

MEMBER OF THE A. B. C.
FIFTIETH YEAR

Municipal & Business Branch Library
Municipal Building

PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

ESTABLISHED IN 1872

Vol. LXXIV. No. 2 NEW YORK AND CHICAGO, JANUARY 12, 1922

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

PARSONS TRADING COMPANY

Paper Exporters

17 Battery Place New York

London Stockholm Bombay Shanghai Wellington
Havana Buenos Aires Mexico Rio de Janeiro Naples
Parsons Trading Company (Australia), Limited
Sydney Melbourne

E. BUTTERWORTH & CO., Inc.

CHARLES H. WOOD, Pres. LEWIS JENNINGS, Treas.
Boston Office, 136 Federal St. New York Office, 1123 Broadway

PAPER MAKERS' SUPPLIES

Agents for "S" Brand and Snow Brand Bleached Sulphite Pulp

H. R. WOODWARD, Pres. WALTER P. SIMONDS, Treas.

TRAIN SMITH COMPANY

IMPORTERS AND DEALERS IN
**ALL GRADES OF FOREIGN AND
DOMESTIC PAPER STOCK**
OLD SOUTH BLDG., BOSTON, MASS.

Telephone: Murray Hill 4246
Hans Lagerloef, Pres't & Treas.
Orvar Hylin, Vice-Pres. & Sec'y.



Lagerloef Trading Co., Inc.

52 Vanderbilt Ave., New York, N. Y.

All Kinds **WOOD PULP** Every Description
Correspondence Invited!

COLORS FOR

PAPERMAKERS

KUTTROFF, PICKHARDT & CO.
INCORPORATED

128 Duane Street - - - New York

BOSTON - 86 Federal St. PHILA. - 111 Arch St.
PROV. - 52 Exchange Pl. CHI. - 305 W. Randolph St.

CABLE ADDRESS REGHAMMOND NEW YORK TELEPHONE VANDERBILT 4568-9

R. F. HAMMOND

342 MADISON AVENUE
NEW YORK

WOOD PULP PAPER

CLAY

Atterbury Bros., Inc. West Carclaze China
Sole Agents Clay Co.,
145 Nassau St., N. Y. St. Austell, England

PAGE 19!

PULP STONES

INTERNATIONAL PULP-STONE CO.
ELYRIA, OHIO



PROTECTIVE PAPERS

Glassine Parchmoid
Vegetable Parchment Greaseproof

Diamond Fibre Receptacles of all kinds

Diamond State Fibre Company

Dept. 27

BRIDGEPORT, PENNSYLVANIA (near Philadelphia)

PRICE & PIERCE., Ltd
17 East 42d Street, New York

Sole Selling Agents for
Bathurst Company Ltd.
BATHURST, N. B.

**Kraft Pulp and Easy
Bleaching Sulphite**

INTERNATIONAL PULP CO.
NEW YORK CITY

ASBESTINE PULP * FILLER
90% Retention

REG. U. S. PATENT OFFICE

PULP AND PAPER
OF

EVERY DESCRIPTION

HUDSON TRADING COMPANY

300 Madison Avenue
NEW YORK

ESTABLISHED 1888

CABLE ADDRESS: "HUDTRACO," NEW YORK

DANA T. McIVER

High Grade Printing Paper

116 So. Michigan Avenue
CHICAGO

BOOK AND COATED PAPER

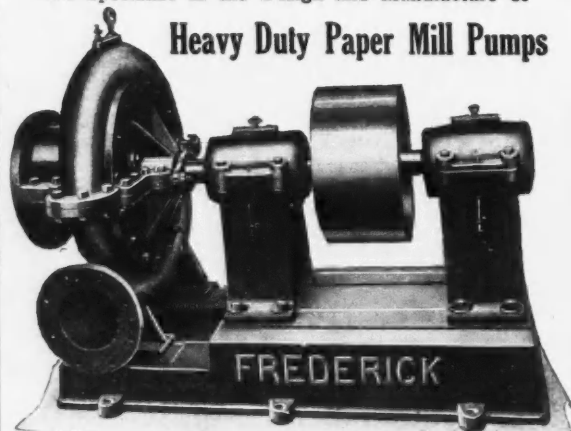
Car Lot and Tonnage Contracts

FREDERICK

Pulp and Paper Mill Pumps

We Specialize in the Design and Manufacture of

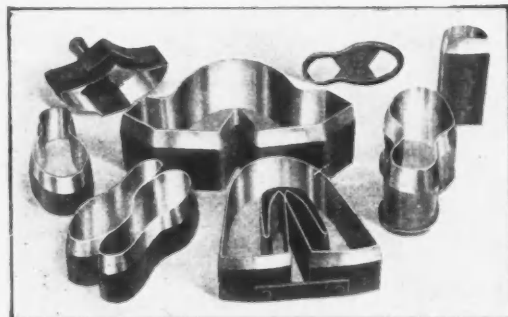
Heavy Duty Paper Mill Pumps



The Frederick Iron & Steel Co.
FREDERICK—MARYLAND—U. S. A.

Offices in principal cities.

CUTTING DIES



Let us overcome your steel cutting Dies troubles.

We specialize on Dies for Labels, Bores, Wrappers, Toys, Advertising Novelties, etc.

The Hoggson & Pettis Mfg. Co.
New Haven, Conn., U. S. A.

**PULP
STONES**

of absolutely the finest quality

LOMBARD & CO.

Importers and Dealers

236-238 A Street : BOSTON, MASS.

Branch at Montreal, Canada

SUPERIOR CHEMICAL CO.

JOLIET, ILLINOIS

Manufacturers

PAPER MAKERS' and FILTER

ALUM

Missisquoi Pulp and Paper Company

SHELDON SPRINGS VERMONT

White and Tinted Bristols—White Blanks—Index Bristol and Specialties in Card Boards.



SERVICE WOOD ROLLS

A Construction for Every Service

Free Roll Blue Prints

Rodney Hunt Machine Co.

No. 63 Hill St.

Orange, Mass.

KNOX WOOLEN CO.

MANUFACTURERS OF

"EXCELSIOR"

Seamless Felts for fast running

Satin style Felts for fine finish

1863

FELTS AND JACKETS FOR EVERY GRADE OF PAPER
CAMDEN, MAINE

1922

CASEIN

Standard Quality
Lowest Prices

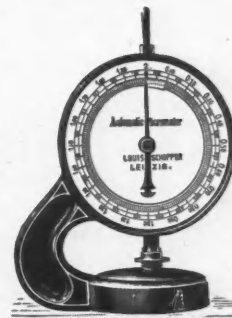
The Casein Manufacturing Company

15 Park Row New York

SCHOPPER STANDARD PAPER TESTERS ARE THE BEST

11" high

8" wide



THE ORIGINAL MICROMETER

*They last a life time.
Why buy imitations?*

Strength and Stretch Testers	Pocket Micrometers
Folding Testers	Desk Micrometers
Hygrometers	Pocket Scales
Testing Acids	Desk Scales

U. S. A.

SOLE AGENTS

CANADA

FOREIGN PAPER MILLS, INC.

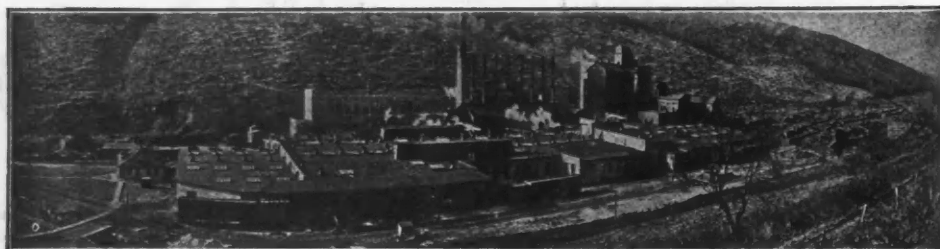
261 BROADWAY

NEW YORK



Bayless Manufacturing Corporation

SALES OFFICE: 527 FIFTH AVENUE, NEW YORK.
PULP AND PAPER MILLS AT AUSTIN, PA.



HIGHEST
QUALITY
SULPHITE
WRAPPING
PAPERS

The Pulp and Paper Trading Co.

21 East 40th Street New York City

DEALERS IN DOMESTIC CHEMICAL AND
MECHANICAL PULPS AND PAPER

AGENTS FOR

J. & J. Rogers Company, Ausable Forks, N. Y.
Ware Coated Paper Company, Ware, Mass.

Procter & Gamble Distributing Co.

Mills at Augusta, Georgia, and Memphis, Tenn.

Canadian Kraft Limited, Three Rivers, Canada
Dealers in Wayagamack Kraft Pulp

EASTERN AGENTS of Sulphite Pulp. Made by
Port Huron Sulphite & Paper Co., Port Huron, Mich.

J. ANDERSEN & CO.

FREDERICK BERTUCH, SPECIAL PARTNER
21 East 40th Street, New York City

Importers of Chemical Pulps BLEACHED AND UNBLEACHED

Agents for Kellner Partington Paper Pulp Co., Ltd.
Sarpsborg, Norway; Forshaga, and Edsvilla, Sweden;
Bergvik and Ala Nya Aktiebolag, Soderhamn, Sweden

Scandinavian Export Agents

TEXAS GULF SULPHUR CO., TEXAS CITY, TEXAS

THE WATERBURY FELT CO.



FELTS and JACKETS

For Every Grade of Paper and Pulp

Correspondence and Orders
Solicited

Manufactured at
SKANEATELES FALLS
New York

JAMES ROSENBERG, PRES. L. W. BOWMALL, Vice Pres.

AMERICAN WOODPULP CORPORATION

FOREIGN AND DOMESTIC
CHEMICAL and MECHANICAL
WOODPULPS

Rags, New Cuttings, Bagging, Etc.
Chemicals of All Descriptions

New York—347 Madison Ave.

BRANCHES:
Stockholm—Sweden
Helsingfors—Finland

Holyoke—J. B. Woodruff, Inc.
Kalamazoo—F. D. Haskell
Dayton—R. R. Reed

WHITAR

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

NEWS BLUE METHYL VIOLET

We supply a complete line of colors suitable for paper

THE WHITE TAR ANILINE CORP.

56 Vesey Street, New York

Works: Kearny, 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

TOILETS
All Varieties

NAPKINS
Flat and Folded

TOWELS
Rolls and Interfolded

QUALITY PRODUCTS

Manufactured by
Fort Howard Paper Co.
Green Bay, Wisconsin

Daily Capacity of 600 Air-Dry Tons

The extent
of our production of
High Grade
**BLEACHED
Sulphite Fibre**

insures uniform quality, prompt
shipments and market prices

BROWN COMPANY

founded 1852

PORTLAND MAINE

Mills at Berlin, New Hampshire

NEW YORK CITY
Woolworth Bldg.

CHICAGO
110 So. Dearborn St.



Manufacturers of

Coated Cardboard, Boxboard and Lithograph Paper, including Lithograph Blanks, Postal Card Stock, Tough Check, Railroad, Thick China, Transluents and Menu Board.

Our Boards and Papers lie flat, hang straight, and register because they are made right.

Orders for regular or special sizes are given prompt attention. Quality guaranteed.

TRY US AND SEE

EASTERN SALES OFFICE, 501 Fifth Avenue, NEW YORK CITY

COLORS

*Calender
Beater
Coating*



For all grades of stock

PROMPT LABORATORY SERVICE

SANDOZ CHEMICAL WORKS

INCORPORATED

238-240 Water St., New York

OUR SOURCE OF SUPPLY IS
SANDOZ CHEMICAL WORKS
Basle, Switzerland

PAPER MAKERS' ALUM

(Both Commercial and Free from Iron)

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

(A solvent for Casein)

**THE KALBFLEISCH
CORPORATION**

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

“Papers made in the Adirondacks”

1919 PAPERS

EQUIPMENT—

92" trim Cylinder machine for Heavy Papers .010 to .025 56" trim Fourdrinier machine for Medium Weight Papers
65" trim Harper machine for Light Weight Papers 40" Plater for "special surfacing"
40" Roll Embossing machine

We are equipped to make the following specialties:

Drawing
Railroad Writing
Bogus Bristol
Photo Mounts (Solid and Filled)
Cover Paper
Pin Paper
Anti Tarnish
Macaroni
Waxing

Chocolate Layer Board
Cheviot Paper
Coating
Ticket Bristol
Album Paper
Black Papers
Filled Calendar Back
Solid Calendar Back

Colored Poster
Colored Sulphite
Box Cover
Plated and Embossed Papers
Match Box Paper
Special Standard Cover (antique
finish only)
Pattern Paper
Manila

White and Colored Papers for Special Requirements

We also will stock two cover lines—one pattern paper line—one box cover line.

NUERA PAPER CO., Inc.

General Offices and Mill: Hadley, New York

W. J. Blackley
General Sales Manager

WINESTOCK

DE-FIBERING AND DE-INKING PROCESS
PATENTED



Height of Machine Over All, 12 Feet

Produces Strongest, Brightest and Best Pulp Obtainable from Waste Papers.

Capacity—12 to 15 Tons in 24 Hours

It de-fibers and liberates ink and color in one operation. It separates ink and color from fibers, instead of rubbing, grinding or kneading them in.

CASTLE, GOTTHEIL & OVERTON

SOLE SELLING AGENTS IN THE UNITED STATES
200 Fifth Ave. Building New York, N. Y.

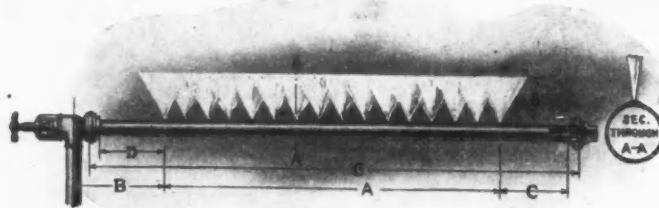
E. D. Jones & Sons Co., Pittsfield, Mass.,
Builders in the United States
Waterous Engine Works Co., Ltd., Builders and Selling
Agents for Canada, Brantford, Canada

**APPLETON
FELTS**

Quality
Service
APPLETON
Felts and Jackets

**APPLETON WOOLEN
MILLS**
APPLETON, WIS.

THE VEDDER "RAINSTORM" SHOWER PIPE



MANUFACTURED BY

THE SMITH & WINCHESTER MFG. CO.

SOUTH WINDHAM, CONN.

ESTABLISHED 1872

*A Complete Line of
Paper Bag Making
Machinery.*

**BUILDERS OF
DEPENDABLE MACHINERY
FOR
THE PAPER MILL**

*Undercut and Overcut
Trimmmers.
Die Cutting Presses.*



No Break No Leak

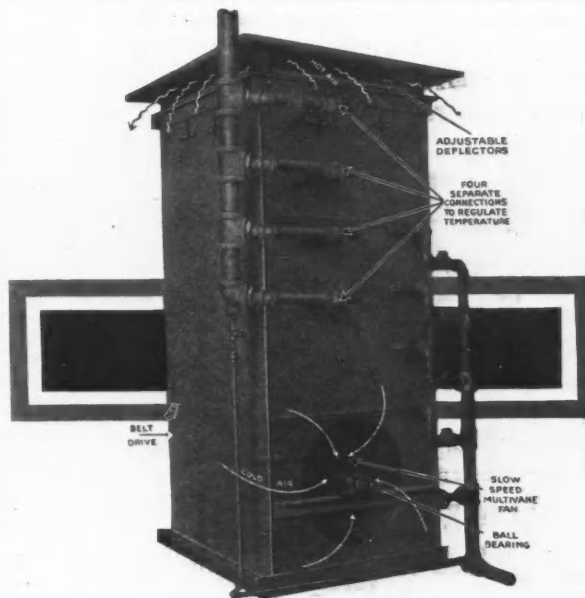
Every Caldwell Tank is machine-planed and jointed—properly. The Caldwell Cypress Tank swells just enough to make it virtually a solid piece of wood, thoroughly leak-proof. True, tight and properly braced—there is no possibility for bulges or breaks.

Caldwell Tanks are built by men who have been making superior tanks for over 30 years.

Send for Catalogue

W. E. CALDWELL Co.,
INCORPORATED
2040 BROOK ST., LOUISVILLE, KY.

Caldwell
TANKS
AND
TOWERS



Delivers Heat as Accurately as a Motor Delivers Power

The outstanding merit of the Gordon Steam Unit Heater is its ability to take any pace and hold it. Whatever the *heating, drying and ventilating* requirements of your mill are, Gordon Steam Units will meet them accurately in any weather.

1. Any temperature specified may be had merely by operating the valves controlling the various coil sections.
2. The air may be directed where desired by adjusting the four outlets.
3. The number of air changes is accurately governed by the speed of the Multivane fan. Moisture absorption and relief from excessive humidity is positive.

Definite results—for winter heat and ventilation, for drying, for summer ventilation—are easily obtained on a basis of lowest first and operating cost, and highest efficiency. Use the coupon.

ROBERT GORDON, Inc.

638 W. MONROE STREET

CHICAGO, ILL.

Branch Offices: Sun Building, Detroit; Bessemer Building, Pittsburgh; Manufacturers' Exhibit, New York

Robert Gordon, Inc.,
638 W. Monroe St., Chicago

Gentlemen: We are interested in the item or items checked below:

- | | | |
|---|---|---|
| <input type="checkbox"/> Moisture Absorption | <input type="checkbox"/> Mechanically Circulated Water Heating. | <input type="checkbox"/> Ventilation-Fan System of Heating. |
| <input type="checkbox"/> Steam Unit Heaters. | <input type="checkbox"/> Direct Steam Heating. | <input type="checkbox"/> Process Piping. |
| <input type="checkbox"/> Preliminary survey, and recommendation of best type of heating for our plant, based on installation and operating costs. | <input type="checkbox"/> Drying. | <input type="checkbox"/> Air Conditioning. |

Name _____

Address _____

Per _____

Fly Bars

Bed Plates

Jordan Fillings

Knives

For all makes
of Machines.

For all classes
of work.

We can offer a desirable and dependable source of supply.

Let us quote on your requirements.

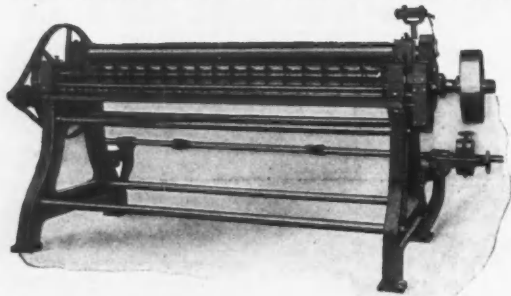
JOHN W. BOLTON & SONS, Inc.

Lawrence, Mass.

High Grade Fly Bars, Bed Plates, Jordan Fillings and Knives.

The "Dietz" Toilet Paper Machines

For making Toilet Paper Rolls with or without perforations



Self-Adjusting — Easy to Operate
WE ALSO MANUFACTURE

AUTOMATIC TUBE MACHINES

FOR MAKING TUBES FOR TOILET PAPER ROLLS
CAPABLE OF PRODUCING 3,600 WIRE STITCHED
TUBES PER HOUR

Also machines for making Sanitary Crepe Paper Towels, Slitting and Rewinding Machines, Drop Roll Slitters, Side and Center Seam Merchandise Envelope Machines, Photo Mount Beveling Machines, Candy Bag Machines, Punch Presses for Playing Cards, Rotary Card Cutting and Collating Machines, Etc. CORRESPONDENCE SOLICITED.

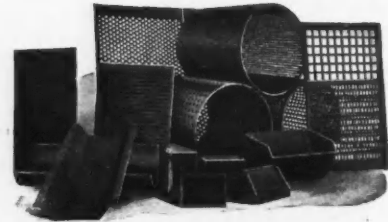
DIETZ MACHINE WORKS

126-128 Fountain St., Philadelphia, Pa.
Corner Waterloo St., Below Diamond St., Bet. Front and 2nd Sts.

PERFORATED METAL SCREENS

IN STEEL AND ALLOYED METALS

For Pulp and Paper Mills



Elevator Buckets, Conveyor Flights
and Troughs, General Sheet and
Light Structural Work

Light and Heavy Steel Plate Construction

HENDRICK MANUFACTURING CO.

75 Dundaff Street, Carbondale, Pa.
New York Office, 30 Church St.
Pittsburgh Office, 915-916 Union Bank Building

The Sandy Hill Iron & Brass Works

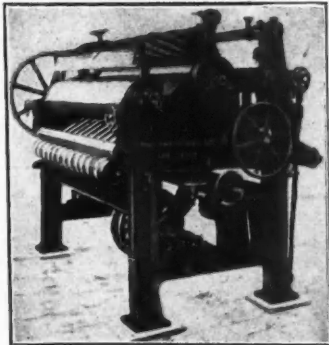
Hudson Falls, N. Y.

Manufacturers of

Paper and Pulp Mill Machinery

THE CLARK-AIKEN CO.

Successors to
H. C. Clark & Son Machine Co.
PAPER MILL MACHINERY
LEE, MASS.



Revolving Paper Cutters—Rag Cutters—Cylinder Paper
Machines—Washing and Beating Engines—Chilled Iron
and Paper Calendars—Fan and Stuff Pumps—Engine
Roll Bars and Bed Plates—

Cylinder Molds—Marshall Drives—Slitters and Rewinders
—Reels—Dryers with Improved Packing Boxes—
Wet Machines—Gun Metal and Rubber Rolls—Rolls
Reground.

PERKINS FANS

have these five points of Superiority:

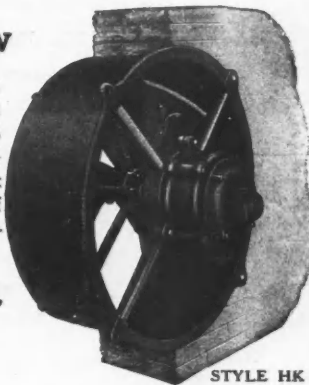
1. Adjustable Blades
2. Variable Capacity
3. Removable Babbitt Bushings
4. Ball-Bearing End Thrust
5. Positive Lubrication

ASSURING UNEQUALLED EFFICIENCY
backed by our Efficiency Guarantee

Write Now

for full information
as to any size and
style of PERKINS
VENTILATING
FAN that best
meets the needs of
your plant. Ad-
dress Dept. P 1.

B. F. PERKINS & SON,
Incorporated
Holyoke, Mass.,
U. S. A.



KENWOOD FELTS SEAMLESS FELTS TAN JACKETS

Kenwood Felts are woven to produce definite, accurate results under given conditions.

Help in selection of the right felt to meet the special requirements of your operating conditions is the purpose of our Research Department.

Co-operation, to eliminate guess-work and disappointment in the purchase of felts, is at your service.

F. C. HUYCK & SONS

KENWOOD MILLS
ALBANY, N. Y

JOHN ASPEGREN,
President

Telephones: 8311
8312 Murray Hill
8313

SCANDINAVIAN AMERICAN TRADING COMPANY
50 EAST 42nd STREET NEW YORK CITY

WOOD PULP

Among other brands we sell the following Pulps as Agents:

Uddeholm Bleached, Bleachable and Strong Unbleached (Kraft) Sulphates

Annual Production 20,000 dry tons

Tonnage available for prompt and future delivery—Wire for prices

**Let's Put Shoulders
to the Wheel NOW**

*—business will be better
only if we make it so*

1922 presents great possibilities. Let's start early and get things back to normal.

LaBoiteaux is more than willing to help. Our organization is keyed up to greater service—greater efforts—greater ambitions. We're prepared to quote interesting prices on

**Box Boards
Paper Board Specialties**

Get in touch with us. Facilities were never better for prompt, efficient service.

The C. L. LaBoiteaux Co.

Cleveland Cincinnati Chicago New York

E. J. KELLER COMPANY

INCORPORATED

200 FIFTH AVENUE

NEW YORK

FOREIGN AND DOMESTIC
PAPER MAKERS' SUPPLIES
CHEMICAL AND MECHANICAL PULPS
COTTON, JUTE AND FLAX WASTES
EAST INDIA MERCHANDISE

IMPORTED PAPER AND PULP

NEWSPRINT

IN ROLLS OR SHEETS

From Stock in New York, or Direct From Mill

E. C. MELBY

21 East 40th St. New York City

Representing

Drammen Paper Mills, Drammen, Norway
G. A. Svensen Trading Co., Christiania, Norway

GREASEPROOF PARCHMENT PAPERS

OF STANDARD QUALITY

Purity

Quality Plus

Ashmere

Equally Fine

Berkshire

Stands the Test

OUR PAPERS ARE EXCELLENT FOR MEAT MARKETS; GROCERS AND GENERAL PACKING HOUSE REQUIREMENTS

Mountain Mill Paper Co.

(Write for Samples and Quotations)

MILLS AND GENERAL OFFICES:
125 Forest Street, Lee, Mass.

We offer a full line of

COLOURS

and furnish precise directions on application for

Beater Dyeing, Staining and Coating

Half a century's experience enables us to furnish goods answering requirements
and to give reliable service

THE HELLER & MERZ CO.

BOSTON

CHICAGO

NEW YORK

PHILADELPHIA

SPRINGFIELD, MASS.

Announcement

Hall, Ward and Walker, Inc., wish to announce a change of its corporate name effective January 1, 1922, at which time the name of Wood Grinding Service, Inc., will be assumed.

Our personnel will be the same under the old name and our business will in the future continue to be as in the past: the rendering of expert assistance in all matters pertaining to the grinding of wood pulp of superior quality and its conversion into paper with low percentages of sulphite.

Our Process and Appliances are protected by Letters Patent in the leading paper making countries of the world and we are now prepared to assign national rights or issue individual mill licenses in each of the following countries:

**United States, Canada, Newfoundland, Norway, Sweden,
Finland, Germany and Japan**

on extremely favorable cash or monthly payment terms.

Address all correspondence to

WOOD GRINDING SERVICE, Inc.

700 Trust Co. Bldg.

Watertown, N. Y., U. S. A.



We Make
Felt Rolls

that do not corrode,
rust, nor pick up
stock, neither are
they affected by
acids



Enquire of
Beloit Iron Works



MEMBER OF THE A. B. C.

PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

FIFTIETH YEAR

PUBLISHED EVERY THURSDAY BY THE
LOCKWOOD TRADE JOURNAL COMPANY, INC.

LESLIE R. PALMER, President

J. W. VAN GORDON, Vice-President

Telephone { 2380
2381
2382 }

Vanderbilt

10 EAST 39TH ST., N. Y., U. S. A.

Cable Address Catchow, New York

Western Publication Office—431 S. Dearborn Street, Chicago
New England Office—Room 46, 127 Federal Street, Boston
London Office—Stonhill & Gillis, 58 Shoe Lane

Washington Office—L. M. Lamm, 63 Home Life Bldg.
Western New England News Office—Michael Connor, Holyoke

THE PAPER TRADE JOURNAL is the pioneer publication in its field, and has for many years been the recognized Organ of the Paper and Pulp Industry. Its circulation is greater than the combined circulations of all other publications in the field. Entered at New York Post Office as second-class mail matter.

Terms of Subscription

UNITED STATES AND MEXICO.....Per year, \$4; 6 months, \$2; 3 months, \$1
CANADA AND FOREIGN COUNTRIES IN POSTAL UNION.....Per year, \$6
SINGLE COPIES10 cents

Other Publications of Lockwood Trade Journal Company, Inc.

AMERICAN STATIONER AND OFFICE OUTFITTER (Weekly)Per year, \$2
LOCKWOOD'S DIRECTORY OF THE PAPER
STATIONERY AND ALLIED TRADES (Annual)Per copy, \$7

Vol. LXXIV. No. 2

NEW YORK AND CHICAGO

Thursday, January 12, 1922

Table of Contents

News of the Trade:

	PAGE
Action on Long List by National Paper Trade.....	16
For American Valuation Plan.....	16
Resume Hearings on Snell Bill.....	17
Central Ohio Paper Co. Fifty Years Old.....	17
N. R. Johaneson & Co. Organize.....	17
A. P. P. A. Convention April 10-13.....	17
Angier Mills at Ashland Burned.....	17
Pulp and Paper Men Plan for Meeting in Montreal....	18
Riordon Company's Affairs.....	18
Earnings of Brompton Company, Chicago.....	18
Committee to Meet Waste Material Men.....	20
Low Water Troubles Black River Paper Mills.....	20
Demand in Philadelphia Not Yet Much Improved....	22
Special Inquiry of Moorhouse Robbery.....	22
McDowell Mills Making Repairs.....	22
General News of Philadelphia Trade.....	24
Knowlton Bros. Report Better Business.....	24
Good Prospects for Nekoosa-Edwards.....	24
Paper Demand in Toronto Expected to Expand Soon..	26
Canadian Foresters Meet in Toronto.....	26
Provincial Paper Mill Officials Inspect Plant.....	26
Seaman Paper Co. Meets.....	28
Recent Incorporations.....	30
New York Trade Jottings.....	32
Paper Cores.....	32
International Manager Advanced.....	32
Canadian Paper Exports Decline.....	34
Paper Bids and Awards.....	34
What Should Be Done for News Print?.....	34
Revenue Act Changes.....	36

	PAGE
Ascertaining Rates of Depreciation.....	36
Dinner for James McGee.....	36
Blotting Paper Now Made in Canada.....	36
A Budget Cost System for Paper Mills.....	38
McClellan Paper Salesmen Meet.....	32
Paper Mill Laborers Receive Pay Cut.....	41
American Writing Has Sales Conference.....	41
Mutual Paper to Incorporate.....	58
Imports and Exports of Paper and Paper Stock....	60

Editorial:

For American Valuation.....	40
Jack Pine for News Print Paper.....	40

Technical Section:

Pumps and Pumping Machinery.....	43
Recording Instruments Used in Pulp and Paper In-	50
dustry.....	50
Report on the Use of Powdered Coal.....	51
Current Paper Trade Literature.....	52
Have You Too Much Ventilation?.....	47
Note on Special Slide Rule for Weight Calculation	46

Market Review:

New York Market Review.....	58
Market Quotations.....	59
Miscellaneous Markets.....	62

Want and For Sale Advertisements, Pages 64 and 65

ACTION ON LONG PRICE LIST BY NATIONAL PAPER TRADE

Executive Committee of Fine Paper Trade Division Meets in New York Saturday and Sends Letter to United Typothetae of America Suggesting Conference and Stating That Paper Merchants Will Be Glad to Co-operate in Any Constructive Program Looking Toward Solution of This Perplexing Problem—Secretary Ridgway Explains Matter of Toronto Invitation.

The Executive Committee of the Fine Paper Division of the National Paper Trade Association met in New York on Saturday, January 7, and after a full discussion and consideration of the present situation in the matter of the agitation of the U. T. A. and its members for the long price list, voted unanimously to send the following letter signed by the Secretary, William C. Ridgway, to the United Typothetae of America, 608 South Dearborn street, Chicago:

"The Executive Committee of the Fine Paper Division of the National Paper Trade Association met today in this city to consider a matter of vital interest to the paper merchants and the commercial printers of the United States, i. e., the rightful protection to be accorded by the merchants to the printer in his (the printer's) conduct and operation of his business. Believing that the end sought by any method, new or old, is in the last analysis protection and not a long price list, we assume that the important question and paramount issue is that of reaching the objective and not the method or vehicle by which we reach it.

"This association has gone on record in opposition to the issuance or use of a long or retail price list as a method of pricing paper merchandise and nothing has transpired in any way change this conclusion but we also wish to again and in no unmistakable language, assure the printing fraternity of this country that the paper merchants are a unit in subscribing to the principle of full and adequate protection to the printer, and we can safely say that the merchants will co-operate with the U. T. A., or any other association of printers, to the end of formulating some constructive program looking toward a solution of this perplexing problem. The preparation of such a program would be predicated on the assumption that both parties to any arrangement, i. e., the merchant and the printer, would recognize their mutual responsibilities and reciprocal obligations. Neither party to any proposed arrangement can expect to go far in working out a program without the full and loyal support of the other.

"Some of the paper merchants, as well as printers, have expressed a desire for a conference between accredited representatives from our respective associations, to which delegates, merchants and printers outside our associations might be invited, at which this question of protection, exclusive of a long price list as a method to obtain that protection, and any other affecting our mutual interest and relations might be fully discussed and considered.

"If your association believes that some beneficial results might come out of such a conference, the National Paper Trade Association wishes you to know that we shall be very glad indeed to participate and join with you in a conscientious effort to accomplish something of real value to this combined industry, the welfare of which means so very much to us all.

"May we ask that after you have considered this suggestion, you let us have your opinion of its merits, and if you approve, we will await your pleasure and your call."

Statement of Executive Committee

In a bulletin just issued to members of the National Paper Trade Association the secretary says:

"We believe the above letter fully reflects the views of our members as to the subject of the relations between the paper merchant and the printer and that it is not necessary here to make further detailed statement of the opinions expressed and the conclusions reached at the meeting.

"From reports made at the meeting, the Typothetae, or some members thereof, have widely spread the statement that the National Paper Trade Association was invited to send a committee to the Toronto Convention of the U. T. A. for the purpose of conferring on the subject of the long list and that the letter declining this invitation was an insult to the United Typothetae.

"In order that the members may know exactly what invitation was received and judge for themselves the character of the reply of this Association declining the invitation, the correspondence relative thereto is given in full."

Secretary Ridgway's Letter

The concluding letter in this correspondence sent by Secretary Ridgway to W. V. Parshall, chairman of the Long Price List Committee of the United Typothetae of America, follows:

"Replying further to your invitation, under date of September 28th, to furnish a speaker at the Convention of the United Typothetae of America to be held in Toronto, October 17th-21st, 1921, on the subject of the long list, we beg to advise that this Association respectfully declines this opportunity to present verbal statement of the reasons for the action taken in opposition to the adoption or use of the Long List.

"We would call your attention to the fact that this subject has had the most careful and thorough study of this Association for a period of at least twelve years, and it was with full knowledge of the arguments advanced by the printer in favor of the Long List that this Association took action as above indicated at the request of the U. T. A.

"The reasons for this action were published in a booklet entitled the 'Why Nots of the Long Price List' and copies have been sent to the United Typothetae. In view of these circumstances, we believe it would be futile to further discuss this subject unless it be that some new and important factor or phase should develop in which event, we would be pleased to receive full statement of the same in writing and to give it due consideration."

Paper Trade Not in Favor of Long List

Secretary Ridgway states that:

"Reports made by the individual members of the Executive Committee clearly indicate that the members of the National Paper Trade Association, with the exception of those in the city of Detroit, are a unit in opposition to the long list."

For American Valuation Plan

WASHINGTON, D. C., January 10, 1920.—A special convention on tariff legislation of the National Association of Manufacturers will be held here January 30 and 31, it was announced by the association. The purpose of the convention, the announcement said, would be to "Crystalize and give expression to the manufacturing opinion of the country respecting the American valuation plan of assessing customs duties as contained in the pending tariff measure."

A referendum vote of membership of the association, it was said, "disclosed 77.7 per cent favorable to 'American valuation' and 20.7 per cent unfavorable."

Resume Hearings on Small Bill

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 10, 1922.—Hearings were begun before the House Committee on Agriculture on Monday on the so-called Snell Forestry bill (H. R. 129), and it is probable that the hearings will extend during the week.

The hearing Monday was opened by Representative Snell who introduced the bill which with slight changes has been introduced in the upper house by Senator McCormack of Illinois. Mr. Snell explained that the bill was supported by the National Forestry Program Committee which includes American Newspaper Publishers' Association, the American Paper and Pulp Association, the Association of Wood Using Industries, the Western Forestry and Conservation Association, the Society for the Protection of New Hampshire Forests, the Central States Forestry League, and the Fuel Commission of Pittsburgh. After a brief explanation of the bill by Mr. Snell, Col. W. B. Greeley, Chief Forester of the United States, was called on to testify and he gave his hearty endorsement of the bill.

"The preservation of the forests of the United States is vitally necessary to the paper manufacturing industry of this country," declared George W. Sisson, Jr., representing the American Paper and Pulp Association, in advocating the Snell forestry bill before the House of Representatives Committee on Agriculture on Tuesday. He emphasized the fact that the paper manufacturers wish to keep their forest lands productive and are doing what they can, under rather discouraging conditions, to do so, and added:

"The paper industry to-day, particularly in the northeastern states, is employing technical foresters, and is cutting forest lands scientifically, preventing fire, and reforesting the cut-over lands, so far as possible under existing statutes. Extensive commercial experiments demonstrate that this could be done profitably, if the policy of the Snell bill be adopted as a national policy.

"The paper industry has been a leader in asking for a maintained forest policy for the nation. Our mills represent great investments. A paper mill cannot follow the forest as it is cut over, as the saw-mills have done. Canada's paper industry is growing rapidly, because of the wealth of raw material in its forests. America must not be permitted to face a future in which its supply of paper would come from foreign lands.

"The paper industry, however, in advocating forestry legislation does not do so from a purely selfish standpoint. It uses not more than 4 per cent of the annual timber cut of the United States, and yet over 95 per cent of the paper made in the United States is made entirely or in part from wood.

"The support of this proposed legislation by the paper industry is based on the recognition of its relation to the general public welfare. The American Paper and Pulp Association in advocating the passage of the Snell bill is speaking not only for its own industry, but in a larger way is advocating forestry legislation as a need of the nation as a whole."

Central Ohio Paper Co., Is Fifty Years Old

COLUMBUS, Ohio, January 9, 1922.—The Annual Sales Convention of The Central Ohio Paper Co., held at the company building a week ago was of especial significance this year. It marked the beginning of the 50th year of the company in the paper field and the "golden" anniversary was fittingly started with the most enthusiastic and successful convention in the history of "Copco".

The convention opened Thursday morning with an address of welcome by President O. A. Miller and a general session, including divisional reports. That of Cleveland was of especial interest, due to the fact that that division, formerly a fine papers organization exclusively, took on complete stock of wrappings, coarse papers, etc., during the past year. The salesmen of the Copco Cleveland Division now total nine.

The sessions of the convention, which lasted through Friday were largely taken up with experience talks by salesmen, each of which was required to prepare in advance and give some specific selling point in his work that would benefit other members of the sales force.

James Wilson, of the Hooven & Allison Co., R. A. Jackson, district sales manager of the Nekoosa-Edwards Company, Geo. K. Gibson, of The Wausau Sulphate Fibre Company, H. W. Bush, of The White & Wyckoff Manufacturing Company, Sherman Ruxton, of Philip Ruxton Company, Inc., and C. W. Dearden and H. W. Grassley, of The Strathmore Paper Company, were present and made addresses.

On Thursday evening a "Strathmore Evening on Color" was held in the company lunch room, at which The Strathmore Color Grammar and The Munsell System of Color was explained to 150 printers of Columbus and Central Ohio who were present as guests of the company. Sherman Ruxton and Mr. C. W. Dearden were the speakers.

On Friday evening the annual "Copco Family Dinner" was held in the dining room of the company. Over two hundred employees of the company were on hand to enjoy the entertainment provided and talks made by Geo. K. Gibson and O. A. Miller. Both of these speakers predicted increasing prosperity for the new year. Speaking for the company, Secretary K. D. Wood stated that the company was working "full force and full time" and stated that he viewed the coming new year as unusually promising.

N. R. Johaneson & Co. Organize

N. R. Johaneson & Co., is a newly formed partnership for the purpose of dealing in foreign and domestic pulps. The personnel of this new firm comprises N. R. Johaneson, until recently vice-president and general manager of the Scandinavian American Trading Company; O. A. Wales and P. G. Sparre, who for several years had been connected with the same concern, having resigned their connections since the first of the year. Offices have been established at 16 East 41st street, New York, the entire fourth floor being occupied by them.

Foreign and domestic sulphite, kraft and ground wood pulps will be the products exclusively handled and the connections already established insure a promising future. The members of the partnership are all young men who have been identified with the trade for several years and their personal acquaintances both here and abroad is extensive. The concern will shortly announce the various brands and mills they will handle.

A. P. P. A. Convention April 10 to 13

The annual convention of the American Paper and Pulp Association this year will be held during the week of April 10, it was determined at a recent meeting of the Executive Committee of the Association held at the offices at 18 East 41st street. Meetings will be held April 10, and successive days through the 13, at the Waldorf Astoria Hotel. The Salesmen's Association will meet on Tuesday, April 11, with a program of business conferences throughout the day and a dance in the evening. Preparations are being started for what is hoped will be the most successful "Paper Week" yet undertaken and programs for the occasion are already in the course of construction.

Angier Mills at Ashland Burned

[FROM OUR REGULAR CORRESPONDENT.]

ASHLAND, Mass., January 10, 1922.—The Angier paper mills here were destroyed today when fire swept through the plant, causing a general alarm fire, necessitating aid from nearby towns.

The fire is believed to have been started when a spark from a motor ignited a coating machine. The Angier plant was used for waterproofing paper.

PULP AND PAPER MEN PLAN FOR MEETING IN MONTREAL

Annual Convention of the Canadian Pulp and Paper Association Will Be Held January 26-27—Numerous Important Papers and Addresses Will Be Delivered at the Various Sectional Meetings of the Association and the Convention Will Close With the Annual Banquet Friday Evening at the Ritz Carlton—Riordon Company Meeting with Fair Success in Putting Concern on Its Feet.

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., January 9, 1922.—Arrangements for the Annual Meeting of the Canadian Pulp and Paper Association are now practically completed and they promise to rank in importance with any similar meetings in the history of the Association. As is usual, they will be held in Montreal during the same week as the annual meetings of other associations representing allied interests, and altogether the week will prove of great interest to pulp and paper men, as well as for forestry men in general. The annual meeting of the Association proper will be held on Friday, January 27, at 10 o'clock in the morning at the Ritz-Carlton Hotel, the annual luncheon at 1.30 and the annual dinner at 7.15, preceded by a reception by the officers.

The speakers at the annual meeting will include the Hon. James A. Robbe, the new Federal Minister of Trade and Commerce and it is expected that he will take this opportunity to outline the trade policy of the new Federal Government, more particularly, as it relates to the pulp and paper industry and the extension of its foreign trade. It is also expected that Premier Drury of Ontario will be one of the speakers. This will be Mr. Drury's first appearance in Quebec Province since he became Premier of Ontario. Another speaker will be the Hon. L. A. Taschereau, Premier of Quebec. It is expected that these two provincial Premiers will deal with the attitude of the governments they represent to the pulp and paper industry and will outline what they consider to be the best inter-provincial policy to be followed in order to promote the best interests of the industry.

The meetings of the various sections of the Pulp and Paper Association will be held as follows:—

Board Section: January 26 at 4 p. m.; Book and Writing Section: January 26, at 2.30 p. m.; Coated Paper Section: January 27 at 12 p. m.; Chemical Pulp Section: Thursday, January 26, at 10.30 a. m.; Mechanical Pulp Section: Thursday, January 26, at 2.30 p. m.

Newsprint Section: Friday morning, January 27, immediately at close of Association annual meeting.

Technical Section: Wednesday, January 25 and Thursday; Tissue Paper Section: Friday, January 27, at 3 p. m.; Woodlands Section: Thursday, January 26; Wrapping Paper Section: Wednesday, January 25, at 2 p. m.

Of the various sections, the most important is the Technical Section, which will be presided over by George Carruthers. At the meeting of this section on Wednesday, the first topic for discussion is "Where do we stand? Are the problems of our industry developing so rapidly that the technical men are unable to keep pace with them, or are the technical men in advance of the industry?" The discussion will be opened by R. A. McLinnis and those who will take part in it include Dr. J. S. Bates, W. B. Campbell, R. W. Hobey and others. In the afternoon, R. W. Weldon, Mechanical Engineer, Three Rivers Pulp and Paper Company, Limited, will read a paper on "Money from Steam: Helping the Sales Department". Other papers during the afternoon will be on "Burning Pulverized Coal under Power Plant Boilers" by Henry Kreisinger of the Combustion Engineering Corporation, New York, in colla-

boration with John Blizard of the United States Bureau of Mines: "Safety Devices in Paper Mill Engine Rooms" by Elmer B. Tolsted, Supervising Engineer, Independence Bureau, Philadelphia.

On Thursday morning the Technical Section will hold a symposium on Felts and Wires. The papers will be as follows: "The Manufacture of Felts" by E. S. Bates of Montreal, illustrated by photographic reproduction; "Getting the Most out of Machine Clothing" open discussion by members; "The Manufacture of Wire Press Mats for Pressing Wet Pulp" by C. R. Hazen of the Milton Hersey Company, Montreal. In the afternoon, Maurice Neilson of the Belgian Industrial Company, Limited, Three Rivers, will give a paper on "The Utilization of Jack Pine in the Manufacture of News Print." It may be noted that this company has been carrying on extensive experiments with jack pine under both the sulphite and ground wood processes and has generously permitted the dissemination of the information thus obtained for the benefit of the Technical Section. There is probably no subject of greater interest to news print producers at the present time than the possible extensive use of jack pine as a substitute for spruce and this paper should prove of considerable value and importance. Another paper will be on "The Use of Clean Water as a Preservative for Stored Mechanical Pulp" by R. J. Blair, Pathologist, and Clarke Cameron, Associate Chemist, Forest Products Laboratories, McGill University, Montreal.

The News Print Service Bureau will hold its Annual Meeting in the Ritz Carlton Hotel on Friday, January 27, at 3 p. m. The annual conference of the Cost Accountants and Engineers, News Print Service Bureau, will be held in the Windsor Hotel on Thursday, January 26, at 10 a. m.

The Province of Quebec Limit Holders' Association will hold its annual meeting in the Windsor Hotel on Wednesday, January 25, at 11 a. m. The Quebec Forest Protective Association, Limited, will hold its annual conference in the Windsor Hotel on January 25, at 2.30 p. m. and its annual meeting on Thursday 26, at 9 a. m. The Annual Meeting of the St. Maurice Fire Protective Association, Limited will be held at the Windsor Hotel, Wednesday, January 26, at 9.30 a. m. The Southern St. Lawrence Fire Protective Association, Limited, will hold its annual meeting at the Windsor Hotel, Wednesday, January 25, at 9.30 a. m.

As will be seen these numerous meetings will form a most interesting series for all men who are interested in pulp and paper and in forest industries generally.

Riordon Company's Affairs

It is stated here that the Riordon Company is meeting with a fair amount of success in the efforts it is making to put the company on a working basis as regards finances. The information is that the bank loans are being reduced at the rate of \$200,000 a month and provided that the present progress can be maintained there is reasonable assurance that before the end of the year certain assets of the company held by the banks will be free. I. W. Killum, the new managing director, is spending much of his time at the company's branch at Kipawa and a regime of economy coupled with efficiency has been introduced. The Kipawa plant has now been running for three months and with the advance in the price of bleached sulphite it has been able to make a satisfactory profit on the operations. In the meanwhile the company has defaulted payment of \$120,000 interest which became due on January 1 on \$4,000,000 ten-year 6 per cent general mortgage sinking fund bonds. This issue ranks second in the three bond issues of the company.

On December 31 last, there fell due the interest on the 30-year, 6 per cent, first mortgage, sinking fund bonds, the first issue, and it is announced that the money for payment of this interest has come forward and arrangements for its payment completed. The issue of bonds was originally for \$2,500,000 and was dated October 16, 1912, falling due June 30, 1942. The Montreal Trust Company were the trustees. Since the issue redemptions have totalled \$598,-

(Continued on page 20)

SVANÖ A/B
STOCKHOLM, SWEDEN

MITSCHERLICH

1st QUALITY
CLEAN
STRONG

Unbleached Sulphites

For Quotations

A. J. PAGEL & CO., Inc.

347 MADISON AVENUE

NEW YORK CITY

PULP AND PAPER MEN PLAN FOR MEETING IN MONTREAL

(Continued from page 18)

000 leaving the amount outstanding at \$1,901,100 and it is upon these bonds that the six months interest is now being paid.

With the interest upon the first bonds paid, the question arises what will happen as a result of the default on the second bonds. By themselves paying the overdue interest on the first bonds, the holders of the second have cleared the way for any action they may decide to take. Apparently they are in a position to foreclose on all the Riordon properties other than the Kipawa plant, although it is stated in well informed quarters that such action is unlikely, and that there are several other ways of satisfying the bond holders. These bonds are almost entirely held by American interests, and they some time ago appointed a committee of Boston financiers to look after their interests. The bonds were deposited to the order of the committee with the State Street Trust Company of Boston, which institution has appointed the Royal Trust Company here as its agent in the matter. The issue was for \$4,000,000, and was dated March 6, 1919, thus falling due in 1929. It was issued before the purchase of the Kipawa plant, and thus has as its security the Hawkesbury and Merritton plants and one or two smaller mills.

The third issue of bonds was for \$30,000,000 made December 1, 1920, in 8 per cent sinking fund and refunding gold bonds, and the total amount issued was \$7,980,000. The security for this issue is the Kipawa plant, and as the other issues are almost entirely concerned with the company's other plants to the exclusion of that at Kipawa, the holders of the latter bonds are not greatly concerned as to the action that may be taken along the line of foreclosure in connection with possible default in payment in connection with either of the first two issues. The Kipawa property is considered first-class security for the \$7,980,000 represented.

Brompton Company's Earnings

The Annual Statement of the Brompton Pulp and Paper Company just issued shows that after the necessary deductions the earnings are given at \$1,097,784 as against \$1,853,588 a year ago. Deductions for depreciation, bond interest and preferred dividends, left a balance of \$498,010, which is equal to a return of slightly over 7 per cent, on the common stock. This compares with 9.57 per cent a year ago and 9.8 per cent for 1919. The most notable feature of the statement is the large amount written for inventories, which according to a director brings them down to current market values. Inventories are set at \$3,130,931 and from these is deducted \$944,964 to allow for the shrinkage in values. The report of the directors points out that in May last the issue of \$2,500,000 eight per cent convertible sinking fund bonds was issued to reimburse the company in part for amount spent on plant and property, and that improvement in sales and in the company's financial position made it possible to restrict this issue to \$1,750,000 at which figure it now stands.

The chief features of the balance sheet are the increased values of the properties from \$8,878,597 to \$11,001,824, and an increase in the company's investments from \$1,721,418 to \$2,116,792. These are understood to represent the Groveton and Claremont properties. It is also stated that the parent company's equity in these properties will be \$2,000,000 more than appears here, and will appear in next year's consolidated balance sheet.

Among the liabilities, the company's issued bonds are shown at \$3,913,000 as against \$2,193,000 a year ago, the difference being made up by the issuing of \$1,750,000 eight per cent convertible sinking fund bonds as above referred to. The accounts payable are increased from \$761,051 to \$1,229,995, and much of this increase is stated to be made up by amounts due on land and machinery purchased which will appear in next year's assets. Pay rolls and taxes amount to \$547,138 as compared with \$580,234 and an important item is the appearance of bank loans to the extent

of \$875,000. There is also a balance of notes due for land purchases amounting to \$229,000 which does not appear in the statement of the previous year. Dividends payable are set at \$40,000 as against \$280,000 a year ago.

The company is making extensive preparations to cut wood this year. Its present supply will carry it until February, 1923, but in the meantime advantage is being taken of the low rates at which it can be cut and stored this year. It is proposed that the fiscal years of the company and its subsidiaries will be made to coincide, so that a consolidated balance sheet and profit and loss statement may next year be issued.

Committee to Meet Waste Material Men

Steps have been taken for the establishment of better relations between the buyers and sellers of raw materials for the paper mills by the formation of a joint committee to represent the three most important interests. The plans for such a joint committee have been under discussion for several weeks between the American Paper and Pulp Association, the National Association of Waste Material Dealers, and the Association of American Wood Pulp Importers. An early date will be set for the first meeting of this joint committee, and the members to represent the paper manufacturers have already been chosen. The American Paper and Pulp Association committee will be headed by S. S. Rogers, vice-president of the Chemical Paper Manufacturing Company of Holyoke, as chairman and will also include R. S. Hatch, of the Hamersley Manufacturing Company of New York, and Grellet Collins, president of Dill & Collins Company, Philadelphia.

"I am firmly convinced that there are great opportunities to establish better trade relations between buyers and sellers in our trade," says Frank C. Overton, president of the Waste Material Dealers' Association, in a letter to Dr. Hugh P. Baker, executive secretary of the American Paper and Pulp Association, "provided a joint committee representing the various interests will approach the matter in the proper spirit, and basing my opinion on the gentlemen appointed by the various associations, I am confident that the proposed conference will be well worth while."

"The only purpose of the proposed conference," said Dr. Baker, "is to determine whether co-operation is possible between these industries, and no form of co-operation is even suggested at this time. It was thought wise, however, to ascertain whether there is any possibility of co-operation along any line, which might be taken up at other conferences in the future."

Low Water Troubles Black River Paper Mills

[FROM OUR REGULAR CORRESPONDENT.]

WATERTOWN, N. Y., January 9, 1922.—Manufacturing all along the Black river valley is again disturbed by a lack of water power. Several paper mills have been affected and operations curtailed. This is true all the way from Dexter to the upper reaches of the river. Immediate relief is expected through the opening of reservoir gates.

J. V. Baron, chairman of the Board of the Black River Regulating District, was called on the 'phone by numerous manufacturers who found their grinders and machines handicapped by low water. They asked for a fresh supply of flowage to correct conditions. His action was prompt.

E. S. Cullings, secretary of the regulating board, promptly gave orders for the release of more water from the Old Forge reservoir. Another gate was opened and 500 second feet of water was released. The Old Forge and Stillwater reservoirs are reported as filled now and capable of correcting the winter low water trouble. It will require about three days for the released water to reach Black River bay.



"NATIONAL NEWS"



Of interest to Dyers and the Color Using Industries in General
Prepared by the National Aniline & Chemical Company, Inc.

DIRECT DYES FOR PAPER

New "National" Products of Special Interest to Manufacturers of High Class Paper and Paper Specialties

- National Niagara Sky Blue 6 B
- National Niagara Sky Blue 6 B Conc.
- National Niagara Blue HW
- National Niagara Blue HW Conc.
- National Erie Fast Scarlet YA
- National Erie Fast Scarlet 8 BA
- National Erie Fast Scarlet 4 BA
- National Erie Fast Orange A

In general fastness to light, to acid and to alkali, direct dyes excel both the basic and acid groups. They are particularly adapted to the coloring of unsized pulp composed principally of cotton and other vegetable fibres.

Blotting and copying papers, also mottling fibres, are usually colored with dyes of the direct group. On mixed pulp, where level dyeing is an important requirement, "National" direct dyes give excellent results. They may also be combined with suitable acid and basic dyes for this purpose.

"National" direct dyes exhaust completely, leaving a clear back water in most instances. Simplicity in use is a marked characteristic, the dye solution merely being added to the beater which is allowed to run until the dye is uniformly mixed.

TECHNICAL SERVICE

The National Aniline & Chemical Company, Inc., is convinced that the foundation of all good-will is *intelligent service*.

To confirm this faith, it maintains laboratories equipped with every modern facility and an experienced technical staff, which are placed at the disposal of its customers in all parts of the world.

Information regarding the use of dyes, also a shade card of Dyes for Paper, will be promptly furnished by any of the Company's branch offices.

WHAT QUALITY DO YOU DESIRE MOST IN DYESTUFFS?

Uniformity, Shipment by Shipment?

Very Well, Here It Is!

The "National's" method of standardizing every step in the manufacture of dyes, commencing with the initial raw material, checking and cross-checking under the control of a trained inspection service, insures that the final product shall always be of a scientifically fixed quality.



PAPER COLOR CARD

A reliable color card is the dyer's inseparable daily companion; with this before him he can tell at once what dyes he can depend on to meet the requirements of his trade.

One of the special features of "National Service" is the frequent preparation and distribution of color cards, showing the ranges of dyes regularly made by this Company, available for use in the different industries.

The illustration above shows the latest card issued for the use of manufacturers of colored papers.

Among the 52 colors and 144 dyeings shown in this card there

are 16 acid dyes in 44 shades, 16 direct dyes in 32 shades, and 20 basic dyes in 68 shades. Dyeings are shown on bleached sulphite, unbleached sulphite, ground wood and unbleached sulphite, and on Kraftstock. It is the most complete exhibit of paper dyes ever offered to the trade.

National Aniline & Chemical Company, Inc.

MAIN OFFICE
21 Burling Slip, New York City

- Boston 113 High St.
- Charlotte 236 W. First St.
- Chicago 111 W. Washington St.
- Hartford 209 State St.
- Montreal 8 Place Youville
- Philadelphia 653 N. Broad St.
- Providence 28 N. Main St.
- San Francisco 120 Second St.
- Toronto 14 Front St., East



DEMAND IN PHILADELPHIA NOT YET MUCH IMPROVED

Trade Has Not Recovered from Inactivity of Holiday Season. Enough Business However, Has Been Done to Indicate that the Steady Improvement that Was Interrupted a Short Time Ago Will Not Be Resumed Very Satisfactorily Until Spring—Special Board of Inquiry Appointed to Investigate the Robbery at the R. T. Moorhouse Paper Mill—McDowell Paper Mills Make Repairs.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, Pa., January 10, 1922.—Though a week has elapsed since the New Year began, conditions in the trade remain almost unchanged from the always inactive holiday season. Both in the trade and without the concern is over inventories and their interpretation with the result that thus far there has not been much buying nor much selling. But enough business has been done to indicate very clearly the trend of the times and there is no evidence that the steady improvement which set in late in the fall, spurted with seasonal activity and then relapsed again through seasonal inactivity, will not be continued with increasing force until spring. There came with the New Year no radical change in prices in either coarse or fine papers, and what changes there were, were more in the nature of readjustments than of revision, because of several important developments centered recently on news print. The trade reports the market firm with contracts now being made for actual supplies on the basis of \$3.50 for rolls and \$3.75 for sheet f. o. b. mills. Some grades of machine finish book have been advanced one-half cent per pound, but these were rather exceptional. Prices of enamel books are very firmly maintained and with tendency towards advances, as there is a stiffening in the market demands.

Conditions in Coarse Paper Market

The coarse paper market, like the fine is just recovering from the post holiday recession and indications in it, too, point to a steadily progressing activity. Krafts are perhaps leading in this rather quiet market and their values are firmly maintained. There is still an abundance of tissues and the cheaper grades, screenings, grey bogus, silk fibers and the like. So far as the trade is concerned, the most pleasant experience is the result of their inventory taking which shows them possessed of the New Year with not much more stock than they had in normal years. Compared with conditions a year ago, stocks are almost as a mountain to a mole hill, because at that time it will be recalled, the distributors were compelled to take in large shipments from the mills contracted for at higher prices and their problem to dispose of the material on a falling retail market was an acute one. This problem has certainly been solved, the inventories showing that fact indisputably in cold figures. The trade starts the new year with no avalanche of stock on hand with a demand which is steadily increasing and with values which are firmly maintained and this of course inspires confidence in what is to come.

Special Inquiry of Moorhouse Robbery

A special board of inquiry was appointed by Mayor Moore to investigate the outrage in which R. T. Moorhouse of the R. T. Moorhouse Paper Mill was shot and robbed of a \$3,000 payroll by bandits during the week. The commission composed of civilians and police officials headed by Assistant Director of Public Safety, Tempest, questioned many witnesses and visited the scenes of the robbery. A photograph was made of the mill and the robbery re-enacted, in an effort to disclose some clue as to who perpetrated the crime. As a result of this investigation, policemen were exonerated of neglect of duty in connection with the robbery.

Through the photograph of the scene of the crime, it was shown that a policeman stationed on duty in the vicinity could not have seen through the gateway shown, the six bandits who drove their motorcar through the alley way at a spot indicated. The bandits escaped with a payroll of \$3,000 after shooting Robert T. Moorhouse, owner of the mill. While the police have been exonerated from neglect of duty, every effort is being made to trace the bandits. Mr. Moorhouse, who was shot by the bandits, was only slightly wounded in the cheek and is now at his place of business. He gave every assistance to police officials during the investigation.

To Install Steam Generator at Niagara Falls

The Electric Furnace Construction Company, Philadelphia, has a contract for installing a 6,000-kilowatt electric steam generator in the plant of The International Paper Mills at Niagara Falls. It is similar to the 20,000-kilowatt plant recently installed by the company in a Canadian paper mill. It is a direct vaporization of water by the passage of it into a high tension current principle that is involved in the structure of the generator.

Railroad Siding for T. M. Royal Co.

To facilitate shipments of the products of its mills, The Thomas M. Royal Company, Bryn Mawr, has recently constructed a railroad siding direct to its factory building and connecting it with the main line of the Pennsylvania Railroad. A carload a day is now being shipped, the cargo consisting of its glassine specialties. With the recent additional building facilities, the plant now occupies an entire square and is one of the largest glassine mills in the country, turning out very high grade bags, box-tops and other specialized glassine products. There is now being installed a complete new electrical power plant of two 200-horsepower, direct connected engines. The plant is running on three eight hour shifts and is reported behind on its orders. Seven additional machines for bag making in plain and printed glassine in various colors have been added to the bag department. The new machines are equipped to print and make the bags in one operation.

New Sprinkler System for Tulpehocken Mill

A new sprinkler system has been installed in the Tulpehocken Mill of the Reading Mills at Reading, Pa. The Tulpehocken Mill is devoted to the manufacture of unbleached rope papers for sand paper purposes. The mill at present is temporarily closed. The rag and high grade book paper mills are running in full operation. No changes have been made in the firm's high grade rag and book papers since last October, and according to Manager Samuel H. Thompson of the Philadelphia office the 1922 prices on books, ropes, super-lithograph, glazed papers and machine maps are to remain at the October quotation, as the demands of the mill are sold subject to book order.

Paper Products Mfg. Co. Moves

The Paper Products Manufacturing Company has moved from 223 No. 23d street to the old Belber Building, at Hancock and Oxford streets. Ned Hawes, who is proprietor of the plant announces that new machinery has been installed for the manufacture of waxed and grease proof papers, lunch rolls and parchment papers in the three-story building. In the new quarters, the firm has been able to triple its output.

McDowell Mills Making Repairs

A temporary closing of the McDowell Mills at Manayunk was made late in December for the purpose of making repairs, the installation of additional machinery in the plant and for the taking of inventory. All the departments, except the glassine are closed and the machine for the manufacture of its own wrappers is also running. The demand for its glassine products have been so great that to keep up with the trade, it was found necessary to continue the operation of this department. During war days the mills discontinued the manufacture of glassine, supercalenders waxed and waterfinished wrappings, but resumed operation of these machines

(Continued on page 24)



Why?



Why load your warehouse with many brands when you can secure and retain the best patronage in your locality with

**LAWRENCE
GROCERS' BAGS
*Exclusively***

The Lawrence Line is a Quality Line—comprising just what the trade wants in Improved Self-opening and Old Style Square Grocers' Bags. Get in touch with us regarding 1922.

James Lawrence, President

THE LAWRENCE BAG COMPANY
MIAMISBURG, OHIO

DEMAND IN PHILADELPHIA NOT YET MUCH IMPROVED

(Continued from page 22)

during the past year. In addition, it is now making fancy bag papers, grease proof wrappings, light weight wrappings for drug and confectionery trade and jeweler's demands. New calendar drives are to be installed in the machines.

Now the Reliance Paper Co.

When the Enterprise Paper Company, 3rd and Callowhill streets, took over the coarse paper business of the Star Paper Company, of Bethlehem, Pa., a few weeks ago, it re-organized the business and is now trading under the name of the Reliance Paper Company, with headquarters at 100-102 East 4th street, Bethlehem. The new business is in charge of David Back, former sales manager of the Enterprise Paper Company, and is housed in a building that covers 8,000 square feet to the floor in the three story building, which is used as sales and warehouse quarters. The newly organized concern is owned by Nathan D. Isen of the Enterprise Paper Company and Charles Franklin. It carries a line of twine, bags, and wood and willow ware with a staff of five salesmen, the Enterprise Paper Company has added two new salesmen to its Philadelphia office.

General News of the Trade

Owing to the purchase of the warehouse and sales headquarters of the Daniel I. Murphy Company, at 234 No. Front street, the firm has been notified that it must vacate the premises within six months time. Barber & Perkins, wholesale grocers, have purchased the building and will convert it into a modern structure. The proximity of this building to the new Philadelphia-Camden Bridge has increased its value as a desirable business center. No definite plans have been made by the Murphy firm.

John J. O'Leary has severed his connections as manager for the Daniel I. Murphy Company and has gone into the paper stock brokerage business. He proposes to conduct his business on a commission basis.

A. S. Hewson, 925 Walnut street, who recently moved from the Real Estate Trust Building, has had his new quarters remodeled and redecorated. He has opened a storeroom and warehouse at his present quarters and deals in sanitary cups, paper towels, napkins and toilet papers.

The Whiting-Patterson Company has issued a new price-list announcing a reduction on writings to take place as of January 1. The reduction is confined to one grade of Berne Ledger and writing papers. It amounts to about 10 per cent. A new salesman on specialties and wrapping has been added to the force. William F. Leonard, formerly in charge of the D. L. Ward Envelope Factory and a former salesman of the American Paper Goods Company for a number of years, has been added to the sales force of the envelope department. In summing up its business for the year, the Whiting-Patterson Company finds that it sold a large tonnage of printing paper.

N. A. Shoenbuecher, who has been installing cost systems in the various paper concerns all over the country for the National Association, will be in Philadelphia about the middle of January for the purpose of giving a series of talks to the various paper houses on the conditions of the paper market and its prospects for 1922.

George W. Wheelwright, Jr., of the Wheelwright Paper Company, who was in Philadelphia during the week, gave a talk to the sales force of the Whiting-Patterson Company on Uncoated B. P. F. Book Papers, the firm's specialty. The Whiting-Patterson Company is exclusive Philadelphia agent for these papers.

Clark H. Morian of the J. L. N. Smythe Company has been spending the week at the Windsor Locks Paper Mills, Windsor Locks, Conn. These mills were recently purchased by The Smythe Company and it was for the purpose of looking after the remodel-

ling of the plant that Mr. Morian has been visiting the mills.

The Raymond McNutt Company, 825 Walnut street, is getting out a new line of 1922 samples for greeting cards stock, especially adapted for social and engraving purposes. The sales force will leave this week to cover the Pennsylvania and New Jersey territory. The firm has sent out to its customers an attractive brass desk calendar.

J. Harvey Rex, formerly connected with the Diamond State Fibre Company for the past five years, the last two of which have been spent in the capacity of sales manager in its paper department, has been elected vice-president and sales manager of the John M. Driver Company. The company feels very fortunate in securing the services of Mr. Rex in view of the valuable experience which he has acquired in the manufacture and distribution of glassine, grease-proof, vegetable parchment and other papers, which constitute a part of the lines that it is converting into bags, envelopes and printed wraps.

Knowlton Bros. Report Better Business

[FROM OUR REGULAR CORRESPONDENT.]

WATERTOWN, N. Y., January 9, 1922.—Knowlton Brothers, Inc., manufacturers of colored flats and specialties, recognized as one of Watertown's most reliable and substantial industries, is now beginning to reflect the gradual return of business to pre-war conditions. While during the past year business fell off to about 40 per cent of normal, it was said at the offices today that production has gradually advanced to 60 per cent in step with orders and that future prospects are optimistic.

A false report to the effect that the plant would be started on full capacity this week, which was published in a local paper last week, resulted in a rush of men to the plant for employment. It was said that about 100 paper makers made application for jobs. While this was somewhat annoying to the officials it indicated that Watertown has a large number of paper mill workers out of work. The strike which closed down the mills of the International Paper Company is considered largely responsible for the idleness among mill workers.

The Kanargo Mills have continued to operate through the dull period, although decreased orders made production requirements small. One of the two machines has always been in use and all possible effort has been exercised to keep the old employees in at least part time service. The spirit of democracy which has always obtained among the officers and employees of the company has been maintained and every employee has been given all possible consideration during the industrial depression.

Both machines have been operated at once recently, and it is expected that both will be used again in the near future. Officials said today that there is a hope that it may be possible to keep both running permanently, but this is hardly expected until further business is placed on the books.

Good Prospects for Nekoosa-Edwards Co.

APPLETON, Wis., January 9, 1922.—The plant of the Nekoosa-Edwards Paper Company is operating at about four-fifths of its normal production and has excellent prospects for the future, according to a statement by L. M. Alexander, president. There has been no decrease in the number of men employed in the plants but wages have been reduced somewhat. Mr. Alexander said he saw no immediate prospect for a big business boom but expressed the belief that the present year would see the completion of the process of deflation and liquidation after which there will be steady improvement.

Announcement

WE beg to announce that in the interest of economy and service to our patrons we have joined our respective organizations into one corporation which will be known as

McLaurin-Jones Co.

The policy of the new Company will be to supply a wider range of Gummed and Coated Papers than those carried by us in the past and to continue the bond of Goodwill that has always existed between our customers and ourselves.

(Signed) Ideal Coated Paper Company
Samuel Jones & Company
Ware Coated Paper Company



McLAURIN-JONES CO.

BROOKFIELD, MASS.

NEWARK, N. J.

WARE, MASS.

PAPER DEMAND IN TORONTO EXPECTED TO EXPAND SOON

Wholesale Paper Houses After Inventory, Said to Have Small Supplies on Hand and Should Be in the Market for Many Lines of Paper Soon—Feeling in the Trade Is One of Hopefulness and Confidence—Outlook in the Pulp Market Is Brighter and With the Increase in Demand Which Is Looked for Soon It Is Felt There Will Be a Strengthening in Prices—Other News of the Trade.

[FROM OUR REGULAR CORRESPONDENT.]

TORONTO, Ontario, January 9, 1922—The first week of the new year has elapsed and the mills and wholesale paper houses have completed their inventories and stock taking and find, especially the latter, that their shelves are practically bare of many lines which, it is expected, will soon be in active requisition. It is too early as yet to state what business will be during the spring months. Reports from various jobbers differ widely.

The feeling of the trade in general is hopeful and confidence is reasserting itself. There are no changes in prices to record and every effort is being made to stabilize the market and induce quantity buying. Manufacturing stationers are getting their new wrappings ready for next season's holiday trade and their men will start out on the road in a few days. There are many industrial and commercial concerns which have large projects in view that will utilize considerable quantities of paper but they are not prepared at this early date to place their orders. It is felt by the trade that good business can be secured during 1922 but it will have to be gone after.

Book papers are in good demand and kraft is enjoying a fair call. Wrappings are about the same as they have been for some months with manilas going slowly. Despite all temporary set backs the paper industry in Canada came through the period of liquidation and readjustment remarkably well.

Edward Beck of Montreal, secretary of the Canadian Pulp and Paper Association, who was in Toronto this week, speaking of the outlook generally, remarked there was no feeling of pessimism but, on the contrary, there was confidence that the danger point had been passed. New uses are being constantly discovered to which paper is put and the mills, wherever possible, are increasing the efficiency of their machinery and reducing operating costs.

The pulp market is beginning to brighten up somewhat and it is felt, with the revival of trade, there will be an increased demand and a strengthening of prices.

Box Plant Is Extending Facilities

St. Thomas Boxes, Limited, of St. Thomas, intended removing to Toronto this month but local capitalists have secured control of the undertaking and it will remain in St. Thomas. W. H. Sweet will continue as managing director of the business and it is the intention to add new machines and begin the manufacture of shoe cartons and fancy boxes for Christmas gifts. The number of employees will be doubled, many large orders having been received.

West Will Develop Pulp Resources

A. T. Kenyon, of Edmonton, Alta, was in Toronto during the past week and is much interested in the pulp situation in the western province of Alberta. He says that a thorough investigation into the possibilities of the wood pulp industry will be made under the direction of the advisory, scientific research council and the necessary arrangements are now being made. Great stretches of spruce and poplar timber all over

the north country and in the neighborhood of the western foothills will be turned to some profitable account if the investigation proves as successful as expected. It is believed that Alberta has the makings of a big industry that has not yet been touched. Experiments will be made at the University of Alberta laboratories to see whether or not this belief is well founded.

Canadian Foresters Meet in Toronto

The annual meeting of the Canadian Forestry Association was held in Toronto at the King Edward hotel this week and there was a large and representative attendance from many parts of the Dominion. Hon. E. C. Drury, Premier of Ontario, gave an interesting and optimistic talk on forestry policy of the province in which he announced that several progressive steps would be taken toward conserving the timber and pulp wood wealth. Edward Beck, of Montreal, secretary of the Canadian Pulp and Paper Association, who returned some time ago from a trip to Europe, spoke on state control of forest conservation under the title of a "Canadian Observer in Scandinavia." Another of the outstanding features of the convention was an illustrated address by A. H. Richardson on reforestation of the treeless barrens of Ontario.

Provincial Paper Company Officials Pleased

I. H. Weldon, president, and S. F. Duncan, secretary-treasurer of the Provincial Paper Mills, Limited, returned to Toronto last week after a business trip to Port Arthur, where they inspected the pulp plant of the company and the excavation and foundation work done so far on the new book mill which the firm is constructing. They are well pleased with the progress of events and were much gratified that the by-law, submitted to the ratepayers of Port Arthur on municipal election day, carried by an overwhelming majority, in favor of a fixed assessment of \$500,000 on the new industry for a period of ten years, as well as granting other minor concessions. The new mill and equipment will cost considerably over a million dollars and will be proceeded with as fast as possible. The new machine, which will turn out about twenty-five tons of book paper a day, will be built by the Port Arthur Shipyards, which lately embarked into the manufacture of pulp and paper machinery. It is understood that the machine will cost in the neighborhood of \$600,000.

Mr. Colbert Retires from Gunned Papers

E. R. Colbert, who for several years has been manager of Gunned Papers, Limited, Brampton, Ont., has retired from that position and was presented by his associates with a suitably inscribed address. Mr. Colbert, who is well known in the paper trade and was formerly superintendent of the coated paper division of the Provincial Paper Mills at Georgetown, Ont., has been succeeded as manager of Gunned Papers, Limited, by H. R. Butler.

Want Pulpwood Carried Free in North

W. C. Thuerck, of Haileybury, Ont., was in Toronto during the past week and reports that the amount of pulpwood being taken out in the north by the settlers this season is very small owing to the drop in price which, in some sections, amounts to fifty per cent. The residents of his district have sent a memorial to Premier King of Ottawa and also to Premier Drury of Ontario, asking that pulpwood shipped to the mills by bona fide settlers on the Canadian National Railways and the Temiskaming and Northern Ontario road, both of which are government owned, be carried free of charge. The condition of some settlers is reported to be serious owing to the lack of sale of wood, and the high freight rates are said to be the principal cause of the stagnation.

Naval Stores Now Called Hercules

Hereafter the turpentine, rosin, and pine oil we manufacture will be called *Hercules* instead of *Yaryan*. Since we acquired the Yaryan Plants we have frequently been asked why we did not strengthen the prestige of their products with our name.

We did not do this at once because the name *Hercules* has never appeared on a product manufactured by us until its quality and uniformity have been demonstrated in actual use, and by daily tests of production over a period long enough to make the evidence conclusive. Almost immediately we started improving the Yaryan products, and we have been doing so continuously. But the test of time was at first lacking; time to secure consumers' stamp of approval on many different lots for different uses, and time to be sure we could unfailingly maintain the standards we set.

The improvements we have made are only a beginning. We find that the standards for rosin and turpentine accepted by the Naval Stores Industry are not sufficiently exacting to satisfy us. We should not be taking full advantage of our process of manufacture under chemical control if we attempted only to meet these standards. We shall continue to make improvements until we find the limit of excellence that the trade can profitably use. We believe this limit to be far above anything as yet obtained. It is our object to establish such specifications for Hercules Naval Stores that they will be the measure by which all others will be judged and compared. With the continued cooperation of users, we are confident we can do this.

Naval Stores Division

HERCULES POWDER CO.

Wilmington

Delaware

Sales Offices { 120 Broadway, New York City
332 So. Michigan Ave., Chicago
1012 Chronicle Bldg., San Francisco



HERCULES
Naval Stores
Produced Under Chemical Control

SEAMAN PAPER CO. HOLDS FIRST ANNUAL CONFERENCE

George A. Seaman, President, Opens Conference in the Florentine Room of the Congress Hotel with an Address of Welcome—Reviews Progress of Company and Compliments Sales Force—Exhibit of Printed Samples in Four Showings of Direct Mail Samples, List of House Organs and Paper Adaptable, Etc.—Addresses by Company Representatives—Banquet Adds Final Touch.

[FROM OUR REGULAR CORRESPONDENT.]

CHICAGO, January 10, 1922.—Wednesday evening, January 4, more than 150 members of the Seaman Paper Company Sales force and guests convened at a banquet held in the Florentine Room of the Congress Hotel which was the culmination of the First Annual Sales Conference of this company, and when all has been said and done, it showed the Seaman spirit of doing things for it was a "regular affair."

President Seaman's Address

The conference opened on the morning of January 4 with an address of welcome by George A. Seaman, president of the company. The opening session was held in the Florentine Room with the president presiding.

In his address, Mr. Seaman gave a brief review of the company. How it had been formed and built to what it is today. How it has struggled through periods of depression and come out on top. How it has been its policy to always have every important position in the company filled with the man best adapted to hold that position and how these men were watched prior to being picked.

Mr. Seaman complimented the sales force on the work that they did during the past year, and was especially glad to see so many of them present. They were there from all sections of the country representing the firm's sales offices in seventeen different cities.

Other Speakers

Other speakers of the morning session were:

- J. B. Seaman, Vice-president of the company.
- P. H. Baker, representing the "southwest" and president of the Seaman Paper Company of Missouri.
- G. D. Jones, Vice-president of the Missouri company.
- B. F. Newhouse, representing the "northwest" and president of the Seaman Paper Company of Minnesota.
- C. W. Sherman, treasurer and L. H. Bigelow, secretary of the Minnesota company.
- R. E. Milligan and F. W. Starling of the Seaman, Patrick Paper Co., Detroit, Mich.
- B. E. McCauley, manager of the Cincinnati office.

Interesting Afternoon Session

Following this meeting there was a luncheon in the Florentine Room, after which the afternoon session was taken up.

In the afternoon session there were several strong and interesting addresses.

F. A. Borchers, vice-president and salesmanager spoke on "Drives."

H. J. Miner, of Hollingsworth & Whitney, gave an address.

H. C. Hanke, of the Rhineland Paper Company, spoke on Glassine and Grease Proof Papers.

An address was delivered by J. E. Cavanagh.

F. M. Stephens, manager of the purchasing department, gave an address in which he covered the outlook for the mills for 1922.

D. B. Jacobs, advertising manager of the Seaman, Patrick Paper Company, spoke on cover papers.

Alex Gilman, vice-president of the Allied Paper Mills and Joseph Conner, of the American Coating Mills, also gave addresses.

This afternoon session was closed with round table discussions.

At four o'clock in the afternoon an Exhibition of printed samples was held in Room 1120 of the hotel. There were four showings. The first was an exhibition of direct mail samples. The second showed a list of house organs and what paper was best adaptable according to authorities. The third showed magazines which use paper furnished by the company either wholly or in part. The fourth exhibit was made up of Miscellaneous Items of printed matter on Seaman paper.

An Enjoyable Banquet

The banquet in the evening was the big event of the day. It was put on in real style. Every one attending had a printed place card, and to eliminate any trouble in finding tables, announcers were stationed at the doors telling you what table you sat at.

The committee in charge of arrangements for the banquet had planned everything minutely. They had prepared a program of entertainment which allowed of not one single lagging minute. Four professional acts were put on and the feature of the evening was the rendition of Seaman songs, especially written for them, by the "Famous Seaman Quartet," Ted Woodruff and Bill Galliar of New York and Jack McCarthy and Gus Wuerst of Chicago.

The two New York singers submitted themselves during the course of the evening to the hands of the Australian Buckleys, who proceeded to prove that neither one of them knew anything about cards even to the extent of counting them and remembering how many they had counted.

Other Addresses

The conference was closed by addresses from several members of the company including Henry Schott, V. D. Simons and Arthur Nevius. Charles W. Folds, a Chicago banker, delivered a very interesting address. The toastmaster of the evening was Judge Charles F. Moore, who had a lot of funny things to tell the boys. George M. Seaman presided.

Business Somewhat Better in Boston

[FROM OUR REGULAR CORRESPONDENT.]

BOSTON, Mass., January 10, 1922.—Boston's paper trade situation took on a somewhat brighter outlook this week with inquiries on prices and goods coming into local offices from various sources. Several good sized orders were reported in the various branches of the trade.

Chip remains at about \$37.50 with a little to be had at \$35— but not after this week. The board men are doing a fair business but getting "hand-to-mouth" orders. The market remains spotted. Men in this branch, however, see plenty of business ahead. Box manufacturers, they say, will have all they can handle within a few weeks.

Business, however, in old papers is practically dormant.

On the other hand houses handling finer grades report increasing business. A predicted drop in many of the finer grades did not materialize this week. Printers throughout the city are rushed with an assortment of orders, thus creating a steady and generous demand on the houses supplying them with paper.

Pride Paper Co. Installing Machines

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., January 10, 1922.—The new paper mill of the Pride Pulp and Paper Company at Tomahawk is closed down for about two months while two new paper machines are being installed. It is understood they will be used for making catalog paper. The plant has been in partial operation for some time.



A completely equipped, central analytical laboratory where chemical control work on experimental and plant processes is carried out.

Our Latest Paper Dye

Du Pont Orange RO

This dyestuff is chemically identical with the Orange RO which pre-war found extensive use for the production of orange shades on nearly all grades of paper.

It is redder and considerably brighter than Du Pont Orange II Conc. It likewise gives a clearer backwater when dyeing heavy shades.

Du Pont Orange RO has excellent solubility and so is very satisfactory for calendar coloring and for dipping.

This dyestuff possesses good fastness to acids, alkalies and light.

ANALYSIS

"As unto the bow, the cord is"; so is accurate chemical analysis to the production of pure, uniform dyestuffs. Without it the plant chemist cannot successfully synthesize the tons of highly complex colors.

Without it, the crude, finished dyes would be very unsatisfactory. First and last, dyestuffs need most careful analysis.

It is the rudder to all chemical progress.

Examine Du Pont Dyestuffs and convince yourself of their excellence by the most rigid analysis.

E. I. du Pont de Nemours & Co., Inc.

Dyestuffs Department

WILMINGTON, DELAWARE

Branch Offices

New York Boston Providence
Philadelphia Chicago
Charlotte, N. C.



Recent Incorporations

KEYSTONE CARD AND PAPER Co., Brooklyn, New York; capital, \$10,000; incorporators, L. and H. and B. Rosenbaum; attorney, A. Werther, 16 Court street, Brooklyn.

THE HARRISBURG PAPER BOX COMPANY, WILMINGTON, DEL.—Manufacture of boxes from paper and paper products. Capital, \$250,000.

WATERTOWN PAPER STOCK COMPANY, INC., WATERTOWN, N. Y.—Deal in waste, junk, etc. Capital, \$100,000. Incorporator: J. Stabins, Watertown, N. Y.

Maine Pulpwood Reduced One-Third

Twenty-six townships in Aroostook, Piscataquis and Penobscot Counties, Maine cruised this year by James W. Sewall, Forest Engineer, Old Town, Maine, show that the percentage of total stand of spruce and fir which has been killed by the spruce bud-worm is as follows: Spruce, 27 per cent dead. Fir, 73 per cent dead.

These figures are based on the cruisers' judgments after having traveled the towns. The men who did this are James A. Conners and Joseph D. Latno of the Sewall force, both experienced woodsmen and very familiar with the Maine woods. Their opinion should be decidedly worth while in the portraying of a condition.

The death damages varies from as light as 5 per cent of the spruce and 10 per cent of the fir being dead in some localities, to 75 per cent of the spruce and practically 100 per cent of the fir being dead in others.

Damage to reproduction is much lighter.

Assuming that the bud-worm devastation the spruce and fir stand in Maine consisted of 80 per cent spruce and 20 per cent fir, the above figures would indicate that 36 per cent of the total spruce and fir stand have been killed, or in round terms one-third.

Application of specific figures on particular localities to general localities is dangerous.

Nevertheless observations by the Sewall force cover nearly the whole state, and the above percentage destroyed does not seem unreasonable to it.

If the Forest Commissioners' figures of 1917 are correct, viz.; that at that time there were 52,000,000 cords of standing pulpwood in Maine, and we allow that one-third has been killed, we would now have a stand of green wood amounting to 34,700,000 cords intermingled with a dead stand of 17,300,000 cords, and, without allowing for salvage, the money loss to the state by reason of bud-worm work, figured at \$5. per cord stumpage, equals \$86,500,000 equivalent to \$115. per capita for every inhabitant of the State. This is exclusive of the various other profits on the wood incurred in lumbering and manufacturing. The total figure is appalling.

Salvage may be had of some of the dead spruce. But the dead fir is fast rotting and blowing down, and operating in badly struck areas will become more expensive from year to year. Operations should therefore be concentrated on the worst areas. Such a policy will salvage more at a lower rate than can otherwise be saved, and at the same time will assist in destroying the breeding places of other dangerous insects.

Kimberly-Clark Co. to Buy Sugar and Flour

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., January 8, 1922.—The Kimberly-Clark Company has proposed, in an open letter to retail merchants of the Fox river valley and to its employees, to purchase sugar, flour and possibly other commodities in large lots in order to reduce their cost to employees. Merchants were notified of this action so they could make their purchases accordingly.

The company, in its letter, stated that it realizes that retail merchants are important factors in community development and

hesitates to take action which would force them out of business. It also cites one store that is selling at prices which the paper company could not materially improve upon and exonerates retail merchants generally from the charge of profiteering. It says that merchants are following the market very closely and that good bargains can be obtained in practically all commodities by a little judicious "shopping around."

The proposition of buying sugar and flour in large lots for resale to employees is conditioned on securing the promises of a sufficient number of workers to buy in large quantities so that low prices can be obtained.

Coy, Hunt Dinner

The members of the sales organization of Coy, Hunt & Co., had the president of the company, G. A. Knoche, as guest of honor at a dinner held at the New York Athletic Club on December 28. The occasion was celebrated by the twenty-five persons present as a cheery tribute and mark of affection towards the head of the organization.

A committee headed by the veteran, "Jim" Donoghue was responsible for the arrangements of the affair which was intended as a surprise to the president. It proved a very agreeable one and Mr. Knoche who was called on to speak by the toastmaster, "Tom" Purcell, after speeches made by the various members of the organization, reflected the feeling that he had been deeply touched by the token of esteem on the part of his co-workers in the company.

Nashua Paper Co. Salesmen Meet

[FROM OUR REGULAR CORRESPONDENT.]

NASHUA, N. H. January 10, 1922.—Salesmen from all parts of the country attended the annual meeting of the salesmen of the Nashua Gunned and Coated Paper Company factory here. Representatives were here from Portland, Ore, Chicago, Middletown, Ohio, Baltimore, Philadelphia and New York. More than 100 attended the banquet.

A dinner at the Country Club was well attended. James R. Carter of Boston, dean of the paper trade in the country was the principal speaker and guest.

At another banquet Treasurer, Winthrop L. Carter, spoke. All speakers predicted an increased business in the paper trade in all sections.

Paper Report for November

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 11, 1922.—General slowing down of industry after the spurt in October was the outstanding characteristic of the November figures as shown in the monthly survey of current business just issued by the Department of Commerce. In connection with paper, the department says:

"A slight increase occurred in the production of newsprint paper in November, but the total of other classes declined and stocks increased slightly. Exports of both classes increased materially after two months of heavy declines. Imports of wood pulp increased. The price of domestic paper advanced, especially the spot price, but the Canadian price was lowered. Printing activity increased 5 per cent in October."

Manchester Paper Co. Improvements

[FROM OUR REGULAR CORRESPONDENT.]

RICHMOND, Va., January 9, 1922.—Plans for alterations and improvements have been filed with Building Inspector Butler by the Manchester Board and Paper Company. Improvements to the plant, located on West Canal street, near Hull, will be made to cost \$15,000.



What Hoover Has to Say

Herbert Hoover said in a recent report:

"Our studies of industries as a whole show that we usually expand our equipment just at the periods of maximum demand for our products instead of doing our plant expansion during periods of slack consumption. We thus make double demands on labor and we doubly increase unemployment in periods of reduced consumption."

All of us know this to be so. The wise, far-sighted plan would be to use this opportunity to repair, improve and expand our plants.

The Bird Machine Company is back to normal. We can make prompt shipment, quote interesting prices, make favorable terms and give you more in service than we can at some busier time. You have the time yourselves to plan and make the installation properly.

Can we not work together?

BIRD MACHINE COMPANY
SOUTH WALPOLE MASS.

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

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

BIRD MACHINERY

New York Trade Jottings

Edward L. Mayor, formerly with Parsons & Whittemore, Inc., is now connected with the Caldwell Paper Company.

A petition in bankruptcy has been filed against the Supreme Paper Box Company, Inc., 10-12 Forest street, Brooklyn, by Albert Daspin for \$950.

The Continental Paper Box Company suffered a \$200 loss from fire in its building at 1 Dominick street, on January 8, 1922. Loss was covered by insurance.

The New York States Forestry Association will meet at Albany, January 18. Dr. Hugh P. Baker and O. M. Porter are among the local contingent that will attend.

Thomas G. Means, formerly with the Lawrence Bag and Paper Company of Miamisburg, Ohio, will assume a new responsibility as sales manager of the Seaman Paper Company in the near future.

The Ace Paper Company, 335 West Broadway, is now making a specialty of tissue paper, especially the cheaper grades, and is at all times interested in any special lots which may be on the market.

W. G. MacNaughton, secretary of the Technical Association of the Pulp and Paper Industry, and R. S. Kellogg, secretary of the News Print Service Bureau, will attend the annual meeting of the Canadian Paper and Pulp Association, to be held at Montreal, January 25 to 27.

R. S. Kellogg, secretary of the News Print Service Bureau and chairman of the National Forestry Program Committee, and Warren B. Bullock, secretary of the committee, are in Washington this week attending a forestry hearing on the Snell bill. They will return to New York the latter part of the week.

Joseph Poppe has been appointed representative for the metropolitan district for the Robertson Paper Company, Bellows Falls, Vt., manufacturer of waxed papers, etc. Mr. Poppe has recently been associated with Prankard & Seifert, mill agents. The address of Mr. Poppe's new office will be announced in the near future.

J. Dryden Glover, C. T. Van Chute, of the Waxing Division, and F. C. Tindale, of the Gummed and Coated Paper Division, local mill representatives of the Nashua Gummed and Coated Paper Company, returned to the New York office Monday, January 9, after a visit of several days to Nashua, N. H., attending a convention of the officials and representatives of the company.

Waterfront property of the Robert Gair Company, paper manufacturers, of Brooklyn, has been mortgaged for \$6,000,000, the largest mortgage ever filed in Kings County, with the exception of one once given by the Brooklyn Rapid Transit Company for \$16,000,000. The Central Union Trust Company of Brooklyn has filed papers with James A. McQuade, Registrar for Kings County.

The New York Forestry Club meeting scheduled for January 10, was postponed until January 17. The meeting will follow a luncheon at the Yale Club and will be largely taken up with addresses by Dr. Hugh P. Baker, secretary of the American Paper and Pulp Association; R. S. Kellogg, secretary of the News Print Service Bureau, and E. A. Sterling, chairman of the New York Forestry Club.

Paper Cores

By BERNARD LESTER MENSCH, I. GILMAN & Co.

With the drop in paper prices recently and with conditions at present none too rosy, manufacturers are taking steps to eliminate all unnecessary expenditures in their end of the business. Our core department has, therefore, found a method which promises to eliminate much of its excess cost by the expedient of using a different method in handling the cheap paper, or sulphite core. Our policy in shipping news print was to use the iron core in some cases and the paper core in other cases. The number of paper cored rolls, however, greatly outnumbered the iron cored ones. In the shipping of rolls with iron cores we billed the paper net, exclusive of iron core, keeping a simple debit system until the iron core was returned, then crediting the customer at 5 cents per inch for the core as we had debited him. In shipping the paper cored rolls we billed them gross, inclusive with the weight of the paper. Here is where we found our loss and the customer's.

When the rolls were shipped with iron cores, the customer felt as when he buys a bottle of milk. He consumes the milk, he consumes the paper, he sends back the bottle, he sends back the core, and in each case he is compensated for the return. Everything is agreeable here to producer and consumer.

In shipping the paper on the sulphite core we billed it, as explained above, gross. Here we realized our loss. Because in paying for each core, we paid 18 cents a foot for the paper core, or for instance, for a 6 foot core the price was \$1.08. In shipping the core in and thus increasing the weight of the roll we received an average of 3½ cents a pound. The 6 foot roll weighs about 7 pounds and at 3½ cents we received about 24½ cents for the same core for which we had paid \$1.08. We did not require the return of the paper core so that our loss per core is obvious. The customer, on the other hand, felt as if he was buying the milk bottle without cashing in the bottle, for the core was of no more use to him.

To arrive at a so-called happy medium we thought of two solutions, with the second the best of all. At first the suggestion arose to charge the publisher for the roll plus the core by the price per foot. This would naturally place the publisher at a disadvantage so that this solution was reached. Why not handle the paper core the same as the iron core, as near as possible? It would be fairer to the manufacturer and publisher to ship him the roll debiting him for the core, pending its good return. This would make the handling of paper cores a more careful proposition because if the publisher realized he could get his money back for that core so useless to him, he would take care not to have it warped, distorted and bent,—a few of the ailments of a roughly handled paper core.

International Manager Advanced

[FROM OUR REGULAR CORRESPONDENT.]

FRANKLIN, N. H., January 9, 1922.—An announcement of much interest to paper trade circles in general is that of the promotion of Frank P. Lyden, manager of the Winnepesaukee Mills of the International Paper Company, at Franklin, N. H., to the office of assistant to Manager Allan Curtis. Mr. Lyden will have offices in New York at I. P. headquarters.

Mr. Lyden succeeds F. E. Holbrook, who resigned to become manager of large paper mills in Wisconsin. Manager Lyden went to the Franklin mills a year ago, January 1, from Piercefield, N. Y., where he was assistant manager of the I. P. mills. He began work for the I. P. concern in Piercefield, N. Y., in March, 1913.

Much praise is heard on all sides in connection with the manner in which Mr. Lyden handled the delicate, yet strenuous, sessions during the strike period at the Franklin mills. He leaves the mill running full time, though none of the skilled paper makers who went out on strike, May 1, last year, have returned.

Mr. Lyden expects to occupy his new office about January 20.

Established 1886

Organization

Service

S*SOME organizations look backward, because they have nothing to look forward to. Some look forward because they have nothing to look backward at. Some live only in the present because they have had no past and are apparently without any future.*

T*HIS organization can glance backward at 35 years of reliable, helpful service and association with its clients. It can look ahead to a steady, continued pursuit of a policy that has made it the factor that it is in its field.*

A*S for the present, it is reaping the just reward of work that has been well and faithfully performed.*

M. GOTTESMAN & COMPANY

INCORPORATED

18 East 41st Street

New York, N. Y.

BRANCHES AT

**Holyoke, Mass.
Kalamazoo, Mich.**

Canadian Paper Exports Decline

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., January, 1922.—Canadian pulp and paper exports for November were valued at \$9,441,850, a decline of \$4,912,585 as compared with November, 1920, and \$487,625 as compared with the preceding month of October.

Exports of news print for the month amounted to 1,341,098 cwts., valued at \$5,339,358, compared with 1,267,620 cwts. valued at \$6,926,465 in November, 1920, a gain of 73,478 cwts. in volume and a loss of \$1,587,107 in value. They exceeded October shipments by 26,941 cwts. in volume but declined \$171,246 in value.

Exports of wood pulp of all descriptions during November amounted to 1,557,136 cwts., an increase in volume of 547,646 cwts. over November, 1920, and were valued at \$3,707,892, a decrease of \$2,649,078 from last year. Compared with the preceding month of October, wood pulp exports gained 373,704 cwts. in volume and \$620,386 in value.

Exports of pulpwood for the month amounted to 49,476 cords, valued at \$614,974, compared with 137,090 cords, valued at \$1,948,241* in November last year, and with 47,023 cords, valued at \$587,674, in October.

Comparative details for November follow:

Paper	1920		1921	
	Cwts.	Value	Cwts.	Value
Book paper	5,292	\$64,463	66	\$719
News print	1,267,620	6,926,465	1,341,098	5,339,358
Other paper		906,557		393,881
Totals		\$7,897,465		\$5,733,958
Wood pulp	1920		1921	
	Cwts.	Value	Cwts.	Value
Sulphate	183,102	\$1,123,967	289,642	\$854,298
Sulphite, bleached	225,908	2,096,395	160,806	649,255
Sulphite, unbleached	336,504	2,220,424	394,492	1,138,639
Ground wood	263,970	1,016,184	712,196	1,065,700
Totals	1,009,490	\$6,456,970	1,557,136	\$3,707,892

Countries of destination were:

Paper—United Kingdom, \$126,937; United States, \$5,117,093; other countries, \$489,928.

Wood pulp—United Kingdom, \$352,235; United States, \$3,119,597; other countries, \$236,060.

Comparative figures for the first eight months of the current fiscal year show:

Year	Paper	Fulp	Total
1921	\$44,980,185	\$22,599,557	\$67,579,742
1920	59,051,483	59,252,433	118,303,916
1919	37,985,676	26,640,864	64,626,540

Exports of pulpwood to the United States for the eight months' period compare as follows:

1921, 518,067 cords valued at \$6,749,433; 1920, 915,336 cords valued at \$11,504,496; 1919, 631,941 cords valued at \$6,321,540.

Paper Bids and Awards

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 10, 1922.—The purchasing officer of the Government Printing Office has received the following bids for paper:

3,275 pounds map paper, sample A 32 x 48—65½, No. 16: George W. Millar & Co., Inc., \$1.625 per pound; Dobler & Mudge, \$1.375; Old Dominion Paper Company, \$1.499 and \$1.684; R. P. Andrews Paper Company, \$1.15; B. F. Bond Paper Company, \$1.185; Barton, Duer & Koch Paper Company, \$1.165; The Whitaker Paper Company, \$1.18.

8,550 pounds map paper, sample B 32 x 48—65½, No. 16, and sample B 36 x 52—80: George W. Millar & Co., Inc., \$1.625 per pound; Dobler & Mudge, \$1.875; Old Dominion Paper Company,

\$1.684; R. P. Andrews Paper Company, \$1.195; B. F. Bond Paper Company, \$1.26; Batton, Duer & Koch Paper Company, \$1.215; The Whitaker Paper Company, \$2.175.

1150 pounds writing paper, yellow, 17 x 28—No. 9: Rainbow Paper Corporation, \$1.839 per pound.

Three reams red pressboard, 24 x 32—80 to 144 sheets: R. P. Andrews Paper Company, \$1.103 per pound; Mathers-Lamm Paper Company, \$1.099; The Whitaker Paper Company, \$1.1747; Philip Rudolph & Son, Inc., \$1.17; George W. Millar & Co., Inc., \$1.104; B. F. Bond Paper Company, \$1.1039, and Maurice O'Meara Company, \$1.10.

Dobler & Mudge have been awarded the contract by the purchasing officer of the Government Printing Office for furnishing 10,000 pounds of blue, pink, salmon and green calendared tag board in 24-inch rolls at \$.091 per pound, bids for which were opened on December 15.

The Mathers-Lamm Paper Company will furnish 24 x 32—80 red press board at \$.099 per pound, bids for which were opened on December 23.

Dobler & Mudge have been awarded the contract by the Purchasing Officer of the Government Printing Office for furnishing 3,275 pounds of 32 x 48—65½ No. 16 lithograph finish map paper at \$.1375 per pound, and 8,550 pounds of various sizes lithograph map paper at \$.1875 per pound. Bids for these items were opened on December 28.

What Should Be Done for News Print

At the conclusion of a lengthy but very interesting brief presented last week to the Senate Finance Committee R. S. Kellogg, secretary of the news print manufacturers of the United States, says:

The facts stated in this brief make evident two things:

First: That the capacity for production of news print paper in America is not only ample to meet all legitimate demands, but likewise in normal times to furnish a balance for export.

Second: That European paper is being constantly offered and delivered in United States markets at prices which are ruinous to the American industry.

If, as some critics assert, the most modern and efficient news print mills in America, close to large supplies of cheap wood and with cheap and abundant water power are able to produce paper as cheaply as it has been offered for delivery on the Atlantic seaboard from Germany—and this is by no means admitted—the answer is that in any event there are far too few North American mills of this character to supply the demand, and they are situated at such distances from large consuming points as to carry high freight rates of the character noted in a foregoing section of this brief.

The cost of production in the average typical mill in America must be compared with the price at which overseas paper is being freely offered, and this comparison will show that competition of the kind now taking place is disastrous to American investments and fatal to the ability of the industry to maintain itself in condition to meet future requirements.

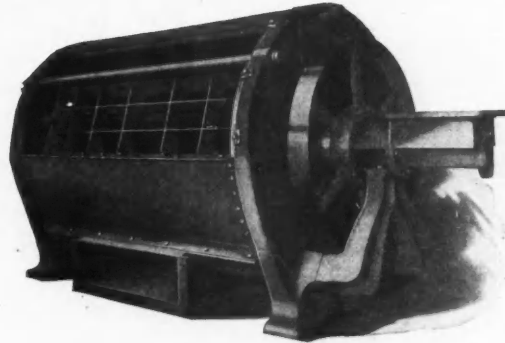
The news print manufacturers of the United States do not ask for any specific duty upon news print paper or for a duty of any kind which will be permanent when normal conditions are restored to world trade and finance, however much they may feel that they deserve some measure of permanent protection; they realize upon the basis of past experience that there is little hope of their getting such protection.

The news print manufacturers of the United States do urge most strongly, however, that they are entitled to the same measure of protection from unfair competition based upon depreciated exchange and other conditions abroad which is intended to be afforded in the case of dutiable commodities by the four amendments to H. R. 7456 introduced on December 6 by Senator Smoot.

"IMPCO" TAILING SCREENER

FOR SCREENING GROUND WOOD TAILINGS

Very Low
Power
and
Upkeep Expense



Delivers
Rejections Free
from Good
Stock

ANOTHER UNIT OF OUR CLOSED SYSTEM FOR PULP SCREENING

WRITE FOR FULL DETAILS

CORRESPONDENCE A PLEASURE

IMPROVED PAPER MACHINERY CO.

Nashua, N. H.

SHERBROOKE MACHINERY CO., LIMITED, SHERBROOKE, CANADA

WHALEN SULPHITE PULPS

Made from the SITKA SPRUCE of BRITISH COLUMBIA

Noted for Fibre, Color and Strength

SNOWHITE
BLEACHED
SULPHITE

GLACIER
EASY BLEACHING
SULPHITE

SWAN
STRONG
SULPHITE

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

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

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

U. S. ADDRESSES

Robert Dollar Co., Robert Dollar Bldg., San Francisco.
Robert Dollar Co., 15 Moore Street, New York, N. Y.
Robert Dollar Co., Harris Trust Bldg., Chicago, Ill.
Robert Dollar Co., L. C. Smith Bldg., Seattle, Wash.

FOREIGN OFFICES

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

Revenue Act Changes

An interesting review of some of the important changes in the new revenue act has been sent to members of the American Paper and Pulp Association by Dr. Hugh P. Baker, Executive Secretary, as the result of co-operation between that Association and the Cost Association of the Paper Industry. At the request of Dr. Baker T. J. Burke, Secretary-Treasurer of the Cost Association visited Washington to secure first hand information from some of the Government officials relative to the new act. Among the important changes noted are the following:

Texas—The Excess Profits Tax will be assessed for the year 1921 or any part thereof and the rate of normal tax will be 10 per cent. After the year 1921 there will be no Excess Profits Tax but the normal tax will be 12½ per cent.

Specific Exemption—The specific exemption of \$2,000 heretofore allowed to all corporations in computing normal tax is now limited to corporations with a net income not exceeding \$25,000. This provision includes the year 1921. If the net income exceeds \$25,000 the tax will not be more than if the exemptions were allowed plus the income in excess of \$25,000—that is to say, up to \$25,000 in 1921 and \$25,250 thereafter.

Consolidated Returns—After 1921 affiliated corporations have the option of making separate returns or a consolidated return. Having exercised the option in 1922 all subsequent returns must be made in the same manner unless permission to change is granted by the Commissioner.

Personal Service Corporations—After 1921 Personal Service Corporations will file their returns on the same basis as other corporations, that is to say, the partnership basis will be discontinued.

Losses Carried Forward—If a corporation sustains a loss in the year 1921 or any year thereafter such loss can be deducted in computing tax for succeeding years.

Bad Debts—Under the Revenue Act of 1921 a corporation is allowed in the discretion of the Commissioner to deduct a reasonable addition to the Reserve for Bad Debts or if a debt is recoverable only in part—such debt may be charged off in part. Prior to this provision deductions were only allowed when a debt was definitely ascertained to be uncollectible.

Losses on Investments—Losses on stocks and securities sold or disposed of cannot be deducted if substantially identical stocks or securities are repurchased or acquired within 30 days of the sale or disposal. This provision apparently applies to the year 1921 and thereafter.

Ascertaining Rates of Depreciation

WASHINGTON, D. C., January 3, 1922.—Practical studies by the various industries for the purpose of ascertaining within each industry a normal rate of depreciation shown by experience on buildings, machinery, etc., which may be used as a basis for reckoning depreciation in individual plants is urged by the Fabricated Production Department of the Chamber of Commerce of the United States. Such studies have the approval of the United States Treasury Department.

It is not the purpose to create within any industry an inflexible standard rate of depreciation for the buildings, machinery, etc., of each unit within the industry, but it is proposed to set up something that may be used as a guide to fit usual conditions, as explained in a bulletin in which the Fabricated Production Department puts forward its recommendation.

There are certain conditions affecting the wear and tear upon buildings and machinery that are similar in most of the plants within any industry, it is declared. If these uniform conditions are taken into account in arriving at depreciation rates which are to be charged, it is much easier, it is held, for members of the industry and Treasury officials to agree on rates than when no basis at all is set up.

Another advantage in establishing typical rates, to which atten-

tion is called, is that they would prove of as much or more benefit to an industry in determining the accuracy of depreciation to be included in costs as they would in making up tax statements.

"Trade associations representing a single line of industry," says the bulletin, "are particularly well fitted to take up such studies. In lines not so organized groups may be formed to perform the same function."

The Fabricated Production Department of the National Chamber has been working on this particular problem for some time. The announcement which it makes in its bulletin that the Treasury Department approves investigation and study along the lines suggested will be of unusual interest to business men, particularly manufacturers, who have wrestled with this question of proper rates to charge for depreciation. Manufacturers have recognized that different conditions obtain in the different industries and that depreciation is much greater in certain lines.

Fuller information may be obtained by correspondence with the Fabricated Production Department of the Chamber of Commerce of the United States.

Dinner for James McGee

The officers and associates of Geo. W. Millar & Co., Inc., tendered a testimonial dinner to their fellow salesman, James McGee, at Durand's Restaurant, 107 West 43rd street, on Wednesday evening January 4, 1922, it being his 80th birthday and the 47th year of his connection with the firm.

After a sumptuous dinner, Mervin S. Near, presented the guest of honor, with a silver mounted cane, inscribed with the best wishes of his associates, and Mr. McGee responded expressing his appreciation.

Among those present were:

James McGee, Leonard McGee, N. R. Mullany, W. J. Jennings, Geo. Breeze, S. R. Hawkins, Fred Fugle, J. F. Levens, W. H. Jenkins, William Gorin, Thomas Miller, H. H. Hashagen, Chas. F. Herrmann, H. H. Lloyd, C. K. Lloyd, M. S. Near, M. S. Near, Jr., Geo. W. Hall, J. C. Mallalieu, C. H. Koch, Geo. W. More, E. G. Egan, W. D. May, Jr., L. W. May, Chas. J. Roeser, J. F. Daly, O. E. Hale, C. F. Baumann, Geo. S. Baldwin, L. S. McMahon, Wm. Giesow, Chas. Hunt, Oliver Hamre, Elliot F. Disbrow.

Committee—W. H. Martens, J. J. Dillon, J. A. Gillen.

Blotting Paper Now Made in Canada

A report sent out by the Canadian Pulp and Paper Association: "After extensive and through experimentation blotting paper of the finest quality is now for the first time being produced in Canada, the Howard Smith Paper Mills, Limited, of Beauharnois and Crabtree Mills, Quebec, and Cornwall, Ont., being the pioneers in this branch of the industry.

"Hitherto all the blotting paper used in Canada has been imported, the imports being valued at about half a million dollars a year. The success achieved in producing blotting paper in Canada leads to the belief that not only will this country now be self-supporting but will soon be in contest in the world's markets for this as it already is for many other grades of paper."

Decision Rendered in Pulpwood Case

An interesting decision was recently rendered in the law courts of the province when the Appellate Division reduced the judgment of \$11,707, which the Russell Timber Company, of Port Arthur, Ont., obtained some time ago against the Pulpwood Company, to \$3,443. The tug "Whalen," leased by the Pulpwood Company, towed a raft consisting of 4,110 cords of wood across Lake Superior. The Russell Timber Company owned 2,510 cords of wood in the raft. During a severe storm thirty-nine per cent of the wood was lost and the action and appeal to proportion the loss resulted as stated.

**GROUND WOOD
CHEMICAL PULPS**

PERKINS-GOODWIN CO.
NEW YORK

PAPER

Nilsen, Rantoul & Co., Inc.

140 Nassau Street

New York, N. Y.



Exclusive Representatives United States, Canada and Mexico for

Diesen Wood Company
WIBORG FINLAND

Manufacturers of

Superior Quality Easy Bleaching and Bleached Sulphate Pulp

An exceptionally strong, clean fibre at a moderate price

Write for Samples and Quotations

Stocks carried at Baltimore and Boston for Prompt Shipment

"A BUDGET COST SYSTEM FOR PAPER MILLS"

By THOS. J. BURKE, C. A. SECRETARY-TREASURER, COST ASSOCIATION OF THE PAPER INDUSTRY.

The Cost Association of the Paper Industry has copyrighted and published an outline of a budget cost system which meets with the requirements of the list of "fundamentals" drawn up some months previously by the Executive Committee of that association. These fundamentals include the following:

Dual Purpose

A paper mill cost system's records are needed both for operating and accounting purposes and for the calculating of selling price estimates.

Double Entry Control

The cost records should be made to "tie in" with the general accounting books.

Unit Cost

The products should be costed in units differentiating grades, sizes, weights and colors.

Direct Charging of Material

All materials used directly in manufacturing should be charged direct to production. Conversion supplies should be charged through the department accounts.

Departmentalization

The plant should be divided into departments according to the number of distinct operations necessary in the manufacturing of the product and the operating cost of each department compiled separately.

Normal Cost Through Budget System

This heading is to emphasize the fact that department rates should be based upon normal operating time and a predetermined budget of annual expenditure.

Departmental Rate Method

The departmental cost should be charged to the product at an inclusive departmental rate, developed wherever possible on an hourly basis.

These "Fundamentals" are listed with further explanations in the front of this publication which has been issued gratis to all members of the Cost Association. Accounting for materials is next dealt with in a general way. The next heading, and an important one is "Departmental Accounting." The sub-headings under this heading are "Fixed Charges, Auxiliary Department Charges, Labor, Conversion Supplies, Development of Departmental Rates, Analysis of Departmental Cost, and Allocation of General Mill Burden."

Selling Expense, Gain and Establishment of Selling Price are next dealt with shortly. An important sentence under the heading of Gain reads as follows:

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

Section 2 of this publication is headed "Determination of Departmental Rates" and consists of eighteen exhibits illustrating the development of the departmental burden rates according to the methods and principles outlined in this publication. These exhibits are intended to cover the procedure necessary for a mill without any existing method for compiling costs and are shown in the

simplest possible form, covering only the main manufacturing divisions of material preparation, conversion and finishing. As many additional departmental sub-divisions as desired may be made and rates developed for each in the same manner. There are, of course, conditions peculiar to each individual mill which require special consideration, but the treatment in all such cases should conform to the general methods and principles as outlined in this report.

Section 3 is entitled "Accounting, Statements and Chart." In this section is shown a list of the Ledger Accounts together with specimens of the periodical balance sheet and statement of loss and gain that may be prepared therefrom. Each ledger account is set up in ledger form and the various debits and credits are shown with a description of each item. Only such accounts are shown as are absolutely necessary to illustrate the methods outlined in this report. In actual practice many others can be used advantageously without necessitating a burdensome amount of detail.

Two tables are submitted in this section showing the determination of prepared material cost and selling price in condensed form and a chart is also submitted which shows the development of departmental burden and determination of selling price in considerable detail.

A list of Accounts is shown with account numbers divided as follows:

Current Asset Accounts, Inventory Asset Accounts, Deferred Asset Accounts, Capital Asset Accounts, Current Liability Accounts, Reserve Liability Accounts, Capital Liability Accounts.

In addition to the 120 copies of this publication issued to the members of the Cost Association, approximately 50 more copies have been sold at the price fixed by the Executive Committee, namely \$10.00. As only a limited number was printed, all those who wish to obtain copies should forward their orders to 18 East 41st street, New York City without delay.

McClellan Paper Salesmen Meet

MINNEAPOLIS, Minn., January 9, 1922.—The year's business for 1921 of the McClellan Paper Company was closed by a week's session of the salesmen, which was conducted in the advertising display room of the company's building.

The several days' program covered a varied number of important subjects in both the fine and coarse paper departments. Each department head presented an interesting feature for the benefit of the salesman, as well as for the company's interests. The meetings proved to be an incentive for a greater spirit to open the 1922 sales campaign and an optimistic feeling for the coming year was generally displayed.

F. L. McClellan, president of the company, spent a good share of the time at each session, and addressed the gathering daily, outlining the past year's experience and the great faith in 1922 he had. In spite of the general depression in 1921 the McClellan Paper Company begins the year 1922 with greater hopes than ever for the most substantial growth in its history and business in general.

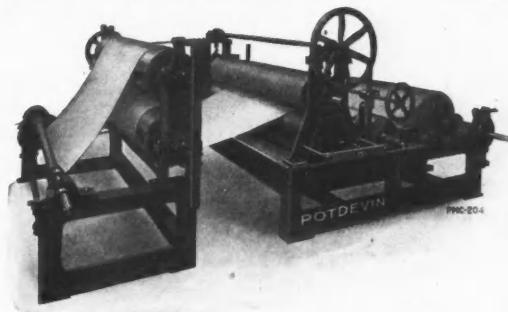
One of the pleasant features of the holiday season was the big Christmas party held at the company's office Saturday afternoon, December 24. This event was staged for the entire McClellan "family," from the oldest to the youngest, office force and employees all sharing alike in the festivities. A huge Christmas tree graced the main office and was attractively decorated in all the beauties that Santa Claus could suggest. A real Santa Claus was in evidence part of the time and presented the children with various tokens, candy, nuts and fruits. Music, dancing and singing prevailed during the entire afternoon, and a delightful time resulted.

POTDEVIN

WAX PAPER MACHINERY

for light and heavy wet or dry waxing

ON DISPLAY THIS WEEK



MACHINERY

POTDEVIN MACHINE CO.

Dept. 12
1223 38th Street

Established 1893

Phones 5180-5181 Sunset

Incorporated 1906

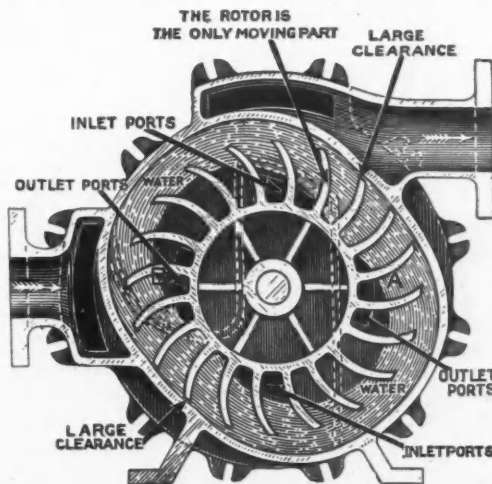
Brooklyn, N. Y.

THE HYTOR VACUUM PUMP FOR FLAT BOX SERVICE

Vacuum
Produced
Absolutely
Without
Pulsation

—
No Vibration

—
Saves Wires



Only One
Moving Part

—
No Rods, Pistons,
Crank Shafts
Loose Moving Parts
and No Gears

—
No Expert Attendance

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

THE NASH ENGINEERING CO.
WILSON POINT ROAD
SOUTH NORWALK, CONN.

New England
Representative
G. H. GLEASON
141 Milk St.
Boston, Mass.

Editorial

Vol. LXXIV New York, January 12, 1922 No. 2
FIFTIETH YEAR

For American Valuation

In the past the tariff has been a party issue, and with an administration and Congress of the same political faith it would be ordinarily fairly easy to forecast the approximate character of forthcoming tariff legislation. For the first time in history there is a sharp division in the leading parties on the tariff issue. Due to conditions growing out of the war, the pending tariff legislation is an issue on which party lines are almost entirely ignored, thus introducing an element of uncertainty at a time when normally the result would be a foregone conclusion.

The time has come when every silent conviction favoring the protection of American industry and national prosperity should be given expression in words so clear and unmistakable that the concert of patriotic opinion will drown for all time the clamor of un-American propaganda that has lately loosed upon the country, menacing our manufactories with industrial paralysis and millions of our citizens with a European brand of poverty.

This menace is not imagined. It is real. The real voice of America must speak out so unequivocally that no Senator in Washington can be in doubt as to the tone and quality of sober American thought on this insistent and far-reaching issue. We must not allow paid propaganda to pass for American public sentiment.

It has been stated that the importers and large mail order houses have spent in the last few months over one-half a million of dollars in propaganda against the adoption of the American Valuation Plan. The majority of manufacturers of this country are in favor of its adoption. The National Association of Manufacturers, composed of over 6,000 members representing perhaps the largest group of manufacturers in the United States, recently held a referendum on this subject and over 75 per cent of the replies favored its adoption.

The American Paper and Pulp Association also strongly favors this plan.

The argument that the adoption of the American Valuation Plan would destroy our foreign trade does not take into account that only 12.06 per cent of the goods imported into the United States is affected by ad valorem duties, that 61.08 per cent comes in free, and that 26.52 per cent is admitted under a specific duty. These figures are taken from a report prepared by the United States Tariff Commission. It is thus seen that 87.94 per cent of the imports would not be affected, regardless of what is done with the 12.06 per cent that come under ad valorem rates. This 12.06 per cent, however, does have a vital bearing on the industries of this country because of the fact that they represent the larger bulk of goods that have undergone complete manufacture in the country of export, and in consequence have a more direct bearing on the manufacturing industries of this country.

Jack Pine for News Print Paper

The Forest Products Laboratory at Madison, Wis., believes that an intensive study should be made of the possibilities of jack pine for use in the manufacture of news print. The rapid depletion of the spruce pulpwood supply is forcing the mills to longer and longer hauls for their wood supply. Many of these mills have adequate supplies of jack pine readily accessible to their wood yards. Many more are located in regions where jack pine could readily be provided by proper forestation. Owing to the rate and the ease with which this species can be reproduced, a relatively small area of forest would provide a permanent supply at the doors of the mills.

The utilization of this species has been attended with some difficulties and still presents a problem which, because of its universal appeal to the industry, should be receiving the concentrated attention of both the industry and the Government. There are two distinct sides of the problem, one economical and one largely technical. That groundwood as well as sulphite pulp can be made from jack pine there is no doubt. The most serious of the drawbacks to its use, however, are the relatively poor color of the pulp and the troubles from pitch. These difficulties are such that it requires a large differentiation in the cost of the wood to warrant pulp makers using jack pine in place of the commonly used spruce and balsam fir. Its use depends also upon the standard for color of the paper which the buying public will accept, which again is affected by the cost of the pulp.

The pulp and paper industry should be thoroughly canvassed in order to determine what the economic status of the problem is and whether present standards are likely to be continued or to become less rigid, and how far these conditions will permit of the introduction of jack pine, irrespective of any technical improvements in the pulping methods. A thorough understanding of this phase of the problem would be fundamental to an investigation of the technical phase.

The technical phase is the one which will require actual experimental study. As far as consistent with the private interests involved, full information should be obtained regarding detailed difficulties met with by those who have attempted to use jack pine and regarding the methods found useful or suggested as possibly of value in overcoming these difficulties. Once this information is collected and digested an intelligent plan of experiments can be formulated.

Of the two outstanding difficulties already mentioned, color and pitch, the latter is probably the one which should receive first and most detailed attention. The solution of the problem may be sought along two distinct lines. The pitch may be removed or transformed chemically by mechanical treatment or by the action of solvents or chemicals, or it may be rendered harmless by maintaining it in uniform state of dispersion throughout the pulp by some process akin to emulsion or similar colloidal suspension. In the case of groundwood pulp solvent and chemical action offer such a remotely possible solution of the problem that they may be passed over at least during the earlier studies. Mechanical separation of the resinous matter does, however, offer attractive possibilities. Already some success has been met with in attacking pitch problems by the use of riffles equipped with suitably designed baffles provided with pitch coagulators, such as felt coverings, etc. A

thorough study should be made of the whole subject of coagulating the pitch and separating it by gravity from the pulp-water suspension, including the effect of mechanical agitation, settling, temperature, condition of soluble salts in the water, etc. The laboratory study should be followed by the design of equipment and by the installation of experimental units of such equipment in mills that are willing to co-operate.

In the case of the sulphite pulp, a series of cooks should be carried out on a semi-commercial scale, such as may be done at the Forest Products Laboratory, to determine the most feasible conditions of cooking, such as concentration of free and combined sulphur dioxide, the temperature of the cook, and the shape of the temperature curve, the effect of the base—whether lime, magnesia or soda—effect of preliminary impregnation, determination of the end point of cooking, etc.

An investigation of the possibility of maintaining the resins in uniform dispersion through the pulp will involve a study of the effectiveness of colloids, such as clay, in preventing the coagulation of the resinous material as applied to ground wood. The clay may be agitated with the pulp either in the form of white water fed to the grinder, or by means of mixers or pumps after the pulp has been made. The most favorable conditions should be studied. These will include the nature of the clay or other materials, the concentration, temperature, point of application, amount of agitation required, etc. In the case of the sulphite pulp, the possibility of applying the clay or other material prior to the cooking should be studied as well as the effect of the acid concentration at various stages in the process on the added material. Next, the preliminary laboratory tests should be followed by application to commercial operation under conditions which can be accurately controlled.

A still further possibility of controlled pitch troubles is to limit the localization of resins by selecting the time of cutting. Resin localization is greatly increased at freshly-cut surfaces, especially during seasons of high temperature which favor resin flow. If cut during such seasons, the logs accumulate an abnormal amount of resins at the ends. Whether proper cutting would limit this process or control the character of the resins sufficiently to affect pulp manufacture can only be determined by investigation.

To attack this problem in a manner commensurate with its importance, would require at least \$10,000 for the first and \$25,000 for the second year. The first year could be devoted largely to establishing contact with the industry with a view to cooperative research. The nature of the problem is such that the most effective work can be done only with the hearty co-operation of mills interested, as much of the investigation would, of necessity, have to be done at these mills, supplemented, of course, by a fundamental study at the Forest Products Laboratory of the individual problems as they arise. By the second year the problem and the method of attack would be sufficiently well defined to warrant the larger expenditure.

Superintendents to Meet in Kalamazoo

[FROM OUR REGULAR CORRESPONDENT.]

KALAMAZOO, Mich., January 9, 1922.—The American Pulp and Paper Mill Superintendents Association will hold its annual meeting in Kalamazoo, June 2 and 3. J. F. O'Connell, president of the national organization, mailed the call for the meeting Monday evening.

Paper Mill Laborers Receive Pay Cut

Wage reductions of 20 per cent effecting some 10,000 laborers in eight paper mills in the United States and Canada were determined upon by the Board of Arbitration at a final hearing held Wednesday, January 4, at the offices of the St. Regis Paper Company, 30 East 42nd street, New York. Three representatives of employers and two of labor were present at the meeting. Frank Irvine, Public Service Commissioner of Ithaca, N. Y., presided and cast his vote with the manufacturers in favor of the reduction. The labor delegates unable to influence the decision left the conference greatly dissatisfied.

While declaring that the workers will abide by the award, John P. Burke of Fort Edward, N. Y., President of the International Brotherhood of Paper Pulp and Sulphite Workers, said: "Of course, we are not pleased with the decision. This big wage reduction coming on top of the very large 10 to 26 per cent cut last August is, in my opinion, unjust and unreasonable. This means that there will be no happy new year in the homes of the thousands of paper mill workers, because the wage rates set by the Arbitration Board will not enable the bread winners to provide even the necessities of life, let alone any luxuries."

Mr. Burke said that the companies in asking wage cuts for all classes of workers had frankly stated that the cost of living was not being taken into consideration, but it was asked because "there was plenty of labor to be obtained at much lower rates than the prevailing union scale."

The agreement which will hold until May 1, provides that wages of workers now earning 54 cents an hour or more will not be cut; but that a reduction of 8 cents an hour is to be made in the pay of unskilled workmen earning less than 54 cents an hour. Practically all the large paper companies except the International are affected by the decision.

F. L. Carlisle, of Watertown, N. Y., president of the St. Regis Paper Company, said that the reductions will affect 70 per cent of the men employed at the mills. The men affected by the cut have received an average of \$19.80 a week and now will get \$15.60. They are wood handlers, ashmen, yard cleaners and the like.

C. H. L. Jones of Sault Sainte Marie, Mich., of the Spanish River Pulp and Paper Mills, Ltd.; E. B. Murray of the Union Bag and Paper Company, and Mr. Carlisle, represented the manufacturers, and J. T. Carey, president of the International Brotherhood of Paper Makers and John P. Burke, president of the International Brotherhood of Pulp Sulphite and Paper Mill Workers, the workers.

American Writing as Sales Conference

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, January, 9, 1922.—The annual sales conference of the American Writing Paper Company was held here on Thursday and Friday of last week. Enthusiasm was the keynote of all of the meetings held at the general office and a good deal of optimism prevailed on the outlook in the paper business for the year 1922.

The company's new merchandising policies inaugurated last spring have already demonstrated their soundness. Reports submitted at the conference indicate that they have been a tremendous factor in stabilizing the paper industry, and have been instrumental in reducing wasteful methods.

Service men at the conference who are in constant touch with printers report that printers realize the fundamental importance to their own industry of this means of simplification which the new policies involve.

Addresses were delivered at the conference by George A. Galiver, president of the company; Carl E. Lincoln, general sales manager; John T. Wolohan, vice president and other executives.

A SUPERIOR COATED PAPER

With
Kalbfleisch

DRY SATIN WHITE

Ryan-Seaman Process

SAVES FROM 15% TO 20% CASEIN

COSTS LESS

THE KALBFLEISCH CORPORATION, 31 UNION SQUARE WEST
NEW YORK CITY

Sole Manufacturers and Distributors

"AMERICAN"



PAPER MAKERS TWINE TUBE ROPE
WALL PAPER TWINE HAY ROPE
FINE AND COARSE POLISHED TWINES
"AMERICAN" BRAND MANILA ROPE
"AMERICAN" BRAND TRANSMISSION ROPE

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

Largest Makers of Commercial Twines and Ropes in the World
AMERICAN MANUFACTURING CO.
NOBLE AND WEST STREETS, BROOKLYN, NEW YORK CITY

CORDAGE

Section of the Technical Association of the Pulp and Paper Industry



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



Conducted by **W.G. MacNAUGHTON**, Secretary

PUMPS AND PUMPING MACHINERY

(Continued from last week.)

In order to assist the Joint International Committee on Text Books both financially and in attracting criticism of certain sections, the PAPER TRADE JOURNAL has arranged to co-operate with the committee by publishing some of the material submitted to the editor of the text books. In presenting this series of articles to our readers a cordial invitation is extended to assist the committee by suggestions and criticisms of this material. It is hoped that in this way omissions and errors will be noticed and corrected.

Double Cylinder or Duplex Pumps

These are usually known as Duplex steam pumps and are so named for the reason that the pumping unit consists of two steam pistons and cylinders located side by side and the steam pistons directly connected by means of piston rods with two water pistons or plungers working in two water cylinders.

In general effect the Duplex pump may be said to consist of two single cylinder pumping units connected together and working in parallel except that the control of the steam valve gear is essentially different from that of the single cylinder pump.

The Duplex steam pump is undoubtedly the best known type of steam pump which has ever been designed. Fig. 9 shows a diagrammatic section through the full length of a small size Duplex pump with the packed piston type of water cylinder.

The most usual form of steam control mechanism consists of two slide valves "A" of the ordinary "D" valve design (though piston valves are used on high pressure and superheated steam) and by reference to the sectional drawing it will be noted that only one valve is shown, the other valve is placed alongside of the valve in view and moves over steam and exhaust ports which serve the steam cylinder in the opposite side, each steam cylinder has its own set of steam ports C and exhaust ports D, which are usually in line with each other in both cylinders.

The arrangement of the steam valve of the Duplex pump is such that the movement of the piston of one side of the pump controls and moves the steam valve on the opposite side of the pump and vice versa. The steam valve equipment therefore consists of two valves A which are moved across the steam and exhaust ports C. The valves are always set so that when the pump is at rest the steam ports are slightly open to one of the cylinders at one end. Upon the admission of live steam the piston moves the lever "B" which controls the valve motion of the opposite cylinder and moves the steam valve to open the steam port which starts the piston in the second cylinder in motion in the opposite direction to the piston of the first cylinder which is already in motion.

It will therefore be seen that both steam pistons of the Duplex pump do not start together—nor do they begin to move in opposite directions simultaneously, but one piston commences to move and then the opposite piston starts in motion—this alternate movement of the Duplex pump is continued throughout its operation and is inseparable from this type of steam valve control.

This alternate motion of the Duplex pump ensures a steadier flow of water than in the case of the single cylinder pump for the reason that in the case of the latter the moving parts come to rest momentarily at the end of each stroke, during which period there is a perceptible decrease in the volume of water discharge, while in the Duplex pump during the rest period of one piston the piston at the opposite side of the pump is moving at its highest rate of speed and thus a steadier discharge volume is maintained—the pressure at the pump discharge is on this account more nearly constant and the strain and vibration on the piping system due to varying pressure is greatly reduced.

With the exception of the steam valve gear the same types of construction are used in both the Simplex and Duplex pumps, that is, the details of the steam and water cylinders, pistons, plungers, rods, water valves and the other details are of similar design and in the case of manufacturers offering both types many of these parts are so standardized as to be interchangeable in pumps of either type and of perhaps different sizes and capacities.

In the case of Fig. 9, above referred to, we have a characteristic design of Duplex pump of the packed water piston type. This is the most common type of direct acting pump which most manufacturers build in two standard groups.

1st. The low pressure or so-called tank pumps which are usually offered for maximum water pressure of 75 or 100 lbs. per square inch working pressure, and which have water cylinders designed for strength with these maximum pressures in view and which are equipped with steam cylinders which are capable of driving the water pistons against their maximum pressures when supplied with steam at 100 lbs. per square inch pressure as the standard specifications.

These pumps, as their name implies, are most suitable for general low pressure service up to their limits of working pressures, and where required for handling water or other liquids which are comparatively free from gritty or abrasive matter which would tend to cut and wear the liquid cylinder liners and cause leakage past the pistons. These pumps are not suitable for ordinary boiler feeding for the reason that neither the strength of the water cylinders nor the proportion of areas between steam and water pistons are suitable for this service.

2nd. The general service weight of packed piston pumps are

designed usually for maximum working water pressures of 150 or 200 lbs. per square inch and the proportions of steam and water cylinders are such that they are suitable for operating against the maximum water pressures for which they are designed when supplied with steam pressure at 300 lbs. per square inch. These pumps, on account of their strength and cylinder proportions, are suited for boiler feeding, water works and general water supplies where moderate water pressures prevail.

The next type of water cylinder construction which we will consider is known as the center packed plunger design and a conventional pattern which is generally accepted as standard is shown by Fig. 10. This is the same type of water plunger as shown by Fig. 4, and by reference to the sectional drawing it will be seen that the water cylinder is divided into two sections with the plunger developing pressure at one end in one section, and at the same time the liquid is flowing through the suction valves at the opposite end and filling the other section of the cylinder preparatory to a return pressure stroke of the plunger. The stuffing boxes B surrounding the plungers are located between the cylinder sections, and on account of this arrangement of the plungers and packing these pumps are known as the Center Plunger type.

The construction of these pumps is better adapted than the piston type of pump for operating against higher water pressures and the principal field for pumps of this type is where water pressures from 150 to 300 lbs. per square inch are encountered and the combinations of steam and water cylinders available usually cover a range which will produce 200 lbs. water pressure with 100 lbs. steam pressure, up to 300 lbs. water with 150 lbs. steam pressure.

These pumps are usually preferred where gritty water is to be handled, as any leakage through the packings can be seen without examining the interior of the pump and the packings can be easily adjusted from the outside and scoring of the plungers due to grit working into the packings can be observed and rectified before it becomes serious. For still higher water pressures the standard type of reciprocating pump is the end packed plunger type. A standard design of these pumps is shown by Fig. 11 and the diagram, Fig. 3, shows the principle of cylinder and plunger design.

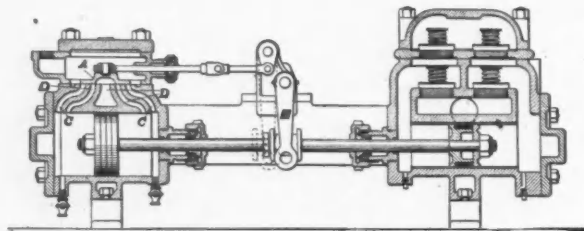


FIG. 9

In this type the water cylinder is divided into two compartments by a wall or bulkhead A in the center of the cylinder.

The plunger packings B are located at the ends of these cylinder compartments and each cylinder is equipped with two plungers which are connected together by side rods attached to crossheads located outside of the cylinder.

It will be seen that these two plungers operate on the same cycle as would two single acting plungers connected together, which in fact they are, but the arrangement of the plungers with the connecting side rods constitutes a double acting cycle, or, in other words, each stroke of the plunger produces a suction and a discharge function.

It is clearly apparent from the above description where the end packed plunger pump derives its name. The construction is most adaptable where high water pressures are to be dealt with, such as extra heavy boiler pressures, hydraulic presses and heavy pressure hydraulically operated machines in general.

These pumps are seldom used or recommended for water pres-

ures lower than 250 lbs. per square inch, not because they are not adapted to lower pressures, but that pumps of the center packed plunger or packed piston types are just as suitable for such conditions but are also less extensive.

The end packed plunger type pump is used for water pressures up to the maximum for which pumping machinery may be required.

In order to familiarize the reader with standard capacities and cylinder proportions of steam pumps, and especially to enable read-

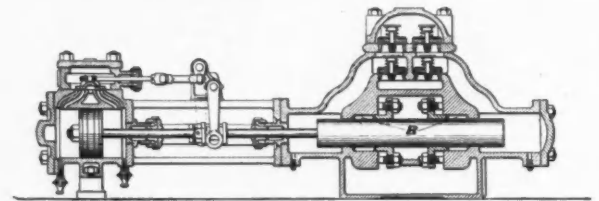


FIG. 10

ers to study the relative values of steam and liquid pressures, we are printing some tables of standard sizes of steam pumps.

In addition to the data usually given in such tables we have provided some extra features which will show clearly how a steam pump should be selected for any predetermined set of working conditions and which we will explain as follows:

Theoretically the work done by the water piston is equal to the area of the steam piston multiplied by the steam pressure exerted on that area and is expressed as $A \times P$.

A. Area of steam piston in square inches.

P. Steam pressure in pounds per square inch.

Therefore, according to theory the work done by the water piston would also be $A \times P$.

But as this condition assumes 100 per cent efficiency for the entire pump, and whereas there are mechanical, thermal and hydraulic losses which take place in the pump, these losses must be overcome by the steam piston before any effective work can be done by the water piston. These losses are usually provided for

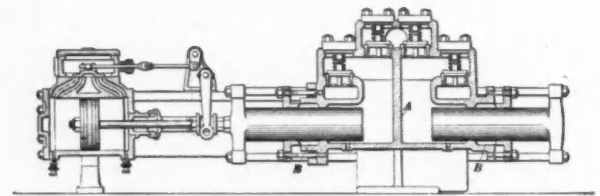


FIG. 11

in estimating the "efficiency" or percentage of theoretical perfection which can be expected of any given pump and the losses are counteracted by providing the steam piston of larger area than the water piston or by furnishing it with higher steam pressure than the water pressure pumped against. Either method is equally effective when arranged for in proper proportion.

The problem therefore becomes:

$A' \times P' = \text{Load or work on water piston.}$

Where $A' = \text{Area of water piston in square inches.}$

$P' = \text{Water pressure worked against in square inches. And in order to do the work represented by the load of work on the water piston, the steam piston must exert effort represented by}$

$$A' \times P'$$

$\frac{A' \times P'}{\text{Load or work exerted on steam piston.}}$
Efficiency of the Pump

We will consider first some standard sizes of single cylinder or simplex steam pumps designed to operate against water pressures of 50 lbs. per square inch when supplied with steam pressure of

150 lbs. per square inch and illustrate how the steam and water cylinders are proportioned so as to secure the proper power in the steam end and to work against the required liquid or water pressure and at the same time allow proper excess power to overcome the losses above referred to:

Size of pump as usually expressed	Diameter Steam Piston, Inches	Area Steam Piston, Square Inches	Load on Steam Piston, Pounds—Area x 150#	Diameter Water Piston, Inches	Area Water Piston, Square Inches	Load on Water Piston, Pounds—Area x 50#	Water Pressure, lbs. per sq. in.	Efficiency of pump = Water Piston Load ÷ Steam Piston Load	Capacity of Pump, Gallons Per Stroke	Total Number Strokes Per Minute	Capacity of Pump Gallons Per Minute	Travel or Speed of Piston, Feet Per Minute
5 1/4" x 8" x 8"	5 1/4	25.8	3,870	8	50.3	2,510	64.7%	1.75	.82	143	55	
7" x 10" x 12"	7	38.3	5,760	10	78.5	3,930	68.3	4.03	.66	265	66	
8" x 12" x 12"	8	50.3	7,750	12	113.0	5,650	75.0	5.88	.66	387	66	
9 3/4" x 14" x 12"	9 3/4	67.0	10,200	14	154.0	7,700	76.3	8.00	.66	527	66	

The cylinder sizes in this table do not represent the proportions used by any particular manufacturer of pumps, but are given to illustrate the approximate proportions used in designing pumps for low water pressure and moderately high steam pressures and to show the combined mechanical and hydraulic efficiencies which are practicable.

From the foregoing table and explanation it will be seen that the proportionate areas of steam and water pistons are constant for any given steam and water pressures irrespective of the capacity or piston speed of the pump except as they may vary due to a difference of efficiency; the smaller size pumps having proportionately more friction losses to be overcome than larger ones are therefore less efficient, as shown by the table.

The capacity of the pump, therefore, is the product of the area of the water piston multiplied by its speed or travel within a given period of time.

This is usually expressed in terms of gallons per minute as follows:

$$\frac{A \times S}{231} = \text{Gallons for one single stroke.}$$

A = Area of water piston in square inches.

S = Length of stroke (or travel of piston during one stroke) in inches.

231 = Number of cubic inches contained in one U. S. gallon.

Therefore the gallons displaced during one single stroke multiplied by the number of single strokes of the pump in one minute represents the capacity of the pump in gallons per minute.

The above represents the theoretical capacity as usually estimated and direct acting pumps are rated, as to their capacities, on this basis, but actually the capacity is slightly less than this as there are always small losses due to slippage of water past the valves, and the deduction on one side of the piston for the area of the rod and occasionally check tests are required when the actual capacity discharges by the pump are measured either by pumping over weirs, through meters or into tanks or weighed by scales. Such tests are made to determine what is termed the volumetric efficiency of the pump, which is calculated as follows:

$$\frac{\text{Actual capacity as shown by test}}{\text{Theoretical capacity as estimated}} = \text{Volumetric efficiency.}$$

For properly designed steam pumps operating at exactly full stroke and with valves and packings in good condition the volumetric efficiency usually approximates 95 per cent and it is also possible with other conditions as described, and the pump running beyond its normal or nominal length of stroke that a test may show actual capacity to be in excess of the theoretical.

This is what is called "over stroke" and is usually of no disadvantage to the operation of the pump, providing there is ample clearance space between the cylinder heads and the pistons so that there is no danger of contact between the pistons and the heads and also that there is sufficient clearance space at the ends of the

steam cylinder to permit of a proper "cushioning" effect of the steam piston when in contact with the exhaust steam which is shut in at each end of the stroke for this purpose.

The same methods should be applied for the calculation of capacity and steam and water or liquid pressures in considering the duplex type of steam pump, except that in this case there are two sets of steam and water cylinders to take into the calculations, so that the simplest way to arrive at the result is to estimate one side of the duplex pump the same as though it was a single cylinder or simplex pump and then multiply the capacity by two.

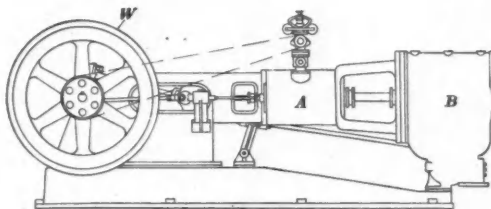


FIG. 12

It should be borne in mind when considering piston speed that this is based on the travel or speed of each particular piston separately in feet per minute. For example:

A duplex pump having a stroke of 12" (1 foot) and each side making 66 strokes per minute would be understood to have a piston speed or travel of 66 feet per minute, for while there are two pistons (one at each side of the pump), and each is traveling at the rate of 66 feet per minute, their rate of travel cannot be added together as is sometimes erroneously done and called 132 feet per minute. The fact that there are two pistons in the pump and both displacing liquid at the same time and at the same speed is properly taken into account in calculating the total volume displaced by both pistons, as explained above.

CHAPTER IV

The Crank and Flywheel Steam Pump

This type of steam pump has certain advantages over the direct acting type which, for some classes of pumping service, are quite sufficient to warrant the higher first cost, which is due to additional parts required in the construction of the crank and flywheel pump.

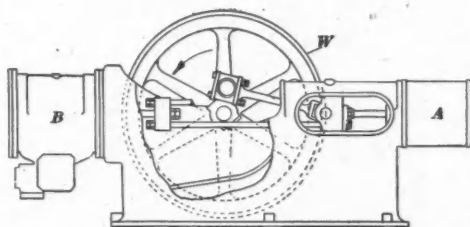


FIG. 13

The usual design provides for a water and consisting of cylinder, valves, pistons, or plunger and rod of similar design to that used in the directing acting pump, but in addition to the piston rod being carried through to and connected with the steam piston the opposite end is connected with an intermediate crosshead which in turn is linked up with the crank pin by means of a connecting rod.

In Fig. 12 we show a diagram of the simplest arrangement of crank and flywheel pump, where the steam cylinder A and pump cylinder B are on the same side of the flywheel W, and where the steam piston rod is extended to form the plunger rod for the pump.

Fig. 13 shows another arrangement where the crankshaft and flywheel W is located between the water cylinder B and steam cyl-

inder A and the power is transmitted to the water piston through side rods connected between the crosshead and the water piston or plunger as shown by the diagram.

Crank and flywheel pumps are manufactured in both horizontal and vertical types; that is, the moving parts may be arranged to operate in either a horizontal or vertical direction; the horizontal type is most commonly used but the vertical pumps are often necessary on account of occupying less floor space or for the reason that the water cylinder may be located within a spit or dry well and within suction distance of the water supply, while the steam cylinder is raised up above the pumping cylinder to any convenient height required.

The principal advantage of the crank and flywheel pump over the direct acting pump is that of better economy of steam and therefore requiring less full consumption for its operation.

In addition to that, due to the quicker reversal of the moving parts in starting the return stroke, a more uniform flow of water is secured, especially in double acting pumps.

The flywheel pump, with regard to its steam end, is of quite similar construction to the steam engine used for general power generating purposes in paper mills and other manufacturing plants.

The object in developing this type of pump to secure better steam economy is to use the steam expansively while it is passing through the steam cylinder instead of as in the case of the ordinary direct

acting pump where the steam is admitted to the cylinder throughout the entire stroke of the pump at full initial or inlet pressure.

In crank and flywheel pumps where the steam is used expansively the steam is admitted through the steam valves and into the cylinder throughout the first part of the stroke only, and excess power from the initial impulse of the admission of steam at full pressure is transmitted through the shaft into the flywheel which takes up or absorbs it momentarily and returns it again through the shaft and finally transmits this power to the water piston while at the same time the steam inlet port between the steam chest and the cylinder has been closed by the steam valve moving over it and the steam already admitted into the cylinder expands, due to the increased volume of the cylinder caused by the piston moving towards the opposite end.

By expanding the steam in this manner its power is utilized in most cases until it is discharged into the exhaust port at only slightly above the atmospheric pressure.

The expansion of steam can be illustrated most graphically by means of the steam engine indicator which is an instrument designed to register the steam pressure in the cylinder throughout one or more strokes of the engine according as to whether the operator wishes to make a record for only one stroke, one revolution, or for a number of revolutions.

(To be continued)

A NOTE ON A SPECIAL SLIDE RULE FOR CALCULATION OF "WET" AND "DRY" WEIGHTS OF DAMP MATERIAL

By R. SCOTT

The necessity for a simple, rapid, and accurate method of calculating the "wet" and "dry" weights of nitrocellulose batches led to the construction in this laboratory of a calculator which has proved useful, and the principle employed seems to offer a wider scope for practice.

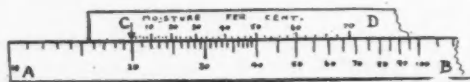
A slide rule may be used in many cases where a nomographic or alinement chart has been suggested for routine calculations. It is easily constructed and easily manipulated, and the time required for the calculation is reduced to a few seconds.

In handling a batch of damp material it is customary to have a sample submitted for determination of moisture which is expressed as moisture per cent of the damp material. There is now required the amount of "wet" or the "dry" content of a certain amount of "wet."

The calculation is given by

$$D \times \frac{100}{100-M} = W$$

where D = dry weight, W = wet weight, and M = moisture per cent. This is of the general form $XY = Z$ and capable of slide rule or nomographic treatment.



To make the slide rule the frame scale, A B (see Fig.), was divided in the usual logarithmic manner but the slide scale, C D, was divided proportionally to $\log. 100/(100-M)$ between suitable limits of M, each division being marked with its appropriate value of M. The frame scale, A B, was extended beyond the point marked 100 by a length equal to the total length of the slide scale.

For wet weight determination the zero mark on C, D, is placed opposite the division on A, B, corresponding to the "dry" weight, and the "wet" weight read off opposite the division on C, D marked with the moisture content. For "dry" weight determination the process is reversed.

A convenient distance between the points marked 10 and 100 on the frame was found to be 1000 mm.

The wooden frame and slide were constructed in the carpenter's shop and made so that C, D, could be moved easily along A, B. The scales were glued to the wood and coated with celluloid varnish. The whole apparatus measured 4' 9" x 3 1/2" x 3/4".

The accuracy of the instrument, assuming careful construction, will depend on the scale on which it is constructed and the number of divisions introduced. The calculator in use has a total maximum apparent error due to size of scale divisions of 0.56 lb. dry weight on 100 lb. of dry material, but this is due to errors accumulating in the same direction.

In practice the reading of figures may be made to approximations, where necessary, between divisions, and the error thus maintained well within the limit.

It is easy to modify the slide scale to read weights where a certain percentage of moisture is allowed, as in air-dry material. The slide in this instance would be divided proportionally to $\log. (100-a)/(100-M)$, where a is the percentage of moisture allowable.

In general a similar instrument should be useful for rapid calculations of the type $a = x.f(y)$, with the slide scale divided in proportion to $\log. f(y)$.

By using several slides, equations of the type $\phi(a) = F(x).f(y)$. . . may be solved by dividing the frame scale proportional to $\log. \phi(a)$ and slide scales proportionally to $\log. F(x)$ and $\log. f(y)$. . . —*Journal of Society of Chemical Industry, London.*

Section Should Be Preserved for Reference

Members of the Technical Association of the Pulp and Paper Industry and others appreciating the value of the material published in the technical section in this journal, are advised to preserve the articles for future reference. It is unlikely that reprints will be made and the difficulty of obtaining back numbers of the journal is too well known to require emphasis.

HAVE YOU TOO MUCH VENTILATION?

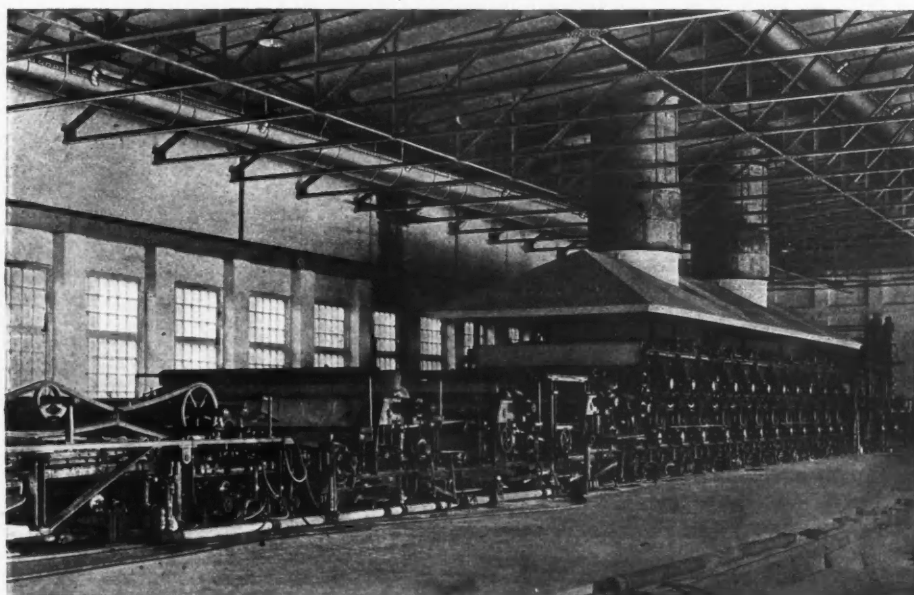
WRITTEN BY J. O. ROSS, OF THE J. O. ROSS ENGINEERING CORP., NEW YORK

For many years the problem has been to have enough ventilation in the machine room. It has come to be recognized that, in addition to removing the moist air and vapor from the machine, there must be a means for supplying to a room an equal amount of warm air. A great deal of research and experiment has been gone through to find the best method of introducing the air into the room and the best way of removing vapor. The question of whether hoods should be used has been considered and the influence of the different kinds of roofs and types of construction has been carefully noted. By careful engineering, many fine examples of machine room ventilation are scattered over the country.

Four Main Systems of Ventilation

There are four main systems of ventilation in general use. There are, of course, many variations of these, but in general these four systems cover most types. They are:

air is brought up through the room. Which system, and what variations of it to use depends on the kind of paper machine, the construction of the roof and the local conditions of exposure and temperature. We will discuss a condition which is beginning to appear, that is, the supply of too much ventilation. The success of the introduction of warm air into machine rooms has been so notable that some installations have been made without a full realization of requirements and conditions. It has been felt, that as long as it is a system of introducing warm air into the room it must be successful. Some of these installations have been designed by the mill owners. A few have even purchased second hand fans and heaters and allowed some local tinsmith to build the air ducts. In some cases designs of systems in certain mills have been copied for other mills, although conditions might be totally different. Other installations have been made by manufacturers of apparatus



OXFORD PAPER CO., RUMFORD, ME. REMOVING THE AIR AND VAPOR BY HOODING THE MACHINE AND SUPPLYING WARM DRY AIR AT THE ROOF LINE AND IN THE PIT

1. Removing the air and vapor by hooding the machine and supplying warm dry air mostly at the roof line.
2. Hooding the machine and supplying warm air in and around the vapor pockets of the dryers on the machine.
3. Removing the vapor and air through the roof by ventilators, monitors or fans without the use of hoods and supplying warm dry air mostly at the roof line.
4. Removing the vapor and air through the roof by ventilators, monitors, or fans without the use of hoods and supplying warm dry air in and around the vapor pockets of the dryers on the machine.

The variations of these systems consist of putting part of the warm air in the pit as well as along the roof. Sometimes part of the air is put in the vapor pockets around the dryers and part along the roof at the wet end and dry end of the machine room. Then there are cases where the wall and glass exposure is so great that part of the air is brought down along the outside walls and other cases where the roof exposure is so slight that most of the

who have felt that the only problem was to discharge a large volume of warm air into a mill and remove an approximately equal volume from the room.

Little Attention Paid to Manner of Application

Very little attention has been paid to the method of introducing the air, or the manner of application. Contracts for ventilating systems have been awarded to whoever would guarantee to deliver the largest amount of air and heat for the smallest amount of money. Some have figured on changing the air in the room every so many minutes without regard to the tons of vapor evaporated or the fact that some machine rooms have about one-half the cubical measurements of other mills making the same amount of paper. It is obvious that this method of figuring would suffice only if it had been found by previous installations what air change was best and would only hold good in a mill which has the same amount of cubic contents per ton of paper, the same type and construction of the mill and the same exposure to the weather. Prac-

tically no attention has been paid to the amount of vapor per ton of paper. The amount of moisture content in the paper when it strikes the first dryer varies widely in different mills and on different classes of paper or pulp. In some mills it is necessary to evaporate two pounds of water to a pound of product, while in other mills it will be nearer one pound of water to one pound of product. Needless to say, there would be twice as much vapor to remove in one case as in the other.

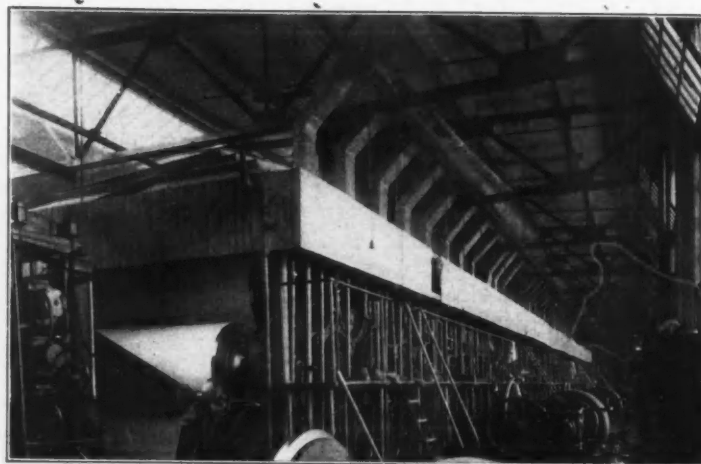
It was sometimes felt that the only mistake could be in having the ventilating system too small and while that mistake has been made many times, it is not the only mistake that can be made. This was guarded against by making the air supply as large as possible. The only test was, "Does it keep the room clear of all vapor and drip?" If it does, it is a fine system. If it doesn't, it isn't big enough and the cure is to put in more or bigger apparatus. The fact that there might be an ample supply of air if it was properly applied was very rarely considered. This haphazard method of engineering has not only led to systems which are unsatisfactory to the owners because they did not remedy the trouble of drip and cold, but has led to systems which keep the room dry and warm and so are satisfactory, but would not be so satisfactory if the owners fully realized the waste of heat and power that goes on steadily. We are not dealing in this article with the systems which are not large enough (and there are plenty of these,) but we are dealing with the systems which are too large or which are large enough but do not produce the desired results.

Air That Passes Out Represents Money

The air which passes out of the ventilators on the roof represents money. It takes power to move this air and it takes steam to heat the air. It represents money just as much even if no mechanical system is used for blowing it into the room and no



PARKER YOUNG CO., LINCOLN, N. H. REMOVING THE VAPOR AND AIR THROUGH THE ROOF WITHOUT THE USE OF HOOD AND SUPPLYING WARM DRY AIR MOSTLY AT THE ROOF LINE



ROBERT GAIR CO., PIERMONT, N. Y. REMOVING THE AIR AND VAPOR BY HOODING THE MACHINE AND SUPPLYING WARM DRY AIR IN AND AROUND THE VAPOR POCKETS ON THE MACHINE

definite way is provided for heating it. Every cubic foot of air passing out at the roof carries away with it just so much heat which has been supplied by the mill, either directly or indirectly. If it comes in from outdoors, it is either heated in other departments of the mill, or is heated by absorbing heat from the dryers. It is quite likely that it is more economically heated when definite provisions have been made for heating it than when it has been heated by indirect means that do not appear on the surface. A certain amount of this heat loss is justified as it is the only way that the vapor can be removed. There are methods of recovering a considerable proportion of this heat and it is when this problem is gone into, that it becomes so apparent that many mills are needlessly throwing heat to the atmosphere beyond the requirements. The ideal condition from an efficiency standpoint would be to have the air escape to the atmosphere fully saturated with moisture. Then it can be felt that whatever heat escaped, was necessary. This condition, however, would be dangerous, because the slightest lowering of the temperature would produce a condensing of moisture, which would give trouble. It is just this condition which causes drip on the skylights of monitors and also causes drip down along the sides of metal ventilators. The air passing out of the room may not be quite saturated at the temperature, but when it strikes the cold glass or cold metal ventilator, it drops in temperature enough so that it is below the dew point and the result is the drip which is so objectionable. It will be realized that the nearer we can approach the total saturation of the air, the more efficient will be the system, and a really satisfactory system is one which will supply sufficient air to the room to remove vapor without allowing condensation and yet not so much air that it will be comparatively dry.

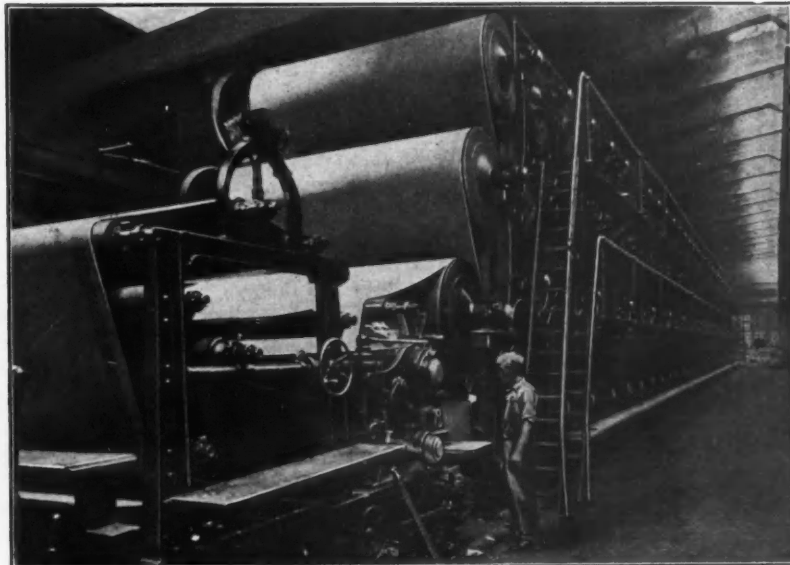
Some Examples

A mill which came to the writers attention was evaporating forty tons of vapor per day

of twenty-four hours. This figures out 55.56 pounds of paper per minute, which is approximately 388,920 grains of moisture per minute. Forty tons of pulp was turned out per day, but due to very heavy presses the pulp was reduced to approximately one pound of moisture per pound of pulp. This accounted for the very small amount of moisture, 40,000 cubic feet of warm air was being discharged into the room. Allowing for the air entering the room on that day containing 3 grains of moisture in every cubic foot it meant that each cubic foot of air was absorbing 9.7 grains additional from the machine or was carrying a total of 12.7 grains of moisture. The machine was hooded and the air was passing out of the hood at 110 degrees, which was approximately 47 per cent saturated. It is no wonder that this mill was free of drip. That air could have been cooled down to about 85 degrees before it began to deposit moisture and it would have taken a very cold ventilator or a very large expanse of glass to have cooled this air down to 85 degrees. Had the air been 70 per cent saturated leaving the hood, there would

They were still having trouble with drip and condensation in some parts of the room and principally over the wet end of the machines. They had thought the proper solution was to put in additional heating and ventilating apparatus to keep the roof dry at the wet end. Figures showed, however, that the air short circuited directly from the inlets to the exhaust fans and was passing out of the building containing less than half the moisture it should.

The system was overhauled, the warm air being distributed uniformly over the room with a considerable portion introduced into the pits of the machines. Only 100,000 cubic feet of air supply was provided and the exhaust fans were slowed down to draw out the same amount. The result was a dry room and a saving of 100,000 cubic feet of air per minute. It was estimated that, even with a 100 day winter when there was not a surplus of exhaust steam, this represented a saving of 1,200 tons of coal or about \$7,200 per year. The power to run the exhaust fans was also decreased about 60 per cent.



CONTINENTAL PAPER CO., BOGOTA, N. J. REMOVING THE AIR THROUGH THE MONITORS WITHOUT THE USE OF HOODS. SUPPLYING WARM DRY AIR IN AND AROUND THE VAPOR POCKETS OF THE MACHINE

have been a large margin of safety in regard to condensation, yet that air would have been carrying 19 grains of moisture per cubic foot and with the three grains coming it would have had a capacity of removing 16 grains per cubic foot from the machine. This would have required approximately 24,000 cfm instead of 40,000. Therefore 16,000 cubic feet of air was needlessly being heated. Outside air was being used at 40 degrees and was heated to 120 degrees. This represented approximately 23 pounds of steam per minute or about 46 H.P. which should not have been used. The answer to this question is the proper application of the air. If 24,000 cfm from outdoors had been used in that mill and applied properly, the room would have been clear of vapor and no trouble would have been encountered. In addition to the loss of steam was the power required for the fans.

Another typical example was a machine room which had exhaust fans on the roof monitors removing about 200,000 cubic feet of air per minute. Air was allowed to enter the room through openings in the side walls near the roof provided with coils of steam pipes to warm the incoming air.

These cases will show the need of carefully considering the design of your ventilating system. There are no hard and fast rules for a system of this kind. Make sure when designing a new system that your special requirements have been considered. A first-class ventilating system need not be an expensive luxury.

Proper Application of Air

By a proper application of the air, in many cases the amount of steam required is saved on the machine. In many mills the ventilating or vapor absorption system is operated all summer, although not necessary to prevent condensation but because it saves more than its steam on the machine, keeps dryer felts dry and generally improves the efficiency of the machine.

Compare this with one of these systems whose only duty is to keep the roof dry and whose appetite for steam and power is so enormous that it is only reluctantly operated in the cold weather when absolutely necessary.

If you have a system which is not "satisfactory", don't be too sure it is not big enough until you are sure it is efficient.

RECORDING INSTRUMENTS USED IN THE PULP AND PAPER INDUSTRY

The leading pulp and paper mills of this country have found that by the application of recording instruments to many processes they have been able to obtain a better and more uniform product with an improved plant efficiency. The great advantage of the recording instrument over the small indicating instrument lies primarily in the following two points:

1. Recording instruments furnish the operator of any process with an accurate guide as to at just what rate and to what extent the process is taking place.
2. Recording instruments furnish a fileable record of the varying conditions which enter into the process and as a check in the hands of the management to see that the best operating conditions are maintained. The fact that one large paper plant has over a thousand of these recorders in actual operation is not at all surprising when a few of the many uses of these instruments are pointed out.

Applicable to All Processes

Recording instruments are applicable to practically all processes for the measurement and recording of pressure, temperature, humidity, speed, liquid level, motion, flow, time and electricity. These instruments are furnished in numerous forms and cases, but the type of instrument of most general use in pulp and paper mills for recording any of the above qualities is that as shown in Figs. Nos. 1 and 2. This standard rectangular case of cast iron is both moisture and fume proof, and when opened the entire simple mechanism is exposed to view and inspection. Charts are thus easily changed and this type of case offers the great advantage of the long penarm which it is not possible to use in the so-called "round form" models. To mention all of the uses to which these instruments are being put at present in the pulp and paper mills would be impossible, but the following give some of the



FIG. 1

more common applications to which they are adapted in the different types of paper plants.

In the Mechanical Pulp Mills

In the mechanical pulp mills electric tachometers have been used to great advantage on the grinder shafts. Since the character of the pulp produced here depends largely on the speed of revolution of the stone and the pressure of the wood against the stone,

the careful observation of the two components, speed and pressure, as given by a recording tachometer and pressure gauges, will insure a most even quality of product, with the lowest consumption of power. One eastern paper plant has thirty-six of its grinders equipped in this manner with these most efficient results. In the storage of bleaching liquor at these plants recording liquid level gauges equipped with an automobile bell alarm have been found to be a great asset. These same recorders are also often used in determining the amount of stock drawn off in any period of time, together with the rate of consumption.

In the Sulphite Process

In the sulphite process recording instruments find a most varied application. Undoubtedly, the most important use here is in con-



FIG. 2

nection with the digesters. Each digester of any modern plant should be equipped with a recording pressure gauge and recording thermometer. The thermometers generally utilize a chart with a range of approximately 140 to 330 degrees of Fahrenheit. Charts calibrated in degrees Centigrade, with about the corresponding range, have been used to considerable extent by many of the western plants. The thermometer used here should be either of the so termed "vapor tension type" or "gas filled type." Mercury filled instruments are not well adapted to this use as they are frequently affected by temperature changes along the tubing connecting the sensitive bulb to the instrument. The sensitive bulb used with these instruments is generally constructed of copper and protected by a heavy cast bronze protection well which is entered through the wall of the digester and held tight by means of a nut and washer on the outside of the digester. A fixture designed by the Bristol Company for this purpose has met with most general approval in digester plants, in that it is easily installed and allows the sensitive bulb to be withdrawn for testing without interfering with the operation of the digester. Recording pressure gauges used on such apparatus are furnished with an oil seal filled with glycerine or some other non-active agent to prevent the fumes from the digester attacking the interior of the instrument.

A common method of operating digesters is for the operator to be furnished with charts which have been marked by means of a template of the curve showing the rate at which the temperature and pressure in the digester is to be raised. The operator then has only to make the red line of the instrument pen follow the pencil line drawn on the chart, and a uniform and proper cook will result. Such a method also prevents the burning of the chips, which often occurs if the process is carried too fast. Twelve-hour charts are often used in the "short cook" process with the consequent open time divisions, although the twenty-four hour charts are more satisfactory for most operations.

In Making Sulphurous Acids

In the making of sulphurous acid used in the sulphite plants, recorders are used to great advantage. The sulphur burners are generally equipped with recording pyrometers and the proper record on these instruments assures the superintendent that overheating is not taking place, together with the attending sublimation. The most economical use of sulphur will result if the burning temperature is kept at the proper point for correct combustion. The instruments used here are generally of the combination indicators and recorders, and have a scale range of 2,000 degrees F. Recording thermometers are then used upon the cooler tanks and again in connection with the absorption apparatus together with recording vacuum gauges. These all help to assure the production of a most certain quality of acid to be used in the digester.

In the Soda Process

In the soda process the application of recorders is much the same as in the sulphite plant except that on the digesters, steep fittings may be used instead of bronze for the thermometer bulbs. In the process of making caustic soda from sodium bicarbonate, the recording thermometers govern, to a considerable extent, the operation. Recording vacuum gauges together with thermometers also control the process through the evaporators and burners used in recovering the soda from the used liquor. All these thermometers are furnished with suitable charts and protection wells for their individual application.

In Bleaching Plants

The bleaching plants of all mills is another department in which recorders have been quite generally installed. In the first place, bleaching powder should be kept cool and dry, and this point is carefully watched by recorders. In the mixing, the temperature should not be allowed to exceed about 70 degrees F. or the resulting bleach will be still better if this temperature is kept even lower. During the bleaching process itself, the chlorination of the fiber of the stock must be carefully watched out for, for if the stock runs much above 115 degrees F., this action is liable to take place in spots if not throughout, with its consequent danger. Recording thermometers, the bulbs of which are in the stock, guard the operator against this trouble and tell him when his temperature is approaching the danger point.

In the Beater Room

In the beater room, recorders are used frequently to show the position of the rolls of the beaters and also at just what time their position was changed. This employs a mechanical time recorder of simple construction, which has been used with good results. Liquid level gauges are also used here considerably both on beaters and stuff chests and give, when used with a constant, an accurate measurement of the stock beaten or drawn off.

As Applied to Paper Machines

As applied to paper machines, recording thermometers are used to record the temperature existing in the drying rolls and pressure gauges give similar information with regards the pressure existing in the different sections of the machine. A contact thermocouple has also been used to good advantage in obtaining the actual surface temperatures of the calender rolls.

The speed of the paper through the machine has long been an important factor and this is best recorded by means of an electric tachometer, the magneto of which is attached to the spring roll of the machine. This gives an accurate record in feet per minute of the paper through the machine and will show clearly the time and interval during which the machine was down for a "break" or repairs. The electric tachometer recorder may be placed any desired distance from its magneto fixture.

In Fine Paper Plants

In the fine paper plants where the paper is treated with various sizes recording thermometers are utilized to keep this solution at its proper temperature and consistency. A similar use for recorders is found in plants making waxed papers. Fine papers when being seasoned are often subjected to very carefully regulated temperature and humidity conditions, and recording psychrometers are the best means of keeping the conditions under complete control as desired, while the paper is drying out.

There are many other uses in plants auxiliary to the ordinary paper mill to which recorders have been most profitably applied, but those mentioned are the more direct applications in the pulp and paper industry. Throughout the entire paper mill process, from the grinder rolls to the seasoning of fine papers, the recording instrument has come to play an important part. Ever on the watch, and never sleeping, these recorders serve as silent sentinels in their dual roles of a guide for the operator and a check to the superintendent.

That is why the recording instrument has been used so extensively in the pulp and paper industry.

Report on the Use of Powdered Coal

A development that deserves the careful consideration of all large industrial consumers of fuel is the use of pulverized coal. A recent contribution to the available literature on this subject is a report just published by the Mines Branch of the Department of Mines, Ottawa, entitled, "The Preparation, Transportation and Combustion of Powdered Coal," by John Blizzard, which has been prepared with a view to showing that low grade Canadian fuels might be more widely utilized by burning them in powdered form.

Pulverized coal has been used for some years now in rotary calcining kilns, almost all cement plants being so equipped. It is similarly used, in lime burning, in the calcining of magnesite and in the calcining of siderite iron ore.

There appears to be a wide field, however, for the further development of the use of pulverized fuel in the production of power and heat in large industrial operations.

The author of this report has given a very comprehensive and detailed description of the various systems used in the preparation, transportation and combustion of powdered coal. In addition, there is a review of many of the industries which are burning coal in the powdered form, with a detailed description of the methods employed in the more important of them, showing the advantages derived by using powdered coal.

Quoting from the introductory of this report: "Manufacturers, and operators of coal fired furnaces cannot afford to disregard the possible advantages of pulverizing their coal before burning it. Hence the purpose of this bulletin will be fulfilled if it leads them, after making careful estimates, either to abandon their present method of burning coal on grates or stokers, and install the pulverizers, conveying system, powdered coal feeder and burner, best suited for burning powdered coal in their plant; or to reject, as uneconomical, the replacement of their present system of burning coal, by a system for pulverizing and burning it."

Copies of the Report may be obtained on application to the Director, Mines Branch, Department of Mines, Ottawa.

[NOTE.—Technical Association Papers, Series IV, contains an article by L. L. Hebbird on Burning of Pulverized Fuel in Paper Mill Power Plants.—EDITOR.]

CURRENT PAPER TRADE LITERATURE

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

New Rosin Constituents.—Aschan.—*Zellstoff u. Papier*, i, 103 (July, 1921).—The article contains a historical account of recent work done on rosin. Various chemical reactions shown by rosin are mentioned.—H. E. W.

Half Stuff from Wood.—Ger. patent No. 324,053, Class 55b, Trygve Kittelsen. The wood is first cooked with black liquor and then fresh liquor is added and the wood is finally ground.—H. E. W.

Sizing for Paper.—Ger. patent No. 303,341, Zander.—Montan wax is saponified with soda and then emulsified.—H. E. W.

Sizing for Paper.—Ger. patent No. 331,742, H. Th. Bohme.—A mixture of montan wax and coumarone resin is mixed with sulphite waste liquor and used for sizing.—H. E. W.

Starch Sizing for Paper.—Ger. patent No. 322,936, The Casein Co.—The starch is treated with oxalic acid.—H. E. W.

New Developments in Sulphite Mills.—Kuhn.—*Zellstoff u. Papier*, i, 109 (July, 1921).—Among other recent innovations in the equipment lately installed in sulphite mills, the Brunger-Deissler cooker is mentioned, and with this digester samples of cooked wood are taken out of the digester and inspected. The waste liquor is not tested.—H. E. W.

Glarimeter.—Kieser.—*Zellstoff u. Papier*, i, 113 (July, 1921).—Mention is made of an instrument made by Schmidt and Haensch which has been used to measure the blackening of photographic papers on exposure to light, the degree of whiteness of papers, and to measure color as a function of the black content. Cuts are given showing the use of the instrument as a glarimeter and as a "blackmeter" for testing the whiteness of paper.—H. E. W.

Cellulose and Sulphite Pulp.—Klein.—*PAPER TRADE J.*, lxxiii, 46 (Sept. 8, 1921).—The author mentions various constitutional formulas of cellulose, including those proposed by Green, Cross and Bevan, Tollens, Hess, Vignon, Hibbert and Herzog, and emphasizes the fact that cellulose is a colloid. Soluble lignin compounds result from esterification, by condensation of the bisulphite with carbonyl groups, by addition of the bisulphite to a double bond, and by sulphonation. Sulphite pulp is a cellulose rich in residues of the decomposition of wood.—H. E. W.

Waste Wood in Paper Making.—Clarence J. West, National Research Council.—*PAPER TRADE J.*, lxxiii, 52 (Sept. 8, 1921).—Forty to 50 percent of the wood is wasted at the mill approximately as follows: bark 10-12 percent, sawdust 12-15 percent, edging and trimming 15-20 percent, careless manufacturing 5 percent. A furnish for news print of 30 percent sulphite, 35 percent waste paper, and 35 percent sawdust pulp is given.—H. E. W.

Beater Roll.—Can. patent No. 193,135, Chester E. Beecher and John Symons, co-inventors, both of Conshohocken, Pa., U. S. A., Oct. 14, 1919. Claims allowed 5.—A. P.-C.

Wood Preserving Mixture.—Can. patent No. 193,171, Alphee P. Gaudette, Hartford, Conn., U. S. A., Oct. 14, 1919.—The mixture consists of whiting, crude oil, raw linseed oil, a drier, and kerosene. Claim allowed 1.—A. P.-C.

Process of Bleaching Vegetable Fibers.—Can. patent No. 193,226, Robert R. Roberts, Washington, D. C., U. S. A., Oct. 14, 1919.—The fibers are boiled under pressure in a solution of soda ash and borax containing kerosene, transferred to an aqueous solution of sulphuric acid, transferred to a washing

solution containing neutral soap, rinsing in clear water, and finally drying the fibers. Claims allowed 4.—A. P.-C.

Bast Fiber Production.—Can. patent No. 193,245, Leon De Wolf-Wante, Stockport, Chester, England, Oct. 14, 1919.—The fibers are treated in a caustic oxidizing bath containing an amount of alkali hydroxide equivalent to at least 9 per cent by weight of sodium hydroxide and a compound of oxygen which acts as an oxidizing agent in alkaline solution.

Scraper for Paper Calendering Rolls.—Can. patent No. 193,339, John A. Frossard, Pepperell, Mass., U. S. A., Oct. 21, 1919. Claims allowed 7.—A. P.-C.

Centrifugal Save-All.—Can. patent No. 193,345, Frank Groch, Cobalt, Ont., Can., Oct. 21, 1919. Claims allowed 7. Same as U. S. A. patent No. 1,312,976.—A. P.-C.

Fourdrinier Machine.—Can. patent No. 193,361, Samuel Milne, Edinburgh, Scotland, Oct. 21, 1919. Claims allowed 8.—A. P.-C.

Press for Wood Pulp.—Can. patent No. 193,389, Aktiebolaget Karlstad Mekaniska Verkstad, assignee of Rudolf Ernest Wagner, both of Karlstad, Sweden, Oct. 21, 1919. Claims allowed 5.—A. P.-C.

Inward Flow Paper Stock Screen.—Can. patent No. 193,391, The Bird Machine Company, assignee of Charles S. Bird, both of East Walpole, Mass., U. S. A., Oct. 21, 1919. Claims allowed 7.—A. P.-C.

Machine for Molding Pulp Articles.—Can. patent No. 199,401, The Keys Fiber Company, Waterville, Me., assignee of Frank W. Waterman, West Philadelphia, Pa., both in the U. S. A., Oct. 21, 1919. Claims allowed 12.—A. P.-C.

Process for the Production of Semi-Chemical Pulp.—Can. patent No. 193,426, Tyrgve Kittelsen, Christiania, and Erling Kittelsen, Eidswold, both in Norway, co-inventors, Oct. 28, 1919.—Wood cut into suitable pieces and bored or cut through lengthwise are treated in a boiler for a suitable length of time with clarified black liquor, without heating by steam, and is then boiled for a suitable period of time with a concentrated soda liquor direct from the electrolyzing cells which has been diluted to the proper concentration either with clear water or with clarified black liquor. The wood is then washed free from liquor and ground. Claims allowed 3.—A. P.-C.

Lining for Acid Pots.—Can. patent No. 193,579, Charles Froude Curtis, Pontardaws, Glamorgan, South Wales, Nov. 4, 1919.—A lining for acid pots composed of: sawdust 30 per cent, portland cement 30 per cent, whiting 10 per cent, and pyrites ashes 30 per cent. Claims allowed 1.—A. P.-C.

Dehydrator for Woodpulp.—Can. patent No. 193,730, Olaf Quiller and Kristian Holter, Christiania, Norway, Nov. 11, 1919. Claims allowed 3.—A. P.-C.

Reciprocating Mechanism for Screens.—Can. patent No. 193,795, Charles Leo Miller, Scottdale, Pa., U. S. A., Nov. 11, 1919. Claims allowed 4.—A. P.-C.

Collapsible Cardboard Box.—Can. patent No. 193,916, Alfred Avis, Rugby, Warwick, England, Nov. 18, 1919. Claims allowed 3.—A. P.-C.

Machine for Making Pulp Tubes.—Can. patent No. 194,040, Calvert Thame, West Drayton, Middlesex, England, Nov. 18, 1919. Claims allowed 3.—A. P.-C.

Hardy Stock Regulator.—Can. patent No. 194,087, The Mills Works and Machinery, Ltd., Pont Rouge, assignee of George Hardy, Portneuf Station, both in Quebec, Can., Nov. 18, 1919. Claims allowed 2.—A. P.-C.



CUT down excessive wrapping paper investment. Why carry two wrapping paper lines for one wrapping paper purpose?

MOSINEE

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

MOSINEE KRAFT

"The Wrapper That Delivers the Goods"

ALVAH MILLER, Pres. TOM T. WALLER, Vice-Pres.
NATH'L L. MILLER, Secy-Treas.

Craig-Becker Company

INC.

**Domestic and Foreign
Ground Wood and
Sulphite**

52 VANDERBILT AVE.
NEW YORK CITY



EVERYTHING IN

PULP & PAPER

J. F. PATTON CO., INC.

342 Madison Ave.
New York City

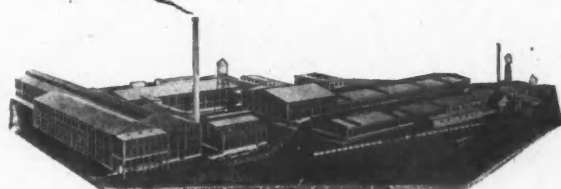
(Cable address - Pulp, N.Y.)

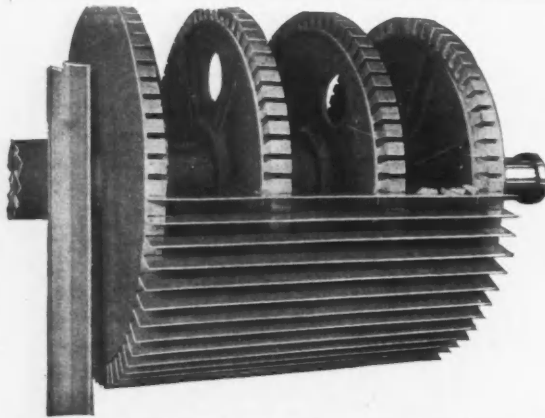


*Yours for Bigger
and Better Business*

K·V·P

Genuine Vegetable Parchment
Pure White Waxed Paper
Bond—White and Six Colors
Manifold—Substance 8 and 10.





Dilts Machine Works, Inc.

Fulton, N. Y., U. S. A.

Manufacturers of

**BEATING and WASHING ENGINES
FLY BARS—BED PLATES—
MACHINE KNIVES**

Our new KEYED TYPE BANDLESS ROLL is the final result of Many Years of Experience.

May we not tell you about its many advantages?

The Lockport Felt

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

ASK THE MEN WHO RUN THEM
YOURS FOR SERVICE

LOCKPORT FELT COMPANY
NEWFANE, N. Y.

The John W. Higman Co.

29 Broadway

New York City

QUALITY
CLAYS

FOR ALL PURPOSES

ENGLISH AND AMERICAN

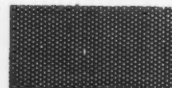
Perforated Metal Screens

For Pulp and Paper Mills

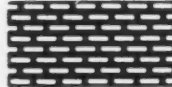
STEEL, COPPER, BRASS, BRONZE
and other Alloys

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

CHARLES MUNDT & SONS
53-65 FAIRMONT AVE.



365 Inch Round



1/2 x 1/2 Inch Slots

JERSEY CITY, N. J.

PAPER MAKERS CHEMICAL CO. WESTERN PAPER MAKERS CHEMICAL CO.

EASTON
JACKSONVILLE

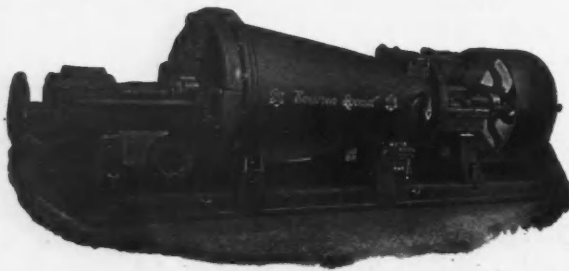
HOLYOKE
PENSACOLA

KALAMAZOO
ST. AUSTELL

CLAYS ROSIN SIZE
SATIN WHITE FOAM KILLER

FELT SOAP and OTHER SPECIALTIES

EMERSON MANUFACTURING CO. LAWRENCE MASS.



See the Second-Hand Machinery ads and note the
ABSENCE of

**EMERSON
BEATING ENGINES**

They seldom wear out and are never thrown out.
PERFECT CIRCULATION. NO "PADDLING."

The "EMERSON" JORDAN

does its work with half the power required by others of no
greater capacity.

WRITE FOR DETAILS

Howard Bond



Howard Ledger

"The Paper of Many Uses"

Manufactured by

THE HOWARD PAPER COMPANY,

Urbana, Ohio

FORGE LAP-WELDED

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

SOFT STEEL

DIGESTERS

ALL SEAMS LAP-WELDED

AMERICAN WELDING COMPANY

CARBONDALE, PA.

**CIRCUMFERENCE
SEAMS
HEATED WITH
FURNACES
AND HAMMER
WELDED**

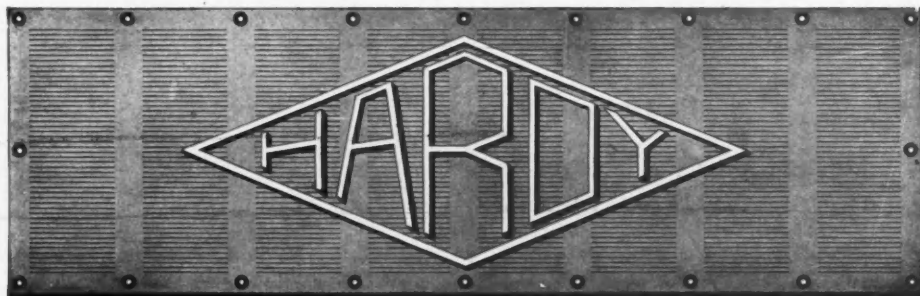
Felt Test—Lowest Cost per Ton

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

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

THE ORR FELT & BLANKET COMPANY, Piqua, Ohio

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



(SONNEBORN PRODUCTS)

Concrete dust ruins machinery and merchandise.
It shows that the concrete floor is disintegrating.

LAPIDOLITH
TRADE MARK

**Makes Concrete Floors
Dustproof and Wearproof**

Over 200,000,000 square feet of concrete floors
lapidolized thus far.

Write for samples and testimonials to Dept. 30

L. SONNEBORN SONS, Inc.
284 Pearl St., New York

(SONNEBORN)

PAPER and BOARDS ALL GRADES

Direct Mill Service to the Paper Merchant

Boston Hill Company

INCORPORATED
501 Fifth Avenue at 42nd Street
NEW YORK CITY

Blotting Paper of the Best Quality

MANUFACTURED BY

THE EATON-DIKEMAN COMPANY

LEE, MASS.

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

Registered brands Magnet and Columbian, also
Lenox and Arlington.

SEND FOR SAMPLES AND PRICES

CLAFLIN CONTINUOUS BEATERS

produce a fine, smooth, strong, uniform stock

The 250 Clafin Continuous Beaters

Now in use prove that they are the Ideal Equipment for

Rope Manilla Kraft Paper
Wall Board Sulphite Screenings
Leather Board Waste from Pulp Stones

THE CLAFLIN ENGINEERING CO.

Lancaster, Ohio

The Canadian Fairbanks-Morse Co., Montreal, Quebec
Agents for Dominion of Canada

CRANE BRASS VALVES

Manufacturers
of
All Special
Small Roll
Products



Adding
Machine,
Cash Register,
Die Wiping,
Hand Rolls,
Etc., Etc.

PAPER MANUFACTURERS CO., Inc., Phila., Pa.

SHERMAN PAPER COMPANY

Manufacturers of Roll Newsprint. H. W. & W. Process

Entire Product for 1921 Contracted

Mills at Felts Mills, Great Bend & Lefebvre, N. Y.
Main Office, Trust Co. Building, Watertown, N. Y.

AGALITE FILLER

UNITED STATES TALC CO.

GOVERNEUR . NEW YORK

The Paper Trade Journal

is the only publica-
tion in its field

A MEMBER OF

**The Audit Bureau of
Circulations**

STEARNS TANKS

BLOW-PIPES, STORAGE
TANKS, ACID TOWERS, Etc.,
OF WOOD.

HEAVY PAPER MILL WORK
IS OUR SPECIALTY.

70 YEARS' EXPERIENCE.

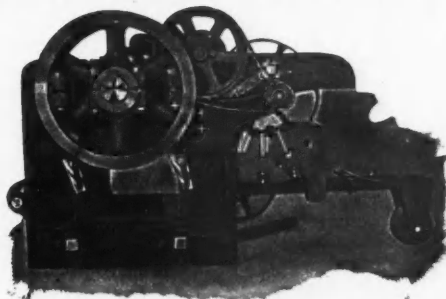
*Enquire for quotations
Have you our catalogue?*

THE A. T. STEARNS LUMBER COMPANY
125 Taylor St., Neponset, Boston, Mass.



Don't Use Your Beaters For Rag Cutters

Put in a
GIANT
and cut your stock
thoroughly and evenly



Capacity 2 Tons per
hour

Weight 8500 lbs.

For Roofing and Felt
Stock

NO. 11 TRIPLEX



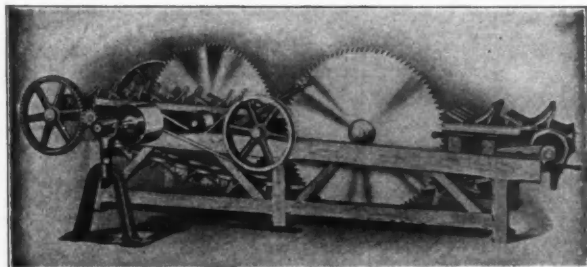
Canadian Manufacturers Under Patents: WATEROUS ENGINE WORKS CO., Brantford, Ont., Can.
I. MARX & CO., London, E. C., sole agents for the United Kingdom

Increased Capacity Lower Cost Per Cord

THE

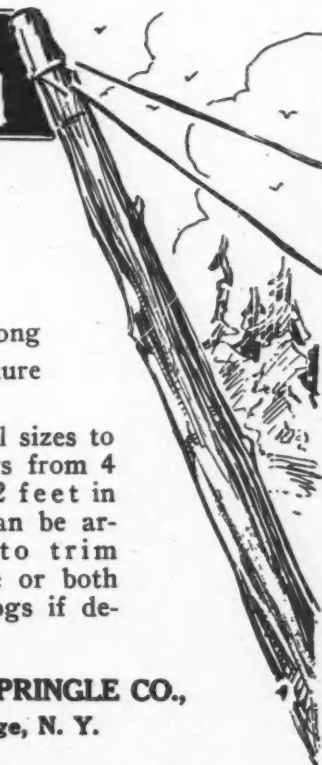
Ryther Slasher

is the most efficient and the lowest cost method of reducing long logs to uniform short lengths suitable for further manufacture into pulp and paper.



Built in all sizes to handle logs from 4 feet to 32 feet in length. Can be arranged to trim either one or both ends of logs if desired.

RYTHER & PRINGLE CO.,
Carthage, N. Y.



New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, JANUARY 11, 1922.

The New York paper market is keeping pace with the trend of economic progress in general which at present justifies the existing atmosphere of optimism for a conservative yet prosperous year. The opening days of a new year do not constitute a period sufficiently long to prophesy what business prospects actually are, and few if any are venturesome enough to lay much stress on what the future holds for the paper industry. Nevertheless, the current market is firm and is judged by those best qualified to express an opinion to stand for what is eminently more healthful, a condition of serious, work-for-what-you-get prosperity. Closely in accord with this condition is the sentiment that profits for the year will be directly in proportion to efforts made to keep costs down and to compete successfully. There is little doubt that competition will be keen for some time since the reduced buying power of consumers has so shrunken the market that individual manufacturers and dealers are going to bend every effort to wrest some additional business from their competitors. Because of this element now existent there are multiple rumors afloat about consolidation in some of the industries. No one doubts but that some mergers for more effective operation will take place under the present propitious influence of easy money, and when once these have been established American industry will be better qualified to compete in world markets to the development and prosperity of domestic industry. The uneasiness occasioned by the adjustments of the last of the old year and the first of the new year is now being dissipated by the optimistic belief that fundamental conditions are sound and steadily improving.

The news print market continues firm with no diminution in consumption and with an ample supply for the present being produced regularly. Prices are felt to be at the bottom and profits are nominal. Small manufacturers have their product well covered for the first of the year while larger interests are not so well situated due to their efforts to hold the price up in order to permit them to meet their large overhead with added profits. There are prospects that the German Government will place an embargo on news print and news print making materials since the German press finds itself severely handicapped by the scarcity of those commodities. Such an action will put an end to the destructive competition from that source.

A good many inquiries are being received by the book paper market indicating that interest is reawakened and that things may be expected to move normally again within a short time. Production is not back to normal yet nor is the demand one to create a strong market. The tone in the trade is optimistic and the present hand to mouth buying is expected to give way soon to steady and moderate demand. Prices are firm.

It apparently requires some effort to dispose of fine paper in any large quantity and buying is not considered near normal as yet although the up and down hill demand is beginning to level itself out with the general improvement of economic conditions. The fine paper division is usually the last to recover from any depression and the fact that some betterment, however slight, has been observed is sufficient cause for the improved sentiment in the market.

The tissue market is quiet on the whole with buying erratic, and production subnormal. In most cases it is difficult for prospective buyers to come to terms with dealers and it is evident that there is still much uncertainty surrounding prices. What demand exists is wholly for immediate consumption and in no case for the purpose of stocking up. The anticipated settlement of garment workers' strikes will lend an added demand to the tissue market and before long it is confidently expected that business will improve.

The kraft market maintains its position of strength with mills running at capacity and demand such as to fill order books for several months in advance. Once the weight of labor troubles and transportation impediments are raised from the industry a banner year will be assured for the department which has every reason to be encouraged as things are at present. Prices are firm and are being met with little question in the belief that they have been amply liquidated.

Mechanical Pulp

The mechanical pulp market has been quiet and steady for the past week. The subnormal supply and the steady decrease of stocks on hand tend to counteract the meager demand thereby keeping quotations firm and the market consistently busy with small orders. Production is picking up slowly and prospects are better in spite of the drag of cumbersome freight rates.

Chemical Pulp

The chemical pulp market is quiet with sales of the hand to mouth variety. Domestic prices are firm and foreign prices tend to rise. Swedish manufacturers are reported to have cleaned up their surplus stocks. The German press is using its influence to move the government to place an absolute embargo on paper pulp. If this becomes effective a large part of the cutthroat competition now in operation will be ended. A firm tone underlies the market and there is little reason to be other than optimistic for the future.

Old Rope and Bagging

A demand for old rope and bagging is difficult to find. Sales are effected only after a deal of shrewd bargaining and the outlook is not too promising. The price trend is slightly lower although it is generally believed that the bottom has now been reached. Paper mills have not yet begun to add to their stocks and it is toward the demand from this source that dealers in old rope and bagging are turning for encouragement.

Waste Paper

There has been some increase in the number of inquiries for waste paper during the week and business has been done in small amounts at prices which continue firm. Waste paper men believe that their prices are absolutely at the bottom and that no further reductions need be expected. Supplies of waste paper are low at the mills and as soon as business has fully recovered from the distraught conditions attendant upon the new year the demand from this source is expected to make for a normally active market.

Rags

Little improvement can be perceived as yet in the rag market. Business is very slack and the absence of any pressure so usual in a quiet market is an unprecedented turn of events. Papers of high rag content are not in demand and until they are little betterment may be expected in this market.

Twine

Business in twine has resumed from where it left off at the coming of the holidays and dealers and manufacturers are optimistic on account of the noticeable improvement registered in the last days. Prices fluctuate.

Mutual Paper Co. Incorporates

CLEVELAND, Ohio, January 9, 1922.—The Mutual Paper Company with office at 202 Columbia Building is being incorporated, with A. L. Trostler, president, George Patrick, secretary.

The new firm will absorb the wholesale stationery business of A. L. Trostler & Co. and will specialize in bond papers, blanks, coated book, manilla tissue and envelopes.

They will carry a complete stock and also handle jobs in fine papers.

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations January 10, 1922:

STOCKS	BID.	ASKED.
American Writing Paper Company, pref.	22 3/4	23
International Paper Company, com.	48 3/4	50
International Paper Company, pref., stamped	67	70
Union Bag & Paper Corporation.	68	69

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

Paper	F. o. b. Mill.
Ledgers	10.50 @ 30.00
Bonds	9.00 @ 55.00
Writings—	
Extra Superfine	14 @ 25
Superfine	13 @ 20
Tub. Sized	10 @ 16
Engine Sized	9.00 @ 15.00
News—f. o. b. Mill—	
Rolls, contract	3.50 @
Rolls, transit	3.75 @ 4.00
Sheets	4.00 @ 4.50
Side Runs	3.50 @ 4.00
Book, Cased—f. o. b. N. Y.—	
S. & S. C.	6.70 @ 7.50
M. F.	6.45 @ 7.25
Coated and Enamel	8.25 @ 10.25
Lithograph	8.25 @ 11.25
Tissues—f. o. b. N. Y.—	
White, No. 1	.75 @ .80
Colored	1.00 @ 2.00
Anti-Tarnish	.82 1/2 @ .85
Silver Tissue	1.50 @ 2.70
Manila	.75 @ .80
Kraft—f. o. b. Mill—	
No. 1 Domestic	6.75 @ 7.50
No. 2 Domestic	5.75 @ 6.50
Imported	6.00 @ 6.50
Screenings	2.50 @ 3.50
Manila—	
No. 1 Jute	8.50 @ 9.00
No. 2 Jute	7.75 @ 8.50
No. 1 Wood	5.00 @ 6.00
No. 2 Wood	4.50 @ 5.00
Butchers	4.90 @ 5.70
Fiber Papers—	
No. 1 Fiber	6.00 @ 6.25
No. 2 Fiber	5.25 @ 5.50
Common Bogus	1.80 @ 2.10
Card Middies	4.00 @ 5.00
Boards—per ton—	
News	40.00 @ 45.00
Straw	35.00 @ 40.00
Chip	35.00 @ 40.00
Binders' Board	65.00 @ 75.00
Sgl. Mla. Ld. Chip	50.00 @ 55.00
Wood Pulp	75.00 @ 90.00
Container	65.00 @ 70.00
Wax Paper—	
Self Sealing White	
28 and 30 lb.	
basis	.12 @ .13
Waxed Tissue	1.52 @ 1.80
Glassine—	
Bleached, basis 25	
lbs.	.14 @
Bleached, basis 20	
lbs.	.16 @
Mechanical Pulp	
(Ex-Dock)	
No. 1 Imported	38.00 @ 42.00
F. o. b. Pulp Mills.	
No. 1 Domestic	32.00 @ 40.00
Chemical Pulp	
(Ex-Dock, Atlantic Ports)	
Sulphite (Imported)—	
Bleached	4.25 @ 5.00
Easy Bleaching	3.25 @ 3.50
No. 1 Strong unbleached	2.75 @ 3.25
No. 2 Strong unbleached	2.50 @ 2.75
No. 1 Kraft	2.75 @ 3.00
Sulphate—	
Bleached	4.00 @ 4.50
(F. o. b. Pulp Mill.)	
Sulphite (Domestic)—	
Bleached	4.50 @ 5.25
Strong unbleached	2.75 @ 3.00
Easy Bleaching	
Sulphite	3.00 @ 3.50
News Sulphite	2.75 @ 3.00
Mitscherlich	3.25 @ 3.75
Kraft (Domestic)	2.75 @ 3.00
Soda bleached	4.00 @ 4.25

Domestic Rags	New	Prices to Mill, f. o. b. N. Y.
Shirt Cuttings—		
New White, No. 1	10.00	@ 10.50
New White, No. 2	6.00	@ 6.50
Silesias, No. 1	6.00	@ 6.50
New Unbleached	8.75	@ 9.50
Washables	4.00	@ 4.50
Fancy	4.50	@ 5.00
Cottons—according to Grades—		
Blue Overall	5.75	@ 6.00
New Blue	4.00	@ 4.50
New Black Soft	3.50	@ 4.00
New Light Sec-		
onds	2.75	@ 3.00
O. D. Khaki Cut-		
tings	3.50	@ 3.75
Corduroy	2.75	@ 3.00
New Canvas	6.00	@ 6.50
New Black Mixed	2.75	@ 3.25
Old		
White, No. 1—		
Repacked	5.00	@ 5.50
Miscellaneous	4.00	@ 4.25
White No. 2—		
Repacked	2.75	@ 3.00
Miscellaneous	2.25	@ 2.50
St. Soiled White	1.65	@ 1.75
Thirds and Blues—		
Repacked	2.00	@ 2.25
Miscellaneous	1.35	@ 1.50
Black stockings	2.00	@ 2.25
Cloth Strippings	1.05	@ 1.15
No. 1	1.10	@ 1.15
No. 2	.90	@ 1.00
No. 3	.70	@ .80
No. 4	.70	@ .80
No. 5	.90	@ 1.00
Foreign Rags		
New Light Silesias	6.00	nominal
Light Flannels	6.75	nominal
Unbleached Cottons	7.50	nominal
New White Cut-		
tings	9.50	nominal
New Light Oxfords	6.00	nominal
New Light Prints	4.50	nominal
New Mixed Cut-		
tings	nominal	
New Dark Cuttings	2.00	@ 2.25
No. 1 White Linens	8.50	@ 10.00
No. 2 White Linens	6.50	nominal
No. 3 White Linens	5.00	nominal
No. 4 White Linens	3.50	nominal
Old Extra Light		
Prints	2.25	nominal
Ord. Light Prints	1.75	nominal
Med. Light Prints	nominal	
Dutch Blue Cottons	2.10	nominal
German Blue Cot-		
tons	1.75	nominal
Ger. Blue Linens	3.00	nominal
Checks and Blues	1.50	nominal
Dark Cottons	1.10	nominal
Shoppery	.95	@ 1.00
French Blues	2.00	nominal
Bagging		
Prices to Mill f. o. b. N. Y.		
Gunny No. 1—		
Foreign	1.00	@ 1.10
Domestic	1.10	@ 1.20
Wool, Tares, light	1.20	@ 1.30
Wool, Tares, heavy	1.25	@ 1.40
Bright Bagging	1.20	@ 1.30
No. 1 Scrap	.75	@ 1.10
Sound Bagging	.75	@ .85
Manila Rope—		
Foreign	5.00	@ 5.25
Domestic	5.25	@ 5.50
New Bu Cut.	2.50	@ 3.00
Hessian Jute Threads—		
Foreign	4.25	@ 4.50
Domestic	4.00	@ 4.25
Mixed Strings	1.10	@ 1.25
Twines		
Cotton— (F. o. b. Mill)		
No. 1	32	@ 34
No. 2	30	@ 32
No. 3	26	@ 28

India, No. 6 basis—		
Light	17	@ 18
Dark	17	@ 18
B. C. 18 Basis	39	@ 40
A. B. Italian, 18		
Basis	50	@ 60
Finished Jute—		
Light, 18 basis	25	@ 26
Dark, 18 basis	26	@ 28
Jute Wrapping, 3-6		
Fly—		
No. 1	22	@ 23
No. 2	30	@ 31
Tube Rope—		
4-ply and larger	14	@ 10
Fine Tube Yarn—		
5-ply and larger	18	@ 20
4-ply	19	@ 21
3-ply	20	@ 22
Unfinished India—		
Basis	15	@ 16
Paper Makers Twine		
Balls	12	@ 14
Box Twine, 2-3 ply	16	@ 17
Jute Rope	12	@ 14
Amer. Hemp, 6	32	@ 34
Sisal Hay Rope—		
No. 1 Basis	14	@ 16
No. 2 Basis	12	@ 14
Sisal Lath Yarn—		
No. 1	13	@ 14
No. 2	10	@ 12
Manila Rope	16	@ 18

Old Waste Papers	(F. o. b. New York)
Shavings—	
Hard White, No. 1	3.75 @ 4.00
Hard White, No. 2	3.00 @ 3.25
Soft White No. 1	2.85 @ 3.05
Flat Stock—	
Stitchless	1.40 @ 1.50
Over Issue Mag.	1.40 @ 1.50
Solid Flat Book	1.30 @ 1.40
Crumpled No. 1	.95 @ 1.05
Solid Book Ledger	2.00 @ 2.25
Ledger Stock	1.65 @ 1.75
No. 1 White News	1.75 @ 1.85
New B. B. Chips	.45 @ .50
Manilas—	
New Env. Cut	2.90 @ 3.15
New Cut No. 1	1.80 @ 2.00
Extra No. 1, Old	1.60 @ 1.70
Print	.80 @ .90
Container Board	.60 @ .70
Bogus Wrapper	.55 @ .60
Old Krafts, ma-	
chine compressed	
Bales	1.70 @ 1.80
News—	
Strictly Overissue	.65 @ .75
Strictly Folded	.50 @ .55
No. 1 Mixed Paper	.35 @ .40
Common Paper	.25 @ .30

CHICAGO

Paper	(FROM OUR REGULAR CORRESPONDENT.)
Binders' Board	80.00 @ 90.00
Solid Wood Pulp	80.00 @ 90.00
Straw Board	35.00 @ 40.00
Filled Pulp Board	60.00 @ 65.00
Old Papers	
Shavings—	
No. 1 Hard White	3.00 @ 3.25
No. 1 Soft Shav.	2.25 @ 2.50
No. 1 Mixed	.80 @ .85
No. 2 Mixed	.80 @ .85
White Envel. Cut-	
ings	3.00 @ 3.25
Ledgers and Writ-	
ings	1.50 @ 1.75
Solid Books	1.25 @ 1.50
No. 1 Books, light	.90 @ 1.00
Blanks	1.65 @ 1.75
Ex. No. 1 Manila	1.90 @ 2.00
Manila Envelope	
Cuttings	2.00 @ 2.25
No. 1 Manilas	1.10 @ 1.20
Folders News (over	
issue)	.85 @ .90
Old Newspaper	.70 @ .75
Mixed Papers	.65 @ .70
Straw Clippings	.65 @ .70
Binders Clippings	.65 @ .70
Kraft	1.75 @ 2.00
New Kraft Cuts	2.00 @ 2.25
Roofing Stock, f.o.b.	
Chicago, Net	
Cash—	
No. 1	27.00 @
No. 2	25.00 @
No. 3	23.00 @
No. 4	23.00 @

PHILADELPHIA

Paper	(FROM OUR REGULAR CORRESPONDENT.)
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 @ .09
Book, S. S. & C.	.08 @ .15
Book, Coated	.08 @ .15
Coated Lithograph	.10 @ .15
Label	.08 @ .15
News	.05 @ .07
No. 1 Jute Manila	.18 @ .18 1/2
Manila Sul., No. 1	.09 1/2 @ .10
Manila No. 2	.08 1/2 @ .09
No. 2 Kraft	.07 @ .07
No. 1 Kraft	.08 @ .08
Common Bogus	.02 @ .03 1/2
Straw Board	35.00 @ 45.00
News Board	40.00 @ 45.00
Chip Board	30.00 @ 35.00
Wood Pulp Board	90.00 @ 100.00
(Carload Lots)	
Binder Boards—	
Per ton	\$65.00 @ 75.00
Carload lots	60.00 @ 65.00
Tarred Felts—	
Regular	75.00 @ 80.00
Slaters	80.00 @ 85.00

Bagging	F. o. b. Phila.
Gunny No. 1—	
Foreign	2.25 @ 2.50
Domestic	1.00 @ 1.25
Manila Rope	4.00 @ 4.50
Sisal Rope	.75 @ .80
Mixed Rope	.75 @ .80
Scrap Burlaps	1.00 @ 1.25
Wool Tares, heavy	2.50 @ 2.75
Mixed Strings	.75 @ .80
No. 1, New Lt. Bur-	
lap	.75 @ .80
New Burlap Cut-	
tings	1.75 @ 2.25
Old Papers	
F. o. b. Phila.	
Shavings—	
No. 1, Hard	
White	3.50 @ 3.75
No. 2, Hard	
White	3.00 @ 3.25
No. 1 Soft White	3.00 @ 3.25
No. 2 Soft White	1.75 @ 2.00
No. 1 Mixed	1.50 @ 1.75
No. 2 Mixed	1.00 @ 1.25

(Continued on page 62)

Imports and Exports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JANUARY 7, 1922

SUMMARY

News Print, 562 rolls, 238 bls.
 Printing Paper, 101 rolls, 17cs.
 Hangings, 14 bls.
 Wall Paper, 34 cs., 3,436 rolls, 14 bls.
 Writing Paper, 4 cs.
 Cigarette Paper, 103 cs.
 Surface Coated Paper, 103 cs.
 Drawing Paper, 33 cs.
 Packing Paper, 1,041 rolls, 447 bls., 129 cs.
 Tracing Paper, 3 cs.
 Decalcomania, 3 cs.
 Miscellaneous Paper, 91 cs., 310 bls., 2,848 rolls.

CIGARETTE PAPER

American Tobacco Co., La Touraine, Havre, 54 cs.
 P. J. Schmeitzer, Feuchurch, Marseilles, 50 cs.
 C. B. Richard & Co., Estonia, Danzig, 9 cs.

WRITING PAPER

E. Dietzgen & Co., Feuchurch, Marseilles, 11 cs.

WALL PAPER

A. Murphy & Co., Huronian, Liverpool, 4 bls.
 A. C. Dodman, Jr., & Co., Finland, Antwerp, 10 bls.
 A. C. Dodman, Jr., & Co., Finland, Antwerp, 4 cs.
 The Prager Co., Finland, Antwerp, 3,436 rolls.
 R. F. Downing & Co., Honolulu Maru, Yokohama, 30 cs.

HANGINGS

A. C. Dodman, Jr., & Co., Huronian, Liverpool, 14 bls.

PRINTING PAPER

B. F. Drakenfeld & Co., Huronian, Liverpool, 17 cs.
 Agar Bernsson Corp., Mt. Clinton, Hamburg, 92 rolls.
 Agar Bernsson Corp., Chickasaw, Hamburg, 19 rolls.
 Chemical National Bank.

NEWS PRINT

National City Bank, Chickasaw, Hamburg, 453 rolls.
 National City Bank, Chickasaw, Hamburg, 238 bls.
 Hudson Trading Co., Hudson, Bremen, 109 rolls.

SURFACE COATED PAPER

G. W. Sheldon & Co., Hudson, Bremen, 88 cs.
 Defender Photo Supply Co., Finland, Antwerp, 15 cs.

DRAWING PAPER

P. Puttmann, Finland, Antwerp, 33 cs.

PACKING PAPER

Republic Bag & Paper Co., Chickasaw, Hamburg, 458 rolls.
 Japan Paper Co., Chickasaw, Hamburg, 129 cs.
 Republic Bag & Paper Co., Falls City, Hamburg, 583 rolls.
 Republic Bag & Paper Co., Falls City, Hamburg, 447 bls.

TRACING PAPER

Bernard Judae & Co., Mongolia, Hamburg, 3 cs.

DECALCOMANIA

L. A. Consmiller, Mongolia, Hamburg, 3 cs.

PAPER

Bendix Paper Co., Mt. Clinton, Hamburg, 3 cs.
 Japan Paper Co., Chickasaw, 65 bls.
 D. S. Walton & Co., Chickasaw, Hamburg, 92 bls.
 D. S. Walton & Co., Chickasaw, Hamburg, 1,750 rolls.
 Blauvelt-Wiley Paper Mfg. Co., Calabria, Glasgow, 2 bls.
 H. D. Catty & Co., Latouraine, Havre, 14 cs.
 W. F. Ethrington & Co., Tarantia, Glasgow, 74 cs.
 Wilkinson Bros. & Co., Inc., Monana, Gothenburg, 5 bls.
 Irving National Bank, Monana, Gothenburg, 56 rolls.
 Irving National Bank, Monana, Gothenburg, 23 bls.

Chemical National Bank, Monana, Gothenburg, 123 bls.
 Chemical National Bank, Monana, Gothenburg, 1,042 rolls.
 In transit to Chicago, Ill:
 E. H. Sergant & Co., Monana, Gothenburg, 7 cs. filter paper.

RAGS, BAGGINGS, ETC., NEW YORK

American Woodpulp Corp., Mt. Clinton, Hamburg, 216 bls. rags.
 Salomon Bros. & Co., Mt. Clinton, Hamburg, 45 bls. rags.
 National City Bank, Mt. Clinton, Hamburg, 91 bls. rags.
 Central Huron Trust Co., Mt. Clinton, Hamburg, 24 bls. rags.
 Mechanics' & Metals National Bank, Vindelia, Glasgow, 155 bls. rags.
 Ladenburg, Thalman & Co., Chickasaw, Hamburg, 1,816 bls. rags.
 Ladenburg, Thalman & Co., Chickasaw, Hamburg, 215 bls. bagging.
 Baring Bros. & Co., Chickasaw, Hamburg, 159 bls. rags.
 Salomon Bros. & Co., Chickasaw, Hamburg, 571 bls. rags.
 E. J. Keller Co., Chickasaw, Hamburg, 215 bls. bagging.
 F. P. Gaskell & Co., Chickasaw, Hamburg, 47 bls. rags.
 Bankers' Trust Co., Chickasaw, Hamburg, 23 bls. rags.
 M. O'Meara Co., Chickasaw, Hamburg, 57 bls. rags.
 A. Salomon, Inc., Chickasaw, Hamburg, 33 bls. new cuttings.
 A. Salomon, Inc., Falls City, Hamburg, 46 bls. new cuttings.
 A. Salomon, Inc., Falls City, Hamburg, 70 bls. rags.
 M. O'Meara Co., Falls City Hamburg, 315 bls. rags.
 Guaranty Trust Co., Falls City, Hamburg, 448 bls. rags.
 Parsons & Whittemore, Falls City, Hamburg, 1,040 bls. rags.
 E. Butterworth & Co., Eastern Belle, Belfast, 140 bales waste.
 American Woodpulp Corp., Hudson, Bremen, 422 bls. rags.
 Salomon Bros. & Co., Hudson, Bremen, 127 bls. rags.
 Chemical National Bank, Hudson, Bremen, 121 bls. rags.
 Ladenburg, Thalman & Co., Hudson, Bremen, 502 bls. rags.
 R. F. Downing & Co., Hudson, Bremen, 187 bls. rags.
 Castle, Gottheil & Overton, Hudson, Bremen, 715 bls. rags.
 M. Moran, Huronian, Liverpool, 37 bls. cotton waste.
 Ladenburg, Thalman & Co., Falls City, Hamburg, 50 bls. rags.
 Castle, Gottheil & Overton, Vindelia, London, 155 bls. rags.
 Castle, Gottheil & Overton, Novian, Manchester, 37 bls. bagging.
 Castle, Gottheil & Overton, Storm King, Antwerp, 285 bls. old bagging.
 J. J. Patrikoff & Co., Storm King, Antwerp, 246 bls. rags.
 International Acceptance Bank, Storm King, Antwerp, 36 bls. rags.
 Brown Bros. & Co., Storm King, Antwerp, 241 bls. rags.
 R. F. Downing & Co., Storm King, Antwerp, 232 bls. bagging.
 R. F. Downing & Co., Novian, Manchester, 239 bls. new cuttings.
 R. F. Downing & Co., Novian, Manchester, 38 bls. cotton waste.
 R. F. Downing & Co., Novian, Manchester, 64 bls. rags.
 Equitable Trust Co., Novian, Manchester, 63 bls. bagging.
 E. Butterworth & Co., Novian, Manchester, 400 bls. bagging.
 Mechanics' & Metals National Bank, Novian, Manchester, 37 bls. bagging.
 Irving National Bank, Novian, Manchester, 189 bls. bagging.
 Salomon Bros. & Co., Novian, Manchester, 40 bls. waste.
 Salomon Bros. & Co., Novian, Manchester, 299 bls. bagging.
 J. B. Moors & Co., Novian, Manchester, 389 bgs. hide cuttings.
 American Exchange National Bank, Novian, Manchester, 34 bls. flax waste.

OLD ROPE

Brown Bros. & Co., Calutera, Glasgow, 57 coils.
 American Woodpulp Corp., Hudson, Bremen, 54 coils.
 First National Bank of Boston, Monana, Gothenburg, 64 coils.
 J. L. Vandiner, N. Y. City, Bristol, 38 coils.
 Equitable Trust Co., N. Y. City, Bristol, 88 coils.
 R. F. Downing & Co., Vindelia, London, 60 coils.
 J. Hughes, Tarantia, Glasgow, 48 coils.
 E. J. Keller Co., Hudson, Bremen, 54 coils.

WOODPULP

C. L. Robinson, Mongolia, Gothenburg, 2,415 bls. soda pulp.
 E. M. Sergeant Co., Mongolia, Gothenburg, 700 bls. soda pulp.
 National Bank of Commerce, Mongolia, Gothenburg, 525 bls. soda pulp.
 National Bank of Commerce, Falls City, Hamburg, 460 bls. sulphite, 51 tons.
 M. Gottesman & Co., Falls City, Hamburg, 769 bls. woodpulp, 79 tons.
 Whalen Pulp & Paper Co., R. Goodfellow, Vancouver, B. C., 6,398 bls. woodpulp.
 Whalen Pulp & Paper Co., R. Goodfellow, Port Alice, B. C., 6,710 bls. woodpulp.
 Brown Bros. & Co., Mt. Clinton, Hamburg, 750 bls. woodpulp, 152 tons.
 Bendix Paper Co., Mt. Clinton, Hamburg, 45 bls. woodpulp wadding.
 F. Endles & Co., Chickasaw, Hamburg, 235 bls. woodpulp, 46 tons.
 Castle, Gottheil & Overton, Chickasaw, Hamburg, 1,000 bls. woodpulp, 200 tons.
 M. Gottesman & Co., Chickasaw, Hamburg, 893 bls. woodpulp.
 Woodpulp Trading Corp., Monana, Gothenburg, 338 bls. dry chemical pulp, 50 tons.
 Scandinavian Amer. Trading Co., Monana, Gothenburg, 1,143 bls. kraft sulphate, 228 tons.
 Scandinavian Amer. Trading Co., Monana, Gothenburg, 889 bls. bleached sulphite, 177 tons.

CASEIN

Atterbury Bros., Tonger, Buenos Aires, 250 bags, 15,000 kilos.

BOSTON IMPORTS

WEEK ENDING JANUARY 7, 1922

Reiss & Co., Falls City, Hamburg, 143 bls. cotton waste.

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 7, 1922

Whalen Pulp & Paper Co., R. Goodfellow, Port Alice, B. C., 7,820 bls. woodpulp.
 E. J. Keller Co., Eastern Sea, Rotterdam, 103 bls. rags.
 E. J. Keller Co., Belgian, Bremen, 1,005 bls. rags.
 E. J. Keller Co., Persier, Antwerp, 287 bls. rags.
 Castle, Gottheil & Overton, Chickasaw, Hamburg, 1,000 bls. woodpulp.
 Castle, Gottheil & Overton, Mackin, London, 53 coils rope.
 Hudson Trading Co., Chickasaw, 815 rolls news print.

GALVESTON IMPORTS

WEEK ENDING JANUARY 7, 1922

Hudson Trading Co., Tranquebar, 405 rolls news print.

NEW ORLEANS IMPORTS

WEEK ENDING JANUARY 7, 1922

Hudson Trading Co., Tranquebar, 38 rolls news print.

SAN FRANCISCO IMPORTS

WEEK ENDING JANUARY 7, 1922

Whalen Pulp & Paper Co., R. Goodfellow, Port Alice, B. C., 6,720 bls. woodpulp.

CONSOLIDATED PAPER BAG CO.

General Offices:
125 Merrimac St., Boston, Mass

Factory:
Somerville, Mass.



Manufacturers of

PAPER BAGS and SACKS of EVERY DESCRIPTION

Samples submitted on request

Inquiries Solicited

BLEACHED SULPHITE

FOR

Writing, Book and Tissue Papers

PARSONS

Pulp and Lumber Co.

EDWIN J. DEWEY, Manager Pulp Sales

Office, 1907-1910 Finance Bldg.,
PHILADELPHIA, PA.

Mills at
PARSONS, WEST VA.

NORWOOD

PAPER FINISHING MACHINERY

Write for Information

NORWOOD ENGINEERING CO.
Florence, Mass., U. S. A.

Mills at
Mocanaqua, Penn.



Shickshinny, Penn.

CREPE

ABSORBO

NAPKINS

Soft—pure white—perfectly absorbent
—heavily creped.

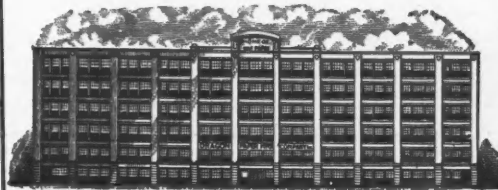
We sell the jobbing trade only.
Place your order today for some.

M. M. ELISH & CO., Inc.
29 Beekman St. New York City

WRITE ELISH ABOUT NAPKINS

WAXED PAPERS

WE ARE READY TO SERVE YOU



Manufacturers of

WAXED PAPERS

Sheet or Rolls Plain or Printed

Waxed Lunch Rolls
Pulp and Corrugated Cake Circles

Roll Printing—1 and 2 Colors
Sheeting and Rewinding.

ALL SIZES
White Confectionery Bags, Glassine Bags
Plain or Printed

DRAGON PAPER MFG. CO., INC.
484 Van Alst Ave., Long Island City, N. Y.

GLASSINE BAGS

WAXED PAPERS

WAXED PAPERS

Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, JANUARY 11, 1922.

ALUM.—The alum market is quiet on the whole and buying proceeds on a very conservative basis. Prices are firm with ammonia alum quoted at from 3.65 to 3.75 cents a pound for the lump, 3.75 to 4.00 cents for the ground, and 4.15 to 5.25 cents for the powdered.

BLEACHING POWDER.—Small quantities of bleach are in fair demand and dealers are encouraged by the moderate but noticeable improvement registered in the last week. Imported bleach sells at around 2.00 cents a pound and domestic at from 2.00 to 2.25 cents a pound.

BLANC FIXE.—The market in blanc fixe is quiet. Inquiries for small amounts have been received during the week in an encouraging volume and business is expected to pick up in the near future. Blanc fixe pulp is quoted at from \$40 to \$50 a ton, depending on the grade required, and powdered blanc fixe is quoted at from 3.50 to 3.75 cents a pound.

BRIMSTONE.—Business in the sulphur market is satisfactory for this time of year and from all indications 1922 promises to be a year of good conservative prosperity for the industry. Domestic brimstone is quoted at from \$18 to \$20 a ton f. o. b. New York, and \$16 to \$18 a long ton at the mines.

CASEIN.—The casein market is increasing in strength due to the marked stiffening in the demand of late. Supplies available from foreign and domestic sources are limited and prospects are good for higher prices as soon as the paper industry is working at normal again. Casein is quoted at from 8.25 to 8.50 cents a pound.

CAUSTIC SODA.—The outlook in the caustic soda department is encouraging. Contracts for the current year are on hand in goodly volume and there is no cause to warrant an insufficient supply. The contract price is 3.65 cents a pound on the basis of 76 to 78 per cent.

ROSIN.—The tone of the rosin market continues firm and business is slowly moving forward in the right direction. Carload lots of rosin of grades E, F, and G are quoted at 5.45 cents a pound.

CHINA CLAY.—A year of conservative and prosperous business is anticipated in the china clay market. A larger tonnage than required in 1921 will without a doubt be demanded this year with the paper industry in a more healthy position. The domestic unwashed product sells at from \$6 to \$8 a net ton, washed at from \$8 to \$10, and imported at from \$15 to \$20.

SALTCAKE.—The demand for saltcake is improving and lots of some size have moved in the last week to the general improvement of the feeling in the trade. Chrome saltcake sells at \$18 to \$20 a ton and acid white at \$22 to \$23.

STARCH.—The starch market is fairly strong and the demand firm. Dealers anticipate that the paper industry will demand much larger quantities of starch this year under generally improved conditions. For carloads quantities, freight prepaid to New York city, a 100 pound bag of starch sells at 1.83 and a barrel of the same weight at 2.10.

SATIN WHITE.—Some betterment has been noticeable in the satin white market in the last week although sales yet are few and mostly in small quantities. Prices are unsteady. Satin white is quoted at 2.10 cents a pound.

SULPHATE OF ALUMINA.—Buyers of sulphate of alumina are taking only what is absolutely essential and a quiet market results for the present. High freight rates are retarding the market in the heavier chemicals more perhaps than any other one factor and no immediate solution of the problem seems imminent. The commercial grade of sulphate of alumina sells at from 1.60 to 1.70 cents a pound and the iron free grade at from 2.60 to 3.00 cents.

Market Quotations

(Continued from page 59)

Solid Ledger Stock. 2.00 @ 2.25	New Black Soft. .03 @ .03 1/2
Writing Paper. 1.80 @ 2.00	New Light Sec-onds02 1/4 @ .02 1/2
No. 1 Books, heavy. 1.50 @ 1.75	Khaki Cuttings.03 @ .03 1/2
No. 2 Books, light. 1.25 @ 1.50	Corduroy02 @ .02 1/2
No. 1 New Manila. 2.75 @ 3.00	New Canvas.08 @ .08 1/2
No. 1 Old Manila. 1.50 @ 1.75	New Black Mixed 3.00 @ 3.25
Container Manila. 1.10 @ 1.25	Old
Old Kraft. 2.50 @ 2.60	White, No. 1—
Overissue News.90 @ 1.00	Repacked06 @ .06 1/2
Old Newspaper.60 @ .70	Miscellaneous04 1/2 @ .04 3/4
No. 1 Mixed Paper.50 @ .60	White, No. 2—
Common Paper.50 @ .60	Repacked03 @ .03 1/2
Straw Board, Chip.50 @ .60	Miscellaneous02 1/4 @ .03 1/4
Binders' Bd. Chip.50 @ .60	Thirds and Blues—
Domestic Rags—New.	Repacked 1.85 @ 2.00
Price to Mill, f. o. b. Phila.	Miscellaneous 1.55 @ 1.75
Shirt Cuttings—	Black stockings. 1.75 @ 2.25
New White, No. 109 @ .09 1/2	Roofing Stock—
New White, No. 206 @ .06	No. 1.90 @ 1.00
Silias, No. 1.05 1/2 @ .06	No. 2.80 @ .90
New unbleached.08 @ .09	No. 3.70 @ .80
Washables03 1/2 @ .03 3/4	No. 4.75 @ .85
Fancy05 @ .05 1/2	No. 5A. nominal
Cottons—according to grades—	B. nominal
Blue Overall.05 @ .05 1/2	C. nominal
New Blue.02 1/2 @ .02 3/4	

BOSTON

[FROM OUR REGULAR CORRESPONDENT.]

Paper	Wood, Vat Lined. .47.50 @ 50.00
Bonds08 1/2 @	Filled News Board. 40.00 @
Ledgers09 @	Solid News Board. 40.00 @
Writings08 1/2 @	S. Manila Chip. \$2.50 @
Superfine15 @	Pat. Coated. 70.00 @ 75.00
Fine12 @	
Books, S. & S. C.06 1/2 @	Old Papers
Books, M. F.06 @	Shavings—
Books, coated09 1/2 @	No. 1 Hard White03 1/2 @
Label10 @	No. 1 Soft White02 3/4 @ .03
News, sheets. \$4.50 @	No. 1 Mixed.85 @ \$1.00
News, rolls.04 @	Ledgers & Writings02 @ .02 1/2
Manilas—	Solid Books.01 1/4 @
No. 1 Manila. \$7.00 @	Blanks01 1/4 @
No. 1 Fibre. 8.00 @	No. 2 Books Light.60 @ .70
No. 1 Jute. 8.00 @	Folded News, over
Kraft Wrapping. 7.00 @	issues 12.00 @
Common Bogus. 3.00 @	Mixed paper.05 @
Boards	Gunny Bagging80 @
(Per Ton Destination)	Manila Rope05 @
Chip \$37.50 @	Common Paper. 8.00 @
News, Vat Lined. 37.50 @	Old News.08 @
	Old Kraft. 1.65 @

TORONTO

[FROM OUR REGULAR CORRESPONDENT.]

Paper	Sulphite bleached. 107.50 @
(Mill Prices to Jobbers f. o. b. Mill)	Sulphate 75.00 @
Bond—	Old Waste Papers
Sulphite 13 @	(In carload lots, f. o. b. Toronto)
Light tinted 14 @	Shavings—
Dark tinted 15 1/2 @	White Env. Cut. 3.25 @
Ledgers 14 @	Soft White Book 3.15 @
Writing 11 @ 15	Shavings News 3.15 @
News, f. o. b. Mills—	White Blk News 1.85 @
Rolls (carloads). 4.00 @	Book and Ledger—
Sheets (2 tons or over) 4.75 @	Flat Magazine and
Book—	Book Stock
No. 1 M. F. (carloads) 10.00 @	(old) 1.15 @
No. 2 M. F. (carloads) 9.00 @	Light and Crumpled Book Stock 1.00 @
No. 3 M. F. (carloads) 8.50 @	Ledgers and
No. 1 S. C. (carloads) 10.50 @	Writings 1.65 @
No. 2 S. C. (carloads) 9.50 @	Solid Ledgers 1.65 @
No. 1 Coated and litho. 15.00 @	Manilas—
No. 2 Coated and litho. 14.00 @	New Manila Cut. 1.85 @
No. 3 Coated and litho. 13.25 @	Printed Manilas. 1.00 @
Coated and litho, colored 15.25 @	Kraft 2.25 @
Wrapping—	News and Scrap—
Grey 4.75 @	Strictly Overissue .90 @
White Wrap. 5.25 @	Folded News70 @
"B" Manila. 5.75 @	No. 1 Mixed Pa-pers60 @
No. 1 Manila. 7.50 @	Domestic Rags—
Fibre 7.25 @	Price to mills, f. o. b. Toronto.
Kraft, M. F. or M. G. 8.75 @	Per lb.
	No. 1 White shirt cuttings09 1/2 @ .10
Pulp	No. 2 White shirt cuttings05 1/2 @ .05 3/4
(F. o. b. Mill)	Fancy shirt cuttings05 1/4 @ .05 1/2
Ground Wood \$25.00 @ \$30.00	No. 1 Old whites04 @
Sulphite, easy bleaching 65.00 @ 75.00	Thirds and blues02 @ .02 1/2
Sulphite, news grade. 60.00 @ 65.00	Per cwt.
	Black stockings. 2.00 @
	Roofing stock
	No. 1. 1.25 @
	No. 2. 1.15 @
	Roofing stock
	Manila rope.04 1/2 @ .05
	No. 201 1/4 @
	Gunny bagging02 1/4 @

The Home of Quality

PAPER BAGS

Sacks and Specialties

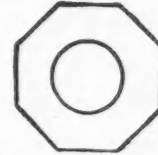
ESTABLISHED 1901

SCHORSCH & CO.

Manufacturers

500 East 133d Street : New York

This Registered Trade Mark Octagon

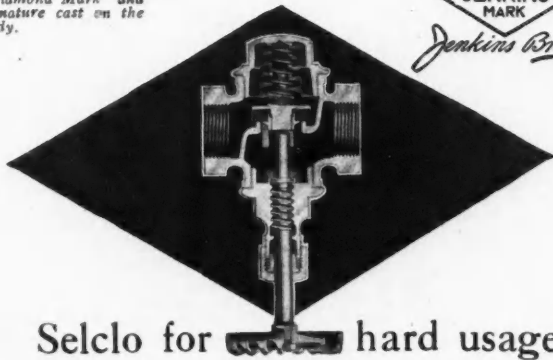


on a Paper Bag Vouches for Its Good Quality



FACTORY
132ND TO 133RD ST & BROOK AVE

Buy "signed" valves that bear the Jenkins "Diamond Mark" and signature cast on the body.



Selco for hard usage



Figure 357, for use in factories, shops, and plants where different people, hurriedly and carelessly, operate the valves, and where in consequence the service is unusually severe. Suitable for use on steam, air, or water lines.

JENKINS BROS.

New York Boston Philadelphia Chicago
Montreal London Havana

FACTORIES: Bridgeport, Conn.;
Elizabeth, N. J.; Montreal, Canada.



CALENDERS

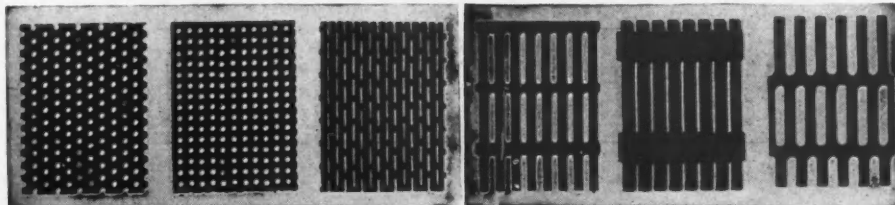
Furnished Complete, with Electric Motor Lift, Hydraulic Lift or Ratchet Lift. All Operated from Floor. Grinding Machines for Rolls of all sizes.



LOBDELL CAR WHEEL CO.
Wilmington, Del., U. S. A.

PERFORATED METALS

All sizes and shapes of Holes



All kinds and thicknesses of Metal

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

The Harrington & King Perforating Company

618 No. Union Ave., Chicago, Ill., U. S. A.

New York Office, 114 Liberty St.

WANT AND FOR SALE ADVERTISEMENTS

HELP WANTED

CLASSIFIED RATES

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

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

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

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

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

WANTED—Paper Bag and Envelope Salesmen. A Specialty House having recently enlarged its Manufacturing Equipment desires the services of young aggressive salesmen. A broad field and excellent future. Experience and knowledge essential. Write in detail. Address, Box 4638, care Paper Trade Journal. J-12

WANTED—Sales Executive and Office Manager familiar with all grades of Paper Box Boards and Colored Specialties. To locate in Boston. One acquainted with New England and New York Trade preferred. State experience and references. Address, Box 4698, care Paper Trade Journal. J-12

WANTED: COMBINER MAN—To make lay-outs and take charge of operating one 80" and 120" machine for pasting solid fibre container board. Pressman: Must be experienced in High-class solid fibre container work to assume direct charge of Printing Department, consisting of various makes of fibre-Board Presses, both flat beds and cylinder types. General Foreman: Man who is experienced in all the finishing processes of solid fibre Container Work. Must be able to take full charge of Slitting, Cutting, Creasing and Stitching Departments. Full particulars as to experience, references, and salary expected to be covered in first letter of application. All correspondence treated confidentially. Address, Box 4708, care Paper Trade Journal. J-12

WANTED—Boss Beaterman to take charge of Beaterroom making 35 to 40 Tons per day high grade Folding Box Boards. Address, Box 4710, care Paper Trade Journal. J-12

SALESMAN—To take care of the State of Connecticut, making his Headquarters in Hartford. Apply in writing only. Continental Paper and Bag Mills, Dominick and Clarke Streets, New York City. J-12

WANTED

Wood Pulp Salesmen, experienced and with record for actual accomplishments, wanted by large Wood Pulp Import Firm. Replies giving full details will be kept in strict confidence. Address, Box 4720, care Paper Trade Journal. J-12

HELP WANTED

A RARE OPPORTUNITY for a young man to learn a business as secretarial assistant to General Manager of a large Box Board Mill and Paper Box Plant. Man with brains and initiative desired, and prefer man who has been a stenographer. Address Box 4726, care Paper Trade Journal. J-12

WANTED—Two first class Yankee Four-drummer Machine Tenders on up-to-date machine. Married men preferred. Mill located Middle West. Good schools and modern city accommodations. Enclose references and state experience and where last employed. Address, Box 4695, care Paper Trade Journal. F-2

WANTED—Paper and Bag Salesmen to sell to Retail Trade. We carry a full line of Paper Commodities. Best opportunities will be given. Experienced preferred, but not essential. Address, Box 4727, care Paper Trade Journal. J-12

SALESMAN—Experienced in Paper Line with New York following to work on salary or commission basis. Beekman Paper and Card Co., 318 West 39th Street, New York City. J-12

PAPER SALESMEN—Experienced Salesmen, having established City Trade in Printing and Wrapping Papers, wanted by Progressive Concern, liberal salary or commission basis. Caldwell Paper Company, 244 Lafayette St., New York City. F-2

WANTED—Man to act as Buyer and Salesmanager, Book, News, Bond, Writings, etc. A man acquainted with trade in St. Paul and Minneapolis preferred. Address, Box 4728, care Paper Trade Journal. J-12

WANTED—An experienced Salesman on Printing Papers. Cover New York City and vicinity. Drawing account and commission. Address, Box 4729, care Paper Trade Journal. J-12

BEATERMAN WANTED—Beaterman, with experience in Kraft and Manila preferred. Address, Box 4743, care Paper Trade Journal. J-12

WANTED—Bookkeeper and Typist, for Wholesale Paper House, experience necessary. Address, Box 4707, care Paper Trade Journal. J-12

WANTED—High Grade Paper Salesman can have exceptional opportunity with Young Aggressive House in New York City. Established trade and Sales Ability essential. Communications confidential. Address, Box 4674, care Paper Trade Journal. J-19

ENVELOPE MACHINE ADJUSTERS on Web, Open and Envelope Machines. Address, Box 333, Room 2503, 110 West 40th Street, New York City. J-19

PAPER SALESMEN

LARGE NEW YORK PAPER FIRM CATERING TO JOBBERS AND LARGE CONSUMERS OFFERS EXCELLENT OPPORTUNITIES TO HIGH CLASS YOUNG MEN HAVING GOOD KNOWLEDGE AND EXPERIENCE IN HANDLING EITHER PRINTINGS, WRITINGS OR WRAPPINGS. ONLY ENERGETIC AND AMBITIOUS YOUNG MEN SHOULD APPLY STATE FULLY AGE, EXPERIENCE, GRADES YOU HAVE SPECIALIZED IN, REMUNERATION EXPECTED. REPLIES STRICTLY CONFIDENTIAL. ADDRESS, BOX 4730, CARE PAPER TRADE JOURNAL. J-12

SITUATIONS WANTED

SUPERINTENDENT WISHES TO make a change from his present position. Have had fifteen years' experience on all grades of Boxboards, Containers, Tests, etc. Familiar with repairs, maintenance, and know how to handle men. Middle aged, married, and can give best of references. Address, Box 4435, care Paper Trade Journal. J-19

BOSS—Acid Maker with ten years' experience in Swedish and American Mills desires position in U. S. A. or Canada. Can furnish best of references. Now employed. Address, Box 4658, care Paper Trade Journal. J-12

EXPERT PAPER MAKER—An up-to-date practical paper maker, of wide experience on High Speed Machines, desires employment from Manufacturers having trouble in machine room. Work guaranteed at reasonable rate. Address, Box 4685, care Paper Trade Journal. J-12

WHO WANTS A LIVE COATING MILL SUPERINTENDENT—Now employed. 20 years' experience on Book, Lithograph, Glazed and Flint Papers. Nothing but a live proposition will be considered. Address, Box 4712, care Paper Trade Journal. J-19

SITUATION WANTED—Machine Designer and Draughtsman of long, varied experience, unusual ability at solving new and complex problems. Open for engagement on time basis or contract. Address, Graphic, 946 Gates Avenue, Brooklyn, N. Y. J-19

POSITION WANTED—Can fill any position connected with the Felt Paper Business. Address, Perry Kingston, 21 Alexander St., Little Falls, N. Y. J-19

EXECUTIVE or Manager, familiar with all departments of the game from Jerking Jumbo Rolls out of a car at 20 below, to securing an extension on a note six months past due. Fifteen years for myself (at a profit). Recently sold out and life, at present, is too slow. Experience concerns buying, selling, books, fine, coarse, specialties, etc., etc., in fact carrying the load. Possibly I'd fit into your scheme, possibly not, with or without investment. Address, Box 4721, care Paper Trade Journal. J-12

SITUATION WANTED by Superintendent of Ability; 20 years practical experience as Manager and Superintendent on all Grades of Board from Straw Board to White Bag Bristol. Expert on Beater Colors and Calendar Stained Boards, Test Board and all grades of combination Boards and High Grade Boards for Coating. Wide experience on Mill Constructions and Repairs, also in managing Help to get greatest efficiency. Can furnish high class references as to character and ability. Would consider position as operating Manager or Superintendent of Good Combination Board Mill. Address, Box 4722, care Paper Trade Journal. J-26

SITUATION WANTED—Whether or not your peeled Pulp Wood figures \$15.00 or \$30.00 a cord F. O. B. your mill is going to be a big cost item the next few years. A resident of Maine, 44 years old, with a wide business experience, is qualified to handle the entire Wood Supply for a mill on an economical basis, and knows several sources of supply. From personal experience has developed an economical cost system in the woods that is in the hands of the bosses once a week showing the cost of previous week's work. This system based on the fact that costs are kept to reduce expenses. Salary must be at least \$5,000.00 a year with a percentage of the indicated savings in landing wood at the mill. Address, Box 4736, care Paper Trade Journal. F-2

SUPERINTENDENT—Open for position; 20 years experience. Practical paper maker on Bonds, Writings, Ledgers, Waxing and book. Will go to Canada or any Foreign Country. Address, Box 4737, care Paper Trade Journal. M-2

PULP SALESMAN-EXECUTIVE—Familiar with all grades Foreign and Domestic Pulp with a good following among the Trade wishes to make a change. Address, Box 4738, care Paper Trade Journal. J-12

SITUATIONS WANTED

SCANDINAVIAN PAPER MAN—Fully familiar with the American Paper Trade, desires position. Is willing to go to Europe to make direct connection with the Scandinavian or German Mills. Wide experience and can furnish best references. Address, Box 4739, care Paper Trade Journal. J-12

BOARD MAN wishes direct and preferably exclusive representation in Chicago Territory of High Grade Board Mill on straight commission basis. Thoroughly practical man, in Chicago over 6 years, very well and favorably known, and familiar with all accounts and their credit. Inquire details confidentially of Chicago representatives Paper Trade Journal. Address, Box 4697, care Paper Trade Journal, Chicago office, Chicago, Ill. J-12

SUPERINTENDENT—Middle-aged, desires position in either book-test boards or kraft mill. Twenty years' experience. Knows Quality and Production. Good references. Address, Box 4731, care Paper Trade Journal. J-26

SALESMAN who knows the Paper Business from A to Z is open for an engagement with a Mill or Selling Organization manufacturing Print, Book, Wrapping, Tissues or Specialties, perfectly familiar with these grades. Have good following and known throughout the Country, especially with the Higher Grade Jobbers and Converters. Address, Box 4732, care Paper Trade Journal. J-12

EXPERIENCED COARSE PAPER, Tissue and Specialty Salesman, acquainted with Jobbers in East, desires position with Reliable House. Consider selling consuming Trade. Salary or commission. Address, Box 4733, care Paper Trade Journal. J-12

EXECUTIVE—A man nationally known and personally acquainted with the Paper Manufacturers of this country and getting lined up with the better Foreign Manufacturers, would like to make a connection with a first class Paper House. Twenty years in business. Address, Box 4734, care Paper Trade Journal. J-12

PAPER OR PAPER BAGS—Young aggressive Toilet Paper Salesman covering New York, New Jersey, Pennsylvania, Virginia, Maryland States and Washington, D. C., desires an additional line of either Wrapping Papers or Paper Bags, that would interest large Wholesale Paper dealers. Address, Box 4735, care Paper Trade Journal. J-26

SULPHITE SUPERINTENDENT, 20 years' practical and some technical training, wishes to get in touch with managers of mills who want the best and are not getting it. Address, Box 4744, care Paper Trade Journal. F-24

EXECUTIVE AVAILABLE—Experienced managing sales of parchment and waxed paper mill; 26; married; energetic and reliable. Quickly adaptable to new conditions. Now employed. Desires change. Address, Box 4745, care Paper Trade Journal. J-26

POSITION WANTED by experienced Paper and Pulp Salesman, who is familiar with all foreign markets. Has practical experience in pulp manufacture. Willing to connect with a Paper or Pulp Mill. Best references. Address, Box 4746, care Paper Trade Journal. J-12

A NEW YORK CITY PAPER SELLING ORGANIZATION would like mill connections for Book, Coated and Bond Papers. Correspondence strictly confidential. Address, Box 4747, care Paper Trade Journal. J-12

SITUATION WANTED—Young man (27), who has had five years' engineering experience in Pulp and Paper Mills and with Paper Mill Engineers in the United States and Canada would like to locate with a Paper Mill machinery concern on their sales force. Address, Box 4748, care Paper Trade Journal. J-19

SALESMAN—For several years has been buying and selling paper for export. Full charge of export department. Travels considerably Latin America and Europe for present concern. Wants position with paper house or mill, either export or domestic fields. Would consider salary proposition or drawing account and commission. Address, Box 4749, care Paper Trade Journal. J-12

MISCELLANEOUS

WANTED—A 7 or 9 Roll Super Calender from 24 inches to 40 inches in width. George La Monte & Son, 61 Broadway, New York. J-12

PRINTING PRESS RUNS WANTED—We are in position to give interesting prices on long press runs by throwing these runs to our night shift. Also in position to purchase Super at Mill Prices if required. Mail your proposition for an estimate. Glens Falls Publishing Co., Glens Falls, N. Y. New York Office, Room 412, Times Building, N. Y. J-19

HERE'S YOUR CHANCE—Am seeking a "going" Paper Jobbing House. Coarse or Fine. Will buy all or controlling interest. New York or Chicago preferred but not essential. Organization is what's wanted so if you have had enough of business, here's an opportunity for you. Strict Confidence. Address, Box 4724, care Paper Trade Journal. J-12

WANTED—To purchase a Paper or Card-board Business. Must be in or near New York City. Address, Box 4740, care Paper Trade Journal. J-12

WANTED—A second hand Paper Machine, 120 inches wide, either fourdrinier or cylinder. Complete from Screens to Winder, and capable of running out 15 to 20 tons or Wrappings. Address, Box 4741, care Paper Trade Journal. J-19

WANTED—Kollergang Bed Stone 84" diameter or smaller, state make and price and send cut or print if possible. Cushnoc Paper Co., Augusta, Maine. J-19

WANTED—One Slitting and Rewinding machine, second hand or rebuilt, must be in first class condition and so satisfactory work on Wrapping Paper of all kinds. Irwin Paper Co., Quincy, Illinois. J-19

CASH PAID for old United States, Confederate and foreign postage stamps, used on letters prior to 1870. Send samples. James Hardy, 5422 Forrestville, Ave., Chicago, Ill. oam-1-yr

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

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

WANTED

MILL AGENT WITH ESTABLISHED SELLING ORGANIZATION WILL CONSIDER MAKING AN INVESTMENT IN A GOING TISSUE MILL HAVING TOILET PAPER PLANT. BEST REFERENCES; CORRESPONDENCE CONFIDENTIAL. ADDRESS, BOX 4742, CARE PAPER TRADE JOURNAL. J-19

FOR SALE

FOR SALE

100 Inch Duplex Paper Cutter with special Attachments. One Ton Sprague Electric Hoist. Also 20 H.P. Motor with Starting Regulator. A Seybold 20th Century 74 inch Flat Cutter. All in excellent condition and as a whole an exceptional equipment for Cutting and Finishing Paper. Reasonable price to the right party. Address, Box 4627, care Paper Trade Journal. J-12

FOR SALE

COAL—Moshannon and "E Seam" bituminous coals, low sulphur, low ash. Lowest freight rate east and north. Prices and freight rates will be furnished on request. Halden-Kelley Coal Company, 209 Market St., Clearfield, Pa. J-12

FOR SALE—Roofing and Saturating Machines, 72"x36" wide. Chilled steel rolls. Also Painter Mixing Machine, Grinders, etc. Address Box 4310, care Paper Trade Journal. J-12

FOR SALE: DRYERS—8-60"x120" Dryers with bearings. A bargain. W. V. Sullivan, Call Bldg., San Francisco. J-12

FOR SALE—14 Calender Rolls, 58" face, 8" to 14" diameter. 2 No. 1 Claffin Engines. 1 small Jordan Engine. 1 6" Horizontal Water Pump. 2 Air Fans. Complete triple-deck frames for 44 Dryers. Will arrange terms to suit. Chesapeake Paper Board Co., Baltimore, Maryland. J-12

BOX BOARD MILL FOR SALE—This mill is new, 50 Tons production per day. Located in central part of New York State. Can be bought right. Address, Box 4714, care Paper Trade Journal. J-12

FOR SALE—Four—Fifty-Six Inch, Two—Forty-eight inch and one Four-six inch second hand Trump Water Turbines that we have replaced with larger units. May be inspected at any time. French Paper Co., Niles, Michigan. J-12

FOR SALE—Having discontinued using 3" diameter iron cores, we have on hand, subject to prior sale, 636 pieces in lengths 23" to 52" long, all in good condition, and subject to sale at best price offered. If interested, advise immediate offer. Central Wax & Paper Co., Central Ave., and Taylor St., Chicago, Ill. J-12

FOR SALE—24" x 42" McIntosh Seymour Rolling Mill Type Horizontal Steam Engine, 125, R.P.M. 635 H.P. 2-78" x 20" Horizontal Return Tubular Boilers, 150 lbs. 30 K.W. D.C. Generator 125 V. Feed Water Heater, Steam Separator, Boiler Feed Pump. Rope Sheaves and Tension Carriages for 1", 1 1/2", and 2" Ropes, Pulleys, Shafting, Hangers, and Bearings up to 8" diameter. All of the above is as good as new and will be sold cheap, especially the Rope Sheaves which will sell for 20% the cost of new. We will be willing to grant very liberal terms to responsible parties. Walters Milling Company, 30th and Master Streets, Philadelphia, Pa. J-12

REBUILT PAPER MILL MACHINERY

IN STOCK AND GUARANTEED NOT WHERE IS AND AS IS

Fourdrinier Paper Machine: One 112", one 96", one 72".
Fourdrinier Parts: Pusey & Jones 137", 118", 112", 100".
Press Parts for Paper Machines: Pusey & Jones Bell Crank housing two sets 18" x 114", three sets 18" x 110", two sets 18" x 96", Black & Clawson swing arm housings with rolls.
Dryers: Four 48" x 111", sixteen 48" x 106", ten 48" x 68", one 84" x 67", eleven 42" x 66", Thirteen 36" x 95".
Marshall Drives: 6 Black & Clawson self-contained stand with friction clutch cone pulley and 7" mortise gears. Mortise gears and pinions for Pusey & Jones Marshall drives 5" to 8" face.
Chilled Calenders: One 66" face, five roll.
Dillon Doctors: For Machine Calenders 60" to 120" face.
Slitters and Winders: One 120" Warren, one 82" Pusey & Jones two drum, one 106", 36" Kidders. One 116" Moore & White Four Drum.
Reels: Pusey & Jones two drum upright 48" to 114".
Beaters: Six 72" x 42" Noble & Wood, two 66" x 42" Noble & Wood, equipped with three cylinder washers; one Dilts 62" x 50" iron tub, one Jones 62" x 53" seven Horns 36" x 36".
Jordans: One Wagg Majestic, three No. 2 Dillon Improved, one Large Horne, five Monarch, two Pope Brushing engines.
Screens: Three 12 plate open side Packer.
Stuff Pumps: Deane triplex 8" x 12", Gould triplex 8" x 10", Sandusky triplex 4" x 6".
Revolving Sheet Cutters: One 104" Horne, one 84" Clark, one 50" Hamblet diagonal, two 42" Finlay, four 61" Hamblet, four 61" Finlay.
Wet Machines: Four 72" Bagley & Sewall Hydraulic.

175 Richards Ave., Cambridge, Mass
Frank H. Davis Company,

GIBBS-BROWER BULLETIN
PAPER MILLS FOR SALE
IN THE EAST

1. Book Paper and Specialties Mill. Fourdrinier Machine trimming 76 inches. 15 tons 24 hours. Also Ground Wood Pulp Mill. Grinders and Wet Machines. 5 tons 24 hours. Excellent water power throughout, also steam. Railroad sidings.
2. Bogus Bristol Hardware, Textile Wrappers, and Ticket Stock Mill. Three Cylinder Machine trimming 52 inches. 6 tons 24 hours. Good water power, steam and electricity. Railroad siding.
3. Toilet and Crepe Tissue Mill. Fourdrinier Machine trimming 67 inches. 5 tons 24 hours. Water and steam. Railroad siding.
4. Patent Coated, Card Middles, Container Board Mill. Two six Cylinder Machines trimming 86 and 94 inches, 100 tons 24 hours. Water and steam. Railroad siding.
5. Sheathing and Fire Work Board Mill. Three Cylinder Machine trimming 56 inches. 9 tons 24 hours. Good water power, steam and electricity. Railroad siding.

IN THE WEST

6. Container, Liner and Combination Box Board Mill. Two 5 Cylinder Machines trimming 70 and 84 inches. 45 tons 24 hours. Valuable 650 H.P. water power, also steam and electricity. Railroad sidings.
7. Straw Kraft, Butcher Fibre, Sulphite Wrapper and Car Linings Mill. Fourdrinier Machine trimming 61 inches. 12 tons 24 hours. Steam. Railroad sidings.

WE HAVE MANY OTHER MILLS TO OFFER, BUT WE CANNOT ADVERTISE THEM

GIBBS-BROWER COMPANY,

Paper and Pulp Mill Brokers,

261 Broadway New York City

Telephone—Barclay 8828.

OUR MOTTO: "Service First."

Chicago Office: 181 Quincy St., Chicago, Ill.

Papier-Zeitung

Berlin SW 11 (Germany)

Founded by Carl Hofman, 1876

appears twice a week

Covers the whole paper trade (paper making, transforming, stationery). More than 12,000 bonafide subscribers all over the world.

Subscription: 4 Dollars

The Paper Trade Journal

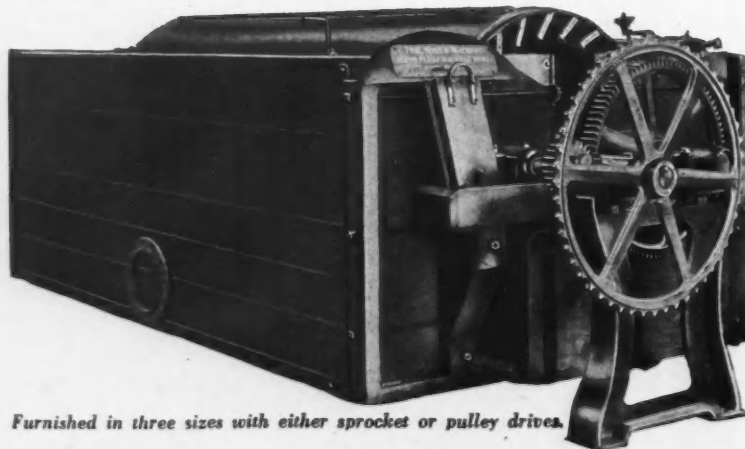
has the largest circulation
of any magazine covering
the Paper and Pulp field

**MEMBER AUDIT BUREAU
OF CIRCULATIONS**

THE WOOD'S MACHINE

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

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



Furnished in three sizes with either sprocket or pulley drives.

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

Try our Split Cams for your Flat Screens

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

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

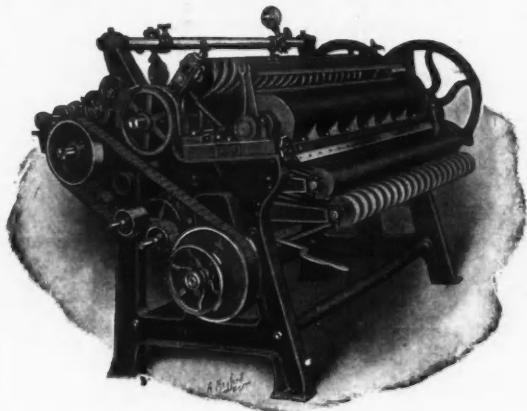
PRODUCTIVENESS, enormous, through clean wires, large screening surface, patented unique method of discharge and freedom from shut-downs.

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

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

Paper Cutters

Single, Duplex and Diagonal



Cutter Knives Patent Top Slitters

HAMBLET MACHINE CO.
Lawrence, Mass.

CALDWELL SERVICE



HALF a million dollars worth of well-selected stock, constantly maintained, and an organization keyed up to the theory that plant efficiency is measured by the number of orders shipped on the day of receipt, accounts for Caldwell service. Let us figure on your requirements.

H. W. CALDWELL & SON CO.

LINK-BELT COMPANY, OWNER
CHICAGO, 17th Street and Western Avenue
NEW YORK, 299 Broadway



CENTRAL MANUFACTURING COMPANY

THE QUICK SERVICE HOUSE

KALAMAZOO, MICH.

Manufacturers of

High Grade Brass and Bronze Screen Plates and Dandy Rolls

OLD PLATES
CLOSED AND RECUT



DANDY ROLLS AND
WATER MARKING

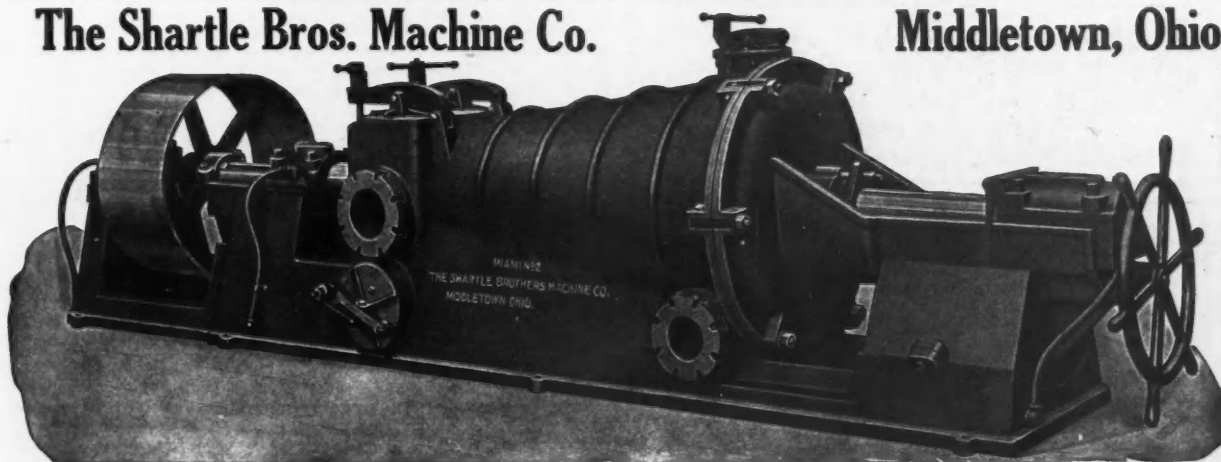
Secure Our
Prices



We Can
Please You

The Shartle Bros. Machine Co.

Middletown, Ohio



FREDERICK L. SMITH

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

V. D. SIMONS

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

HARDY S. FERGUSON CONSULTING ENGINEER

Member AM. SOC. C. E., Member AM. SOC. M. E.,
 Member Eng. Inst. Can.
 200 FIFTH AVENUE, NEW YORK CITY
 Paper, Pulp and Fibre Mills, Including Building and Complete
 Mechanical Equipment, Water Power Development, Dams,
 Storage Reservoirs and Other Hydraulic Structures,
 Examinations, Reports, Estimates of Cost, Designs,
 Specifications, Valuations

GEORGE F. HARDY

M. AM. SOC. C. E., M. AM. SOC. M. E., M. ENG. INST. CAN.
 Mill Architect and Consulting Engineer
 Langdon Building, 309 Broadway, New York
 SPECIALTY: Paper, Pulp and Fibre Mills, Water Power Develop-
 ments, Steam Power Plants, Plans and Specifications
 Evaluations, Reports, Consultation
 Cable Address: "Hardistock," A B C 5th Edition, Bedford, McNeill.
 Western Union-Bentley's.

**J.H. WALLACE
 & COMPANY.**
 TEMPLE COURT BUILDING
 NEW YORK CITY, U.S.A.
 CABLES, TRIPLEX, N.Y.

**PULP
 PAPER
 AND
 POWER
 LANTS**

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

TIMBER ESTIMATING

P. T. COOLIDGE
 Forest Engineer
 31 Central Street Bangor, Maine
 Maps and reports prepared with care and accuracy.

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

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

GEORGE F. DREW

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

H. B. PRATHER

CONSULTING ENGINEER
 CONSULTATIONS REPORTS ESTIMATES
 Complete Designs Pulp and Paper Mills—Steam and Electric
 Power Plants—Equipments
 600 ROCKEFELLER BLDG., CLEVELAND, OHIO

WILLIAM T. FIELD

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

VITALE & ROTHERY

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

Twenty Years' Experience

TIMBER ESTIMATING

REPORTS MAPS
 James W. Sewall, Forest Engineer
 Old Town, Maine Munsy Building, Washington, D. C.
 Largest Cruising House in America

THOMAS L. TOMLINES & SON

CONSULTING ENGINEERS
 ASSOC. M. AM. SOC. C. E.; 317-319 CITY BANK BLDG.,
 M. AM. SOC. M. E. SYRACUSE, N. Y.
 Paper, Pulp and Fibre Mills, Hy- Steam Power Plants, Plans and
 draulic Developments, Hydro- Specifications, Efficiency
 Electric Plants Engineering
 CONSULTATION AND REPORTS

HERBERT S. KIMBALL

Member Am. Soc. C. E.
CONSULTING ENGINEER
 79 Milk Street, Boston 9, Mass.
 Economic Investigations.
 Chemical Equipment in Sulphite and Soda Mills.
 Paper Machine Room Construction.

SANFORD RILEY STOKER CO.
 WORCESTER, MASS.

Makers of
**RILEY
 UNDEFIATED
 STOKERS**
 BOSTON NEW YORK
 CINCINNATI

PHILADELPHIA
 CHICAGO

PITTSBURGH
 ST. PAUL



MURPHY IRON WORKS
 DETROIT, MICH.

Makers of
**MURPHY
 FURNACES**
 BUFFALO CLEVELAND
 DENVER

"A type to meet every stoker need"

THE
MANAGEMENT ENGINEERING AND DEVELOPMENT CO.
7TH FLOOR CITY NATIONAL BANK BLDG.,
DAYTON, OHIO.

DESIGN, CONSTRUCTION AND OPERATION
OF
PULP, PAPER AND FIBRE MILLS
WATERPOWER DEVELOPMENT
STEAM POWER PLANTS.

PLANS AND SPECIFICATIONS
EVALUATIONS AND REPORTS
CONSULTATIONS

STEBBINS ENGINEERING & MFG. CO.
Mill Architects Watertown, N. Y.

**Sulphite and Soda Mill
Equipment**

Specialty: ACID SYSTEMS, DIGESTER
AND ACID PROOF LININGS
GUARANTEED.

*Service department always ready for emergencies.
Only high class experienced men employed.*

Salomon Bros. & Co.
IMPORTERS OF
All Grades of Rag and Paper Stock
200 FIFTH AVENUE, NEW YORK

COTTON WASTE :: LINTERS :: RAMIE

WOOD FLOUR

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

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

Job Lots, Rejections, Side Rolls Wanted

SPOT CASH paid for jobs in bond paper, white or colors, any grade that will cut down to 11x17, any weight. Send samples, with lowest spot cash prices. No lot too small, and none too large.

MIDWEST PAPER CO., 712 Federal Street, Chicago, Ill.

UNION TALC COMPANY
Finest Grades of Agalite

132 Nassau Street New York

"WATERBURY" "W"
Felts-Jackets "W"

ORISKANY, N. Y.

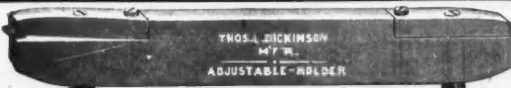
OUR TIGHT FITTING, DIAMOND "W" JACKETS
WILL NOT LICK UP AT ANY SPEED
1869 {MADE ONLY BY} 1921
 {GUARANTEED BY} { }
H. WATERBURY AND SONS COMPANY, ORISKANY, N. Y.

ENGINEERS PLANNING POWER TRANSMISSIONS
Secure Data and Estimates of "MORSE" DRIVES
SAVE Construction, Space, Light, Fuel Producing More with Less

MORSE CHAIN CO. ITHACA, N. Y.

Engineering Service, Assistance, Bulletins

Baltimore	New York	Chicago	Pittsburgh	Montreal
Boston	Kansas City	Cleveland	San Francisco	Minneapolis
Charlotte, N. C.	Detroit	Philadelphia	Atlanta	St. Louis



THOS. L. DICKINSON
ADJUSTABLE HOLDER

Special Shaped Carbon, Black Diamond POINTS FOR TURNING Paper, Cotton
Chilled Iron and Hardened Steel Calender Rolls, Hard Rubber, Fibre, etc.
Manufactured by **THOS. L. DICKINSON,** 28 Gold St., NEW YORK
Successor to John Dickinson, Established 1798.
Agents for Great Britain, C. W. BURTON, GRIFFITHS & CO.,
Lodge Square, London.

WILLIAM B. DILLON
DILLON & BARNES
Paper Mill Products and Supplies
52 VANDERBILT AVENUE, NEW YORK
Telephone, 7353 Murray Hill

SLITTERS and SPECIAL MACHINES
for use in paper industry
C. BENNINGHOFEN & SONS
Hamilton, Ohio

Send us your requirements regardless of what they may be

Penn Paper and Stock Company
PACKERS OF ALL GRADES OF
WASTE PAPER
240 N. FRONT STREET PHILADELPHIA

STRATFORD PAPER CO. 160 Cornelison Ave.
Jersey City, N. J.

High Grade Fourdrinier Tissues in Stock for Immediate Delivery

Established 1895
DANIEL M. HICKS
 (INCORPORATED)

**PAPER MILL
 SUPPLIES**

200 Fifth Ave., New York

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

ABSOLUTELY FREE FROM ARSENIC OR SELENIUM

The Largest Sulphur Mine in the World

CALCASIEU PARISH, LOUISIANA

Main Offices: Frasch Building, 33 Rector Street, New York



GRISSINGER
 Patented
**AUTOMATIC
 TUBE
 MACHINE**

Wire Stitched Tube
 TOILET PAPER
 MACHINERY

GRISSINGER MACHINE WORKS
 PHILADELPHIA, PA.

Patented June 24, 1913.
 August 10, 1915

**“DRAPER”
 FELTS**

For Any Grade of Paper or Pulp

ARE GUARANTEED
To Give Entire Satisfaction

MANUFACTURED BY
DRAPER BROS. CO., CANTON, MASS.

HEINE LARGE UNIT **BOILERS**

Water Tube Boilers
 Longitudinal Drum Cross Drum
 Waste-Heat Boilers



Heine Boilers Conform to ASME Boiler Code

Heine Boiler Company
 St. Louis, U.S.A.


ESTABLISHED 1851

IRA L. BEEBE CYRUS E. JONES

IRA L. BEEBE & CO.


132 Nassau St., New York

IMPORTERS AND DEALERS IN



WOOD PULP

NEW ENGLAND TANK & TOWER CO.



**WOOD TANKS
 FOR ALL
 PURPOSES**

Everett Station, Boston, Mass.
 New York Office, 30 Church St.

**WINDERS
 AND
 REWINDERS**

SAMUEL M. LANGSTON COMPANY
 CAMDEN, N. J.

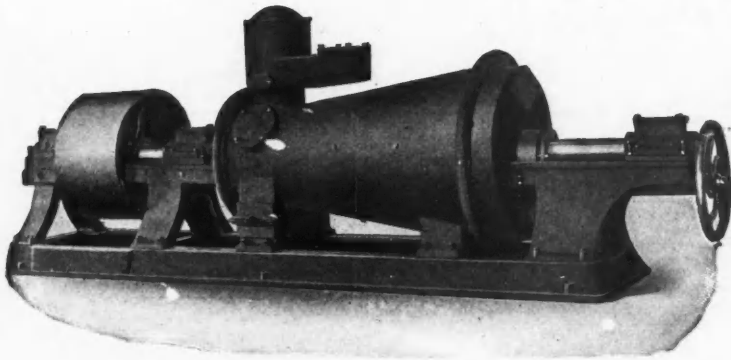
TRADE MARK

CAMACHINE

SLITTERS AND WINDERS

CAMERON MACHINE CO. BROOKLYN, N.Y.

THE DILLON JORDAN



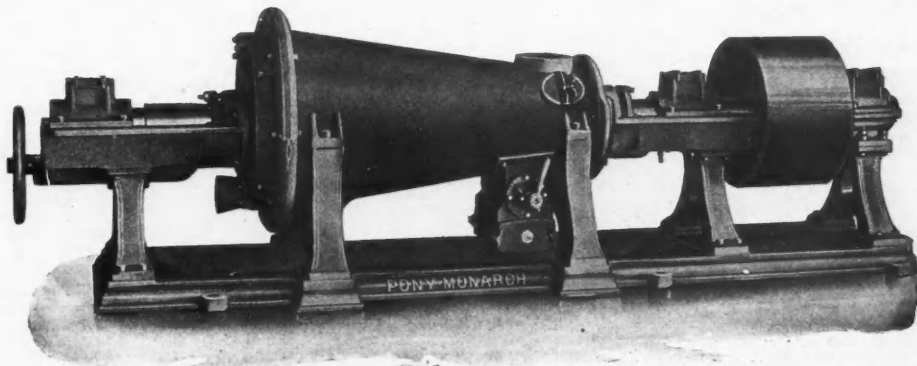
Our latest Improved Machine, three sizes; belt or direct connected motor driven. All Bearings self-oiling, adjustable and water-cooled. Outside stand fitted with gauge to keep the plug central with the shell.

For full particulars apply to

DILLON MACHINE CO., Inc.
Builders of Paper Mill Machinery
Lawrence, Mass.

**WE MAKE
BEATERS AND
JORDANS OF
QUALITY**

**SIX SIZES OF
JORDANS,
BEATERS,
FROM 3/4 LBS.
TO 3000 LBS.**



The Noble & Wood Machine Co., Hoosick Falls, N. Y.



BLEACHED SULPHITE

CLASSIFIED INDEX TO ADVERTISEMENTS

ADDING MACHINE ROLLS. Paper Manufacturing Co. 55	COAL MINING. Empire Coal Mining Co. —	GAUGES (Pressure, Indicating and Recording). Bristol Co., The — Manning Gauge Co. —
AGALITE. Union Talc. Co. 55 U. S. Talc. Co. 69	COATED PAPERS. McLaurin-Jones Co. 25	GUMMED PAPERS. McLaurin-Jones Co. 25
ALUM. The Kalbfleisch Corp. 7 Pennsylvania Salt Mfg. Co. 7 Superior Chemical Co. 2 Winkler Bros., Inc. 75	COGS. N. P. Bowsher Co. 76	GUMMING AND GLUING MACHINERY. Potdevin Machine Co. 39
ARCHITECTS AND ENGINEERS. George F. Drew 68 Hardy S. Ferguson 68 William T. Field 68 George F. Hardy 68 Herbert S. Kimball 68 Management Engineering and Development Co. 69 H. B. Prather 68 V. D. Simons 68 F. L. Smith 69 Stebbins Engineering Co. 68 Thomas L. Tomlins & Son 68 Vitale & Rothry 68 Joseph H. Wallace & Co. 68	COMPRESSORS (Air). The Nash Engineering Co. 39	HEATERS. Gordon Co., Inc., Robert 9
ASBESTINE PULP. International Pulp Co. Front Cover	CONVEYORS, PULPWOOD Jeffrey Mfg. Co. —	ICE CREAM CONES McLaren Products Co. —
ASHES HANDLING MACHINERY. Jeffrey Mfg. Co. —	CORDAGE. Columbian Rope Co. —	IRON EXTRACTORS Oakes Co., Roland T. —
BALL BEARINGS. S. K. F. Industries, Inc. —	CUTTERS. Smith & Winchester Mfg. Co. 8	KNIVES, ETC. Bolton & Son, J. W. 9 Machinery Co. of America —
BEATING ENGINES. Beloit Iron Works 14 Claflin Engineering Co. 55 Dayton Beater & Hoist Co. 69 Dillon Machine Works, Inc. 71 Dilts Machine Works, Inc. 54 Downington Mfg. Co. 74 Emerson Mfg. Co. 54 Noble & Wood Machine Co. 71 Valley Iron Works Co. —	DIE CUTTERS. Hoggson & Pettis Mfg. Co. 2 Independent Die Co., Inc. —	LUBRICANTS. Vacuum Oil Co. —
BELT LACING, STEEL. Flexible Steel Lacing Co. —	DIGESTERS. American Welding Co. 55	MICROMETERS. E. J. Cady & Co. — Foreign Paper Mills, Inc. 3
BELTING. Goodyear Tire & Rubber Co. — R. D. Skinner & Co., Inc. —	DRIVES (Gear). Farrel Foundry & Machine Co. —	MILL COGS. N. P. Bowsher & Co. 76
BOILERS. Heine Boiler Co. 70	DRIVES, SILENT CHAIN. Morse Chain Co. 69	MOTORS. B. F. Perkins & Son, Inc. 11
BUCKETS (Elevator). Hendricks Mfg. Co. 10	DRYER EXHAUSTS. The Nash Engineering Co. 39	OILS AND GREASE. Vacuum Oil Co. —
CALENDER ROLLS. Lobdell Car Wheel Co. 63 Norwood Engineering Co. 61 Perkins & Son., Inc., B. F. 11 Textile Finishing Machinery Co. —	DRYING SYSTEMS. Open Coil Heater & Purifier Co. — W. F. Pickles — Ross Engineering Co. —	PACKING. Jenkins Bros. 63
CARBON TOOLS. Thomas L. Dickinson 69	DYES, ANILINE. Calco Chemical Co. — Heller & Merz 13 National Aniline & Chemical Co. 21 The White Tar Aniline Corporation 4	PAINTS & VARNISHES. Du Pont de Nemours Co., E. I. 29
CASEIN. Casein Mfg. Co. 3	DYE STUFFS. E. I. Du Pont de Nemours & Co. 29	PAPER BAG MACHINERY. Potdevin Machine Co. 39 Smith & Winchester Mfg. Co. 8
CHAINS. Jeffrey Mfg. Co. —	ELECTRIC HOISTS. Shepherd Electric Crane & Hoist Co. —	PAPER BAG MANUFACTURERS. Consolidated Paper Bag Co. 61 Lawrence Bag Co. 23 Schorsch & Co. 63
CHEMICALS, COLORS, ETC. Arnold, Hoffman & Co., Inc. — Du Pont de Nemours & Co. 29 Heller & Merz Co. 13 Kuttroff, Pickhardt & Co. Front Cover Sandoz Chemical Works, Inc. 7 The White Tar Aniline Corporation 76 C. K. Williams & Co. 76	ENVELOPE MACHINES. Potdevin Machine Co. 39 F. L. Smithe Machine Co. —	PAPER BOX BOARDS. C. L. Boiteaux Co. 12
CLAY. Atterbury Bros. Front Cover John W. Higman Co. 54 Paper Makers Chemical Co. 54 Western Paper Makers Chemical Co. 54 Star Clay Company 76	EVAPORATORS. Zaremba Company —	PAPER CUTTERS. Hamblet Machine Co. 67 McLauthlin & Co., G. T. —
	FELTS AND JACKETS. Albany Felt Co. — Appleton Woolen Mills 8 Draper Bros. Co. 70 Fitchburg Duck Mills 70 F. C. Huyck & Son 13 Knox Woolen Co. 3 Lockport Felt Co. 54 Orr Felt and Blanket Co. 55 Shuler, Benninghofen Co. — Waterbury Felt Co. 4 Waterbury & Sons Co., H. 69	PAPER DEALERS. M. M. Elish & Co. 61 R. F. Hammond Front Cover Midwest Paper Co. 69
	FILTERING SYSTEMS. Norwood Engineering Co. 61	PAPER EXPORTERS. A. M. Capen's Sons, Inc. 76 Hudson Trading Co. 2 Farsons Trading Co. Front Cover
	FLOOR COVERINGS. L. Sonneborn & Sons 55	PAPER MANUFACTURERS. American Coating Mills 4 Bayless Mfg. Co. — Becker Paper Corporation — Brown Company 5 Collins Mfg. Co. 6 Diamond State Fiber Co. Front Cover Eastern Mfg. Co. 54 Eaton-Dikeman Co. 55 Fort Howard Paper Co. 5 Franklin Paper Co. — Hammermill Paper Co. — Hanna Paper Corporation 6 Howard Paper Co. 55 McLaurin-Jones Co. 25 Missisquoi Pulp & Paper Co. 3 Mountain Mill Paper Co. 12 Nuera Paper Company 7 Poland Paper Co. — Saint Regis Paper Company 5 Sherman Paper Co. 55 Stratford Paper Co. 69 Wausau Sulphate Fibre Co. 53 West Virginia Pulp & Paper Co. 5
	FLOOR HARDENER (Concrete). L. Sonneborn & Sons 55	
	FOURDRINIER WIRES. Appleton Wire Works 76 Buchanan Bolt & Wire Co. 72 Cable Excelsior Wire Mfg. Co. 76 Cheney, Bigelow Wire Works 74 Eastwood Wire Mfg. Co. 76 Lindsay Wire Works 75 Joseph O. O'Neill Wire Works 75 The W. S. Tyler Company 75	
	FURNACES (Automatic). Murphy Iron Works 68	
	GAUGES (Gear). Farrel Foundry & Machine Co. —	

Buchanan & Bolt Wire Company

ESTABLISHED 1878 AT HOLYOKE, MASS.

Makers of Highest Grade Fourdrinier Wires, Dandy Rolls, Cylinder Covers, Brass Wire Cloth
of all Meshes for Paper, Pulp and Coating Mills—Quality Guaranteed

We make a specialty of Fine Wires for Magazine and Book Papers

CLASSIFIED INDEX TO ADVERTISEMENTS

PAPER AND PULP MACHINERY.		RAG CUTTERS.		SULPHUR.	
	Page		Page		Page
Bagley & Sewell Co.	—	B. F. Perkins & Sons, Inc.	11	Texas Gulf Sulphur Co.	6
Baker Mfg. Co.	74	Taylor-Stiles & Co.	57	Union Sulphur Co.	70
Beloit Iron Works	14	REAM CUTTERS.		TANKS.	
Bird Machine Co.	31	Geo. T. McLaughlin Co.	—	W. E. Caldwell Co.	9
Black-Clawson Co.	—	RECORDING INSTRUMENTS.		New England Tank & Tower Co.	70
Clark-Aiken Co.	11	Bristol Company	—	Stearns Lumber Co.	55
Frank H. Davis	65	ROLL GRINDERS.		G. Woolford Wood Tank Co.	—
Downingtown Mfg. Co.	74	Farrel Foundry & Machine Co.	—	TIMBER ESTIMATES.	
Farrel Foundry & Machine Co.	—	ROSIN.		R. R. Bradley	68
Glens Falls Machine Works	66	Hercules Powder Co.	27	P. T. Coolidge	68
Improved Machinery Co.	35	ROSIN SIZE.		James W. Sewall	68
Sandy Hill Iron & Brass Co.	19	Arabol Mfg. Co.	75	TRANSMISSION MACHINERY.	
Shartle Bros. Machine Co.	67	Papers Makers Chemical Co.	54	H. W. Caldwell & Sons Co.	67
Smith & Winchester Mfg. Co.	8	Western Paper Makers Chemical Co.	54	Reeves Pulley Co.	—
Valley Iron Works	—	ROTARY BLEACHING BOILERS.		TURBINES.	
Waterville Iron Works	—	Biggs Boiler Works Co.	—	S. Morgan Smith Co.	—
PAPER MILL AGENTS.		SAVE ALL.		TURPENTINE.	
Dillon & Barnes	69	Bird Machine Co.	31	Hercules Powder Co.	—
Hill Company, Berton C.	55	SATIN WHITE.		TWINES.	
McIver, Dana T.	2	Kalbfleisch Corporation	42	American Manufacturing Co.	42
Melby, E. C.	12	Paper Makers Chemical Co.	54	VALVES.	
PAPER AND PULP MILL BROKERS.		Western Paper Makers Chemical Co.	54	Crane Co.	55
Gibbs-Brower Co.	66	SCALES (Paper).		Jenkins Bros.	63
PAPER STOCK.		Fred Baker	—	VAPOR ABSORPTION SYSTEMS.	
Atterbury Bros.	Front Cover	E. J. Cady & Co.	—	J. O. Ross Engineering Co.	—
Butterworth & Co., Inc., E.	Front Cover	Foreign Paper Mills, Inc.	3	VENTILATING FANS.	
Castle, Gotthel & Overton	75	SCREENS.		B. F. Perkins & Sons, Inc.	11
Gumbinsky Bros.	76	Bird Machine Co.	31	Ross Engineering Co.	—
Hicks, Daniel M.	70	Central Mfg. Co.	67	VEGETABLE PARCHMENT PAPERS.	
Penn Paper & Stock Co.	69	Wm. A. Hardy & Sons Co.	55	Kalamazoo Vegetable Parchment Co.	53
Salomon Bros., & Co.	69	Union Screen Plate Co.	73	WAXED PAPERS.	
Train-Smith Co.	Front-Cover	SHREDDERS (Pulp and Paper).		Dragon Paper Mfg. Co.	61
PAPER TESTERS.		Gruendler Patent Crusher & Pulverizer Co.	—	WOOD FLOUR.	
Foreign Paper Mills, Inc.	3	SKYLIGHTS.		Union Wood Flour Co.	69
B. F. Perkins & Son, Inc.	11	E. Van Noorden & Co.	75	Wood Grinding Service, Inc.	13
PAPER TUBE MACHINERY.		SLASHERS.		WOOD PULP IMPORTERS.	
Dietz Machine Works	10	Ryther & Pringle Co.	57	American Wood Pulp Corp.	4
Grissinger Machine Works	70	SLITTERS AND REWINDERS.		J. Andersen & Co.	4
PAPER WAXING MACHINERY.		C. Benninghofen & Sons	69	Ira L. Beebe & Co.	70
Farrel Foundry & Machine Co.	—	Cameron Machine Works	70	The Borregaard Co., Inc.	—
Potdevin Machine Co.	39	Dietz Machine Works	10	M. Gottesman & Co.	33
PERFORMING MACHINES.		Samuel M. Langston Co.	70	Hammond, R. F.	Front Cover
Dietz Machine Works	10	SPLICING TISSUE.		E. J. Keller Co.	12
PERFORATING METAL.		Sergeant Co., E. M.	75	Lagerloef Trading Co.	Front Cover
Harrington & King Perforating Co.	63	STARCH.		Mead Sales Co., The	—
Hendrick Mfg. Co.	10	Corn Products Refining Company	6	Nilsen, Rantoul & Co., Inc.	37
Charles Mundt & Sons	54	STEAM SPECIALTIES.		A. I. Pagel & Co., Inc.	19
Manhattan Perforated Metal Co.	75	Crane Co.	55	J. F. Patton & Co., Inc.	53
PLUGS (Wood).		Open Coil Heater & Purifier Co.	—	Perkins-Goodwin Co.	37
O. L. Bartlett	—	STITCHING MACHINERY.		Scandinavian-American Trading Co.	12
PULP PROCESS.		Saranac Machine Co.	—	WOOD ROLLS.	
Castle, Gotthel & Overton	8	SULPHITE BLEACHED AND UNBLEACHED.		Rodney Hunt Machine Co.	3
PULP STONES.		J. Anderson & Co.	4		
International Pulp Stone Co.	Front Cover	The Borregaard Co., Inc.	—		
Lombard & Co.	2	Brown Company	5		
PUMPS.		Butterworth & Co., Inc., E.	Front Cover		
Frederick Iron & Steel Co.	2	Canadian Robert Dollar Co.	35		
Hayton Pump & Blower Co.	—	Craig-Becker Co., Inc.	53		
PUMPS (Vacuum).		Eastern Manufacturing Co.	71		
The Nash Engineering Company	39	Mead Sales Co., The	—		
PRESSURE BULKERS.		Parsons Pulp & Lumber Co.	61		
B. F. Perkins & Sons, Inc.	11	Price & Pierce, Ltd.	Front Cover		
		Pulp & Paper Trading Co.	4		

Fitchburg, Mass., U. S. A. UNION SCREEN PLATE COMPANY Lennoxville, P. Q. Canada

UNION BRONZE SCREEN PLATES ROLLED BRASS
(Best phosphorized Cast Metal) (Union Quality)

Old Plates RECLOSED and RECUT to accurate gauge.

UNION BRONZE SCREWS for Screen Plates

UNION BRONZE SUCTION BOX PLATES

Immediate Delivery of the Largest Orders. Satisfaction Guaranteed.

THE UNION-WITHAM SCREEN PLATE VAT AND FASTENERS

THE ORIGINAL Over One Thousand in Successful Operation

THE BEST Recommended by Screen Makers



BAKER MANUFACTURING CORPORATION

Formerly
BAKER & SHEVLIN COMPANY

Sole Manufacturers of

THE MAGAZINE GRINDER

For the United States of America. This is the grinder that is making all of the ground wood manufactured by the Laurentide Co., Grand Mere, Quebec, as used on their new paper making machines, the largest in many ways and fastest running (1020 ft. per minute) in the world.

BAKER MANUFACTURING CORPORATION, Saratoga Springs, N.Y.

Paper Mill Machinery

Cylinder and Fourdrinier

PAPER MACHINES

Screens, Pumps, Beaters, Fly Bars, etc.

Downingtown Manufacturing Co.

East Downingtown, Pa., U.S.A.

ESTABLISHED 1862

FOURDRINIER WIRES

DANDY ROLLS
CYLINDER
MOLDS

CHENEY BIGELOW WIRE WORKS
SPRINGFIELD, MASS.

MANUFACTURERS

Paper Mill Wire Cloth, Bank
and Office Railings and Grill Work

ALUM
FOR THE PAPER MAKER
 Manufactured by
The Jarecki Chemical Co.
QUALITY SERVICE
 Sole Selling Agents
ISAAC WINKLER & BRO.
 CINCINNATI :: :: NEW YORK


Splicing Tissue
INDIAN AND STAR BRANDS
 specially prepared for
PAPER MILLS
E. M. Sergeant Co.
 15 EAST 26TH STREET
 New York, N. Y.

For reliable running and average long life
Lindsay Fourdrinier Wires
 ARE UNSURPASSED
 We make them for the largest and fastest machines.
 Cylinder Wires all sizes.
The Lindsay Wire Weaving Co.
 COLLINWOOD STA. CLEVELAND, OHIO

Dry Rosin Size



Brittle and easily soluble. Cheapest size out. Cheaper than mill made size. Also our hot and cold water sizes; standard quality. Cleaner, more uniform and economical than either mill made sizes or those offered by our competitors. Also Arabol Paper Size, Splicing Gums, Condensed Paste Powder, Paper Makers' Starches.

Arabol Manufacturing Co.
 100 William Street : NEW YORK

WE specialize in durable Fourdrinier Wires and Cylinder Wires in any metal desired up to and including 120 mesh in plain woven, double warp, triple chain, and twisted weaves.
 Save two-thirds the cost and three-quarters of the expense of putting on brass and bronze wires by using our nickel alloy wires.
Joseph O'Neill Wire Works
 Port Chester, N. Y.
 Established 1906

FOREIGN and DOMESTIC
 Paper Stock
 New Cuttings
 and Rags

CASTLE, GOTTHEIL & OVERTON

Jute Stock
 Sizing, Sulphite
 and Soda Pulps
 200 FIFTH AVE. NEW YORK

Van Noorden Skylights

To work by the Sun
 Means twice the work done.



"DAYLITE"

are as
Indispensable
 To a modern Paper Mill as its important inner equipment. "DAYLITE" means Nature's light without weather or condensation drip.
E. VAN NOORDEN & CO. 103 Magazine St. Boston, Mass.

"TYLER"
Fourdrinier Wires
 In all widths up to 250 inches
 CYLINDER FACES
 WASHER WIRES
 In Brass, Bronze and Phosphor Bronze
The W. S. Tyler Company
 Cleveland, Ohio

EASTWOOD
WIRE MFG. CO.
FOURDRINIER WIRES
BELLEVILLE, NEW JERSEY, U.S.A.

Mill Cogs
ON SHORTEST POSSIBLE NOTICE

We make all kinds of Mill Cogs and have special facilities that will be of great service to you. We make a specialty of "ready dressed" cogs which are

READY TO RUN
the moment driven and keyed. Write at once for circular "G" and instruction sheets, free.

THE N. P. BOWSER CO., South Bend, Ind.
Established 1882.

EXPORT ONLY All Grades of
PAPER and BOARDS

A. M. Capen's Sons, Inc.
Established 1870
60 Pearl Street, New York City

NATRONA
Porous Alum
MANUFACTURED BY
PENNSYLVANIA SALT MFG. COMPANY
PHILADELPHIA

THE WM. CABLE
EXCELSIOR WIRE MFG. CO.

Established 1848
Incorporated 1870-1896

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.

C. K. WILLIAMS & CO., EASTON, PA.



Proprietors of the Penna. Dry Paint and Color Works and the Helios Dry Color, Chemical and Copperas Works of Allentown, Pa.

Manufacturers, Miners and Importers of Coloring Materials, such as Venetian Reds, Red, Brown, Black, Yellow, Oxides, Chrome and other Ochres, also Paper Fillers—as Agalites, Mineral Pulp, Talc, China and other Clays.

**COLORS FOR PAPER
MANUFACTURERS' USE**

Economy means buying the most in net results for the same money.

"G.B." 3RDS & BLUES

Warranted to EXCEL in Color, Strength and Net Rag Contents.

Inquiries solicited

GUMBINSKY BROS. CO.

America's Largest Packers of Rags and Waste Paper
2261 South Union Ave., Chicago, Illinois

STAR CLAY CO.
MINERS & MANUFACTURERS OF
WHITE CHINA CLAY,
ESPECIALLY ADAPTED TO PAPERMAKERS USE.
MERTZTOWN, PA.

FOURDRINIER
CYLINDER
WASHER **WIRES**

50 years' experience as wire makers
insures highest quality of product

**"Appleton Wires
Are Good Wires"**

Appleton Wire Works Appleton, Wis.