reported an average price at their mill of \$7.91, while the average price for the Nekoosa-Edwards Paper Company is \$8 per ton. Four mills reported using oil.

The price for generating electric current runs all the way from \$0.0019 to \$0.0085. The majority, however, run under \$0.0050.

SILICATE OF SODA IN THE PAPER MILL*

By JAMES G. VAIL, CHEMICAL DIRECTOR, PHILADELPHIA QUARTZ COMPANY, PHILADELPHIA

Hardness and smooth finish are the qualities which the paper maker usually associates with silicate of soda. Commercial solutions of suitable composition when added to the beater and precipitated with alum impart these characteristics and give other advantages among which some gain in strength is generally observed. These results can only be secured if the silicate is used with due regard to its chemical and physical properties.

Aside from improving the properties of the paper there are several other purposes for which silicate of soda is useful in the paper mill. A consideration of some of these is worth while from the point of view of illustrating the nature of the material as well as to call attention to the minor uses which may have escaped the notice of some who may find them helpful.

In the Sulphite Pulp Digester

Beginning in the sulphite pulp digester we find silicate of soda as an ingredient of the cement in which the acid-proof lining is set. A reaction between Portland cement and the silicate solution is here employed to give the needed combination of resistance to water and acid. Silicate of soda alone is affected by acids but the cement which contains both will, when rightly mixed and applied, give excellent service. The speed with which the reaction takes place depends on the composition and concentration of the silicate. Those forms of silicate of soda which contain a large proportion of silicate and little alkali, although they are well adapted to be used in the beater, make cements which set too rapidly for this purpose. The best grade has been determined to be one in which the ratio of soda to silica is as 1 to 2.4. This is usually put on the market at a concentration of 52°B. A good cement is made by using two parts of ground quartz of 20 mesh fineness and one part of Portland cement. The silicate solution is diluted with 10 per cent of its weight of water, and mixed with the quartz and cement to a plastic condition. It is necessary to mix small batches as the setting begins in about five minutes. More water will make the cement set faster and less will somewhat extend the time, but the most satisfactory resistance is secured from a quick setting mixture.

A slurry of Portland cement will set almost instantly if brought into contact with a high ratio silicate solution such as that used in the beater. This action is often useful in stopping leaks. The cement set in this way is not very strong but will often close the opening, while a slower setting mixture used to reinforce it is making a permanent job. Silicates of ratios 1:3.25 to 1:4 may be used in this way.

The high ratio silicates are also well adapted for hardening and dust-proofing concrete floors. Particularly where these are subjected to heavy wear a treatment with a hot solution diluted enough to enable it to penetrate will be very helpful. The sili-

cate is applied liberally with a large brush or broom to the dry surface of the concrete. Even after it has set, Portland cement will cause the silicate to precipitate to form a hard insoluble material of much the same character as the substance which hardens the paper when the silicate has been precipitated by alum in the beater. For concrete floors that are not wet an additional amount of silicate may be used. That which is not chemically acted on by the cement dries to a strong hard mass of glass-like appearance.

Silicate cements can be used for setting tile and as acid resisting material in containers for concentrated mineral acids. It is important to remember that the resistance of silicate cements to water and to acids depends on the liberation of the siliceous part of the solution in place either by something mixed into the cement as in digester lining or by contact with acid after the cement has set by drying. The effective substance in the foregoing uses is not silicate of soda itself but a product of a chemical reaction with silicate of soda.

Adhesive Uses of Silicate

The adhesive uses of silicate depend on its ability to dry rapidly to a strong solid which attaches itself firmly to paper and other surfaces. No chemical change is involved and consequently the dry substance is not entirely insoluble in water though the high ratio solutions are surprisingly difficult to redissolve once they have firmly set. In the paper mill proper, silicate is used for roll capping, label pasting, making splices in supercalendering and carton sealing. For laminating solid fibre and making corrugated board for shipping containers, silicate is the universal adhesive. Pulp sheets are also laminated with a silicate adhesive to make wall board. For these purposes the more alkaline types should be avoided because they are more soluble and more likely under the influence of moisture to alter colors or adversely affect the rosin sizing.

The unaltered silicate film is strongly grease resisting and is employed on cartoons designed to hold oily substances or to support a film of paraffin. Aromatic food products like coffee keep their flavor better in a silicate coated carton than an uncoated one.

As a Boiler Compound

As a boiler compound, silicate of soda serves to cause a bulky flocculent precipitation of scale forming materials instead of a dense crystalline deposit. This makes it possible to remove the impurities as mud by blowing off the boiler. The reaction is closely comparable to that in the beater except that the silicate is precipitated by lime and magnesia compounds instead of alum. The most soluble forms of silicate are best adapted for this use. A grade of 1:2 ratio is extensively employed.

The amount of water present when silicate of soda reacts with a compound which sets the silica free has a large influence on the physical character of the liberated material. If the silicate is dried in the presence of some inert material like sand and then acted

*Read at the meeting of the Technical Association of the Pulp and Paper Industry, at the Chemical Exposition, New York, Sept. 20, 1923.

on by a strong acid the liberated silica will be dense and strong. The mass will be similar in texture to concrete. But if the reacting substances come together in the presence of a great quantity of water as in the beater or in the steam boiler, the separated product is finely divided, soft, flocculent and easily suspended in the water. This condition adapts it to be distributed among the fibers of paper and retained. It acquires strength and cementing qualities only after the water has been much reduced. If you would visualize what goes on in the beater it is essential to have the same proportion of water present that is used in practice. If you mix a strong solution of silicate with a strong alum solution a gritty mass quite unsuitable for addition to paper stock will be formed.

Makes Clay More Fluid

Silicate of soda has the property of making clay more fluid when it is suspended in water. Mills making book paper may take advantage of this fact to handle their clay at a much greater density than would otherwise be possible. Where the consistency at which the clay may be handled through pipes or screens is the determining factor it is often possible to put twice as much clay into a gallon of water by the simple expedient of adding a little silicate of soda to the water. The best results are secured by the use of the exact proportion appropriate to the particular clay. This is always small, frequently in the neighborhood of 1 per cent. This silicate when precipitated in the beater helps the retention of clay in the paper, though the amount necessary for making the clay fluid will not be enough to give maximum effects. The precipitate formed by the silicate assists in the retention of clay. In one mill the ash of the paper increased from 6.1 per cent to 9.2 per cent due to this cause. Other mineral substances including colors are better retained when silicate is used.

In the Beater

Used in the beater, silicate has several points of resemblance to rosin size. It is applied as a liquid which is readily diluted by the water and thus brought into contact with each fiber. Like rosin size it loses its alkaline character under the action of alum and an insoluble neutral substance is formed which is retained by the pulp and influences the character of the finished sheet. Silicate differs from rosin size in that it does not of itself impart additional water resistance to the sheet though cases are on record where the use of silicate increased the retention of rosin and thus appeared to add to the waterproof quality of the paper. It is essential that enough alum be added to precipitate the silicate as otherwise most of it will be lost in the white waters.

The amount of silicate to use depends on the results desired, but usually varies between 2 and 8 per cent on the weight of the dry fiber stock. The alum needed for its precipitation varies according to the composition of the silicate used but is usually between 25 and 30 pounds of dry alum per hundred pounds of the silicate solution as added to the beater.

Kinds of Paper that May Be Treated

The kinds of paper that may be treated with silicate of soda include almost all the grades where hardness is an asset. Chip board made from old fiber containers contains silicate whether the paper maker adds it or not. It is used as an adhesive in the board and can be made to yield a harder, better chip stock by the simple expedient of precipitating it with alum. The amount required will vary, but the beater should be made faintly acid to litmus. The silicate in an average lot of old containers will require about 50 pounds of alum per ton.

In finer grades silicate is used with starch, the retention of which it improves. The starch is heated in a silicate solution till its grains begin to swell, cooled off and put into the beater. The starch and silicate are so closely associated that when the latter is precipitated, the former is carried along. Book papers have been successfully made with silicate and starch sizing without

the use of rosin. The silicate treatment makes paper resistant to printer's ink even when it is immediately penetrated by water. Silicate and rosin can be used together in those papers where water resistance is essential.

A variety of other materials have been proposed for use with silicate in paper, including casein, glue, soaps and Bakelite, but none of these have yet become industrially important. A review of the literature of silicate of soda in the paper industry will shortly be forthcoming from the Chemical Department of the Philadelphia Quartz Company.

Statistics Made Out Too Carelessly

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., September 19, 1923.—Statistics on exports of paper are based on the customs declaration form filed by the exporter or forwarder, says John Matthews, Jr., chief of the Paper Division of the Department of Commerce, in discussing the need for better cooperation in the compilation of statistics. In many cases these are carelessly made out, often resulting in the shipments being wrongly classified. Most export houses are vitally interested in these statistics as they are used as a barometer indicating the trend of business and if this interest can be extended toward bringing about closer cooperation by carefully and accurately describing the merchandise on the export declaration form, the statistics as published on the export declaration form, the statistics as published by this Bureau will be just that much more valuable. When filing these forms, foreign freight and customs house declarations should not be used. Give the shipment its proper trade classification.

Association Will Judge Peace Award

The American Paper and Pulp Association has been named as one of the organizations which will comprise the Co-operative Council of the American Peace Award to conduct a nation-wide referendum on the peace award of \$100,000 offered by Edward W. Bok.

It will be the duty of this Council to conduct a nation-wide referendum on popular opinion of a practicable method of ending wars. It is expected that a referendum will be taken next January. November 15 is the last day on which plans may be received, and the jury expects to complete its work and award the first \$50,000 of the \$100,000 award offered on January 1.

The Co-operative Council, in which the American Paper and Pulp Association is included, then expects to conduct its symposium of opinion before the plan is sent to the United States Senate. Henry W. Stokes, president of the Association was named by the American Peace Award to act for the Association.

Making European Survey

ALBANY, N. Y., Sept. 18, 1923.—John K. Spencer, formerly General Manufacturing Superintendent of F. C. Huyck & Sons, Albany, N. Y. and now associated with the Albany Felt Company, Albany, N. Y. is expected to return from England next month.

Mr. Spencer has been making an extensive survey for the Albany Felt Company of conditions in the paper industry of Europe and in the last few months has visited paper making centres in Norway, Sweden, Finland, France, Germany and the British Isles.

Left Million Dollar Estate

PLATTSBURG, N. Y., Sept. 18, 1923.—The will of George F. Underwood, one of the pioneer lumberman and paper manufacturers of the Adirondacks, reveals that he left an estate of more than a million. Bequests of \$360,200 are made to thirty-three relatives and friends, most of whom reside in Glens Falls, Hudson Falls and Fort Edward. Several charitable legacies are left and the balance of the estate goes to the widow and two daughters.

APPLICATION OF THE COTTRELL ELECTRICAL PRECIPITATION PROCESS TO THE PULP AND PAPER INDUSTRY*

P. E. LANDOLT AND N. W. SULTZER¹

The manufacture of pulp and paper from wood is one of the largest basic industries of the United States. Highly perfected as these manufacturing operations are from a mechanical standpoint it is fully recognized that certain improvements in operations would be desirable and certain wastes in material would result in direct savings. It is the purpose of this paper to show wherein certain of these advantages can be realized with the Cottrell Electrical Precipitation Processes.

Description of Cottrell Electrical Precipitation Processes

Numerous papers have been published from time to time describing these processes and the theory underlying their operation. No detailed description of the processes will therefore be attempted (at this time) but a brief outline of their general application will be given. These processes are used to remove finely divided suspended particles—whether solid or liquid—from air or gases, practically independent of the gas temperature and the corrosive nature of the material. For example—metallurgical fume from gases from smelting and refining furnaces; cement dust from gases from rotary kilns used in the manufacture of cement; soot, ash, dust, etc., from gases from boiler plants; acids—sulphuric, hydrochloric, phosphoric, etc., from manufacturing and other operations; tar, oil, etc., from combustible gases of all kinds; and numerous others. The result is that the Cottrell electrical precipitation processes have found a place in many industries, in fact in some they are considered a standard piece of apparatus.

Advance in Art of Electrical Precipitation

In the past few years great strides have been made in the art of electrical precipitation. The relation between the various constants appearing in electrical precipitation have been thoroughly studied and analyzed with the result that an installation can now be designed and planned in accordance with rational relations and factors. Likewise great improvements have been made in the design and construction of the equipment, doing away entirely with operating difficulties that formerly were experienced. This improvement in design and construction has also resulted in equipment much more economical to construct and operate. The result is that the Cottrell electrical precipitation processes are now furnished and installed complete on a contract basis with full guarantees as to operation. These facts are exemplified by the numerous successful commercial installations constructed in this manner during the past four or five years.

Application to the Pulp and Paper Industries

During this period of progress in the art of electrical precipitation and extension of the fields of its application, there has been but little real effort made to emphasize the suitability of these processes to the operations involved in the manufacture of pulp and paper. Most of the possible applications in this industry are similar to commercial applications in other industries and have been handled by commercial installations of the Cottrell electrical precipitation processes. It is proposed therefore to describe some of these possible applications that may prove of interest to the pulp and paper manufacturer, referring at the same time to similar operations or problems in other industries for which the Cottrell processes have proved very satisfactory.

*Read at the meeting of the Technical Association of the Pulp and Paper Industry at the Chemical Exposition, New York, Sept. 20, 1923.
¹ Staff, Research Corporation, New York.

Black Ash Recovery

Probably the most apparent application for these processes is in plants manufacturing pulp by the soda process. The waste soda liquor from the pulp digesters is first concentrated to about 30° to 40° Baume in vacuum or other forms of evaporators. This liquor is then fed to rotary kilns where the remaining moisture is driven off leaving a black, powdery mass known as black ash which can again be used in the digesters. During this treatment in the kiln a considerable portion of the more finely divided particles is carried along in suspension in the waste gases. By actual measurements in several plants, this loss figured as carbonate, will amount to from 3 per cent to 5 per cent of the kiln output, also figured as carbonate. This loss actually escapes through any form of dust chamber or baffles and is an absolute loss.

The type of Cottrell equipment proposed for the recovery of this loss is very similar to the equipment being used at the present time for fume recovery in metallurgical plants. This is the "plate and wire" type of precipitation which has been generally adopted for this character of problem on account of its economical construction compared with the "pipe" type formerly used. The installed cost of such equipment is of course dependent upon the magnitude of the operation and the volume of gas to be handled. In general, however, figuring the black ash recoverable at \$20 per ton of carbonate and allowing all fixed charges against the installation and all operating charges, the net return on the investment should amount to from 25 per cent to 40 per cent, depending largely upon the magnitude of operations.

Burner Gas Cleaning

Another possible application where the purpose is primarily one of improving plant operation is for the purification or cleaning of the SO₂ gas used in the manufacture of sulphite liquor. These gases may be produced either from the roasting of pyrites or the burning of free sulphur. In the former case there is a possible two-stage treatment, first for the removal of dust from the hot gases and second for the removal of acid mist from the cool gas. To remove the dust the gases may be treated hot—1,000° to 1,200° F.—in a precipitator constructed of brick and steel (or special alloy if necessary to withstand high temperatures). This type of precipitator is in use for removing dust from such gases in chemical plants where pyrites or zinc ores are roasted. The second stage treatment, which will apply also if free sulphur is burned instead of roasting ores, is for the removal of the sulphuric acid mist from the cooled gases. Acid mist has always been one of the easiest materials to precipitate by the Cottrell processes and this treatment is entirely similar to the removal of acid mist from the cooled SO₂ gas in contact acid manufacture. Several such installations have been in successful use for years in some of the contact acid plants and several more are now under construction.

Waste Heat Recovery for Drying Operations

Another application is for the cleaning of hot waste gases from boilers, furnaces, kilns, etc., so that these gases can be used for drying operations. The fact that this application is practical is illustrated not only by the use of the processes for cleaning hot SO₂ gas (see above) but also by the fact that the processes are being applied for removing dust, ash, cinders, etc., from stack gases in power plants. The gases in the latter case could readily be used for drying purposes if there were any such need in power plants.

Such a need is present in pulp and paper mills and the sensible heat value of such hot gases would represent a very desirable and cheap source of potential heat.

Miscellaneous Gas and Air Cleaning

There are numerous other applications of the processes around mills of this character for the removal of dust and other particles from the surrounding air and air drawn in for ventilation purposes. Not only will the clearing of this air result in a better product—for example a paper free from spots after sizing—but working conditions for the employees will be greatly improved.

The above simply presents in a general way the manner in which the Cottrell processes can be applied to the operations in this industry. The possibilities are by no means limited to the applications described but these will give a plant operator a general idea of the use of these processes so that if a possible problem arises he can readily judge whether the Cottrell electrical precipitator is suitable.

Operating Features of Cottrell Processes

Some of the more striking operating features of the Cottrell processes which make them so suitable for operations of the character described herein might well be emphasized: *First*, there is the low resistance to gas flow. Owing to the operation and design of this apparatus practically the only back pressure is the frictional resistance and this, even in a large installation, will seldom exceed $\frac{1}{8}$ to $\frac{1}{4}$ inch of water. This permits operation with simply stack draft or if a fan is necessary owing to local flue conditions, a minimum of power is required. Compare this with the back pressure of 6 to 12 inches of water frequently encountered with cloth filters, bags, scrubbers, etc., and the considerable direct saving of power will readily be appreciated. *Second*, the material collected is in a form easily handled and disposed of. If a dust or fume, the material is collected dry and easily prepared for subsequent use or treatment. If a liquid the material collected runs readily from the precipitator and is at the highest possible concentration as it is not diluted with unnecessary water. *Third*, depreciation, repairs and replacements are a minimum. The precipitator can be constructed of practically any kind of material so that provision can be made in its construction to resist the corrosion of any kind of material whether acid or alkaline, hot or cold. *Fourth*, practically any degree of operating efficiency is obtainable depending upon requirements. If necessary complete removal of the suspended particles is obtainable or—as is usually found ample—90 per cent to 95 per cent can be obtained. A careful consideration of the above and the fact that the labor requirements are a minimum, space requirements and power generally small, indicate clearly the advantages offered by the Cottrell processes for problems of this character.

Installation Costs

No attempt will be made in this article to give any general figures on the installation cost of Cottrell equipment. While the design is largely standardized, nevertheless each specific problem has distinctive features of construction and to generalize is apt to give misleading information. In general, however, it might be stated that the installation cost of Cottrell equipment compares very favorably with other means for handling a similar problem.

Preliminary Tests

As has already been stated, practically every possible application of the Cottrell processes in the pulp and paper industry will correspond closely with some existing installation in some other industry. Therefore preliminary Cottrell tests are seldom necessary to demonstrate the suitability of these processes although if desired such tests can readily be made for nominal cost. Frequently, however, where the purpose of a Cottrell installation is to recover valuable materials, sampling tests are necessary or desirable to determine the amount and nature of the possible recoveries. A method of making such tests has been carefully worked up and the results

have been considered satisfactory and conclusive to many large companies—some of whom are users of the Cottrell processes.

From the foregoing it can readily be appreciated that the Cottrell processes have become a standard method of gas treatment and that undoubtedly there are problems in the paper and pulp industry to which they could with advantage be applied. By means of preliminary studies or tests, the results obtainable can be very accurately predicted and the element of risk is eliminated or reduced to a minimum.

New Members of TAPPI

Following is a list of recent admissions to the membership of the Technical Association of the Pulp and Paper Industry:

- G. R. Alden, Dennison Manufacturing Company, Framingham, Mass.
- H. T. Baker, H. S. Taylor, Dayton, Ohio.
- C. H. Burrows, Mohawk Valley Paper Company, Inc., Little Falls, N. Y.
- Samuel Clayman, A. M. Collins Manufacturing Company, Philadelphia, Pa.
- L. S. Dixon, Eddy Paper Corporation, Three Rivers, Mich.
- A. T. Gardner, Interlake Pulp and Paper Company, Appleton, Wis.
- W. F. Goldsmith, Pejepsco Paper Company, Brunswick, Me.
- J. J. Hayes, Gilman Paper Company, Gilman, Vt.
- Otto Heijne, Spruce Falls Company, Ltd., Kapuskasing, Ont.
- Robert Herron, Mead Pulp and Paper Company, Chillicothe, Ohio.
- J. L. Hobson, St. Croix Paper Company, Woodland, Me.
- Rudolf Hueckler, Eddy Paper Corporation, Three Rivers, Mich.
- W. T. Jones, Noble & Wood Machine Company, Hoosick Falls, N. Y.
- C. J. Kern, Moore & White Company, Philadelphia, Pa.
- F. E. Morgan, Grass Fibre Pulp and Paper Company Corporation, Leesburg, Fla.
- R. A. North, Green Bay Foundry and Machine Works, Green Bay, Wis.
- F. G. Rawling, Forest Products Laboratory, Madison, Wis.
- A. L. Satterthwaite, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
- B. W. Scribner, Bureau of Standards, Washington, D. C.
- A. L. Sherwood, Chemical Paper Manufacturing Company, Holyoke, Mass.
- G. W. Sisson, 3rd, Racquette River Paper Company, Potsdam, N. Y.
- A. F. Smith, General Electric Company, Cincinnati, Ohio.
- H. J. Tormey, Forest Products Laboratory, Madison, Wis.
- H. S. Vecella, Pettengill, Inc., Chicago.
- C. C. Willis, Dennison Manufacturing Company, Framingham, Mass.
- A. J. Wirth, Fort Orange Paper Company, Castleton-on-Hudson, N. Y.

Demand for Recording Equipment

The Uehling Instrument Company, of Paterson, N. J., report considerable demand for their CO₂ recording and indicating equipment among Central Stations and pumping stations, the following orders having been received recently: Cleveland Water Works, 6 units; North Point Pumping Station, Milwaukee, 4 units; Lake View Pumping Station, Chicago, 3 units; City of Wyandotte, Mich., Water Works, 4 units; Queensborough Gas and Electric Company, New York City, 4 units; Metropolitan Edison Company, Reading, Pa., 2 units; Philadelphia Electric Company, 6 units. The Philadelphia Electric Company purchased their first Uehling equipment in 1917 and will have 23 units, including the above order.

STANDARDIZATION OF PAPER BY TESTS*

By HUBB BELL, UNITED STATES TESTING CO.

It is a well known fact that there has been a lack of attention to standardization and simplified practice by the paper industry.

Statistics show that there are 800 terms which are used in the buying and merchandising of paper; there are 150 to 200 distinct kinds of paper and the number of uses of each is unknown; of 177 books 101 showed different page sizes; 230 sales house organs had 85 different sizes; 496 trade magazines had 95 different sizes, and 57 national magazines had 27 different sizes.

Standardization is a very complex subject. In general, it means to single out specific products and materials, to settle upon their properties and dimensions, and to concentrate upon them in production and in use—all to the end of bringing about the greatest overall industrial efficiency possible. This involves nomenclature, purchase specifications, methods of test, uniformity in dimensions, and concentration upon the optimum number of types, sizes and grades of manufactured products.

Most of these factors have an intimate bearing on specifications. A definition of a project or of a process or application often is merely a specification in itself. Conversely, a specification in the larger sense is nothing but an elaborate definition. The specifications for a commodity are really the writing down specifically of what the buyer or purchaser wants, so that the buyer can write or wire, "Send me one hundred pounds of bond paper," and it seems something perfectly definite and specific to both of them.

Definite Recommendations Feasible

It is perfectly feasible to make definite recommendations as to specifications of quality for commercial use. Test methods are sufficiently standardized and there are a sufficient number of mills under technical control to warrant this step.

In preparing standard methods and standard specifications, the fullest co-operation must be obtained from manufacturers and consumers, and the standardization thereby effected will enable the buyer and the seller to speak the same language. In overcoming the prejudice against standardization, the manufacturer has learned that it is possible for him to produce a far better quality of product, and at the same time greatly reduce his expenses through mass production. This lower cost makes it possible not only to offer to the public better materials at lower unit prices, but also to maintain at the same time higher wages for labor.

American standards of quality, having forced recognition throughout the world, have stabilized production and employment through the broadening effect of increased markets, and have made it safe for manufacturers to accumulate stocks during dull periods, when, without such standards, such a policy would have been extremely hazardous not only to the manufacturer but also to the general public.

Although standardization restricts the varieties for selection, it permits concentration of thought and skill upon design, so that the products may be more economically and efficiently handled. It also reduces the maintenance cost of the finished structure by simplifying the stocks necessary for their maintenance. Well established standards have developed that factor of safety which is essential for the producer in making the finished product. Moreover, the care which is exercised in the preparation of standards gives full assurance to the public that the materials purchased and tested in accordance with standard specifications and standard methods will result in furnishing the best that can be produced, at the lowest possible cost, and at the same time will afford all safety necessary to the public welfare.

The American Society for Testing Materials, whose membership consists of technical men, has for its purpose "the promotion of

knowledge of the materials of engineering and the standardization of specifications and the methods of testing." Their standards have been adopted in the following field of materials:

Ferrous Metals, including practically all iron and steel products; Non-Ferrous Metals, including products of copper, zinc, lead, aluminum and alloys; Cement, Lime, Gypsum and Clay Products; Preservative Coatings, including oils, pigments and paints; Petroleum Products and Lubricants; Road Materials, Coal and Coke, Timber, Waterproofing, Insulating, Shipping Containers, Rubber Products, Textiles.

Paper can easily be placed on a similar basis since the technique of testing of paper in this country is clearly standardized, and is just being recognized as of much importance.

The paper industry now has available official standard methods. The Paper Testing Methods of the Technical Association of the Pulp and Paper Industry are defined and standardized so that comparable results can be obtained by different laboratories.

A very important aspect of the technical study of paper, which is covered in the above mentioned methods, is the proper, intelligent and systematic method of procuring portions of a lot of paper which may be duly considered to be a representative sample of that lot. Unless this is done, the value of any test is somewhat depreciated by not knowing whether the sample represents the lot of paper in question. It is believed that proper sampling is important both in the mill during manufacture and also at the point of delivery or shipment to determine the quality of the paper received. Due to the method of manufacture of paper, the lack of uniformity of paper, and the errors introduced during the testing of paper, definite systematic tolerances are given.

The combinations and proportions in which pulps are mixed in the manufacture of papers are innumerable and as a consequence, it is difficult to know, without scientific testing, what the papers may be that one is using, or to buy a paper by name alone for a specific purpose, and know for a certainty that it will stand up in service.

Service Quality Tests

An old paper maker can, with a great deal of certainty, tell from an examination of a sheet of paper much of its history, and among a number of different papers pick out the one most suitable for the purpose for which it is to be used. But appearances and names are not the best guides.

Service quality tests are always made in both directions of a paper for uniformity, however, the weakest direction must be considered first, as in all materials nothing is stronger than its weakest point. Perfect uniformity is not practicable, due to the method of manufacture, the many different proportions of the pulps, and the use of waste and scrap materials.

The color of a paper does not indicate what kind of a paper it is, for colors are used to disguise the makeup or to make it more attractive. Often a fancy felt or a special roll is used to imprint a design into the paper, and practices of the industry have become so mixed that it is difficult to tell, from the name applied, just what the paper is made of; but the characteristics of any sheet will always be substantially the summation of the characteristics of the raw materials employed in its manufacture, and a fair estimation can be made as to the comparative qualities of a paper if the raw materials which were used are known. It follows, then, that to intelligently select a paper for a specific purpose, the conditions under which it is to be used, and the severity of the service which it must render, must first be considered; and, knowing them, the kind of paper, the weight and the finish, which will best meet the requirements and be best suited for the purpose can be efficiently selected.

*Read at meeting of the Technical Association of the Pulp and Paper Industry at Chemical Exposition, September 20, 1923.

It is clear to anyone that it makes no difference what classification a paper is sold under, unless the mill-brand or water-mark establishes beyond a doubt that the designation insures that the paper sold under this class has certain important properties and characteristics which are essential to the successful and satisfactory usage of that paper.

What Paper Testing Shows

Paper testing for the purpose of determining relative values for these important characteristics has been in use by competent and experienced manufacturers for many years as a means of insuring against defective papers and undue costs. From these tests manufacturers have learned to recognize certain limits for each property outside of which they do not care to go. The limits may vary for different kinds of paper, depending on what conditions they must withstand in use.

One expects therefore to find these limits reflected in classification in a quite definite way; but on inquiry discovers that no one can define a class in definite terms with numerical coefficients.

Paper testing is, of course, primarily of value to the consumer, who is to be found in practically every line of business. Often large sums of money are spent on the item of paper alone, but as a rule the consumer has no way of judging the character or quality of the paper or its suitability to his particular needs, except through observation or the word of the salesman who is selling it to him, and who is, of course, chiefly concerned in making a sale. That observation counts for a great deal in determining the suitability of a paper and in the estimation of widely different types cannot be gainsaid, but can observation tell which of two writing papers is the better? They may look and feel much alike and yet be widely different in quality and have many different properties.

The consumer can make the seller submit samples and estimates of the particular kind of paper he wishes. He will then have a chance to compare the kinds and qualities of paper on the market and the prices of the different firms. He gets a greater variety to choose from, and also, by letting it be known that the samples are submitted on specification, gets the best price possible for the given quality of goods. Paper testing here performs the duty of determining which sample represents the best value for the money.

Helps Control Shipments

In controlling shipments paper testing is also of value as it shows whether the paper is up to specification and whether the consumer is getting what he contracted for. The United States Government is controlling the quality of all the paper used in the different departments by buying on specification and by testing shipments, and in many cases actually getting a better paper at a cheaper price.

In view of the foregoing it may be stated that paper testing in general is of use:

- (1) In determining the best value obtained from money paid.
- (2) In buying on specification, determining which paper submitted is most suitable and economical.
- (3) In insuring uniform deliveries and maintenance of quality.

What is needed to bring about the desired definiteness in the standardization of papers is that the accumulated experience in terms of tests be brought together and analyzed with respect to the bearing of these properties individually to conform to the tests and limits found desirable in practice, independently of the classification as it now exists, and with respect to the limits to be set for each property. It is only necessary for the consumers to agree on the specification, and to be able and willing to have tests made to insure that they are getting what they specify.

The subject of the standardization of paper by tests is one which should interest a large number of people connected with industries which demand the use of paper and allied products. On the one hand is the paper-maker producing the finished article, and on the

other hand there are the printers, publishers, book-binders, paper-agents and stationers, who supply the general public.

Of recent years there has been a good deal of agitation as to the inferior qualities of the paper used at the present day, and it is evident that much of the paper brought into the market will not last any length of time. It is quite true of the paper trade as of many other industries that the demand for cheapness has superseded the desire for an article of high quality, yet the paper-maker of the present day can produce a paper quite equal to any that has ever been made, for it is really a question of price.

Price Often Deceptive

The purchase of paper is too often based on the qualities of appearance and price. Until we have standards of quality in terms of tests rather than those of purely commercial consideration, there will always be many cases wherein the price paid is highest for paper made from the least valuable material. But so long as there is an absence of standards of quality by tests this unsatisfactory state of things will continue. It may be traced partly to a want of interest in the subject, and partly to the lack of co-operation among those concerned. The keen competition among manufacturers which has resulted in the creation of the false and arbitrary standards connected with the mere appearance of the paper, as well as mill-brands, is also another reason, while an indifference to the scientific aspect of the question has generally been the prime factor.

Methods of controlling the quality of paper should be as scientific as is consistent with their practical value. Systematic testing will enable competition to be met on the basis of actual quality and value. Every paper does not require a full test to enable one to judge quality, uniformity and utility. For example, a bond, ledger and writing paper for best quality should have a high resistance to wear and tear, and to friction and folding caused by repeated crumpling or creasing.

Variations in the relative humidity of the atmosphere have a decided effect on the physical properties of paper. The results of all physical tests on papers are affected to a greater or less degree by the ordinary variations of the relative humidity in the testing room of the laboratories, and certain tests are valueless unless conducted under uniform temperature and humidity conditions. Especially is this true with the determination of the folding endurance, probably the most important test on bonds, ledgers and writings; a most important test for indicating the flexibility and probable durability of paper.

Paper Exceedingly Sensitive

Though it is generally understood that the physical qualities of paper are affected by changes in humidity conditions, there is but little appreciation of the rapidity with which these changes affect it. Paper is so exceedingly sensitive to changes in atmospheric humidity that, in order to obtain concordant results which may be duplicated at other times and by other laboratories, it is necessary to make all physical tests upon it in a room where both uniform temperature and relative humidity are maintained.

The following is a list of tests and determinations to be made with corresponding characteristics which each test helps to determine:

- (1) Microscopical examination, to determine fibre composition and show the presence of injurious fibres.
- (2) Tearing resistance, Folding endurance, Tensile strength, Bursting strength, to determine quality of material used and care in handling during process of manufacture.
- (3) Weight per ream, to determine compliance with contract specification.
- (4) Thickness, to determine bulk.
- (5) Expansion and Absorption, to determine resistance to changes due to moisture.
- (6) Percent of Ash, to determine kind and amount of loading material.

(7) Percent of sizing, to determine kind and amount of sizing materials used.

(8) Fastness to sunlight, to determine permanency of color.

The United States Testing Company was recently appointed official chemist to the United Typothetae of America in regard to paper. Besides the testing of samples of paper for the members, this laboratory is now at work for the Typothetae, establishing a set of standards for tests which shall mark the "zone" limitations in paper qualities. It is their plan to be able to define in terms of tests exactly what is the first grade, second grade, etc., in each of the different kinds of paper and to furnish their membership with the grading of the Mill Brand paper according to these standards. This laboratory will do for them the technical work connected with the establishing of the grades, the defining of the grades before technical committees and associations, and the grading of paper to rate them within the grades. It is their object to have one set of standards by which they will judge paper, so that the manufacturer might know exactly what tests his paper is going to meet, and the members of the Typothetae shall know what they are talking about in discussing paper qualities.

Uehling Bulletin on Gas Conditioning

Soot, moisture and sulphur are the three natural enemies of the CO₂ recorder. New bulletin 116A of the Uehling Instrument Company, 473 Getty avenue, Paterson, N. J., illustrates three simple devices which, it is claimed, completely eliminate these three troublesome elements. In other words, they permanently prevent fouling and corrosion of the CO₂ equipment and the tubing which conveys the gas sample to the instrument continuously. These three devices are known as the "Pyro-Porus" filter, the gas drier and the gas purifiers.

The "Pyro-Porus" filter is placed in the direct path of the hot flue gases, on the extreme end of the gas sampling line. The actual filtering is accomplished by two highly porous refractory discs. These discs remain in continuous service for many months at a time without requiring replacement and without offering increased resistance to the gas flow.

The gas drier completely removes moisture from the gas, thus preventing pockets of water collecting at low points of the line, interfering with gas flow. By drying the gas, the life of the material used for absorbing the CO₂ is also considerably prolonged.

The purifier is a brand new development. It is claimed that it completely removes sulphuric acid fog which has heretofore been one of the most elusive and harmful impurities in flue gas. By eliminating water vapor and sulphuric acid, corrosion is impossible.

The bulletin also illustrates the small bore seamless drawn tubing used for the gas sampling line. This gives high velocity of gas flow resulting in quick response to the CO₂ recorder to changes in furnace conditions. This tubing is much easier to erect than pipe, which was formerly employed for the purpose, and practically eliminates all possibility of sampling line leakage which is a common failing of sampling lines constructed of pipe instead of tubing.

August Import and Exports

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., September 19, 1923.—Imports for August were valued at \$275,000,000 as compared with \$281,376,403 in August of last year, according to a report just made public by the Department of Commerce. For the eight months ending August of this year the value of the imports is given as \$2,650,200,610 as compared with \$1,952,556,052 for the same period of last year.

The exports for August of this year, according to the department, were valued at \$313,000,000 as against \$301,774,517 for August of last year. The value of exports for the eight months ending August this year, the department states, was \$2,561,675,214, as compared with \$2,423,535,135 for the same eight months period ending August, 1922.

TECHNICAL SECTION, PAGE 115

Standards Committee at Work

BY B. T. MCBAIN, 3RD VICE-PRES., AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION

The Joint Standards Committee of the Superintendents' Technical and Cost Associations, fifteen in all, five from each, forming organizations, is at work on five subjects as follows:—Sulphite Standards, Sulphate Standards, Soda Pulp Standards, Ground Wood Standards, Bleached Pulp Standards.

The work outlined includes standards for everything from the kind of digester to the finished product in the beater for the paper mill, but does not include the various grades of paper, it being considered of just as much importance that 100 per cent targets be set up for each one of the pulp industries named that the manufacturers may "Shoot at" and then later provide the standards for paper machine operation.

Each one of the five committees will meet and organize separately for their own particular work, then vote upon a general chairman for the entire or Joint Committee of Fifteen.

B. T. McBain was appointed Chairman of the Five from the Superintendents Association at the Springfield Convention in June with power to arrange with the Technical and Cost Associations for their co-operation and appointment by them of five each.

The Committee on Ground Wood is composed of: C. A. Jasperon of Nekoosa Edwards Paper Company, Port Edwards, Wis., S. C. Brayton, Consolidated Company, Wisconsin Rapids, Wis., B. T. McBain, Nekoosa Edwards Paper Company, Port Edwards, Wis.

The Committee on Sulphite is composed of: B. T. Larabee of S. D. Warren Company, Cumberland Mills, Me., V. E. Fishburn of Groveton Paper Company, Groveton, N. H., J. E. Hyde of Cumberland Mills, Me.

The Committee on Soda Pulp is composed of: J. G. Ramsey of Dill & Collins Company, Philadelphia Pa., G. K. Spence of N. Y. & Penn. Company, Johnsonburg, Pa., E. J. Fitzgerald of Philadelphia, Pa.

The Committee on Bleaching Pulp is composed of: John A. Bowers, Hammermill Co., Erie, Pa., A. D. Wood, Champion Fibre Co., Canton, N. C., W. F. Bromley of Erie, Pa.

The Committee on Kraft Pulp has been appointed but all those named have not yet accepted the tasks set and will not be published until all have accepted.

It is hoped that this Committee of Fifteen will give to the industry a set of standards of value to all and that there may be more unity of purpose in the industry and co-operation between the pulp and paper maker, the chemical control man and the cost accountant, all three of whom are as essential to the industry as the three legs of a three legged stool.

The different departments of the American Paper and Pulp Association has been asked to help start the work by supplying to the committee copies of all standards and work thereon done by them to date that there may be no duplication.

Reports Decline in Paper Demand

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., September 12, 1923.—Assistant Trade Commissioner Noll at Rio de Janeiro, in a cablegram to the Department of Commerce, says that the demand for paper is again declining from the fair activity of last month. Imports of paper and pulp during August amounted to 985 tons from Scandinavia; 73 tons from Germany; 73 tons from Italy, and 67 tons from the United States.

Phillips Paper Co. to Start at Fort Worth

FORT WORTH, Tex., September 18, 1923.—The Phillips Paper Company, dealers in waste paper and paper stock has under construction a new grinding plant which will be equipped with a screen duster, large Economy electric baler, sorting belts, etc. It is expected that the new plant will be completed within the next month.

Section of the
COST ASSOCIATION OF THE PAPER INDUSTRY
Affiliated with
THE AMERICAN PAPER AND PULP ASSOCIATION
 Conducted by **THOS. J. BURKE, C.A., Sec-Treas**

TERMINOLOGY DEPARTMENT*

Conducted by the Special Committee on Accounting Terminology of the American Institute of Accountants.

At the annual meeting of the American Institute of Accountants in 1920 there was discussion on the subject of accounting terminology which led to the appointment of a committee to carry on the work done by committees of the predecessor, the American Association of Public Accountants.

It is superfluous to speak of the need for greater uniformity in accounting terminology, for this is admitted on all sides and is dwelt upon by practically all the recognized authorities on accounting matters. The need has of late become increased owing to the spread of accountancy, to the many new expressions used in cost accounting and to the wide study of economics.

The committee was appointed and has now made sufficient progress in the preparatory work to warrant the announcement of what has been done and, more particularly, of what it is hoped will be accomplished.

Reason for New Department

In order to secure the widest publicity possible and to ascertain the extent to which accountants in general are interested in this subject, *The Journal of Accountancy* has decided to open a department of terminology. The length of the life of this department will depend entirely upon the interest displayed by readers, for the space in the *Journal* is limited, and it is desired to use it in such a way as to give the greatest service to the greatest number.

The aim of the committee is not so much to compile a list of terms as to formulate for each term a definition which describes the meaning attached thereto by the highest authorities in the country and, where such authorities differ, to furnish such reasons for the meaning selected as in the course of time may lead to its general adoption.

The widespread approval which has been extended to Uniform Accounting, containing standard forms of balance-sheet and profit-and-loss statements, which was prepared by a committee of the American Institute of Accountants and published by the Federal Reserve Board, is the basis of a hope that success may attend the present attempt to progress towards that uniformity which is generally desired.

The general plan adopted by the committee is as follows:

First: To prepare a list of all terms to be defined. This is to include such general terms in law, manufacturing, mechanical and other fields as are generally used by or should be understood by accountants.

Second: To divide the words in this list into two classes:

- (a) Purely technical terms possessing only one meaning which can be expressed with comparative ease, such as card-ledger, imprest system, ratio, job order.
- (b) Such terms as those usually appearing in balance-sheet and profit-and-loss statements of which the use differs, such as net earnings, net profits, gross earnings, surplus, reserve funds, etc.

The committee proposes to define words in class (a) from the various available sources, and it is expected that such definitions will give rise to comparatively little discussion.

The most difficult part of the work will be involved in the terms in class (b). Here the committee will prepare one or more definitions of each word and submit them for criticism to a number of recognized authorities, such as leading accountants and instructors in university schools of accounting.

The criticisms and suggestions received will be considered by the committee; the definitions as submitted will be reviewed and, if necessary, re-drawn and will then be published in the *JOURNAL* for further criticisms.

It is hoped that by this means a series of definitions can be drawn worthy to be published by the institute under some form of endorsement and approval.

Tentative List of Words

The committee has now compiled a preliminary tentative list of over 5,000 words, and the librarian of the institute has extracted from recognized authorities many thousand definitions.

The committee feels most strongly that the value of the completed work must depend largely upon the co-operation of all those interested in securing a uniform terminology, for in many of the most important cases the values of such definitions vary in accordance with the extent to which they are accepted by members of the profession. The definition depending upon the understanding of an individual or a small group of individuals is, generally speaking, of little use until adopted by the majority.

If the work can be completed successfully the result will be a lexicon giving the best or most generally accepted interpretation of all accounting terms. It should tend to a uniform meaning applicable to any given term when used by accountants and may also have a secondary use as a work of reference in bringing together all related terms.

The method of arrangement adopted differs from that followed in other word lists, for it is proposed to group all derivatives with

* From the *Journal of Accountancy*.

their root-word. For example, the root-word "account" will be immediately followed by some two hundred kinds of account such as "active account," "joint account," "adjustment account," etc. It is believed that this will afford a more useful result than the method usually adopted of placing "active account" under A and "joint account" under J.

It is proposed to publish in the terminology department of the JOURNAL some of the principal root-words of class (a) such as "account," "bond," "book," "stock," with their derivatives, and to ask readers to make suggestions as to additions and definitions. In later numbers there may be published some or all of the definitions which they suggest.

It is also proposed to publish simultaneously one or more of the class (b) terms, and to invite a full discussion thereon, for the committee will not make final recommendations on these words until it has the benefit of widespread criticism.

The committee desires to include all "accounts" of a general nature, but it is manifestly neither possible nor desirable to include special accounts used in some special undertaking, and of which the name indicates the purpose, such as "saw-mill account" or "logging account" as used in the lumber business. This is an example of the many lines of limitation which it will be necessary to draw in order to determine what shall be included or what shall be omitted. The committee hopes to secure the assistance of all readers and to obtain the opinions of a large number of practicing accountants.

Correspondence to be Invited

It will be seen from the above that one of the objects in view is to invite correspondence from any who are interested in the subject. All letters relating to it will be carefully considered and promptly acknowledged. They should be addressed to one of the undersigned:

Walter Mucklow, Chairman, Hill Bldg., Jacksonville, Fla.; Edward H. Morgan, 120 Broadway, New York; J. Hugh Jackson, 56 Pine street, New York.

The first thought of the committee was to publish definitions by various authorities and at a later date to formulate its definitions based upon the consensus of opinion as reflected by the comments and criticisms received. This course would only delay final results, and the committee therefore decided to formulate definitions at this time and, as far as possible, to establish definite lines of demarcation between the words discussed. These definitions are, of course, subject to revision and amplification after all communications on the subject have been duly considered.

A Few Definitions

DEPRECIATION—

The basic idea conveyed by this word is indicated by its derivation—de, down, and pretium, price—that is, a reduction in price or value.

Depreciation is loss in physical or functional value of physical property other than wasting assets due primarily and chiefly to ordinary wear and tear which has occurred theoretically in the past and which is not offset by adequate repairs and/or replacements. Obsolescence and inadequacy are included by regulatory bodies and taxing authorities as contributory causes, but it is in accordance with fact to treat these two elements as separate from ordinary wear and tear on the ground that the loss incident thereto does not usually accrue and cannot be foreseen with any degree of accuracy. Depreciation, however determined, is at best only an estimate.

Unfortunately for the possibility of clear accounting terminology, depreciation is also commonly used to denote shrinkage in the conversion value of property (securities, real estate, etc.) or mediums of exchange (coins, bullion or paper currency) and indicates in this sense a temporary or permanent loss arising from economic or related causes.

It is of interest that in some lines of business, e.g., long-distance

COST SECTION

telephone service, extraordinary casualties due to the action of the elements are regular visitants and are provided for by a so-called reserve for extraordinary depreciation which may be estimated in advance quite closely, based upon experience extending over a period of years.

DEPLETION—

Depletion conveys the idea of emptying, reducing or exhausting the source of supply and is used chiefly.

(a) In reference to natural resources such as mines or timberlands, indicating loss in physical value properly commensurate with the removal of the product, and less frequently

(b) In reference to financial strength, as for example, the "depletion of the treasury."

Depletion differs from physical depreciation in that the former implies the removal of an asset for consumption purposes, whereas the latter indicates a reduction in value caused by use or neglect.

The word is seldom found in the writings of British accountants, as is indicated by its omission from various word-books edited by Damson, Lisle, Pixley and Porter, and is usually interpreted by these writers in the sense of "expired capital outlay," forming one of the elements of depreciation.

What Amortization Is

AMORTIZATION—

The basic idea suggested by this word is that of reducing, redeeming or liquidating the amount of an account already in existence.

In finance and accounting this word means the gradual extinguishment of an asset, a liability or a nominal account by pro-rating the amount thereof over the period during which it will exist or during which its benefit will be realized.

Amortization is caused by, and the computations are based upon, efflux of time or units of production, the life of a right or obligation or the loss of possession or use being the governing factors, e.g., amortization of a patent or of debt discount and expense or of a bonus paid for a lease or of the value of machinery, buildings, etc., on leasehold property which revert to the landlord upon expiration of a lease, or of the value of mine equipment whose useful life is known to exceed the productive life of the mine and is necessarily to be abandoned upon ceasing operations.

Amortization is also used to denote the gradual extinguishment of a debt by means of a sinking fund.

The distinction between amortization and depreciation is clearly brought out in the case of a tributary asset such as mine shafting, where the life of the mine is estimated as less than that of the shafting. In such a case the shafting should be amortized over the life of the mine, and not depreciated on the basis of physical deterioration. If the mine product were no longer salable obsolescence would be the proper designation for the loss in value of the shafting.

In law, amortization has an additional meaning, namely, the act of alienating lands or tenements to a corporation in mortmain. In old French law this could only be done by permission of the king and there was involved the payment of a tax by the corporation so that in time the word was often used to signify this tax.

APPRECIATION—

This word indicates an increased conversion value of property (securities, real estate, etc.) or mediums of exchange (coins, bullion or paper currency) due to economic or related causes which may prove to be either temporary or permanent.

Appreciation is the antonym of depreciation in so far as the latter is used to denote shrinkage in conversion value.

What Obsolescence Conveys

OBsolescence—

The basic idea conveyed by this word is that of becoming out of date or falling into disuse.

It is usually applied to plant and equipment which although in good physical condition have become old fashioned through progress of invention or advance in the arts, results being achieved more efficiently and/or at less cost under new methods.

Obsolescence may also be caused by the cessation of a demand for the particular articles for the production of which a plant or unit thereof was constructed or installed. This element of loss would be eliminated if the plant or unit could readily be converted to other use.

Regulatory bodies and taxing authorities provide that obsolescence is to be considered in conjunction with wear and tear and inadequacy in arriving at depreciation rates, but in fact obsolescence, except in certain industries, rarely accrues and a plant unit is usually up-to-date until it actually becomes obsolete. Any provision for obsolescence is, therefore, in most cases, a mere segregation of surplus. Coming events occasionally but not usually cast shadows before.

INADEQUACY—

The basic meaning of this word is lack of size or of capacity in its broadest sense.

The word usually refers to plant and equipment which, although in good physical condition, is inadequate to carry the productive load required of it. This element of loss would be eliminated if it were found practicable to continue the use of the old unit in conjunction with other units of like or larger capacity.

The element of accrual with respect to inadequacy is usually a matter of conjecture, but it can be better determined than with respect to obsolescence, the trend of business being the governing factor.

Regulatory bodies and taxing authorities provide that inadequacy is to be considered in conjunction with wear and tear and obsolescence in arriving at depreciation rates.

A Word of Many Meanings

ACCUE—

This word conveys the following meanings:

- (a) To accumulate, as an accrual of interest.
- (b) To come as a natural result or increment, as by growth.
- (c) To come into existence, as a right or the like.
- (d) To arise, as an addition, accession or advantage.
- (e) To become vested (legal usage), indicating a present and enforceable right or demand.
- (f) To increase (rare usage).

The meaning most commonly met in accounting practice is that of accumulation (a) above based upon lapse of time, e.g., in the case of interest it signifies an accumulation to a stated date of an item receivable or payable at a later date but covering a period commencing prior to the stated date.

ALLOWANCE—

This word conveys the idea of that which is approved, permitted, awarded, conceded, yielded or assigned.

As used in accounting it indicates—

1. A recognition of modifying circumstances or a margin for deviations from standard; specifically

(a) A deduction from the purchase or selling price of commodities on account of short weight, inferior quality, damaged goods, delayed delivery, breach of contract, etc. Such deductions should be made directly from the accounts which they affect.

(b) A deduction from the amount charged for personal services rendered, for work performed or for service furnished (heat, light, telephone, transportation, etc.) either receivable or payable, on account of dissatisfaction, breach of contract, etc.

(c) A deduction of a lump sum from an amount receivable or payable for prompt payment, as distinct from a percentage discount.

The above allowances are deductible from the accounts con-

taining the items upon which the allowances are made, whether such accounts be nominal or real.

2. An amount granted for a specific purpose, e.g., an allowance for office rent; an allowance in lieu of actual expenses.

In law the word is used to denote an extra sum awarded, in addition to regular costs, to the successful party in a difficult case.

In minting the word is used to denote a permissible deviation in the fineness and weight of coins, owing to the difficulty in securing exact conformity to standard prescribed by law.

NOTE: The word "allowance" is occasionally used synonymously with "reserve," e.g., allowance for depreciation or allowance for bad debts, but this usage should be discouraged.

Substitute Word for "Reserve"

PROVISION—

This word is used as a substitute for "reserve" but should only provide:

(a) For liabilities known to exist, the exact amount of which will not be known until a later date, e.g., income taxes, overlapping accounts payable (bills or invoices not received or not audited and not entered on books), dividends declared but the amount of which is not known because of outstanding convertibles.

(b) For disputed liabilities arising out of or due to past operations or activities, e.g., judgments payable on appeal, additional income taxes levied but disputed and under review by the taxing authorities or being adjudicated in the courts. Obligations contingent upon the future action or non-action of other parties should be reserved for and not provided for, e.g., reserve for notes discounted.

In its legal sense the word (usually in the plural) means a distinct stipulation, the part of an agreement, arrangement or rule referring to one specific thing, e.g., the provisions of a bill.

REQUIREMENT—

This word conveys the idea of something that is needed by virtue of the attendant circumstances or the nature of things; a necessity or requisite; something that must be provided for in a financial way.

In its legal sense, the word indicates a condition that must be met or a rule that must be observed.

Correct Use of "Reserve"

RESERVE—

The correct use of this word, as applied to an account, will be facilitated by reference to its derivation, re, back, and servare, to keep, i.e., a keeping back or withholding.

A reserve account indicates a segregation of and withholding for a specific purpose of past or current profits, revenue or income from any source. It is invariably a credit account and may be provided to cover:

1. An estimated loss in value of physical property which has theoretically occurred in the past or is due to or arises from past operations or activities; e.g., reserve for wear and tear.

2. An estimated or actual loss in value of choses in action, e.g., reserve for bad and doubtful debts, reserve for depreciation or fluctuation of securities (to cover repudiation, bankruptcy, insolvency or merely a temporary fluctuation).

3. A discounting or proration of future estimated or actual loss of exclusive use or possession of intangible capital such as patents, copyrights, franchises, leaseholds, rights of way, water rights or special terminable privileges or rights of any kind which have been capitalized. A reserve for amortization should be used in this case where lapse of time is the governing factor.

4. An estimated loss in value of physical property which may (problematical as to occurrence) or will (problematical as to extent) occur in the future, e.g., a self-insurance reserve to cover loss by fire, accident, casualty or action of the elements.

5. An estimated future expenditure for compensation to employees or other necessitated by reason of the foregoing contin-

gencies, e.g., reserve for workmen's compensation or reserve for accident liability.

6. An estimated future expenditure or loss occasioned by guaranties or endorsements, contingent upon the future action or non-action of other parties to the transaction; e.g., a reserve for notes discounted or a reserve for accommodation endorsements; or an estimated future expenditure or loss contingent upon breach of warranty, or upon non-fulfillment of contractual conditions, e.g., reserve for tire mileage.

7. An estimated future expenditure for capital outlay, the reserve being created to conserve the available cash balance by reducing the amount of unappropriated surplus, e.g., reserve for capital additions. From the standpoint of accounting terminology, this is an unfortunate use of the word "reserve." "Appropriated surplus" is a preferable designation.

8. An actual or estimated loss in value of tangible property of any kind which has occurred in the past, partly or wholly recoverable by insurance and in process of amicable adjustment with or disputed by insurers; e.g., reserve for fire loss.

How to Handle Certain Losses

A loss of possession of tangible property of any kind due to burglary, larceny, embezzlement or defalcation, not covered by insurance, should, upon discovery, be written off to an appropriate nominal account. A reserve should not be created for such loss. The property value should be reinstated in the assets and the nominal account should be credited, if and when recovery ensues. If, however, the exact amount of the loss may not be determined for some time, an appropriate reserve account may be set up in the books as a temporary expedient, subject to clearance and adjustment when the facts are known.

A reserve account which is created to cover losses in the past or an amortization reserve for future loss of use or possession is, in effect, abatement of the corresponding assets, whereas reserve accounts created to cover losses and attendant expenses which may or will occur in the future or to cover future capital outlays or other future expenditures are mere segregations of surplus and as such are part of the true net worth of a business.

Some eminent accountants have used the word reserve as descriptive of a "reserve fund," but this practice, which is an excellent example of the confusion existing in accounting terminology, is falling into disuse.

Reserve is also used in a descriptive sense to denote something stored up for future use or in excess of current needs, e.g., a reserve stock of materials, or to denote something set apart for a particular purpose, e.g., a reserve of land, but in neither case is it customary to give effect to the designation in the books of account.

In still another sense reserve is used to denote the minimum ratio of cash and choses in action to the amount due depositors which banks are required by law to maintain at all times.

NOTE: A reserve for loss on containers or on other property delivered to vendees and to be returned by them has fallen into disuse in most industries as such loss is now usually obviated by a tentative charge or actual deposit.

Meaning of "Surplus" Made Plain

SURPLUS—

This word is a contraction of two Latin words, super, meaning above, and plus, meaning more; an overplus; something left over after certain requirements are fulfilled.

As applied to corporations or similar forms of legal entity organized and conducted for profit, surplus, in its broadest significance, measures the excess of assets over liabilities and capital. When used without qualification, or designated as "unappropriated," "free" and the like, and in absence of legal restriction, it indicates the maximum amount of undistributed profits which if available in liquid form, may be distributed to stockholders or other legal participants in the discretion of directors or other charged with such

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distribution, as stated below. When designated as "manufacturing," "operating," and the like, it indicates the accrued profits pertaining to a certain phase of a business. When designated as "appropriated," "reserved," and the like, it indicates the amount of undistributed profits withheld for some specific purpose.

Surplus (a) may be accumulated through the normal operations of a business, (b) it may be paid in upon incorporation or as part of later financing, (c) it may result from a reappraisal of assets, reflecting thereby either a correction or adjustment of former account classification or an unearned increment, (d) it may be acquired through the purchase of a company's own stock or obligations, or in other ways. However, surplus is surplus by whatever legal means acquired and is distributable as such, subject to the facts, legal aspects and moral restrictions applicable to each case.

In some corporations "profit and loss," "undivided profits," or "loss and gain," is used in place of "surplus," and in other cases two accounts are kept, the former to reflect the results or current operations, while "surplus" is the account to which the former is closed at the end of a fiscal period.

In partnership accounts, the account corresponding to "surplus" is usually designated as "profit and loss," or as "undistributed profits" and is distributable in accordance with the partnership agreement, whether written or oral.

The surplus of a government (federal, state or city) or of a corporation or other form of legal entity not organized or conducted for profit (e.g., an educational, eleemosynary or religious organization) indicates the excess of available resources over obligations and commitments, which may be applied to or used for future activities.

Sues for Return of Taxes

[FROM OUR REGULAR CORRESPONDENT.]

BOSTON, Sept. 17, 1923.—Hollingsworth & Whitney Company, of this city, manufacturers and dealers in wood pulp and paper, has filed suit in the United States District Court here seeking the return of \$626,362.34 which it alleges was erroneously and illegally assessed them by John F. Malley, former collector of internal revenue for the district of Massachusetts. The taxes were assessed the plaintiff as their income and excess profits taxes. The suit is filed against the former internal revenue collector whose goods and estate have been attached for \$1,000,000 damages.

The largest amount of taxes sought to be recovered by the plaintiff is on their income return for 1917 for which it was assessed an income and excess profits tax of \$1,975,688.77 together with an additional tax of \$182,863.13 for the same period, making total tax for this period \$2,158,551.90. The plaintiff contends in its suit that it was illegally assessed a tax of \$602,340.49 on that year's income. The remaining tax sought recovered brings the total tax alleged to have been illegally assessed up to \$626,362.34. Besides the tax sought recovered the plaintiff seeks interest on the same.

The plaintiff further contends in its suit that it paid all the taxes under duress.

With few exceptions this is the largest tax sought to be recovered from the government in many years.

May Protest News Print Decision

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., September 19, 1923.—There has been an intimation here that some importers of news print paper will make a protest in connection with a decision which was recently handed down by the Treasury Department of standard news print paper.

It is entirely likely that the protest will be made to a collector of customs when a shipment of news print is refused under the new definition. In the regular course of events the case will go to the United States Board of General Appraisers.

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Dayton Office

Chicago Office
10 So. La Salle St.

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FIRST PRIZE \$50.00 IN GOLD
TEN PRIZES of \$5.00 IN GOLD

WILL BE AWARDED FOR THE TEN NEXT BEST REPLIES

RULES

Contest opens at once and ends Oct. 1, 1923.

All lists mailed on or before this date will be considered.

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NEW YORK IMPORTS

WEEK ENDING SEPTEMBER 15, 1923

SUMMARY

News print	371 rolls
Printing paper	23 cs.
Hangings	6 bls., 1 cs.
Wall paper	37 cs., 1,117 rolls, 5 bls.
Cigarette paper	33 cs.
Drawing paper	37 cs.
Blue print paper	3 cs.
Tissue paper	11 cs.
Basic paper	31 cs.
Surface coated paper	16 cs.
Colored paper	10 cs.
Photo paper	1 cs.
Transparent paper	1 cs.
Filter paper	40 bls., 2 cs.
Packing paper	81 bls.
Wrapping paper, 10 cs., 519 bls., 7,433 rolls, 143 bds.	
Kraft paper	711 bls., 886 rolls
Waxed paper	4 cs.
Writing paper	42 cs.
Copy paper	7 cs.
Miscellaneous paper	196 cs., 170 bls., 1,666 rolls

CIGARETTE PAPER

P. J. Schweitzer, Lapland, Antwerp, 25 cs.
E. Waters, Patria, Marseilles, 8 cs.

WALL PAPER

Robert Griffin Company, Fr. Mourve, London, 7 cs.
R. F. Downing & Co., Genoa Maru, Yokohama, 20 cs.
The Prager Company, Mongolia, Hamburg, 1,117 rolls.
A. C. Dodman, Jr., Mauretania, Liverpool, 6 cs.
R. F. Downing & Co., by same, 4 bls.
A. Murphy & Co., Reliance, Hamburg, 1 bl.
A. Murphy & Co., Lapland, Antwerp, 4 cs.

PAPER HANGINGS

A. C. Dodman, Jr., Cedric, Liverpool, 6 bls., 1 cs.

NEWS PRINT

R. F. Hammond, Inc., Mongolia, Gothenburg, 371 rolls.

PRINTING PAPER

B. F. Drakenfeld & Co., Caronia, Liverpool, 15 cs.
P. H. Petry & Co., Veendam, Rotterdam, 8 cs.

DRAWING PAPER

Elliot Company, Veendam, Rotterdam, 5 cs.
Keuffel & Esser, Reliance, Hamburg, 32 cs.

BLUE PRINT PAPER

Keuffel & Esser, Reliance, Hamburg, 3 cs.

TISSUE PAPER

Iwai & Co., Hamburg Maru, Kobe, 11 cs.

BASIC PAPER

L. de Jonge & Co., Lapland, Antwerp, 31 cs.

SURFACE COATED PAPER

Gevaert Company of America, Lapland, Antwerp, 16 cs.

COLORED PAPER

C. W. Williams, Lapland, Antwerp, 10 cs.

PHOTO PAPER

J. J. Gavin, Cedric, Liverpool, 1 cs.

TRANSPARENT PAPER

C. S. Bissel, Minnewaska, London, 1 cs.

FILTER PAPER

A. Giese & Co., Hudson, Bordeaux, 30 bls.
Magnus, Mabee & Reynard, Hudson, Bordeaux, 10 bls.
E. H. Sergeant & Co., Stockholm, Gothenburg, 2 cs.

PACKING PAPER

American Mills Company, Elmsport, Rotterdam, 53 bls.
Bernard, Judae & Co., Mongolia, Hamburg, 28 bls.

WRAPPING PAPER

Bendix Paper Company, Mongolia, Hamburg, 10 cs.
Melby, Kutfroff & Co., Stockholm, Gothenburg, 26 bls.
Pecples Trust Company, by same, 17 bls., 1,781 rolls.
Thos. Barrett & Son, by same, 54 bls.
R. F. Hammond, Inc., by same, 243 rolls.
C. K. McAlpine & Co., by same, 200 rolls, 422 bls.
C. K. McAlpine & Co., Hansa, Hamburg, 143 bds., 5,229 rolls.

KRAFT PAPER

Melby, Kutfroff & Co., Eric Maru, Gefle, 25 bls.
Fernstrom Paper Company, Inc., Eric Maru, Harnosand, 139 bls.
Chemical National Bank, by same, 886 rolls.
Bank of America, by same, 48 bls.
J. P. Heffernan Paper Company, Stockholm, Gothenburg, 499 bls.

WAXED PAPER

R. F. Downing & Co., Mauretania, Liverpool, 4 cs.

WRITING PAPER

C. Steiner Paper Corporation, Menchen, Bremen, 42 cs.

COPY PAPER

Japan Paper Company, Genoa Maru, Yokohama, 7 cs.

PAPER

Japan Paper Company, Genoa Maru, Yokohama, 19 cs.
R. F. Downing & Co., M. S. Dollar, Hongkong, 25 cs.
C. A. Johnson, Cedric, Liverpool, 10 bls.
A. E. MacAdam, Stockholm, Gothenburg, 1,550 rolls, 61 bls.
Chatham & Phoenix National Bank, by same, 16 bls.; 116 rolls.
M. M. Cohen, by same, 37 rolls, 83 bls.
Import Paper Company, Veendam, Rotterdam, 25 cs.
C. Steiner Paper Corporation, by same, 72 cs.
J. J. Frank, by same, 24 cs.
Columbia Overseas Corporation, by same, 5 cs.
C. Pauli, by same, 4 cs.
Keuffel & Esser, by same, 6 cs.
Whiting & Patterson, France, Havre, 2 cs.
C. B. Richard & Co., by same, 10 cs.
Independent Forwarding Company, by same, 9 cs.
Japan Paper Company, by same, 6 cs.

RAGS, BAGGINGS, ETC.

Castle & Overton, Suffren, Havre, 266 bls. rags.
E. J. Keller Company, Inc., by same, 160 bls. bagging.
E. J. Keller Company, Inc., La Bourdonnais, Bordeaux, 261 bls. rags.
E. J. Keller Company, Inc., Hudson, Bordeaux, 214 bls. rags.
Castle & Overton, by same, 4 bls. rags, 105 bls. bagging.
J. Barnett & Sons, by same, 20 bls. rags.
Castle & Overton, Elmsport, Rotterdam, 56 bls. rags.
Paul Berlowitz, by same, 41 bls. rags.
Albion Trading Company, C. of St. Joseph, Marseilles, 14 bls. rags.
Castle & Overton, Carson, Smyrna, 449 bls. rags.
Wilkinson Brother & Co., Inc., West Eldora, Rotterdam, 52 bls. rags.
S. Silbermann, Pr. Monroe, London, 144 bls. paper stock.
Guaranty Trust Company, by same, 139 bls. paper stock.
Wilkinson Bros. & Co., Inc., Galtymore, Leith, 24 bls. rags.
American Express Company, by same, 54 bls. rags.

Guaranty Trust Company, by same, 126 bls. rags.
Castle & Overton, by same, 5 bls. strings.
M. O'Meara Company, Galtymore, Dundee, 65 bls. rags.
Equitable Trust Co., by same, Dundee, 65 bls. rags.

OLD ROPE

Castle & Overton, Suffren, Havre, 74 bls.
Brown Bros. & Co., Veendam, Rotterdam, 112 coils.
Brown Bros. & Co., Lapland, Antwerp, 14 coils.
Brown Bros. & Co., by same, 56 bls.
Brown Bros. & Co., Minnewaska, London, 34 bls.
Brown Bros. & Co., by same, 74 coils.
Ellerman-Wilson Line, by same, 10 coils.
Ellerman-Wilson Line, Mauretania, Liverpool, 17 coils.

WOOD PULP

E. J. Keller Company, Inc., Muenchen, Bremen, 203 bls. wood pulp.
H. Hollesen, by same, 1,545 bls. wood pulp.
M. Gottesman & Co., Inc., Veendam, Rotterdam, 900 bls. wood pulp.
Castle & Overton, by same, 264 bls. wood pulp.
Johanneson, Wales & Sparre, Inc., Stockholm, Gothenburg, 350 bls. kraft soda pulp.
Scandinavian Pulp Agency, Inc., by same, 127 bls. bleached sulphite.
R. F. Hammond, Inc., by same, 1,250 bls. sulphite pulp, 250 tons.
Johanneson, Wales & Sparre, Inc., Eric Maru, Sundsvall, 1,250 bls. sulphite pulp.
Johanneson, Wales & Sparre, Inc., Eric Maru, Harnosand, 3,000 bls. dry sulphate pulp.
Bulkley, Duntun & Co., Eric Maru, Gefle, 2,000 bls. dry sulphite pulp.

WOOD FLOUR

Castle & Overton, Tyrrenhia, Hamburg, 983 bags, 50,000 kilos.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 15, 1923

National Bank of Commerce, Eric Maru, Gefle, 46 kils news print.
C. K. MacAlpine & Co., Carlsholm, Gothenburg, 332 rolls wrapping paper.
Bulkley, Duntun & Co., Eric Maru, Gefle, 125 bls. dry sulphite pulp.
Johanneson, Wales & Sparre, Inc., Eric Maru, Sundsvall, 4,050 bls. dry sulphite pulp.
American Wood Pulp Corp., by same, 415 bls. dry sulphite pulp.
Wood Pulp Trading Company, Ltd., Eric Maru, Iggesund, 3,000 bls. dry sulphite pulp.
Pagel, Horton & Co., Inc., Eric Maru, Ljusne, 150 bls. sulphate pulp.
National City Bank, Eric Maru, Harnosand, 1,902 bls. sulphate pulp.
Scandinavian Pulp Agency, Inc., Eric Maru, Skutskar, 5,300 bls. dry wood pulp.
R. F. Hammond, Inc., Carlsholm, Gothenburg, 1,000 bls. wood pulp, 200 tons.
R. F. Hammond, Inc., Frode, Christiania, 750 bls. wood pulp, 150 tons.
Alex Brown, Hudson, Bordeaux, 46 bls. rags.
Alex Brown, Cofst Joseph, Marseilles, 637 bls. rags.
Certainteed Products Corp., by same, 199 bls. rags.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 15, 1923

Scandinavian Pulp Agency, Inc., Eric Maru, Skutskar, 250 bls. dry wood pulp.
Bulkley, Duntun & Co., Eric Maru, Iggesund, 2,500 bls. kraft sulphate pulp.
Bulkley, Duntun & Co., Eric Maru, Gefle, 1,000 bls. sulphite pulp.
American Wood Pulp Corp., Eric Maru, Sundsvall, 500 bls. sulphite pulp.

(Continued on page 62)

POWER PLANT PIPING



**VALVES, FITTINGS,
FLANGES, BENDS**

Any Service Any Pressure
"AMERICAN" WELDED HEADERS
PULP, AND PAPER MILL WORK

**American Foundry and Construction
Company**

Engineers, Fabricators, Erectors
PITTSBURGH, PENNA.



PROTECTIVE PAPERS

Glassine Parchmoid
Vegetable Parchment Greaseproof

Diamond Fibre Receptacles of all kinds

Diamond State Fibre Company

BRIDGEPORT (near Philadelphia) PENNSYLVANIA
In Canada: Diamond State Fibre Company of Canada, Limited.
245 Carlaw Ave., Toronto, Ont.



QUALITY PULPS



"HAFSLUND BEAR"
Bleached Sulphite



"FORSHAGA"
Bleached Sulphite



"KLARAFORS"
Easy
Bleaching Sulphite

The Borregaard Company

Incorporated

200 FIFTH AVENUE

NEW YORK, N. Y.

**THE WM. CABLE
EXCELSIOR WIRE MFG. CO.**



Established 1848
Incorporated 1870-1898

Manufacturers of
Superior Fourdrinier
Wires
Brass, Copper and
Iron Wire Cloth of
every Description.
Best Quality of
Wire Rope.



Write for Price List

74-90 Ainslie St.

BROOKLYN, N. Y.

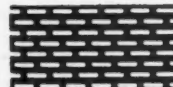
**Perforated Metal Screens
For Pulp and Paper Mills**

STEEL, COPPER, BRASS, BRONZE
and other Alloys

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



.065 Inch Round



1/8 x 1/8 Inch Slots

CHARLES MUNDT & SONS

23-25 FAIRMONT AVE.

JERSEY CITY, N. J.

**West Virginia Pulp
and Paper Company**

Manufacturers of

Supercalendered and Machine

**Finished Book and
Lithographic Papers**

Offset, Envelope and Music Paper, High Grade
Coated Book and Label Papers

also

Bleached Spruce Sulphite and Soda Pulp

200 Fifth Avenue
New York

732 Sherman Street
Chicago

New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, September 19, 1923.

The paper market is at present in rather a peculiar situation. The fall revival, which generally does not come until the first of October, seems to have arrived in many of the commodities and in other business is still rather lean. The pulp situation in particular is an interesting one chiefly because ground wood production has been curtailed by a drought and thus the price has gone skyward while sulphite is in only moderate demand and kraft is poor because of competition from the Scandinavian mills.

Even though the market is a little abnormal there is nothing serious about it. A few heavy rains would do more than anything else to straighten things out. Taking a broad general view of the whole situation there is every reason for optimism and leaders in the industry steadily predict that this winter will be one of the most successful that the trade has had since the close of the war. The situation in other businesses warrants this opinion.

Fall advertising campaigns of national scope are getting under way and advertising men say that there are several large ones in the offing. It is rumored that Henry Ford, for instance, is planning to spend \$9,000,000 on newspaper and publication advertising next year. All this is fine for the paper manufacturer who will reap the advantage of these increases in the use of print paper.

News print is reported to be running along in good demand, probably the best of any of the grades in the market. Side runs, which were slow for a time, have come back and are reported in as good demand as the other grades of news print.

Although book paper is not in nearly so good demand as news print there is an adequate amount of trading to keep prices firm and dealers say that the improvement, while gradual, is steady. They do not anticipate any immediate changes in price but say that if the quotations are altered it will be in an upward direction.

Fine paper is also bracing up and some good sized shipments went through the market during the week. It is feeling the effect of the fall mailing campaigns for advertising and buying has increased accordingly. Although the trading in the open market remains somewhat slow it is increasing all the time.

Coarse papers are lagging a bit behind the other commodities on this market, but dealers say that the volume of inquiries is increasing all the time and they have every reason to expect a vast increase within a few months in the volume of their business.

The board market continues to show signs of improvement although the actual amount of business is smaller than it should be. Some of the mills closed down for several days last week and prices are rather unsteady. Dealers say that they expect advances as soon as the buyers really come into the market.

Rags

Prices have firmed up in both foreign and domestic rags during the week and there are indications of an increasing demand. The mills are calling for both the lower and the higher grades although the latter seem to be in a trifle better demand than the former.

Waste Paper

All grades of waste paper are in fairly good demand following the sudden flurry of buying a fortnight ago. Prices are firm and have not changed much during the week although dealers say that they are likely to go a little higher soon.

Mechanical Pulp

A curious situation which is likely to develop into an uncomfortable one exists in this market at the present time. The grinding mills have little water on which to run in the districts where the output of the mills is greatest and production has in consequence been greatly curtailed. This has sent prices up and some of the more pessimistic buyers are prophesying \$75 before long. This seems

rather improbable, however, because rain is always to be expected at this time of the year, and as soon as the mills can begin producing again everything will return to normal.

Chemical Pulp

Sulphite pulp is in fairly good demand and dealers report a number of large orders filled during the week. It appears that sulphite is rapidly approaching a place where business done will be altogether satisfactory to everyone. Kraft, on the other hand, is moving slowly and keen competition from imported grades is crowding the domestic variety hard.

Old Rope and Bagging

Old rope is also in better demand this week and along with it bagging. This applies chiefly to the domestic business although importations have increased some during the week. Dealers are cheerful over the future and say that they expect to do a big business next winter.

Government Bids

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., September 19, 1923.—The purchasing officer of the Government Printing Office has received the following bids:

500,000 lbs. 24 x 36, 32 lbs. News Print Paper in 48-inch rolls: International Paper Company, at \$.042 per lb.; Dobler and Mudge, \$.044; The Wright Paper Company, \$.0424; R. P. Andrews Paper Company, \$.0438; Whitaker Paper Company, \$.0414, and Beaver Pulp and Paper Company, \$.0412.

20,000 4½ x 10½, No. 28 White Envelopes: Barton, Duer and Koch Company, \$2.40 per thousand; Dobler and Mudge, \$2.40; Mathers-Lamm Paper Company, \$2.47; U. S. Paper Goods Company, \$2.40; Union Envelope Company, \$1.95; Whitaker Paper Company, \$2.56; J. E. Linde Paper Company, \$2.85.

200,000 4½ x 9½, No. 24 White Envelopes: Barton, Duer and Koch Paper Company, \$1.70; Dobler and Mudge, \$1.65; Mathers-Lamm Paper Company, \$1.73; U. S. Paper Goods Company, \$1.70; Union Envelope Company, \$1.39; Whitaker Paper Company, \$1.81; U. S. Envelope Company, \$1.40; J. E. Linde Paper Company, \$1.64; H. S. Freas and Son, \$1.57.

300,000 3¾ x 8¾, No. 24 White Envelopes: Barton, Duer & Koch Paper Company, \$1.60; Dobler and Mudge, \$1.55; Mathers-Lamm Paper Company, \$1.63; U. S. Paper Goods Company, \$1.59; Union Envelope Company, \$1.29; Whitaker Paper Company, \$1.69; U. S. Envelope Company, \$1.30; J. E. Linde Paper Company, \$1.54; H. S. Freas and Son, \$1.51.

The purchasing officer of the Government Printing Office will receive bids on September 24 for 10,400 lbs. (100 reams) of 26½ x 41, 104 lbs. light green coated cover paper.

The Government Printing Office will receive bids on September 21 for 1,500,000 lbs. of U. S. Postal Cream Bristol Board in 44½-inch rolls.

The Government Printing Office will receive bids on September 24 for 9,050 lbs. (50 reams) of various colored 22½ x 28½, 181 lbs., index bristol board.

Holyoke Water Shortage

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., Sept. 17, 1923.—Low water in the Connecticut River is hampering paper manufacture in Holyoke. There were two times the past week that the head gates were closed, the last time from midnight Saturday night to 6 o'clock Tuesday morning.

During this shutdown the Holyoke Water Power Company were enabled to work to advantage in setting the foundation for the second of their big waterwheels to be installed near the Whiting Paper Company by Overflow No. 2. Over 400 tons of concrete were poured during the shutdown. Part of this foundation went down 24 feet below the bottom of the canal bed.

Market Quotations

PAPER STOCK SECURITIES

New York Stock Exchange closing quotations September 18, 1923.

	BID	ASKED
American Writing Paper Company, pref.	6 1/2	7
International Paper Company, com.	3 1/2	3 3/4
International Paper Company, pref. stamped.	64	65
Union Bag & Paper Corporation.	63	64 1/2

Paper

F. o. b. Mill	
Ledgers	11.00 @ 38.00
Bonds	9.00 @ 45.00
Writings—	
Extra Superfine	14.00 @ 30.00
Superfine	14.00 @ 30.00
Tub Sixed	10.00 @ 15.00
Engine Sixed	8.00 @ 11.00

News—f. o. b. Mill—	
Rolls, contract	3.75 @ 4.00
Rolls, transit	4.00 @ 4.25
Sheets	4.25 @ 4.50
Side runs	3.50 @ 4.15

Book, Cased—f. o. b. Mill—	
S. & S. C.	7.25 @ 9.00
M. F.	7.00 @ 8.75

Coated and Enamel	
Lithograph	9.00 @ 14.00

Tissues—f. o. b. Mill—	
White No. 1	.80 @ .90
White No. 2	.85 @ .95
Colored	1.15 @ 2.00
Anti-Tarnish	1.50 @ 2.00
Kraft	.95 @ 1.15
Manila	.78 @ .85

Kraft—f. o. b. Mill—	
No. 1 Domestic	6.50 @ 7.50
No. 2 Domestic	6.00 @ 6.50
Imported	6.50 @ 7.00
Screenings	3.25 @ 3.50

Manila—	
No. 1 Jute	8.50 @ 9.00
No. 2 Jute	7.75 @ 8.50
No. 1 Wood	4.75 @ 5.50
No. 2 Wood	4.00 @ 4.50
Butchers	4.25 @ 4.75

Fibre Papers—	
No. 1 Fibre	6.00 @ 6.25
No. 2 Fibre	5.25 @ 5.50
Common Bogus	3.50 @ —

Card Middles—	
per ton	4.00 @ 5.00

Boards—per ton—	
News	60.00 @ 65.00
Straw	61.00 @ 63.00
Chip	57.50 @ 60.00
Binders' Boards	75.00 @ 80.00
Spl. M. L. Chip	74.00 @ 80.00
Wood Pulp	70.00 @ 75.00
Container	70.00 @ 80.00

Sulphate Screenings—	
Coarse	.80 @ .90
Refined	1.75 @ 2.00

Ground Wood—	
Screenings	20.00 @ 25.00

Glassine—	
Bleached, basis 25 lbs.	15.00 @ 16.00
Bleached, basis 20 lbs.	17.00 @ 18.00

Papermakers' Felts per ton—	
Dry	75.00 @ 85.00
Saturated	65.00 @ 75.00

Sheathing Paper, per ton—	
Roan Sixed (red and gray, 30 lbs. per 500 sq. ft.)	55.00 @ 65.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported	45.00 @ 55.00
(F. o. b. Mill)	
No. 1 Domestic	44.00 @ 50.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)	
Bleached	4.50 @ 5.00
Easy Bleaching	3.50 @ 3.75
No. 1 strong unbleached	3.30 @ 3.50
No. 2 Strong unbleached	2.85 @ 3.10
No. 1 Kraft	3.25 @ 3.40
Sulphate—	
Bleached	4.00 @ 4.15
(F. o. b. Pulp Mill)	
Sulphite (Domestic)	
Bleached	4.30 @ 5.00
Mixed Strings	1.00 @ 1.10

Easy Bleaching Sulphite	
White	3.25 @ 3.50
News Sulphite	3.00 @ 3.25
Mitscherlich	3.20 @ 3.30
Kraft (Domestic)	3.10 @ 3.30
Soda Bleached	4.25 @ 4.35

Domestic Rags

New Prices to Mill, f. o. b. N. Y.	
Shirt Cuttings	12.00 @ 13.00
New White, No. 1	5.00 @ 5.50
New White, No. 2	5.75 @ 6.50
Sileasias, No. 1	7.00 @ 7.50
New Unbleached	10.50 @ 11.00
Washables	4.50 @ 4.75
Fancy	5.50 @ 6.00

Cotton—according to Grades—	
Blue Overall	7.25 @ 7.50
New Blue	5.00 @ 5.55
New Black Soft	4.75 @ 5.25

New Light Seconds	
O. D. Khaki Cuttings	2.75 @ 3.00

Men's Corduroy	
Men's Corduroy	3.00 @ 3.50
New Canvas	6.50 @ 7.00

New Black Mixed, Old	
White, No. 1	2.60 @ 2.80

Repacked	
Miscellaneous	5.50 @ 6.00
Miscellaneous	4.75 @ 5.25

White, No. 2—	
Repacked	3.25 @ 3.75
Miscellaneous	2.75 @ 3.00
St. Soiled, White	1.90 @ 2.10

Thirds and Blues—	
Repacked	2.35 @ 2.60
Miscellaneous	1.90 @ 2.15
Black Stockings	2.75 @ 3.00

Roofing Rags—	
Cloth Strippings	1.10 @ 1.20
No. 1	1.10 @ 1.20
No. 2	1.05 @ 1.15
No. 3	.80 @ .90
No. 4	.80 @ .90
No. 5A	1.00 @ 1.10

Foreign Rags

New Light Sileasias	6.00 @ 7.00
Light Flannellettes	8.00 @ 8.50
Unbleached Cottons	7.50 @ 8.50

New White Cuttings	
New Light Oxforde	6.00 @ 7.25
New Light Prints	4.50 @ 6.00

New Mixed Cuttings	
New Dark Cuttings	1.90 @ 2.10

No. 1 White Linens	
No. 1 White Linens	10.00 nominal
No. 2 White Linens	6.50 nominal
No. 3 White Linens	5.00 nominal
No. 4 White Linens	3.50 nominal

Old Extra Light Prints	
Ord. Light Prints	1.75 nominal
Med. Light Prints	1.50 nominal
Dutch Blue Cotton	1.85 @ 2.15

German Blue Cottons	
Ger. Blue Linens	3.00 @ 3.25
Checks and Blues	1.25 @ 1.50
Dark Cottons	1.30 @ 1.35
Shoppery	1.00 @ 1.05
French Blues	1.75 @ 2.00

Bagging

Prices to Mill F. o. b. N. Y.

Gunny No. 1—	
Foreign	1.20 @ 1.25
Domestic	1.30 @ 1.35
Wool, Tares, Heavy	1.30 @ 1.40
Wool, Tares, Heavy	1.30 @ 1.40
Bright Bagging	1.05 @ 1.20
Sound Bagging	.85 @ .95
Manila Rope—	
Foreign	4.75 @ 5.25
Domestic	4.50 @ 5.00
New Bu. Cut	2.15 @ 2.25
Hessian Jute Threads—	
Foreign	2.00 @ 2.25
Domestic	2.00 @ 2.10
Strong unbleached	3.10 @ 3.30

Twines

Cotton—(F. o. b. Mill)—	
No. 1	.32 @ .36
No. 2	.29 @ .31
No. 3	.34 @ .36

India, No. 6 basis—	
Light	.17 @ .18
Dark	.16 @ .17

B. C., 18 basis—	
Italian, 18	.41 @ .42

A. Basis	
Finished Jute	.51 @ .61

Dark, 18 basis—	
Light, 18 basis	.29 @ .30
Jute Wrapping, 3-6	.26 @ .27

No. 1	
No. 1	.20 @ .23
No. 2	.18 @ .20

Tube Rope—	
4-ply and larger	.15 @ .17

Fine Tube Yarn—	
5-ply and larger	.19 @ .21
4-ply	.20 @ .22
3-ply	.20 @ .22

Unfinished India—	
Basis	.16 @ .17

Paper Makers' Twine	
Balls	.09 @ .11
Box Twine, 2-3 ply	.14 @ .15
Jute Rope	.15 @ .16
Amer. Hemp, 6	.30 @ .32

Sisal Hay Rope—	
No. 1 Basis	.14 @ .16
No. 2 Basis	.10 @ .12

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

Old Waste Papers

(F. o. b. New York.)

Shavings—	
Hard White, No. 1	4.20 @ 4.35
Hard White, No. 2	3.40 @ 3.50
Soft White, No. 1	3.30 @ 3.50

Flat Stock—	
Stitchless	1.95 @ 2.05
Over Issue Mag.	1.95 @ 2.05
Solid Flat Book	1.75 @ 2.00
Crumbled No. 1	1.50 @ 1.60
Solid Book Ledger	2.00 @ 2.10
Ledger Stock	1.70 @ 1.80
New B. B. Chips	.75 @ .85

Manila—	
New Env. Cut	2.35 @ 2.60
New Cut No. 1	1.75 @ 2.00
Extra No. 1 old	1.55 @ 1.65
Print	1.00 @ 1.10
Container Board	.85 @ .95
Bogus Wrapper	.85 @ .90
Old Krafts, machine compressed Bales	1.95 @ 2.10

News—	
No. 1 White News	2.00 @ 2.10
Strictly overissue	1.10 @ 1.25
Strictly Folded	1.05 @ 1.15
No. 1 Mixed Paper	.90 @ 1.00
Common Paper	.60 @ .70

CHICAGO

[FROM OUR REGULAR CORRESPONDENT.]

Paper

F. o. b. Mill	
All Rag Bond	35 @ 40
No. 1 Rag Bond	30 @ 35
No. 2 Rag Bond	15 @ 25

Water Marked Sulphite Bond	
White	10 @ 14
Sulphite Bond	8 1/2 @ 12
Sulphite Ledger	9 1/2 @ 14

Superfine Writing	
No. 1 Fine Writing	18 @ 24
No. 2 Fine Writing	14 @ 22
No. 3 Fine Writing	12 @ 20
No. 1 M. F. Book	9 @ 12
No. 1 S. & S. C.	6 1/2 @ 7

Coated Book	
Coated Book	8 1/2 @ 10 1/2
Coated Label	8 1/2 @ 10

News—Rolls, mill	
News—Sheets, mill	4 1/2 @ 4 3/4
No. 1 Manila	4 1/2 @ 6
No. 1 Fibre	5 1/2 @ 5 3/4
No. 2 Manila	4 1/2 @ 5

Butchers' Manila	
No. 1 Kraft	4 @ 4 1/2
No. 2 Kraft	7 @ 7 1/2
Wood Tag Boards	5 @ 6
Screenings	5 @ 5 1/2

Boards, per ton—	
Plain Chip	50.00 @ 52.50
Solid News	54.00 @ 56.50
Manila Lined	
Chip	67.00 @ 70.00
Container Lined	70.00 @ 75.00
85 Test	70.00 @ 80.00
100 Test	75.00 @ 80.00

PHILADELPHIA

[FROM OUR REGULAR CORRESPONDENT.]

Paper

Bonds	.10 @ .60
Ledgers	.15 @ .40

Writings—	
Superfine	.15 @ .20
Extra fine	.12 @ .22
Fine	.20 @ .30
Fine, No. 2	.20 @ .25
Fine, No. 3	.15 @ .20
Book, M. F.	.06 @ .11
Book, S. S. & C.	.08 @ .15
Book, Coated	.08 @ .15
Coated Lithograph	.10 @ .15

Imports and Exports of Paper and Paper Stock

(Continued from page 58)

R. F. Hammond, Inc., Skienfjord, Christiania, 500 bls. wood pulp, 100 tons.

Castle & Overton, Schoharie, England, 103 bls. waste paper.

Castle & Overton, West Lake, England, 109 bls. waste paper.

Train, Smith & Co., Daytonian, Liverpool, 67 bls. rags.

E. Butterworth & Co., Inc., Bohemian, Liverpool, 40 bls. paper stock.

M. O'Meara Company, Devonian, Liverpool, 85 bls. bagging.

Katzenstein & Keene, Inc., by same, 110 bls. new rags.

E. Butterworth & Co., Inc., by same, 248 bls. rags.

Hollingsworth, Vose & Co., by same, 57 bls. bagging.

Train, Smith & Co., by same, 59 bls. new cuttings.

Train, Smith & Co., by same, 342 bls. rags.

E. Butterworth & Co., Inc., Winifredian, Liverpool, 74 bls. rags.

J. Spaulding Sors', Inc., Naperian, Antwerp, 799 bls. flax waste.

E. Butterworth & Co., Inc., Warmegian, Manchester, 142 bls. rags.

Train, Smith & Co., by same, 104 bls. waste paper.

Train, Smith & Co., by same, 44 bls. new cuttings.

Katzenstein & Keene, Inc., by same, 44 bls. new cuttings.

E. Butterworth & Co., Inc., by same, 83 bls. flax waste.

E. Butterworth & Co., Inc., by same, 91 bls. rags.

J. Spaulding & Son, Inc., by same, 789 bls. flax waste.

M. O'Meara Company, by same, 73 bls. bagging.

Train, Smith & Co., by same, 366 bls. paper stock.

Equitable Trust Company, by same, 175 bls. waste paper.

T. D. Downing & Co., by same, 99 bls. waste paper.

American Express Company, by same, 239 bls. waste paper.

George M. Granes & Co., by same, 64 bls. rags.

Crane Company, Inc., by same, 40 bls. rags.

E. F. Russ Company, Daytonian, Liverpool, 312 bags hide cuttings.

Ashworth, Speakman & Co., by same, 145 bags hide cuttings.

Ashworth, Speakman & Co., Winifredian, Liverpool, 503 bags hide cuttings.

E. F. Russ & Co., by same, 779 bags hide cuttings.

E. F. Russ & Co., Norwegian, Manchester, 447 bags hide cuttings.

E. F. Russ & Co., Devonian, Liverpool, 486 bags hide cuttings.

E. Butterworth & Co., Inc., by same, 541 bags hide cuttings.

Ashworth, Speakman & Co., by same, 118 bags hide cuttings.

International Purchasing Company, Winifredian, Liverpool, 92 coils old rope.

International Purchasing Company, Daytonian, Liverpool, 178 coils old rope.

The Standard Dyewood Company, Inc., by same, 18 coils old rope.

NEW ORLEANS IMPORTS

WEEK ENDING SEPTEMBER 15, 1923

Castle & Overton, Breiz Izel, France, 1,076 bls. rags.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 15, 1923

R. F. Hammond, Inc., Carlsholm, Gothenburg, 10 bls. wrapping paper.

Katzenstein & Keene, Inc., Galtymore, Leith, 70 bls. rags.

D. J. Murphy, by same, 5 bls. rags.

Philadelphia National Bank, by same, 243 bls. rags.

Philadelphia National Bank, by same, 130 bls. bagging.

Castle & Overton, by same, 207 bls. waste paper.

Castle & Overton, Elmsport, Rotterdam, 259 bls. bagging.

Castle & Overton, by same, 947 bls. rags.

Waste Material Trading Corp., by same, 276 bls. rags.

D. J. Murphy, by same, 304 bls. rags.

E. J. Keller Company, Inc., Hudson, Havre, 214 bls. rags.

D. M. Hicks, by same, 37 bls. rags.

Castle & Overton, by same, 51 bls. rags.

Castle & Overton, by same, 54 bls. bagging.

American Wood Pulp Corp., by same, 18 bls. new cuttings.

Katzenstein & Keene, Inc., Chickahominy, London, 1,065 bls. rags.

Katzenstein & Keene, Inc., F. Bulow, Hamburg, 476 bls. rags.

Katzenstein & Keene, Inc., Manchester Port, Manchester, 112 bls. new cuttings.

E. J. Keller Company, Inc., by same, 154 bls. bagging.

E. J. Keller Company, Inc., F. Bulow, Hamburg, 1,859 bls. rags.

Castle & Overton, by same, 201 bls. bagging.

Castle & Overton, Gorno, Copenhagen, 557 bls. rags.

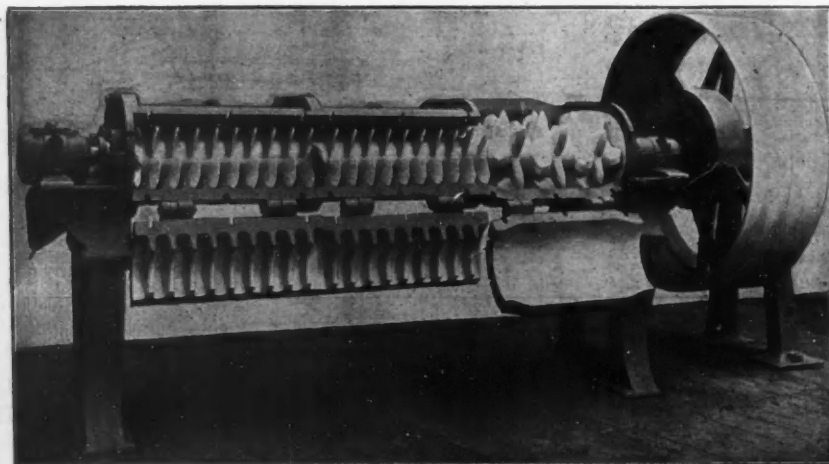
Castle & Overton, Chickahominy, London, 964 bls. waste paper.

Castle & Overton, by same, 59 coils old rope.

Castle & Overton, by same, 1,100 bls. wood pulp.

VOITH KNEADERS

Continuous Process



Repulp Broke, Shavings, Old Papers, Magazines, Pulp Laps, Sulphite Laps, Board Waste.

Does not cut Fibres
saves Power, releases your Beaters, eliminates wasteful Broke Beaters.

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Bulletin No. 14

AMERICAN VOITH CONTACT CO., Inc.
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FACTORY
132ND TO 133RD ST. & BROOK AVE

PAPER BAGS

Sacks and Specialties

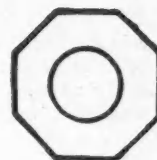
ESTABLISHED 1901

SCHORSCH & CO.

Manufacturers

500 East 133d Street : New York

This Registered Trade Mark Octagon



on a Paper Bag Vouches for Its Good Quality



Patented { June 24, 1913.
August 10, 1915.

GRISSINGER Patented AUTOMATIC TUBE MACHINE

Wire Stitched Tube
TOILET PAPER
MACHINERY

GRISSINGER MACHINE WORKS
PHILADELPHIA, PA.

COLORS

For Paper Makers

KUTTROFF, PICKHARDT & CO.
INCORPORATED

128 Duane Street - - New York

BOSTON - 157 Federal St. PHILA. - 111 Arch St.
PROV. - 52 Exchange Pl. CHI. - 305 W. Randolph St.

Clay

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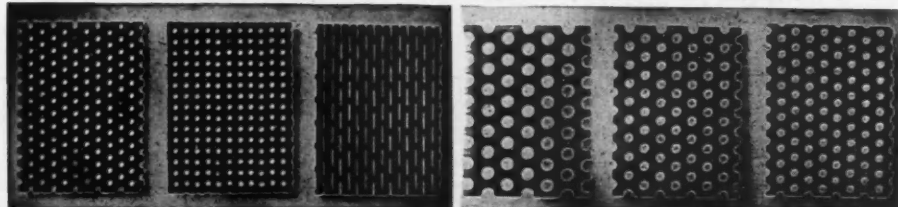
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New York Office, 114 Liberty St.

Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, SEPTEMBER 19, 1923.

The improvement in chemicals which began a little more than two weeks ago continued this week. Dealers report an increasing demand for all sorts of paper makers' supplies and trading on the open market is picking up vastly with fewer distressed lots being offered. It is evident that manufacturers expect to do a big business this fall judging by the quantity of raw material they are buying. Their excess supplies which they held all through the summer have been exhausted and their interest has become keener accordingly. Fewer distressed lots were being offered and thus prices have stiffened. It was said that there would be no further reductions and if there are any price revisions they will be upward.

BLEACHING POWDER.—Owing to the difficulty in storing bleach during the hot weather the bottom dropped out of this market about a month ago and manufacturers were offering the commodity at all sorts of low prices. The best indication that it is now on its way back to normal is that there has been no change in the quotation, which is from 1.50 to 1.60 cents a pound, and this price is very firm.

BLANC FIXE.—Although the demand for blanc fixe has improved considerably it is not back to normal as yet. Dealers say that they notice definite signs of a vastly improved business. The price is considerably firmer at \$30 to \$35 a ton for the pulp grade and \$80 to \$85 a ton on the dry.

CAUSTIC SODA.—Caustic has also picked up considerably like other chemicals in the same general class. The volume of inquiries has increased as has also the volume of actual business. Trading on the open market is also much brisker. The price is steady at 3.17 to 3.20 cents a pound.

CASEIN.—Casein is likewise picking up a good deal, but dealers say that it is not in as satisfactory condition as it should be although orders are coming in with increasing speed. The quotation remains at 3.17 to 3.20 cents a pound on a flat basis and is much firmer.

CHLORINE.—Chlorine along with bleach has improved a great deal so far as demand is concerned during the past week. Paper men are showing greater interest both as to futures and on the open market and everything is looking toward the best, dealers report. The price is level at 4.20 to 4.40 cents a pound in tanks.

ROSIN.—Rosin is reported as in satisfactory condition this week. There has been greater demand than there has been for some time past for the paper making grades and the price has stiffened a little and is firm at \$5.95 to \$6.00.

SALTCAKE.—There has been little change in the saltcake market except for a slight improvement in buying from the paper trade. The price has remained firm because of the interest shown by other industries and now the paper manufacturers have started to come back into the market once more. It is quoted at \$22 to \$24 a ton.

SODA ASH.—The demand for soda ash has also picked up a good deal and dealers report that there is a very definite improvement which is shown by a firmer price. There are no distressed lots being offered and this is tending to give the market a much better undertone. It is selling at from 1.45 to 1.50 cents a pound in bags on contract.

SULPHATE OF ALUMINA.—Alumina sulphate has also shown a better demand. Along with the rest of the market it is improving right along and the price is steady at 2.05 to 2.25 cents a pound on the iron free grade and 1.25 to 1.35 cents on the commercial.

Monroe Paper Co. Resumes Operations

MONROE, Mich., September 17, 1923.—Monroe Paper Company has completed the replacement of its mill which was destroyed by fire a few months ago and operations have been resumed.

Market Quotations

(Continued from page 61)

No. 1 Mixed	1.60	@	1.75	New Blue	.0234	@	.0234
No. 2 Mixed	1.25	@	1.50	New Black Soft	.0534	@	.0634
Solid Ledger Stock	2.50	@	2.75	New Light Sec-			
Writing Paper	2.45	@	2.50	onds	.0234	@	.0234
No. 1 Books, heavy	2.00	@	2.25	Khaki Cuttings	.11	@	.0434
No. 2 Books, light	1.40	@	1.50	Corduroy	.0334	@	.04
No. 1 New Manila	2.75	@	3.00	New Canvas	.0834	@	.0834
No. 1 Old Manila	1.75	@	2.00	New Black Mixed	.04	@	—
Container Manila	1.35	@	1.50	Old			
Old Kraft	2.25	@	2.50	White, No. 1—			
Overissue News	1.50	@	1.60	Repacked	.06	@	.0634
Old Newspaper	1.25	@	1.50	Miscellaneous	.0434	@	.0434
No. 1 Mixed Paper	1.00	@	1.10	White, No. 2—			
Common Paper	.80	@	.90	Repacked	.0334	@	.04
Straw Board, Chip	1.00	@	1.10	Miscellaneous	.03	@	.0334
Binders Bd., Chip	1.00	@	1.10	Thirds and Blues—			
Domestic Rags—New				Repacked	2.50	@	2.75
Price to Mill, f. o. b. Phila.				Miscellaneous	2.15	@	2.35
Shirt Cuttings—				Black Stockings	2.75	@	3.00
New White, No. 1	.12	@	.1234	Roofing Stock—			
New White, No. 2	.07	@	—	No. 1	1.35	@	1.40
Silesias, No. 1	.0734	@	.0734	No. 2	1.25	@	1.30
New Unbleached	.10	@	.11	No. 3	.75	@	.90
Washables	.0434	@	—	No. 4	1.15	@	1.20
Fancy	.0534	@	.0534	No. 5A	1.10	@	—
Cottons—according to grades—				B			nominal
Blue Overall	.0534	@	.0534	C			nominal

BOSTON

[FROM OUR REGULAR CORRESPONDENT.]

Paper			
Bonds	.0934	@	.63
Ledgers	.0934	@	.55
Writings	.0834	@	.42
Superfine	.16	@	.26
Fine	.15	@	.18
Books, S. & S. C.	.0734	@	.12
Books, M. F.	.0734	@	.0934
Books, coated	.09	@	.15
Label	.09	@	.13
News, sheets	4.75	@	6.00
News, rolls	4.50	@	5.75
Manilas—			
No. 1 Manila	6.00	@	7.00
No. 1 Fiber	.0634	@	.07
No. 1 Jute	9.00	@	10.50
Kraft Wrapping	.07	@	—
Common Bogus	3.50	@	3.85
Boards			
(Per Ton Destination)			
Chip	\$60.00	@	\$62.50
News, Vat Lined	60.00	@	62.50
Wood, Vat Lined	70.00	@	72.50
BOSTON			
[FROM OUR REGULAR CORRESPONDENT.]			
Filled News Board	60.00	@	65.00
Solid News Board	70.00	@	80.00
S. Manila Chip	75.00	@	80.00
Pat. Coated	90.00	@	100.00
Old Papers			
Shavings—			
No. 1 Hard White	4.00	@	4.15
No. 1 Soft White	3.25	@	3.35
No. 1 Mixed	1.00	@	1.25
No. 3	.75	@	—
Ledgers & Writings	2.25	@	—
Solid Books	2.00	@	2.10
Blanks	2.10	@	2.15
No. 2 Light Books	1.50	@	—
Folded News, over-			
issues	1.00	@	1.10
Gunny Bagging	1.00	@	1.10
Manila Rope	5.25	@	—
Mixed paper	.75	@	.80
Old News	.95	@	—
Old Kraft	1.90	@	2.10
No. 1 Scrap Burlap	.80	@	1.00
No. 2 Roofing Bagging	.60	@	.70
Mixed Strings	.90	@	1.00
No. 1 Roofing Rags	1.40	@	1.45

TORONTO

[FROM OUR REGULAR CORRESPONDENT.]

Paper			
(Mill Prices to Jobbers f. o. b. Mill)			
Bond—			
Sulphite	.11	@	.1234
Light tinted	.12	@	.1334
Dark tinted	.1334	@	.15
Ledgers (sulphite)	—	@	.13
Writing	.0934	@	.12
News, f. o. b. Mills—			
Rolls (carloads)	3.75	@	—
Sheets (carloads)	—	@	4.50
Sheets (2 tons or over)	—	@	4.75
Book—			
No. 1 M. F. (car-	9.00	@	—
loads)			
No. 2 M. F. (car-	8.00	@	—
loads)			
No. 3 M. F. (car-	7.50	@	—
loads)			
No. 1 S. C. (car-	9.50	@	—
loads)			
No. 2 S. C. (car-	8.50	@	—
loads)			
No. 1 Coated and	14.00	@	—
litho			
No. 2 Coated and	13.00	@	—
litho			
No. 3 Coated and	12.25	@	—
litho			
Coated and litho,	14.25	@	—
colored			
Wrapping—			
Grey	5.00	@	—
White Wrap	5.75	@	—
"B" Manila	6.00	@	—
No. 1 Manila	7.25	@	—
Fiber	7.25	@	—
Kraft, M. F.	8.00	@	—
M. G.	8.15	@	—
Pulp			
(F. o. b. Mill)			
Ground wood	\$42.00	@	\$45.00
Sulphite easy bleach-	—	@	70.00
ing	60.00	@	70.00
Sulphite news grade	55.00	@	65.00
TORONTO			
[FROM OUR REGULAR CORRESPONDENT.]			
Sulphite, bleached	85.00	@	90.00
Sulphate	70.00	@	72.50
Old Waste Papers			
(In carload lots, f. o. b. Toronto)			
Shavings—			
White Env. Cut	3.75	@	—
Soft White Book			
shavings	3.30	@	—
White Blk, News	2.10	@	—
Book and Ledger—			
Flat Magazine and			
Book Stock (old)	1.85	@	—
Light and Crum-			
pled Book Stock	1.70	@	—
Ledgers and Writ-			
ings	1.85	@	2.25
Solid Ledgers	2.00	@	—
Manilas—			
New Manila Cut	2.10	@	—
Printed Manilas	1.55	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	1.10	@	—
Folded News	1.10	@	—
No. 1 Mixed Pa-			
pers	1.00	@	—
Domestic Rags—			
Price to mills, f. o. b. Toronto			
Per lb.			
No. 1 White shirt			
cuttings	.12	@	.1234
No. 2 White shirt			
cuttings	.06	@	—
Fancy shirt cut-			
tings	.0534	@	.06
No. 1 Old Whites	.0434	@	—
Third and Blues	.0234	@	.0234
Per cwt.			
Black stockings	.03	@	—
Roofing stock:			
No. 1	—	@	—
No. 2	—	@	—
Manila rope	.0534	@	.06
No. 2	1.55	@	—
Gunny Bagging	.0134	@	—