

MEMBER OF THE A. B. C.
FIFTIETH YEAR

BUREAU OF
RECEIPTS
JAN 27 1922

PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY
ESTABLISHED IN 1872

Vol. LXXIV. No. 4 NEW YORK AND CHICAGO, JANUARY 26, 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

H. R. WOODWARD, Pres.

WALTER F. SIMON, Pres.

TRAIN SMITH COMPANY

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

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

Telephone: Murray Hill 4246
4247

Hans Lagerlof, Pres't & Treas.
Orvar Hylin, Vice-Pres. & Sec'y.



Lagerlof 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. CHL. - 305 W. Randolph St.

CABLE ADDRESS
REGHAMOND NEW YORK

TELEPHONE
VANDERBIT 4568-9

R. F. HAMMOND

342 MADISON AVENUE
NEW YORK

WOOD PULP

PAPER

CLAY

Atterbury Bros., Inc.
Sole Agents
145 Nassau St., N. Y.

West Carlaze China
Clay Co.,
St. Austell, England

PAGE 25!

PULP STONES

INTERNATIONAL PULP-STONE CO.
ELYRIA, OHIO



Diamond-F

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 1886
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

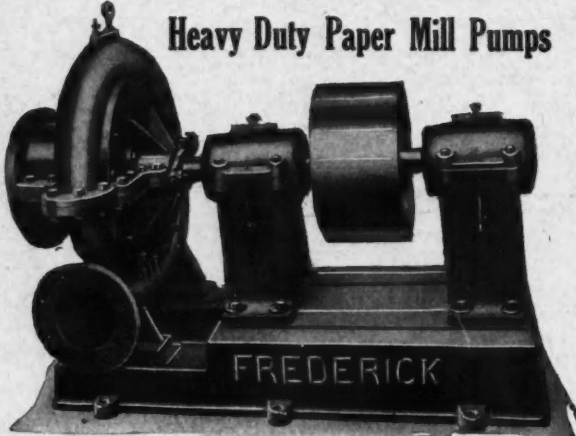
CUTTING DIES



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.

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.

PULP STONES
of absolutely the finest quality
LOMBARD & CO.
Importers and Dealers
236-238 A Street : BOSTON, MASS.
Branch at Montreal, Canada

SERVICE WOOD ROLLS



A Construction for Every Service
Free Roll Blue Prints
Rodney Hunt Machine Co.
No. 63 Maple Street Orange, Mass.

Missisquoi Pulp and Paper Company

SHELDON SPRINGS VERMONT

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

SUPERIOR CHEMICAL CO.

JOLIET, ILLINOIS

Manufacturers

PAPER MAKERS' and FILTER
ALUM

KNOX WOOLEN CO.

MANUFACTURERS OF

"EXCELSIOR"

Seamless Felts for fast running

FELTS AND JACKETS
FOR EVERY GRADE OF PAPER
CAMDEN, MAINE

Satin style Felts for fine finish

1863

1922

CASEIN

Standard Quality
Lowest Prices

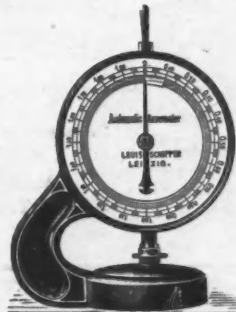
The Casein Manufacturing
Company

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?*

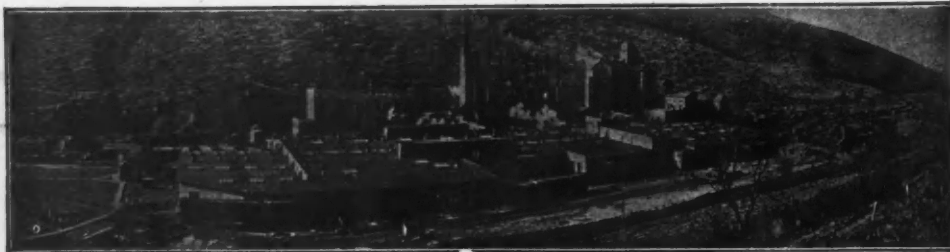
Strength and Stretch Testers	Pocket Micrometers
Folding Testers	Desk Micrometers
Hygrometers	Pocket Scales
Testing Acids	Desk Scales

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 Pulp BLEACHED AND UNBLEACHED

Agents for Kellner Partington Paper Pulp Co., Ltd.
Sarpsborg, Norway; Forshaga and Edsvalla, 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



INVENTORIES

Just completed indicate that the retailer is in the market again. He is going to stock up with a product that the Consumer calls for a second time. Fort Howard Quality Toilets of all kinds; Napkins, Flat and Folded Towels, Rolls and Interfolded have become a standard product with retailers the country over.

Fort Howard Paper Co.
 Green Bay, Wis.

BLEACHED Sulphite Fibre

of the highest grade

Uniform quality, prompt shipments and market prices. Daily capacity of 600 air-dry tons.

BROWN COMPANY

founded 1852
PORTLAND MAINE
Mills at Berlin, New Hampshire

NEW YORK CITY
 Woolworth Bldg.

CHICAGO
 110 So. Dearborn St.



American Coating Mills
 Elkhart, Indiana

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.

Eastern Sales Agents,
Boston Hill Company
 INCORPORATED
 501 Fifth Avenue at 42nd Street
NEW YORK CITY

The
St. Regis Paper Company
 and the
Hanna Paper Corporation

Daily Capacity, 425 Tons

**Newsprint
 Catalog
 Butchers' Manila
 Packers' Oiled Manila
 Jute Container Board
 Ground Wood and Unbleached Sulphite**

Manufacturers of
TARZAN Fibre Shipping Cases

General Sales Office:
30 East 42nd St. New York

TEXAS GULF SULPHUR

99½ Per Cent. Pure

Produced from one
 of the largest known
 deposits in the world.

Texas Gulf Sulphur Company

General Offices
 41 East 42nd Street, New York, N. Y.

*Sulphur Deposit and Plant, Matagorda
 County, Texas*

Starch

Paper manufacturers generally recognize the value of starch in the manufacture and coating of paper.

To obtain definite results in any desired direction in the preparation of paper, not merely a difference of grade, but a difference of kind or variety of starch is required.

Our carefully controlled and thoroughly standardized processes enable us to produce exactly the various starches which the paper industry has found economical and efficient.

Corn Products Refining Company
 17 Battery Place New York

Starch

COLLINS MANUFACTURING COMPANY

SAMUEL R. WHITING, Pres. and Treas.

Manufacturers of

**LOFT DRIED PAPERS
 LEDGERS
 BONDS
 WRITING PAPERS**

Mill: North Wilbraham, Mass.

**Main Office:
 208 Race Street
 Holyoke, Mass.**

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.



Save Power

Hayton Centrifugal pumps are designed for each kind of service. They are built for hard, continuous operation and will stand up under hard usage.

They are made to fit the working conditions and guaranteed to get the highest efficiency.

We also build the full line of Sandusky Triplex pumps.

Let us have your specifications for quotations.

HAYTON PUMP & BLOWER CO.
MANUFACTURERS

APPLETON

WISCONSIN

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

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

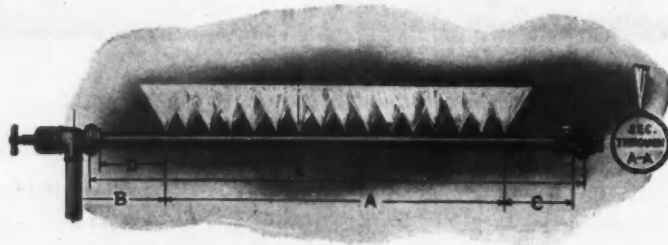
Waterous Engine Works Co., Ltd., Builders and Selling Agents for Canada, Brantford, Canada

**APPLETON
FELTS**

Quality Paper
Quantity Production
is another way of saying
APPLETON
Felts and Jackets

**APPLETON WOOLEN
MILLS**
APPLETON, WIS.

THE VEDDER "RAINSTORM" SHOWER PIPE



MANUFACTURED BY

THE SMITH & WINCHESTER MFG. CO.

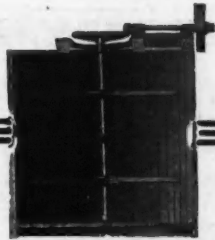
SOUTH WINDHAM, CONN.

ESTABLISHED 1828

*A Complete Line of
Paper Bag Making
Machinery.*

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

*Undercut and Overcut
Trimmers.
Die Cutting Presses.*



A Good Mixer

The use of the original Caldwell Agitator has been recognized for many years by the paper trade as the most efficient method for mixing, stirring and holding liquids in suspension.

Every part of the Caldwell Agitator is made in our own plant, correctly designed and substantially constructed. If the substance to be agitated affects iron, acid resisting metals are used.

As originators of this style Agitator, with over 30 years' experience, we are well equipped to satisfactorily solve your mixing problems.

Let us tell you what kind of tanks will best serve the requirements of your plant.

Send for Catalogue

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

Caldwell
TANKS
AND
TOWERS

BOLTON QUALITY

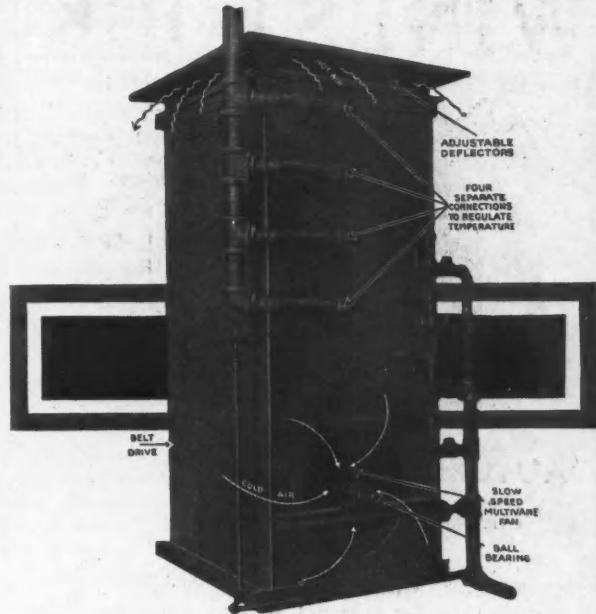
If you have ever used *any* of the Bolton products, Fly Bars, Bed Plates, Jordan Fillings, or Knives of any kind, you found them *HIGH GRADE* in quality and finish and economical in cost.

You can order any of the Bolton Quality line and know that you will find same equally *High Grade*, equally *well finished*, and equally *economical*.

JOHN W. BOLTON & SONS, Inc.
LAWRENCE, MASS.

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

EXACT CONTROL OF DRYING



Any temperature—according to the number of coil banks you utilize.

Any rate of air change—by adjustment of Multivane Fan.

You can obtain these things on a basis of lowest first and operating cost by installing a

GORDON STEAM UNIT HEATER

Ideal for moisture absorption, drying, ventilating and heating in paper mills and all plants where direct firing is not desired.

Immediate shipment—prompt installation. Use the coupon.

ROBERT GORDON, Inc.

1356 W. WASHINGTON STREET CHICAGO, ILL.
Branch Offices: Sun Building, Detroit; Bessemer Building, Pittsburgh;
Manufacturers' Exhibit, New York

*Architects, engineers and plant officials are heartily invited to
"Consult Gordon." No obligation—we work for you.*

Robert Gordon, Inc.

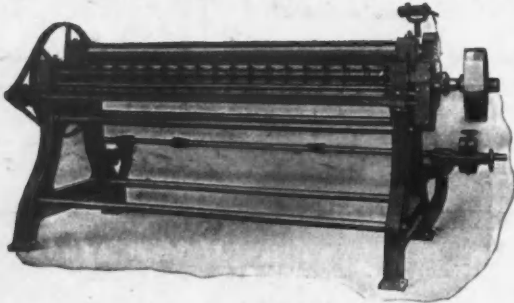
1356 W. Washington St., Chicago.

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. |
| <input type="checkbox"/> Automatic Sprinkler Installations. | Name | Address |
| | Per | |

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.

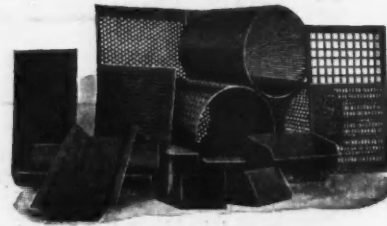
DIETZ MACHINE WORKS

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

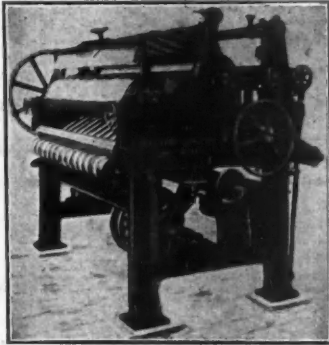
The Sandy Hill Iron & Brass Works

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.



Strength to the EXACT point of

BURSTING

—a real test—is measured and recorded by the Mullen Paper Tester. Write Dept. P-1.

B. F. PERKINS & SON, Inc., Holyoke, Mass.

PARSONS TRADING CO., Exclusive Representatives for Europe.
17 Battery Place, New York City. 28 Fleet St., London, E. C. Eng.

KENWOOD TAN JACKETS

are used in paper-making countries the world over. What is the reason?



BECAUSE the special patented treatment to which the wool used in their construction is subjected makes the Kenwood Tan Jackets resistant to the deteriorating effects of water, abrasion and chemicals, besides giving exceptional couching qualities.

BECAUSE they have unusual firmness and strength.

BECAUSE they deliver drier, firmer, stronger paper.

BECAUSE Kenwood Tan Jackets hug the rolls without slipping and are ready for use as soon as shrunken on.

BECAUSE they are woven in strata or layers and may be worn away to the last layer before strength or firmness is materially affected.

Instructions for fitting and operating Kenwood Tan Jackets are exceedingly simple: "Shrink on properly. Keep guard board beveled to 1/16 inch on bearing edge. Use only necessary pressure of guard board against jacket."

F. C. HUYCK & SONS Kenwood Mills, Albany, N. Y.

Makers of Kenwood Felts and Tan Jackets for all papers, boards and paper machines

JOHN ASPEGREN,
President

Telephone { 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 Sole Agents:

Church Brand Bleached Sulphite

Annual Production, 10,000 Dry Tons

Tonnages of the above available for prompt and future delivery. Wire for prices.

5

**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

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

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.

HYDE

ACID RESISTING

BRONZE CASTINGS

BY THE MAKERS OF THE FAMOUS

HYDE MANGANESE BRONZE

CONTRACTORS FOR THE PAST THIRTY YEARS
TO THE UNITED STATES GOVERNMENT

ACID RESISTING BRONZE

HARD LEAD

IRON CASTINGS

Machine Work of All Descriptions

MANGANESE BRONZE

SEMI-STEEL

HYDE WINDLASS CO.,

Bath, Maine



If Properly Applied
Ball Bearings

on

Breast Rolls
Table Rolls
Wire Rolls
Felt Rolls
Cylinder Moulds
Primary Press Rolls
and Drives

will save wires, felts and
power.

We apply them properly

ASK US



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 } Vanderbilt
 { 2382 }

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

Washington Office—L. M. Lamm, 63 Home Life Bldg.
Western New England News Office—Michael Connor, Holyoke
London Office—Stonhill & Gillis, 58 Shoe Lane

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, \$8
LOCKWOOD'S DIRECTORY OF THE PAPER }
STATIONERY AND ALLIED TRADES (Annual) }Per copy, \$7

Vol. LXXIV. No. 4

NEW YORK AND CHICAGO

Thursday, January 26, 1922

Table of Contents

News of the Trade:

	PAGE
Joint Printing Committee Opens Paper Bids	16
Charles A. Blaney Made Head of Eddy Paper Co.	23
J. H. O'Connell Resigns from King Division	23
Kalamazoo Cost Association Meets	23
Annual Meetings of Kalamazoo Mills	23
Superintendents to Meet at Black River Valley Club..	23
More Inquiries For Paper Reported in Boston	24
S. D. Warren Co., Boston, Advertising	24
W. S. McClelland Heads Grass Fiber Corp.	24
Paper Orders in Toronto Gradually Increasing	26
Burt Co., Toronto, Has Good Year	26
Whalen Co., Toronto, Starts Third Mill	26
Wisconsin Paper Industry Shows Improvement	28
Union Mfg. Co., Oconto Falls, Gets Flowage Rights..	28
Wausau Sulphate Co., Mosinee, to Sell Stock	28
Signs of Improvement in Chicago	30
To Co-operate with Chicago Printers	30
McNulty Paper and Twine Corp., Expands.....	30
General News of Chicago Trade	30
Demand in Philadelphia of Restricted Character	32
Monarch Envelope Mfg. Co. Formed	32
Ward Co. Entertains in Baltimore	32
General News of Philadelphia Trade	32
Trade Mark Department	34
Corrugated and Fiber Box Men Meet	34
I. P. to Start Three River Mill	34
New York Trade Jottings	36
Crystal Tissue Co. Opens New York Office	36
Canadian Paper for Philadelphia	36
R. L. Greene Paper Co. Elects Officers	36

	PAGE
Paper Men Vote on American Valuations	39
The Riordon Situation Improved	39
Frank P. Miller Paper Co. Elects Officers	39
Production of News Print For December	52
Loss of Production in December	52
Jobbers' Tonnage	52
Publishers' Tonnage	52
Nash Engineering Company Bulletin	58
Imports and Exports of Paper and Paper Stock	60

Editorial:

The Paper Bid	38
The Strike Menace	38
Benefits of Standardization	38

Technical Section:

Joint Committee on Felts Meets	41
Testing Felts	41
Pumps and Pumping Machinery	42
Magnitude of Power Plants Chimney Loss	47
Current Paper Trade Literature	49

Market Review:

New York Market Review	58
Market Quotations	59
Miscellaneous Markets	62

Want and For Sale Advertisements, Pages 64 and 65

JOINT PRINTING COMMITTEE OPENS PAPER BIDS

Senator George E. Moses Presides and the Usual Representation of the Paper Trade Is Present At the Opening—Thirty-four Bids Are Submitted of Which a Less Number Than Usual Are Informal—The Proposals in Each Case Call for Estimates for Six Months and the Entire Year—Awards to be Made by the Committee January 30

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, January 23, 1922.—Bids were opened today by the Joint Committee on Printing for the furnishing of supplies of paper for the use of the Government Printing Office. The committee met with Senator George E. Moses presiding, and the usual representatives of the trade were present. Thirty-four bids were received, of which a less number than is usually the case were informal. In each case the proposals called for estimates for supplies for the six months and for the entire year. The bids and the items called for are as follows:

Printing Papers

- No. 1—100,000 lbs., White News, 24x36—32 lbs.; rolls, 19 ins. wide.
Dobler & Mudge, Baltimore, Md., 6 months, 3.79c.; 1 year, 3.79c.
International Paper Company, New York City, 6 months, 3.89c.; 1 year, 3.89c.
Republic Bag and Paper Company, New York City, 6 months, 4.08c.
Seaman Paper Company, New York City, 6 months, 3.94c.; 1 year, 3.94c.
R. P. Andrews Paper Company, Washington, D. C., 6 months, 3.98c.
The Whitaker Paper Company, Baltimore, Md., 6 months, 3.92c.
- No. 2—3,000,000 lbs., White News Paper, 24x36—32 lbs.; rolls, 48 ins. wide.
Dobler & Mudge, 6 months, 3.79c.; 1 year, 3.79c.
International Paper Company, 6 months, 3.89c.; 1 year, 3.89c.
Republic Bag and Paper Company, 6 months, 4.08c.
Seaman Paper Company, 6 months, 3.94c.; 1 year, 3.94c.
R. P. Andrews Paper Company, 6 months, 3.98c.
The Whitaker Paper Company, 6 months, 3.92c.
- Machine-Finish Printing, No. 1**
- No. 3—400,000 lbs., 25x38—35 lbs., cut 24x32 ins. flat.
Bryant Paper Company, Kalamazoo, Mich., 6 months, 6.93c.
International Paper Company, 6 months, 6.63c.; 1 year, 6.88c.
R. P. Andrews Paper Company, 6 months, 7c.
The Whitaker Paper Company, 6 months, 6.93c.
- No. 4—1,250,000 lbs., 25x38—35 lbs.; cut 24x38 and 38x48 ins. flat.
Bryant Paper Company, 6 months, 6.93c.
International Paper Company, 6 months, 6.63c.; 1 year, 6.88c.
R. P. Andrews Paper Company, 6 months, 7c.
The Whitaker Paper Company, 6 months, 7.31c.
- No. 5—1,250,000 lbs., 25x38—35 lbs., cut 24x38 and 38x48 ins. flat.
Bryant Paper Company, 6 months, 6.93c.
International Paper Company, 6 months, 6.63c.; 1 year, 6.88c.
R. P. Andrews Paper Company, 6 months, 7c.
The Whitaker Paper Company, 6 months, 7.31c.
- No. 6—1,500,000 lbs., 25x38—35 lbs.; rolls, 38 and 48 ins. wide.
The Champion Coated Paper Company, Hamilton, Ohio, 6 months, 6.73c.; 1 year, 6.98c.
Bryant Paper Company, Kalamazoo, Mich., 6 months, 6.43c.
Kalamazoo Paper Company, Kalamazoo, Mich., 6 months, 6.15c.
International Paper Company, 6 months, 6.13c.; 1 year, 6.38c.
Old Dominion Paper Company, Norfolk, Va., 6 months, 6.829c.
(300,000 lbs. between this item and item 8 as a total).
R. P. Andrews Paper Company, 6 months, 6.5c.
The Whitaker Paper Company, 6 months, 6.81c.
- No. 7—2,000,000 lbs., 25x38—35 lbs.; rolls, 18, 19, 21, and 23 ins. wide.
Dobler & Mudge, 6 months, 5.97c.
The Champion Coated Paper Company, 6 months, 6.73c.; 1 year, 6.98c.
Bryant Paper Company, 6.43c.
International Paper Company, 6 months, 6.13c.; 1 year, 6.38c.
R. P. Andrews Paper Company, 6 months, 6.5c.
The Whitaker Paper Company, 6 months, 6.81c.
- No. 8—1,500,000 lbs., 25x38—35 lbs.; rolls, 38 and 48 ins. wide.
The Champion Coated Paper Company, 6 months, 6.73c.; 1 year, 6.98c.
Bryant Paper Company, 6 months, 6.43c.
Kalamazoo Paper Company, 6 months, 6.15c.
International Paper Company, 6 months, 6.13c.; 1 year, 6.38c.
Old Dominion Paper Company, 6 months, 6.829c. (see note on item 6).
- R. P. Andrews Paper Company, 6 months, 6.5c.
The Whitaker Paper Company, 6 months, 6.81c.
- No. 9—300,000 lbs., 25x38—40 lbs.; rolls, 38 and 48 ins. wide.
The Champion Coated Paper Company, 6 months, 6.43c.; 1 year, 6.68c.
Bryant Paper Company, 6 months, 6.14c.
Kalamazoo Paper Company, 6 months, 5.85c.
International Paper Co., 6 months, 5.88c.; 1 year, 6.13c.
Old Dominion Paper Company, 6 months, 6.542c. (1).
R. P. Andrews Paper Company, 6 months, 6.2c.
New York & Pennsylvania Company, New York City, 6 months, 6.095c.; 1 year, 6.095c.
The Whitaker Paper Company, 6 months, 6.49c.
- No. 10—300,000 lbs., 25x38—40 lbs.; rolls, 38 and 48 ins. wide.
The Champion Coated Paper Company, 6 months, 6.43c.; 1 year, 6.68c.
Bryant Paper Company, 6 months, 6.14c.
Kalamazoo Paper Company, 6 months, 5.85c.
International Paper Company, 6 months, 5.88c.; 1 year, 6.13c.
Old Dominion Paper Company, 6 months, 6.542c. (1).
R. P. Andrews Paper Company, 6 months, 6.2c.
New York & Pennsylvania Company, 6 months, 6.095c.; 1 year, 6.095c.
The Whitaker Paper Company, 6 months, 6.49c.
- No. 11—300,000 lbs., 25x38—40 lbs.; rolls, 38 and 48 ins. wide.
P. H. Glatfelter Company, Spring Grove, Pa., 6 months, 6.19c.
The Champion Coated Paper Company, 6 months, 6.43c.; 1 year, 6.68c.
Bryant Paper Company, 6 months, 6.14c.
Kalamazoo Paper Company, 6 months, 5.85c.
International Paper Company, 6 months, 5.88c.; 1 year, 6.13c.
Old Dominion Paper Company, 6 months, 6.542c. (1).
R. P. Andrews Paper Company, 6 months, 6.2c.
New York & Pennsylvania Company, 6 months, 6.095c.; 1 year, 6.095c.
The Whitaker Paper Company, 6 months, 6.49c.
- No. 12—300,000 lbs., 25x38—40 lbs.; rolls, 38 and 48 ins. wide.
P. H. Glatfelter Company, 6 months, 6.19c.; 1 year, 6.19c.
The Champion Coated Paper Company, 6 months, 6.43c.; 1 year, 6.68c.
Bryant Paper Company, 6 months, 6.14c.
Kalamazoo Paper Company, 6 months, 5.85c.
International Paper Company, 6 months, 5.88c.; 1 year, 6.13c.
Old Dominion Paper Company, 6 months, 6.542c. (1).
R. P. Andrews Paper Company, 6 months, 6.2c.
New York & Pennsylvania Company, 6 months, 6.095c.; 1 year, 6.095c.
The Whitaker Paper Company, 6 months, 6.49c.
- No. 13—250,000 lbs., 25x38—40 lbs.; rolls, 19 ins. wide.
Dobler & Mudge, 6 months, 5.57c.
The Champion Coated Paper Company, 6 months, 6.43c.; 1 year, 6.68c.
Bryant Paper Company, 6 months, 6.14c.
International Paper Company, 6 months, 5.88c.; 1 year, 6.13c.
R. P. Andrews Paper Company, 6 months, 6.2c.
New York & Pennsylvania Company, 6 months, 6.095c.; 1 year, 6.095c.
The Whitaker Paper Company, 6 months, 6.49c.
- No. 14—250,000 lbs., 25x38—40 lbs.; rolls, 19 ins. wide.
Dobler & Mudge, 6 months, 5.87c.
The Champion Coated Paper Company, 6 months, 6.43c.; 1 year, 6.68c.
Bryant Paper Company, 6 months, 6.14c.
International Paper Company, 6 months, 5.88c.; 1 year, 6.13c.
R. P. Andrews Paper Company, 6 months, 6.2c.
New York & Pennsylvania Company, 6 months, 6.095c.; 1 year, 6.095c.
The Whitaker Paper Company, 6 months, 6.49c.
- No. 15—500,000 lbs., 25x38—40 lbs.; cut 24x38 and 38x48 ins. flat.
P. H. Glatfelter Company, 6 months, 6.19c.; 1 year, 6.19c.
Bryant Paper Company, 6 months, 6.64c.
Allied Paper Mills, Kalamazoo, Mich., 6 months, 6.63c.
R. P. Andrews Paper Company, 6 months, 6.7c.
New York and Pennsylvania Company, 6 months, 6.595c.; 1 year, 6.595c.
The Whitaker Paper Company, 6 months, 6.99c.
- No. 16—500,000 lbs., 25x38—40 lbs.; rolls, 36¾ ins. wide.
Dobler & Mudge, 6 months, 5.57c.
The Champion Coated Paper Company, 6 months, 6.43c.; 1 year, 6.68c.
Bryant Paper Company, 6 months, 6.14c.
Kalamazoo Paper Company, 6 months, 5.85c.
International Paper Company, 6 months, 5.88c.; 1 year, 6.13c.
Old Dominion Paper Company, 6 months, 6.544c.; 1 year, 6.544c.
New York and Pennsylvania Company, 6 months, 6.095c.; 1 year, 6.095c.
R. P. Andrews Paper Company, 6 months, 6.2c.
The Whitaker Paper Company, 6 months, 6.49c.

No. 17—50,000 lbs., 25x38—50 lbs.; rolls, 33 $\frac{3}{4}$ ins. wide.

Dobler & Mudge, 6 months, 5.47c.
The Champion Coated Paper Company, 6 months, 6.13c.; 1 year, 6.38c.
Bryant Paper Company, 6 months, 6.14c.
Kalamazoo Paper Company, 6 months, 5.75c.
Allied Paper Mills, 6 months, 5.85c.
International Paper Company, 6 months, 5.88c.; 1 year, 6.13c.
R. P. Andrews Paper Company, 6 months, 5.9c.
New York and Pennsylvania Company, 6 months, 6.095c.; 1 year, 6.095c.
The Whitaker Paper Company, 6 months, 6.23c.

No. 18—400,000 lbs., 25x38—50 lbs.; cut 24x38, 28x40, 32x42, 38x48, and 41x52 ins. flat.

P. H. Glatfelter Company, 6 months, 6.19c.; 1 year, 6.19c.
Dobler & Mudge, 6 months, 5.97c.
Bryant Paper Company, 6 months, 6.64c.
Kalamazoo Paper Company, 6 months, 6.15c.
Allied Paper Mills, 6 months, 6.35c.
International Paper Company, 6 months, 6.38c.; 1 year, 6.63c.
Old Dominion Paper Company, 6 months, 6.794c. (10,000 lbs. only).
R. P. Andrews Paper Company, 6 months, 6.4c.
New York and Pennsylvania Company, 6 months, 6.595c.; 1 year, 6.595c.
The Whitaker Paper Company, 6 months, 6.73c.

No. 19—350,000 lbs., 25x38—60 and 70 lbs.; cut 29x41 and 38x48 ins. flat (the grain of sheet to run as ordered).

P. H. Glatfelter Company, 6 months, 6.19c.; 1 year, 6.19c.
Bryant Paper Company, 6 months, 6.64c.
Allied Paper Mills, 6 months, 6.25c.
International Paper Company, 6 months, 6.38c.; 1 year, 6.63c.
R. P. Andrews Paper Company, 6 months, 6.4c.
New York and Pennsylvania Company, 6 months, 6.595c.; 1 year, 6.595c.
The Whitaker Paper Company, 6 months, 6.93c.

No. 20—20,000 lbs. salmon, 25x38—50 lbs.; flat. min. order, 5000 pounds.

International Paper Company, 6 months, 6.88c.; 1 year, 7.13c.
The Whitaker Paper Company, 6 months, 6.93c.

Plant-Fiber Machine-Finish Printing, No. 1No. 21—500,000 lbs., 1, 25x38—40 lbs.; rolls, 19, 38, and 48 ins. wide.
No bids.No. 22—500,000 lbs., 1, 25x38—40 lbs.; rolls, 19, 38, and 48 ins. wide.
No bids.**Antique Printing**

No. 23—25,000 lbs., 25x38—50 lbs.; cut 25x38, 29x41, and 38x50 ins. flat.

Dobler & Mudge, 6 months, 5.97c.
International Paper Company, 6 months, 6.38c.; 1 year, 6.63c.
Old Dominion Paper Company, 6 months, 6.954c.; 1 year, 7.199c.
The Whitaker Paper Company, 6 months, 8.97c.

Opaque Printing, High Machine FinishNo. 24—40,000 lbs., 25x38—30 lbs.; cut 32x48 and 38x48 ins. flat.
Old Dominion Paper Company, 6 months (a), 9.459c.; (b), 8.989c.
Shipments at one time not of the entire 40,000 lbs.; 1 year (a), 9.459c.; (b), 8.989c. Shipment of entire 40,000 lbs. at one time.**Rag Machine-Finish Printing**

No. 25—200,000 lbs., 25x38—40 lbs.; cut 32x48 ins. flat.

Bryant Paper Company, 6 months, 7.54c.
Old Dominion Paper Company, 6 months, 7.55c.; 1 year, 7.554c.
The Whitaker Paper Company, 6 months, 9.69c.

No. 26—200,000 lbs., 25x38—40 lbs.; cut 38x48 ins. flat.

Bryant Paper Company, 6 months, 7.54c.
Old Dominion Paper Company, 6 months, 7.554c.; 1 year, 7.554c.
The Whitaker Paper Company, 6 months, 9.69c.

No. 27—200,000 lbs., 25x38—40 lbs.; cut 38x48 ins. flat.

Bryant Paper Company, 6 months, 7.54c.
Old Dominion Paper Company, 6 months, 7.554c.; 1 year, 7.554c.
The Whitaker Paper Company, 9.69c.

No. 28—100,000 lbs., 25x38—40 and 45 lbs.; cut any size, flat, max. width 42 ins.

Bryant Paper Company, 6 months, 7.54c.
Old Dominion Paper Company, 6 months, 7.554c.; 1 year, 7.554c.
The Whitaker Paper Company, 6 months, 9.69c.

No. 29—100,000 lbs., 25x38—40 and 45 lbs.; cut any size, flat, max. width 42 ins.

Bryant Paper Company, 6 months, 7.54c.
Old Dominion Paper Company, 6 months, 7.554c.; 1 year, 7.554c.
The Whitaker Paper Company, 6 months, 9.69c.

Sized and Supercalendered Printing (Sample A)

No. 30—80,000 lbs., 25x38—45 lbs.; cut 24x32 and 32x48 ins. flat.

Bryant Paper Company, 6 months, 6.92c.
Kalamazoo Paper Company, 6 months, 6.58c.
R. P. Andrews Paper Company, 6 months, 6.9c.
The Whitaker Paper Company, 6 months, 7.38c.

No. 31—600,000 lbs., 25x38—45 lbs.; cut 31 $\frac{1}{4}$ x45 $\frac{1}{2}$ ins. flat.

Bryant Paper Company, 6 months, 6.92c.
Kalamazoo Paper Company, 6 months, 6.58c.
R. P. Andrews Paper Company, 6 months, 6.58c.
The Whitaker Paper Company, 6 months, 7.33c.

No. 32—1,000,000 lbs., 25x38—50 lbs.; cut 24x38 and 38x48 ins. flat.

Dobler & Mudge, 6 months, 6.22c.
The Champion Coated Paper Company, 6 months, 6.54c.; 1 year, 6.79c.
Bryant Paper Company, 6 months, 6.92c.
Kalamazoo Paper Company, 6 months, 6.44c.
R. P. Andrews Paper Company, 6 months, 6.6c.
New York & Pennsylvania Company, 6 months, 6.845c.; 1 year, 6.845c.
The Whitaker Paper Company, 6 months, 7.03c.

No. 33—1,000,000 lbs., 25x38—45 lbs.; rolls, 19 and 38 in. wide.

The Champion Coated Paper Company, 6 months, 6.38c.; 1 year, 6.63c.
Bryant Paper Company, 6 months, 6.67c.
Kalamazoo Paper Company, 6 months, 6.24c.
R. P. Andrews Paper Company, 6 months, 6.24c.
The Whitaker Paper Company, 6 months, 6.88c.

No. 34—20,000 lbs., 25x38—45 and 50 lbs.; cut any size, flat, max. width 42 ins.

Bryant Paper Company, 6 months, 7.42c.

Sized and Supercalendered Printing (Sample B)

No. 35—20,000 lbs., 25x38—40, 45, and 50 lbs.; cut any size, flat, max. width 42 ins.

Old Dominion Paper Company, 6 months, 8.374c.; 1 year, 8.374c.
The Whitaker Paper Company, 6 months, 11.97c.

Halftone Printing

No. 36—150,000 lbs., 25x38—70 lbs.; cut 24x38 and 38x48 ins. flat.

Dobler & Mudge, 6 months, 5.97c.
The Champion Coated Paper Company, 6 months, 6.98c.; 1 year, 7.23c.
Bryant Paper Company, 6 months, 7.50c.
Kalamazoo Paper Company, 6 months, 6.58c.
Allied Paper Mills, 6 months, 6.63c.
New York & Pennsylvania Company, 6 months, 6.845c.; 1 year, 6.845c.
The Whitaker Paper Company, 6 months, 7.59c.

Single-Coated Both Sides Book

No. 37—125,000 lbs., 25x38—70 lbs.; cut any size, flat, max. width 42 ins.

Dobler & Mudge, 6 months, 8.4c.; 1 year, 8.4c.
Bryant Paper Company, 6 months, 8.5c.
Kalamazoo Paper Company, 6 months, 8.5c.
Allied Paper Mills, 6 months, 8.09c.
Old Dominion Paper Company, 6 months, 8.499c.; 1 year, 8.499c.
R. P. Andrews Paper Company, 6 months, 8.15c.
The Whitaker Paper Company, 6 months, 8.28c.; 1 year, 8.28c.

Double-Coated One Side Book (Sample A)

No. 38—10,000 lbs., 25x38—70 lbs.; cut any size; flat, max. width 42 ins.

Dobler & Mudge, 6 months, 9.35c.; 1 year, 9.35c.
Kalamazoo Paper Company, 6 months, 9.25c.
Allied Paper Mills, 6 months, 9.22c.
Old Dominion Paper Company, 6 months, 8.999c.; 1 year, 8.999c.
The Whitaker Paper Company, 6 months, 9.18c.; 1 year, 9.18c.

Double-Coated Both Sides Book (Sample A)

No. 39—150,000 lbs., 25x38—70 and 80 lbs.; cut any size; flat, max. width 42 ins.

Dobler & Mudge, 6 months, 8.9c.; 1 year, 8.9c.
Bryant Paper Company, 6 months, 9.44c.
Kalamazoo Paper Company, 6 months, 9.25c.
Allied Paper Mills, 6 months, 9.70c.
Old Dominion Paper Company, 6 months, 9.499c.; 1 year, 9.499c.
R. P. Andrews Paper Company, 6 months, 9.15c.
The Whitaker Paper Company, 6 months, 8.78c.; 1 year, 8.78c.

Double-Coated One Side Book (Sample B)

No. 40—10,000 lbs., 25x38—70 lbs.; cut any size; flat, max. width 42 ins.

Allied Paper Mills, 6 months, 11.16c.
Old Dominion Paper Company, 6 months, 11.999c.; 1 year, 11.999c.
The Whitaker Paper Company, 6 months, 9.58c.; 1 year, 9.58c.

Double-Coated Both Sides Book (Sample B)

No. 41—40,000 lbs., 25x38—70 and 80 lbs.; cut any size; flat, max. width 42 ins.

Bryant Paper Company, 6 months, 11.0c.
 Allied Paper Mills, 6 months, 11.64c.
 Old Dominion Paper Company, 6 months, 11.999c.; 1 year, 11.999c.
 The Whitaker Paper Company, 6 months, 9.78c.; 1 year, 9.78c.

U S M O Writing

No. 42—7,000 lbs., U S M O White and Blue Writing Paper, Machine-dried, No. 16; rolls, 8½ ins. wide.

R. P. Andrews Paper Company, 6 months, 12.8c. Minimum order 7,000 lbs.

White French Folio

No. 43—2,000 lbs., No. 10; cut 17x22 ins.; flat, min. order, 750 lbs.

Dobler & Mudge, 6 months, 12.0c.; 1 year, 12.0c.
 Rainbow Paper Corporation of New York, 6 months, 10.39c.; 1 year, 10.39c.
 Allied Paper Mills, 10.67c.
 R. P. Andrews Paper Company, 6 months, 13.9c.

Writing, White and Colored, High Machine Finish

No. 44—50,000 lbs., White, No. 13; cut 23x32 ins. flat.

The Champion Coated Paper Company, 6 months, 8.34c.; 1 year, 8.59c.
 Whiting-Patterson Company, Inc., New York City, 6 months, 7.85c.; 1 year, 7.85c.
 International Paper Company, 6 months, 10.65c.; 1 year, 10.90c.
 Seaman Paper Company, 6 months, 8.83c.; 1 year, 8.83c.
 The Aetna Paper Company, Dayton, Ohio, 6 months, 8.83c.; 1 year, 8.83c.
 Old Dominion Paper Company, 6 months, 8.439c.; 1 year, 8.439c.
 R. P. Andrews Paper Company, 6 months, 9.5c.
 The Whitaker Paper Company, 6 months, 11.23c.

No. 45—1,000,000 lbs., White, No. 16; cut 21½x32½ and 26x34½ ins. flat.

The Champion Coated Paper Company, 6 months, 7.44c.; 1 year, 7.69c.
 Kalamazoo Paper Company, 6 months, 6.94c.
 Whiting-Patterson Company, Inc., 6 months, 6.90c.; 1 year, 6.90c.
 International Paper Company, 6 months, 8.73c.; 1 year, 8.98c.
 Seaman Paper Company, 6 months, 7.94c.; 1 year, 7.94c.
 The Aetna Paper Company, 6 months, 7.83c.; 1 year, 7.83c.
 Old Dominion Paper Company, 6 months, 7.249c.; 1 year, 7.249c.
 R. P. Andrews Paper Company, 6 months, 6.88c.
 The Whitaker Paper Company, 6 months, 8.23c.

No. 46—500,000 lbs., White, No. 20; cut 17x28 and 21x32 ins. flat.

The Champion Coated Paper Company, 6 months, 7.34c.; 1 year, 7.59c.
 Kalamazoo Paper Company, 6 months, 6.84c.
 Whiting-Patterson Company, Inc., 6 months, 6.85c.; 1 year, 6.85c.
 International Paper Company, 6 months, 8.73c.; 1 year, 8.98c.
 Seaman Paper Company, 6 months, 7.58c.; 1 year, 7.58c.
 The Aetna Paper Company, 6 months, 7.83c.; 1 year, 7.83c.
 Old Dominion Paper Company, 6 months, 7.249c.; 1 year, 7.249c.
 R. P. Andrews Paper Company, 6 months, 6.88c.
 The Whitaker Paper Company, 6 months, 8.19c.

No. 47—100,000 lbs., White, No. 13; rolls, min. width 8 ins., max. width 38 ins.

The Champion Coated Paper Company, 6 months, 8.04c.; 1 year, 8.29c.
 Whiting-Patterson Company, Inc., 6 months, 7.40c.; 1 year, 7.40c.
 International Paper Company, 6 months, 10.04c.; 1 year, 10.29c.
 Seaman Paper Company, 6 months, 7.94c.; 1 year, 7.94c.
 Old Dominion Paper Company, 6 months, 8.679c.; alternate, 7.489c. for rolls of 23 inches in width; 1 year, 8.679c.; alternate, 7.489c. as above.
 R. P. Andrews Paper Company, 6 months, 7.88c.
 The Whitaker Paper Company, 6 months, 10.23c.

No. 48—50,000 lbs., White, No. 16; rolls, min. width 8 ins., max. width 48 ins.

The Champion Coated Paper Company, 6 months, 7.24c.; 1 year, 7.49c.
 Kalamazoo Paper Company, 6 months, 6.74c.
 Whiting-Patterson Company, Inc., 6 months, 6.40c.; 1 year, 6.40c.
 International Paper Company, 6 months, 8.23c.; 1 year, 8.48c.
 Seaman Paper Company, 6 months, 6.89c.; 1 year, 6.89c.
 Old Dominion Paper Company, 6 months, 7.249c.; alternate, 6.989c. for rolls of 23 inches in width; 1 year, 7.249c.; alternate, 6.989c. as above.
 R. P. Andrews Paper Company, 6 months, 6.76c.
 The Whitaker Paper Company, 6 months, 8.23c.

No. 49—600,000 lbs., White, No. 20; rolls, min. width 8 ins. max. width 48 ins.

The Champion Coated Paper Company, 6 months, 6.97c.; 1 year, 7.22c.
 Kalamazoo Paper Company, 6 months, 6.64c.
 Whiting-Patterson Company, Inc., 6 months, 6.3c.; 1 year, 6.3c.
 International Paper Company, 6 months, 8.23c.; 1 year, 8.48c.
 Seaman Paper Company, 6 months, 6.64c.; 1 year, 6.64c.
 Old Dominion Paper Company, 6 months, 7.249c.; alternate, 6.989c. in rolls of 23 inches; 1 year, 7.249c.; alternate, 6.989c. as above.
 R. P. Andrews Paper Company, 6 months, 6.76c.
 The Whitaker Paper Company, 6 months, 7.69c.

No. 50—40,000 lbs., blue, green, pink, and yellow, Nos. 11 and 13; cut 17x28, 21x32, and 22x34 ins. flat.

International Paper Company, 6 months, 11.65c.; 1 year, 11.90c.
 Old Dominion Paper Company, 6 months, 10.589c. (for substance No. 13); alternate, 10.149c.; not less than 5,000 lbs. to one color; 1 year, 10.589c. (for substance No. 13); alternate, 10.149c.; not less than 5,000 lbs. to a color.

No. 51—150,000 lbs., blue, green, pink, and yellow, Nos. 16 and 20; cut 17x28, 21x32, and 22x34 ins. flat.

Whiting-Patterson Company, Inc., 6 months, 9.48c.; 1 year, 9.48c.
 International Paper Company, 6 months, 9.73c.; 1 year, 9.98c.
 The Aetna Paper Company, 6 months, 8.47c.; 1 year, 8.47c.
 Old Dominion Paper Company, 6 months, 8.249c.; 1 year, 8.249c.
 R. P. Andrews Paper Company, 6 months, 9.5c. Minimum order 10 tons of one color.

White Writing, Tub-Sized, Air or Loft Dried

No. 52—125,000 lbs., No. 13; cut 23x36, 24x38, and 28x34 ins. flat.

Rainbow Paper Corporation of New York, 6 months, 12.09c. (machine dried); 1 year, 12.09c. (machine dried).
 Strathmore Paper Company, West Springfield, Mass., 6 months, 16.85c.; 1 year, 16.85c.
 The Aetna Paper Company, 6 months, 12.31c.; 1 year, 12.31c.
 Old Dominion Paper Company, 6 months, 16.109c.; 1 year, 16.109c.
 R. P. Andrews Paper Company, 6 months, 13.69c.
 The Whitaker Paper Company, 6 months, 14.65c.

No. 53—500,000 lbs., No. 16; cut any size; flat, min. width 17 ins. width 32 ins.

Strathmore Paper Company, 6 months, 16c.; 1 year, 16c.
 The Aetna Paper Company, 6 months, 9.31c.; 1 year, 9.31c.
 Old Dominion Paper Company, 6 months, 14.099c.; 1 year, 14.099c.
 R. P. Andrews Paper Company, 6 months, 12.59c.
 The Whitaker Paper Company, 6 months, 11.65c.

No. 54—80,000 lbs., No. 16; cut 22¼x31½ ins. flat.

Strathmore Paper Company, 6 months, 16c.; 1 year, 16c.
 The Aetna Paper Company, 6 months, 9.31c.; 1 year, 9.31c.
 Old Dominion Paper Company, 6 months, 14.099c.; 1 year, 14.099c.
 The Whitaker Paper Company, 11.75c.

No. 55—800,000 lbs., No. 20; cut any size; flat, min. width 17 ins. max. width 32 ins.

Strathmore Paper Company, 6 months, 15.5c.; 1 year, 15.5c.
 Lee Paper Company, Vicksburg, Mich., 6 months, 12.6c.
 The Aetna Paper Company, 6 months, 9.31c.; 1 year, 9.31c.
 Old Dominion Paper Company, 6 months, 10.129c. (a); 1 year, 10.129c. (a) On lots 55 and 56 the maximum amount bid for is a total of 800,000 lbs.
 The Whitaker Paper Company, 6 months, 11.55c.
 R. P. Andrews Paper Company, 6 months, 11.64c.
 The Whitaker Paper Company, 6 months, 11.55c.

No. 56—800,000 lbs., No. 20; cut any size; flat, min. width 17 ins. max. width 32 ins.

Strathmore Paper Company, 6 months, 15.5c.; 1 year, 15.5c.
 The Aetna Paper Company, 6 months, 9.31c.; 1 year, 9.31c.
 Old Dominion Paper Company, 6 months, 10.129c. (a); 1 year, 10.129c. (a) On lots 55 and 56 the maximum amount bid for is a total of 800,000 lbs.
 The Whitaker Paper Company, 6 months, 11.55c.

No. 57—1,000,000 lbs., No. 24; cut any size; flat, min. width 17 ins. max. width 32 ins.

Strathmore Paper Company, 6 months, 15.5c.; 1 year, 15.5c.
 Lee Paper Company, 6 months, 12.6c.
 The Aetna Paper Company, 6 months, 9.31c.; 1 year, 9.31c.
 Old Dominion Paper Company, 6 months, 14.029c.; 1 year, 14.029c.
 R. P. Andrews Paper Company, 6 months, 9.98c.
 The Whitaker Paper Company, 6 months, 11.53c.

No. 58—8,000 lbs., No. 36; cut 19x24, and 20x28 ins. flat.

The Aetna Paper Company, 6 months, 12.43c.; 1 year, 12.43c.
 Old Dominion Paper Company, 6 months, 14.249c.; 1 year, 14.249c.
 The Whitaker Paper Company, 6 months, 10.65c.

Colored Writing, Tub-Sized, Air or Loft Dried

No. 59—400,000 lbs., blue, buff, green, dark pink, light pink, salmon, and yellow, No. 16; cut any size; flat, min. width 17 ins. max. width 32 ins.

The Aetna Paper Company, 6 months, 10.31c.; 1 year, 10.31c.
 Old Dominion Paper Company, 6 months, 15.249c.; 1 year, 15.249c.
 The Whitaker Paper Company, 6 months, 12.65c.

No. 60—250,000 lbs., blue, buff, green, dark pink, light pink, salmon, and yellow, No. 20; cut any size; flat, min. width 17 ins. and max. width 32 ins.

The Aetna Paper Company, 6 months, 10.31c.; 1 year, 10.31c.
 The Old Dominion Paper Company, 6 months, 15.249c.; 1 year, 15.249c.
 The Whitaker Paper Company, 6 months, 12.55c.

No. 61—250,000 lbs., blue, buff, green, dark pink, light pink, salmon, and yellow, No. 20; cut any size; flat, min. width 17 ins. max. width 32 ins.

The Aetna Paper Company, 6 months, 10.31c.; 1 year, 10.31c.
 Old Dominion Paper Company, 6 months, 15.249c.; 1 year, 15.249c.
 The Whitaker Paper Company, 6 months, 12.55c.

No. 62—10,000 lbs., blue, buff, green, dark pink, light pink, salmon, and yellow, No. 24; cut any size; flat, min. width 17 ins. max. width 32 ins.

The Aetna Paper Company, 6 months 14.31c.; 1 year 14.31c.
Old Dominion Paper Company, 6 months, 15.249c.; 1 year, 15.249c.
The Whitaker Paper Company, 6 months, 17.65c.

Fine White Writing, Tub-Sized and Loft Dried

No. 63—4,000 lbs., Nos. 28 and 32; cut 21x32 ins.; flat, min. order, 2,500 lbs.

Dobler & Mudge, 6 months, 24.75c.
Old Dominion Paper Company, 6 months 24.49c.; 1 year, 24.49c.
The Whitaker Paper Company, 6 months 26.39c.

Safety Writing, Machine Finish

No. 64—3,000 lbs., blue, pink, green, salmon, and yellow, No. 24; cut 17x28 and 21x32 ins. flat.

George La Monte & Son, New York City, 6 months, 24.4c.; 1 year, 24.4c.

U S M O Blue Safety Writing, Machine Finish, Safety or Sensitive Design

No. 65—500,000 lbs., No. 16; rolls, 11 and 22 ins. wide.

R. P. Andrews Paper Company, 6 months, 18.8c.; 1 year, 18.8c.
Barton, Duer & Kock Paper Company, Baltimore, 6 months, 19.5c.; 1 year, 19.5c.

Map, Lithograph Finish (Sample A)

No. 66—10,000 lbs., Nos. 16 and 20; cut any size; flat, max. width 44 ins.

Dobler & Mudge, 6 months, 12.75c.
Old Dominion Paper Company, 6 months 12.399c.; 1 year, 12.399c.
R. P. Andrews Paper Company, 6 months, 14.1c.
Old Dominion Paper Company, F. O. B., Appleton, Wis., 6 months, 11.219c.; 1 year, 11.219c.
R. P. Andrews Paper Company, F. O. B., Neenah, 6 months, 13.6c.

Map, Lithograph Finish, Tub-Sized, Air or Loft Dried (Sample B)

No. 67—40,000 lbs., Nos. 16 and 20; cut any size; flat, max. width 44 ins.

Dobler & Mudge, 6 months, 15.75c.
Strathmore Paper Company, 6 months, 16.6c.; 1 year, 16.6c.
Old Dominion Paper Company, 6 months, 14.999c.; 1 year, 14.999c.
Entire quantity to be ordered at one time.
R. P. Andrews Paper Company, 6 months, 15.98c.
The Whitaker Paper Company, 6 months, 19.9c.
(b) F. O. B. Menasha, Wis., 6 months, 14.22c.; 1 year, 14.22c.; entire quantity to be ordered at one time
The Whitaker Paper Company, 6 months, 19.49c.

Thin Bond, White and Colored, Glazed and Unglazed, Tub-Sized, Machine or Air Dried

No. 68—300,000 lbs., No. 9; cut 17x28, 19x24, 21x32, and 22½x34½ ins. flat.

Dobler & Mudge, 6 months, 15.2c.; 1 year, 15.2c.
Old Dominion Paper Company, 6 months, 15.34c.; 1 year, 15.34c.
Whitaker Paper Company, 6 months, 17.11c.
Rainbow Paper Corporation of New York, 6 months, 16.49c.; 1 year 16.49c.

No. 69—40,000 lbs., No. 13; cut 21x32, 24x38, and 28x34 ins. flat.

Dobler & Mudge, 6 months, 13.7c.; 1 year, 13.7c.
Rainbow Paper Corporation of New York, 6 months 12.09c.; 1 year, 12.09c.
The Aetna Paper Company, 6 months, 12.31c.; 1 year, 12.31c.
Old Dominion Paper Company, 6 months, 13.84c.; 1 year, 13.84c.
R. P. Andrews Paper Company, 6 months, 13.69c.
The Whitaker Paper Company, 6 months, 17.11c.

No. 70—5,000 lbs., blue, buff, green, pink, salmon, and yellow, No. 9; cut 17x28, 21x32, and 22x34 ins. flat.

Dobler & Mudge, 6 months, 15.7c.; 1 year, 15.7c.
Rainbow Paper Corporation of New York, 6 months, 16.89c.; 1 year, 16.89c.
Old Dominion Paper Company, 6 months, 15.34c.; 6 months, 15.34c.

No. 71—40,000 lbs., blue, buff, green, pink, salmon, and yellow, No. 13; cut 21x32, 24x38, and 28x34 ins. flat.

Dobler & Mudge, 6 months, 14.2c.; 1 year, 14.2c.
Rainbow Paper Corporation of New York, 6 months, 12.29c.; 1 year, 12.29c.
The Aetna Paper Company, 6 months, 12.31c.; 1 year, 12.31c.
Old Dominion Paper Company, 6 months, 13.84c.; 1 year, 13.84c.

Stationery Bond, White and Colored, Glazed and Unglazed, Tub-Sized, Air or Loft Dried

No. 72—50,000 lbs., Nos. 16 and 24; cut 17x28, 18x23, and 21x32 ins. flat.

Strathmore Paper Company, 6 months, 14.75c.; 1 year, 14.75c.
The Aetna Paper Company, 6 months, 10.31c.; 1 year, 10.31c.
Old Dominion Paper Company, 6 months, 14.099c.; 1 year, 14.099c.
R. P. Andrews Paper Company, 6 months, 12.13c.
The Whitaker Paper Company, 6 months, 12.65c.

No. 73—500,000 lbs., No. 20; cut any size; flat, min. width 17 ins. max. width 32 ins.

Strathmore Paper Company, 6 months, 14.75c.; 1 year, 14.75c.
Lee Paper Company, 6 months, 14.75c.
Aetna Paper Company; 10.31c., 6 months; 10.31c., 1 year.
Old Dominion Paper Company, 6 months, 14.059c.; 1 year, 14.059c.
R. P. Andrews Paper Company, 6 months, 11.73c.; 1 year, 11.73c.
The Whitaker Paper Company, 6 months, 11.55c.

No. 74—15,000 lbs., blue, green, pink, salmon, and yellow, Nos. 16 and 20; cut any size; flat, min. width 17 ins. max. width 32 ins.

The Aetna Paper Company, 6 months, 14.31c.; 1 year, 14.31c.
Old Dominion Paper Company, 6 months, 15.099c.; 1 year, 15.099c.

Fine Bond, White, Glazed and Unglazed, Tub-Sized and Loft-Dried

No. 75—10,000 lbs., Nos. 16, 20, and 24; cut 16x21 and 17x22 ins. flat.

Dobler & Mudge, 6 months, 25.75c.
Old Dominion Paper Company, 6 months 24.999c.; 1 year, 24.999c.; entire quantity in each instance, to be ordered at one time.
R. P. Andrews Paper Company, 6 months, 26.5c.
The Whitaker Paper Company, 6 months, 26.77c.
Southworth Company, 6 months 30c.; 1 year, 30c.

Declaration Bond, Tub-Sized and Loft Dried

No. 76—5,000 lbs., No. 20; cut 17x22 ins; flat, min. order, 2,000 lbs.

Southworth Company, 6 months, 31c.; 1 year, 31c.
Old Dominion Paper Company, 6 months, 35.99c.; 1 year, 35.99c.; entire quantity, in either case, to be ordered at one time.
R. P. Andrews Paper Company, 34c.

Parchment Deed

No. 77—1,500 lbs., Nos. 32 and 36; cut 33x34; flat, min. order, 5,000 lbs.

Southworth Company, 6 months, 31c.; 1 year, 31c.
R. P. Andrews Paper Company, 6 months, 45c.
The Whitaker Paper Company, 6 months, 33c.; in orders of not less than 2,000 lbs. each lot.

Commercial Ledger, White, Tub-Sized, Air or Loft Dried

No. 78—170,000 lbs., No. 28; cut 17x28, 18½x36, 21x32, 28x29, and 28x34 ins. flat.

Dobler & Mudge, 6 months, 15c. 1 year, 15.48c.
Strathmore Paper Company, 6 months, 17.50c.; 1 year, 17.50c.
Lee Paper Company, 6 months, 14.45c.
The Aetna Paper Company, 6 months, 14.31c.; 1 year, 14.31c.
Old Dominion Paper Company, 6 months, 14.999c.; 1 year, 15.487c.; entire year's supply can be ordered at the 6 months' price at one time.
R. P. Andrews Paper Company, 6 months, 14.98c.; 1 year, 14.98c.
The Whitaker Paper Company, 6 months, 15.77c.
Mathers-Lamm Paper Company, Washington, D. C., 6 months, 18.98c.

No. 79—80,000 lbs., No. 32; cut 21x32 and 23x36 ins. flat.

Dobler & Mudge, 6 months, 15c.; 1 year, 15.48c.
Strathmore Paper Company, 6 months, 17.5c. 1 year, 17.5c.
The Aetna Paper Company, 6 months, 14.31c.; 1 year, 14.31c.
Old Dominion Paper Company, 6 months, 14.999c.; 1 year, 15.487c.; or the entire year's supply can be ordered at one time at the 6 months' price.
R. P. Andrews Paper Company, 6 months, 14.98c.; 1 year, 14.98c.
The Whitaker Paper Company, 6 months, 15.77c.
Mathers-Lamm Paper Company, 6 months, 18.98c.

No. 80—125,000 lbs., Nos. 36 and 40; cut 19x24, 20x28, and 21x32 ins. flat. (Strength shall be not less than 58 points, No. 40).

Dobler & Mudge, 6 months, 15.48c.; 1 year, 15.48c.
Strathmore Paper Company, 6 months, 17.5c.; 1 year, 17.5c.
The Aetna Paper Company, 6 months, 14.31c.; 1 year, 14.31c.
Old Dominion Paper Company, 6 months, 15.487c.; 1 year, 15.487c.
R. P. Andrews Paper Company, 6 months, 17.5c.
The Whitaker Paper Company, 6 months, 15.77c.
Mathers-Lamm Paper Company, 6 months, 18.98c.

No. 81—10,000 lbs., No. 48; cut 21x32½ ins. flat. (Strength shall be not less than 65 points.)

Dobler & Mudge, 6 months, 16.48c.; 1 year, 16.48c.
Old Dominion Paper Company, 6 months, 16.487c.; 1 year, 16.487c.
R. P. Andrews Paper Company, 6 months, 18.75c.
The Whitaker Paper Company, 6 months, 16.77c.
Mathers-Lamm Paper Company, 6 months, 18.98c.

Commercial Ledger, Colored, Tub-Sized, Air or Loft Dried

- No. 82—40,000 lbs., blue, pink, and yellow, Nos. 28, 32, and 36; cut 17x28, 18½x36, 19x24, 21x32, and 23x36 ins. flat.
Dobler & Mudge, 6 months, 17.5c.
The Aetna Paper Company, 6 months, 15.31c.; 1 year, 15.31c.
Old Dominion Paper Company, 6 months, 16.499c., minimum order of any one color, 5,000 lbs.
The Whitaker Paper Company, 6 months, 19.77c.
- No. 83—25,000 lbs. blue, buff, green, pink, salmon, and yellow, No. 48; cut 21x32½ ins. flat. (Strength shall be not less than 65 points.)
The Whitaker Paper Company, 6 months, 19.77c.
- No. 84—20,000 lbs., blue, buff, green, pink, salmon, and yellow, No. 60; cut 21x32½ ins. (Strength shall be not less than 80 points.)
The Whitaker Paper Company, 6 months, 20.77c.

Ledger, White, Tub-Sized and Loft Dried

- No. 85—50,000 lbs., No. 24; cut 17x28, 22¼x31½, and 24x38 ins. flat.
Dobler & Mudge, 6 months, 34c.; 1 year, 34c.
Strathmore Paper Company, 6 months, 24.25c.; 1 year, 24.25c.
Southworth Company, 6 months, 28c.; 1 year, 28c.
Old Dominion Paper Company, 6 months, 24.249c.; 1 year, 24.249c.
R. P. Andrews Paper Company, 6 months, 29c.
The Whitaker Paper Company, 6 months, 22.97c.
Mathers-Lamm Paper Company, 6 months, 29c.
- No. 86—120,000 lbs., No. 28; cut 17x28, 21x32, 23x36, and 24x38 ins. flat.
Dobler & Mudge, 6 months, 34c.; 1 year, 34c.
Strathmore Paper Company, 6 months, 24.25c.; 1 year, 24.25c.
Southworth Company, 6 months, 28c.; 1 year, 28c.
Old Dominion Paper Company, 6 months, 24.249c.; 1 year, 24.249c.
R. P. Andrews Paper Company, 6 months, 29c.
The Whitaker Paper Company, 6 months, 22.97c.
Mathers-Lamm Paper Company, 6 months, 29c.
- No. 87—50,000 lbs., No. 32; cut 17x28, 18½x42, 21x32, and 23x36 ins. flat.
Dobler & Mudge, 6 months, 34c.; 1 year, 34c.
Strathmore Paper Company, 6 months, 24.25c.; 1 year, 24.25c.
Old Dominion Paper Company, 6 months, 24.249c.; 1 year, 24.249c.
R. P. Andrews Paper Company, 29c., 6 months.
The Whitaker Paper Company, 6 months, 22.97c.
Mathers-Lamm Paper Company, 6 months, 29c.
- No. 88—25,000 lbs., No. 36; cut 17x28, 20x28, and 24x38 ins. flat.
Dobler & Mudge, 6 months, 34c.; 1 year, 34c.
Strathmore Paper Company, 6 months, 24.25c.; 1 year, 24.25c.
Old Dominion Paper Company, 6 months, 24.249c.; 1 year, 24.249c.
R. P. Andrews Paper Company, 6 months, 29c.
The Whitaker Paper Company, 6 months, 22.97c.
Mathers-Lamm Paper Company, 6 months, 29c.
- No. 89—50,000 lbs., No. 40; cut 21x32½, and 21x42 ins. flat. (Strength shall be not less than 85 points.)
Dobler & Mudge, 6 months, 34c.; 1 year, 34c.
Old Dominion Paper Company, 6 months, 24.749c.; 1 year, 24.749c.
The Whitaker Paper Company, 6 months, 22.97c.
Mathers-Lamm Paper Company, 6 months, 29c.
- No. 90—15,000 lbs., No. 48; cut 20½x24¼, 21x32½, and 22¼x31½ ins. flat. (Strength shall be not less than 100 points.)
Dobler & Mudge, 6 months, 34c.; 1 year, 34c.
Old Dominion Paper Company, 6 months, 26.499c.; 1 year, 26.499c.
Whitaker Paper Company, 6 months, 22.97c.
Mathers-Lamm Paper Company, 6 months, 29c.

Heavy Ledger, White, Single-Ply, Tub-Sized and Loft Dried

- No. 91—120,000 lbs., No. 60; cut 20½x30½ and 21x32½ ins. flat.
R. P. Andrews Paper Company, 6 months, 24c.
The Whitaker Paper Company, 6 months, 22.97c.
Mathers-Lamm Paper Company, 6 months, 27.48c.

Tissue

- No. 92—1,500 lbs., White Tissue Paper, 20x30—8 lbs.; flat, min. order, 500 lbs.
Rainbow Paper Corporation of New York, 6 months, 16.49c.; 1 year, 16.49c.
Geo. W. Millar & Co., Inc., New York City, 1 year, \$2.95 per ream.
Old Dominion Paper Company, 6 months, 33.89c.; 1 year 33.89c.
B. F. Bond Paper Company, Washington, D. C., 6 months, 34c.; 1 year, 34c.
The Whitaker Paper Company, 6 months, 33c.
- No. 93—750 lbs., Body Stereo Tissue Paper, 19x24—6 lbs.; min. order, 750 lbs.
The Whitaker Paper Company, \$3.90 per ream, 6 months.

Smooth Cover, Colored

- No. 94—100,000 lbs., dark blue, light blue, brown, granite, green, pink, tea, and yellow, 20x26—50 lbs.; cut 20x25 and 33x46 ins. flat.
Knowlton Brothers, Watertown, N. Y., 6 months, 8.89c.
Dobler & Mudge, 6 months, 9.2c.; 1 year, 9.2c.
Old Dominion Paper Company, 6 months, 9.249c.; 1 year, 9.249c.
R. P. Andrews Paper Company, 6 months, 10.29c.
The B. F. Bond Paper Company, 6 months, 9.45c.; 1 year, 9.45c.
The Whitaker Paper Company, 6 months, 8.97c.
Mathers-Lamm Paper Company, 6 months, 9.2c.; 1 year, 9.2c.

Rough Cover, Colored (Sample A)

- No. 95—15,000 lbs., quaker drab, robin's egg, and terra cotta, 20x25—48 lbs. flat.
Knowlton Brothers, 6 months, 8.69c.
Dobler & Mudge, 6 months, 9.2c.; 1 year, 9.2c.
Old Dominion Paper Company, 6 months, 9.249c.; 1 year, 9.249c.
R. P. Andrews Paper Company, 6 months, 10.69c.
The B. F. Bond Company, 6 months, 9.49c.; 1 year, 9.49c.
The Whitaker Paper Company, 6 months, 8.97c.
Mathers-Lamm Paper Company, 6 months, 9.2c.; 1 year, 9.2c.

Rough Cover, Colored (Sample B)

- No. 96—80,000 lbs., dawn, sage, goblin blue, suede, khaki, and moss green, 20x25—48 lbs. flat.
Knowlton Brothers, 6 months, 9.29c.
Dobler & Mudge, 6 months, 9.7c.; 1 year, 9.7c.
Old Dominion Paper Company, 6 months, 9.749c.; 1 year, 9.749c.
R. P. Andrews Paper Company, 6 months, 10.8c.
The B. F. Bond Paper Company, 6 months, 9.98c.; 1 year, 9.98c.
The Whitaker Paper Company, 6 months, 9.47c.
Mathers-Lamm Paper Company, 6 months, 9.68c.; 1 year, 9.68c.

Coated Cover, Colored

- No. 97—25,000 lbs., india tint, light green, and primrose, 26½x41—104 lbs. flat.
Dobler & Mudge, 6 months, 9.65c.; 1 year, 9.65c.
The Whitaker Paper Company, 6 months, 9.24c.; 1 year, 9.24c.

Cloth-Lined Cover

- No. 98—5,000 sheets, brown, quaker drab, russet, and white, 20x26—65 lbs.
- Cut 20x25 ins. flat.
 - Cut 21x32 ins. flat.
 - Cut 24x36 ins. flat.
- (a) Cut 20 x 25 inches, flat:
Dobler & Mudge, 6 months, 7.3c.; 1 year, 7.3c.
Carter, Rice & Co., Corporation, Boston, Mass., 6 months, 7.25c.
- (b) Cut 21 x 32 inches, flat:
Dobler & Mudge, 6 months, 11.7c.; 1 year, 11.7c.
Carter Rice & Co., Corporation, 6 months, 11.5c.
- (c) Cut 24 x 36 inches, flat:
Dobler & Mudge, 6 months, 13c.; 1 year, 13c.
Carter Rice & Co., Corporation, 6 months, 12.75c.

Kraft Wrapping

- No. 99—20,000 lbs., 24x36—30 to 80 lbs.; cut any size. (Soft ream fold in bundles.)
Dobler & Mudge, 6 months, 7.3c.
Old Dominion Paper Company, 6 months, 7.399c.; one year, 7.399c.
R. P. Andrews Paper Company, 6 months, 7.44c.; one year, 7.44c.
The B. F. Bond Paper Company, 6 months, 8.48c.
The Whitaker Paper Company, 6 months, 7.45c.
Mathers-Lamm Paper Company, 6 months, 7.34c.

Wood Manila

- No. 100—100,000 lbs., 24x36—38 to 60 lbs.; cut 21x32 and 25x38 ins. flat. (Must be free from waves and wrinkles and be carefully packed in cases.)
Dobler & Mudge, 6 months, 6.25c.
Samuel S. Alcorn, Philadelphia, Pa., 6 months, 4.75c.; one year, 4.5c.
Whiting-Patterson Company, Inc., 6 months, 5.4c.; one year, 5.4c.
Seaman Paper Company, 6 months, 5.71c. C. L.; one year, 5.71c. C. L.
Old Dominion Paper Company, 6 months, 5.969c.
R. P. Andrews Paper Company, 6 months, 5.83c.
The Whitaker Paper Company, 6 months, 6.58c.
- No. 101—500,000 lbs., 24x36—38 to 60 lbs.; rolls, min. width 6 in., max. width 48 ins.
Dobler & Mudge, 6 months, 5.25c.
Samuel S. Alcorn, 6 months, 4.5c.; one year, 4.25c.
Whiting-Patterson Company, Inc., 6 months, 4.85c.; 1 year, 4.85c.
Seaman Paper Company, 6 months, 5.18c. C. L.; one year, 5.18c. C. L.
Old Dominion Paper Company, 6 months, 5.199c.
The R. P. Andrews Paper Company, 6 months, 5.17c.
The Whitaker Paper Company, 6 months, 5.31c.

Sulphite Manila, High Finish

- No. 102—250,000 lbs., 24x36—133 lbs.; cut any size. flat.
 Philip Lindemeyr, Baltimore, 6 months, 9c.
 Samuel S. Alcorn, 6 months, 5c.; one year, 4.75c.
 Wilkinson Brothers & Co., New York City, 6 months, 5.78c. for the first 3 months; 6.28c. for the second 3 months.
 Seaman Paper Company, 6 months, 6.49c.; one year, 6.49c.
 R. P. Andrews Paper Company, 6 months, 7.69c.; 1 year, 7.69c.
- No. 103—30,000 lbs., 24x36—80 lbs.; rolls, 18 ins. wide.
 Wilkinson Brothers & Co., first 3 months, 5.53c.; second 3 months, 6.03c.; or will fill entire order on lots 102 and 103 in the first 3 months.
 Seaman Brothers, 6 months, 6.49c.; one year, 6.49c.
 Old Dominion Paper Company, 6 months (a), 6.499c., min. order 30,000; or 6.849c. straight; one year same as foregoing.
 R. P. Andrews Paper Company, 6 months, 7.19c.; 1 year, 7.19c.

Rope Manila

- No. 104—10,000 lbs., 24x36—60 lbs.; cut 24x38, 27x38, and 40x42 ins. flat.
 Philip Lindemeyr, 6 months, 11.5c.
- No. 105—10,000 lbs., 24x36—70 lbs.; cut 24x38 ins. flat.
 Philip Lindemeyr, 6 months, 11.5c.
- No. 106—25,000 lbs., 24x36—80 lbs.; cut 27x38, 33x33, and 38x38 ins. flat.
 Philip Lindemeyr, 6 months, 11.5c.
 The Whitaker Paper Company, 6 months, 11.91c.
- No. 107—60,000 lbs., 24x36—140 lbs.; cut 24x38 ins. flat.
 Philip Lindemeyr, 6 months, 11.5c.
 The Whitaker Paper Company, 6 months, 11.67c.
- No. 108—10,000 lbs., 24x36—70 lbs.; rolls, min. width 6 ins. max. width 36 ins.
 No bids.

Oiled Manila Tympan

- No. 109—20,000 lbs., 24x36—86 lbs.; rolls, 19, 38, 48, and 55 ins. wide; max. weight 150 lbs.
 Old Dominion Paper Company, 6 months, 8.7c.; one year, 8.7c.
 R. P. Andrews Paper Company, 6 months, 8.72c.
 The R. F. Bond Paper Company, 6 months, 8.99c.
 The Whitaker Paper Company, 6 months, 10.45c.

Manila Board

- No. 110—40,000 lbs., 22½x28½—75 lbs.; rolls, 21¼ ins. wide.
 Samuel S. Alcorn, 6 months, 4.75c.
 Whiting-Patterson Company, Inc., 6 months, 4.85c.; one year, 4.85c.
 Old Dominion Paper Company, 6 months, 5.99c., (b) 5.79c.; minimum order, 40,000 lbs.

Manila Cardboard

- No. 111—25,000 lbs., 22½x28½—200 lbs.; cut 17x28, 21x32, and 22½x28½ ins. flat. (Unwrapped, with colored-paper makers between each 100 sheets.)
 Carter, Rice & Co., Corporation, 6 months, 5.29c.

Manila Tag Board, Calendered

- No. 112—80,000 lbs., 22½x28½—75 lbs.; rolls, 24 and 26¼ ins. wide.
 Samuel S. Alcorn, 6 months, 5c.
 Wilkinson Brothers & Co., 5.53c. for the first 3 months, 6.03c. for the second 3 months, or will accept the entire order for the first 3 months.
 Whiting-Patterson Company, Inc., 6 months, 7.75c.; one year, 7.75c.
 Old Dominion Paper Company, 6 months, 8.29c.; one year, 8.29c.
 R. P. Andrews Paper Company, 6 months, 7.24c.; one year, 7.24c.

Colored Cardboard

- No. 113—25,000 lbs., ash gray, blue, buff, green, lemon, and orange, 22x28—196 lbs. flat, min. order, 2,000 lbs.
 Old Dominion Paper Company, 6 months, 8.124c.; 1 year, 8.124c.
 Mathers-Lamm Paper Company, 6 months, 8.48c.; 1 year, 8.48c.

White China Board

- No. 114—20,000 lbs., 22x28—196 lbs. flat, min. order, 2,000 lbs.
 Old Dominion Paper Company, 6 months, 1.124c.; 1 year, 7.124c.
 Mathers-Lamm Paper Company, 6 months, 7.45c.; 1 year, 7.45c.

Colored Bristol Board

- No. 115—200,000 lbs., buff, blue, gray, green, melon, pink, quaker drab, and yellow, 21x31—102 lbs., flat. (To be wrapped and sealed in parcels of 100 sheets each and shipped in bundles of five parcels each).

Dobler & Mudge, 6 months, 5.19c.; 1 year, 5.19c.
 Carter, Rice & Co., Corporation, 6 months, 5.23c.
 Whiting-Patterson Company, 6 months, 5.45c.; 1 year, 5.45c.
 Republic Bag and Paper Company, 6 months, 5.23c.
 Old Dominion Paper Company, 6 months, 5.499c.; 1 year, 5.499c.

- No. 116—300,000 lbs., Colored Bristol Board, 100 lbs.; rolls, 20 in.
 Dobler & Mudge, 6 months, 4.94c.; one year, 4.94c.
 Carter, Rice & Co., Corporation, 6 months, 4.79c.
 Whiting-Patterson Company, Inc., 6 months, 4.95c.; 1 year, 4.95c.
 Republic Bag and Paper Company, 6 months, 4.85c.
 Old Dominion Paper Company, 6 months, 5.499c.; 1 year, 5.499c.

- No. 117—300,000 lbs., blue, brown, gray, green, melon, pink, and yellow, 22½x28½—100 lbs.; rolls, 20 ins. wide.

Dobler & Mudge, 6 months, 4.94c.; 1 year, 4.94c.
 Carter, Rice & Co., Corporation, 6 months, 4.79c.
 Whiting-Patterson Company, Inc., 6 months, 4.95c.; 1 year, 4.95c.
 Republic Bag and Paper Company, 6 months, 4.85c.
 Old Dominion Paper Company, 6 months, 5.499c.; 1 year, 5.499c.

White and Colored Bristol Board, No. 1

- No. 118—100,000 lbs., white, 22½x28½—120 lbs.; cut 21x32 and 22½x28½ ins. flat.

George W. Wheelwright Paper Company, Boston, Mass., 6 months, 10.5c.
 Carter, Rice & Co., Corporation, 6 months, 10.73c.
 Whiting-Patterson Company, Inc., 6 months, 10.5c.; 1 year, 10.5c.
 Old Dominion Paper Company, 6 months, 12.499c.; 1 year, 12.499c.
 The Whitaker Paper Company, 6 months, 10.23c.

- No. 119—10,000 lbs., blue, brown, gray, green, melon, pink, and yellow, 22½x28½—100 lbs. flat.

No bids.

U. S. Postal Card Cream Bristol

- No. 120—7,000,000 lbs., 22½x28½—104 lbs.; rolls, 44¼ ins. wide.

Dill & Collins, Philadelphia, 1 year, 6.43c.
 The Champion Coated Paper Company, 6 months, 6.89c.; year, 6.97; alternate bid on their own sample, 6 months, 6.47c.; 1 year, 6.97c. (Agree to make this special Bristol No. 89249, surface sized in addition to the usual size in the beaters.)
 R. P. Andrews Paper Company, 6.42c., on 600,000 lbs. only.
 The Whitaker Paper Company, 6 months, 6.55c.
 Mathers-Lamm Paper Company, 6 months, 2,000,000 lbs. at 6.06c.; 1,500,000 lbs. at 6.12c., or 3,500,000 lbs. at 6.22c.; for 1 year, 2,000,000 lbs. at 6.06c. or 1,500,000 lbs. at 6.12c.

Index Bristol Board

- No. 121—2,000 lbs., White, 22½x28½—181 lbs. flat.
 Old Dominion Paper Company, 6 months, 17.98c., min. order, 2,900 lbs.; 1 year, 17.98c., min. as above.

- No. 122—5,000 lbs., blue, buff, fawn, green, pink, salmon, and yellow, 22½x28½—181 lbs. flat.

No bids.

White Paraffin

- No. 123—2,000 lbs., 24x38—16 lbs. flat. Min. order, 500 lbs.

Carter, Rice & Co., Corporation, 6 months, 15c.
 Republic Bag and Paper Company, 6 months, 17.36c.
 The B. F. Bond Paper Company, 6 months, 14.95c.
 The Whitaker Paper Company, 6 months, 16c.

White and Colored Noncurling Gummed

- No. 124—5,000 lbs., 17x22—23 lbs. and 20x24—30 lbs.; flat. Min. order, 250 lbs.

Carter, Rice & Co., Corporation, 6 months, 15.25c.
 R. P. Andrews Paper Company, 6 months, 15.8c.
 The B. F. Bond Paper Company, 6 months, 16.74c.

- No. 125—500 lbs., blue and pink, 17x22—23 lbs. and 20x24—30 lbs. flat. Min. order, 250 lbs.

R. P. Andrews Paper Company, 6 months, 20.4c.
 The B. F. Bond Paper Company, 6 months, 26.7c.

Blotting

- No. 126—3,000 lbs., white, blue, and pink, 60 and 80 lbs.; cut 19x24 ins. flat. Min. order, 500 lbs.

Dobler & Mudge, 6 months, 10.5c.
 Old Dominion Paper Company, 6 months, 9.79c.; 1 year, 9.79c.
 R. P. Andrews Paper Company, 6 months, 9.5c.; 1 year, 9.5c.
 The B. F. Bond Paper Company, 6 months, 10.49c.
 The Whitaker Paper Company, 6 months, 10.57c.
 Mathers-Lamm Paper Company, 6 months, 9.48c.; 1 year, 9.48c.

Stereotype Molding, White

No. 127—2,500 lbs., 19x24—50 lbs. flat. Min. order, 1,000 lbs.

Dabler & Mudge, 6 months, 11.5c.
Old Dominion Paper Company, 6 months, 10.249c.; 1 year, 10.249c.
R. P. Andrews Paper Company, 6 months, 9.97c.; 1 year, 9.97c.
The Whitaker Paper Company, 6 months, 11c.
Mathers-Lamm Paper Company, 6 months, 9.98c.; 1 year, 9.98c.

Stereotype Molding, Red

No. 128—1,000 lbs., 19x24—20 lbs. flat. Min. order, 1,000 lbs.

Dabler & Mudge, 6 months, 13.5c.
Old Dominion Paper Company, 6 months, 12.39c.; 1 year, 12.39c.
R. P. Andrews Paper Company, 6 months, 11.97c.; 1 year, 11.97c.
The Whitaker Paper Company, 6 months, 13c.
Mathers-Lamm Paper Company, 6 months, 11.98c.; 1 year, 11.98c.

Offset, for Web Presses

No. 129—15,000 lbs., 24x36—30 lbs.; rolls, 26 and 39 ins. wide. Min. order, 2,000 lbs.

Republic Bag and Paper Company, 6 months, 8.025c.
Old Dominion Paper Company, 6 months, 9.089c.; 1 year, 9.089c.; in each instance minimum order, 2,000 lbs.
R. P. Andrews Paper Company, 6 months, 8c.; 1 year, 8c.
The Whitaker Paper Company, 6 months, 7.45c.

Plate Wiping, for Embossing Presses

No. 130—3,000 lbs., 24x36—60 lbs.; rolls, without breaks or scraps, wound solid at an even tension, 4, 5, 6, 7, and 8 ins. wide, max. diameter 12 ins. with 1 1/4 ins. hole in the center.

The Paper Manufacturers Company, Inc., Philadelphia, 6 months, 8.5c.
Samuel S. Alcorn Paper Company, 6 months, 8.24c.
R. P. Andrews Paper Company, 6 months, 8.24c.

Back Lining, for Case-Making Machines

No. 131—1,500 lbs., 24x36 ins. 90 lbs.; rolls, 24 ins. wide. Min. order, 1,000 lbs.

The Paper Manufacturers Company, Inc., 6 months, 4c.

Lining, for Headband, Lining, and Crashing Machines

No. 132—3,000 lbs., 24x36—80 lbs.; rolls, 24 ins. wide. Min. order, 2,000 lbs.

The Paper Manufacturers Company, Inc., 6 months, 8c.
Mathers-Lamm Paper Company, 6 months, 7.35c.; 1 year, 7.35c.

Tablet Stripping

No. 133—1,000 lbs., 24x36—40 lbs.; rolls, 24 ins. wide. Min. order, 500 lbs.

The Paper Manufacturers Company, Inc., 6 months, 8c.
Old Dominion Paper Company, 6 months, 7.98c.; 1 year, 7.98c.; for 1,000 lbs., min. order.
Mathers-Lamm Paper Company, 6 months, 7.35c.

Pressboard

No. 134—3,000 lbs., 24x32—80 lbs., to 144 sheets. flat. Min. order, 1,000 lbs.

R. P. Andrews Paper Company, 6 months, 9.22c.
The B. F. Bond Paper Company, 6 months, 9.95c.
The Whitaker Paper Company, 6 months, 15.80c.
Mathers-Lamm Paper Company, 6 months, 9.7c.; 1 year, 10.2c.

Binder's Boards

No. 135—1,000 lbs., News Board, 26x38 ins., Nos. 100 and 120. (To be trimmed square on four sides.) Min. order, 500 lbs.

The B. F. Bond Paper Company, 6 months, 2.495c.

No. 136—500,000 pounds, Chip Board, 26x38 ins., No. 50.

a. Car lots

The C. L. LaBoiteaux Company, Cincinnati, 6 months, 2.25c.
The B. F. Bond Paper Company, 6 months, 1.995c.
The Whitaker Paper Company, 6 months, 2c.

b. Less than car lots

The C. L. LaBoiteaux Company (chip), 6 months, 2.75c.
The B. F. Bond Paper Company, 6 months, 2.095c.

No. 137—100,000 lbs., Strawboard, 26x38 ins., No. 50.

a. Car lots

The C. L. La Boiteaux Company (chip), 6 months, 2.25c.
R. P. Andrews Paper Company, 6 months, 1.875c.; 1 year, 1.85c.

b. Less than car lots

The C. L. La Boiteaux Company (chip), 6 months, 2.75c.
R. P. Andrews Paper Company, 6 months, 2.5c.; 1 year, 2.45c.

No. 138—20,000 lbs., Strawboard, lined, 26x38 ins., No. 50.

C. L. La Boiteaux Company, 6 months, 3c. (chip).
R. P. Andrews Paper Company, 6 months, 3c.; 1 year, 2.95c.

No. 139—80,000 lbs., Box Board, lined one side, rolled, flat, non-warping, of even thickness, approximately .06 in., and free from lumps, irregularities, and defects; size, 24 1/2 x 34 ins., 35 sheets to the bundle of 50 lbs.

a. Car lots

C. L. La Boiteaux Company, 6 months, 3.25c.
R. P. Andrews Paper Company, 6 months, 3.225c.; 1 year, 3.425c.

b. Less than car lots

C. L. La Boiteaux, 6 months, 3.75c.
R. P. Andrews Paper Company, 6 months, 3.825c.; 1 year, 4.025c.

No. 140—700,000 lbs., Binder's Board, No. 2 quality, rolled, flat, nonwarping, of even thickness, and free from lumps, irregularities, and defects. Boards must be springy and corners should not break readily when bent sharply. Nos. 16 to 40, 25x30 ins.

a. Car lots

C. L. La Boiteaux Company, 6 months, 2.8c.
The American Paper and W. W. Company, Cincinnati, Ohio, 6 months, f. o. b. Washington for half quantity.
Geo. W. Millar & Co., Inc., 6 months, 2.8c.
Republic Bag and Paper Company, 6 months, 2.77c.
The Whitaker Paper Company, 6 months, 3.48c.
Mathers-Lamm Paper Company, 6 months, 3.49c.; 1 year, 3.49c.

b. Less than car lots

The C. L. La Boiteaux Company, 6 months, 3.65c.
Mathers-Lamm Paper Company, 6 months, 3.99c.; 1 year, 3.99c.

No. 141—40,000 lbs., Binder's Board, No. 1 quality, medium hard-rolled, flat, nonwarping, of even thickness and free from lumps, irregularities, and defects. Boards must be decidedly springy and corners should not break readily when bent sharply. Nos. 12 to 30, 25x30 ins.

a. Car lots

The C. L. La Boiteaux Company, 6 months, 2.91c.
American Paper & W. W. Company, 6 months, 2.855c. f. o. b. Washington for 20,000 lbs.
Geo. W. Millar & Co., Inc., 6 months, 2.97c.
Republic Bag and Paper Company, 6 months, 2.874c.
The Whitaker Paper Company, 6 months, 6.87c.
Mathers-Lamm Paper Company, 6 months, 3.65c.; 1 year, 3.65c.

b. Less than car lots

The C. L. La Boiteaux Company, 6 months, 3.265c.
Mathers-Lamm Paper Company, 6 months, 4.14c.; 1 year, 4.14c.

No. 142—80,000 lbs., Binder's Board, best quality hard-rolled, flat, nonwarping, of even thickness and free from lumps, irregularities, and defects. Boards must be decidedly springy and corners should not break readily when bent sharply. Nos. 18 to 45, 19x30 inches; Nos. 16 to 90, 22x26 ins.

a. Car lots

The C. L. La Boiteaux Company, 6 months, 3.065c.
The American Paper & W. W. Company, 6 months, 3.011c., Nos. 16 to 50; f. o. b. Washington, 40,000 lbs.
George W. Millar & Co., Inc., 6 months, 3.12c.
Republic Bag and Paper Company, 6 months, 3.03c.
R. P. Andrews Paper Company, 6 months, 4.4c.; 1 year, 4.4c.
The Whitaker Paper Company, 6 months, 6.87c.
Mathers-Lamm Paper Company, 6 months, 4.67c.; 1 year, 4.67c.

b. Less than car lots

The C. L. La Boiteaux Company, 6 months, 3.413c.
R. P. Andrews Paper Company, 6 months, 4.7c.; 1 year, 4.7c.
Mathers-Lamm Paper Company, 6 months, 4.98c.; 1 year, 4.98c.

No. 143—40,000 lbs., Trunk Board, medium hard-rolled, flat, non-warping, of even thickness and free from lumps, irregularities, and defects. Boards must be decidedly springy and corners should not break readily when bent sharply. Size 34x44 ins., Nos. 6 to 10.

C. L. La Boiteaux Company, 6 months, C. L., 3.065c.; L. C. L., 3.413c.

The American Paper & W. W. Company, 6 months, 3.011c. f. o. b. Washington, 20,000 lbs.
Geo. W. Millar & Co., 6 months, 3.12c. C. L.
Republic Bag and Paper Company, 6 months, 3.03c. C. L.
The Whitaker Paper Company, 6 months, 3.48c. C. L.
Mathers-Lamm Paper Company, 6 months, 4.19c.; 1 year, 4.19c.

CHARLES A. BLANEY MADE HEAD OF EDDY PAPER CO.

Succeeds Oscar Gumbinsky Who Recently Tendered His Resignation on Account of Other Pressing Business Interests—J. H. O'Connell Resigns as General Superintendent of the King Division of the Allied Paper Mills—Edward T. A. Coughlin Appointed General Chairman of the National Convention Executive Committee of American Pulp and Paper Mill Superintendents' Association.

[FROM OUR REGULAR CORRESPONDENT.]

KALAMAZOO, Mich., January 21, 1922.—One of the most important official changes made in years in Kalamazoo Valley Paper mill circles came Thursday evening when Charles A. Blaney was elected president of the Eddy Paper company, with mills at Three Rivers and White Pigeon to succeed Oscar Gumbinsky, who had previously tendered his resignation on account of other pressing business interests that required much of his time.

The election of Mr. Blaney meets with general approval. He is recognized as a man of keen business ability and judgment and thoroughly capable of handling the affairs of this concern, which is one of the largest manufacturers of box board, container board and wall board in the United States. He will immediately assume the duties of his office, giving it such time as may be necessary for the proper supervision of the business.

Mr. Blaney announces that one of his first moves will be to call a meeting of the stockholders to consider certain matters in connection with the future development of the industry and the handling of business, when the revival in trade comes.

Referring to the change in the presidency, Mr. Blaney said: "While we regretted the resignation of Oscar Gumbinsky, he insisted on it and his wishes were acceded to. In assuming the executive duties, I intend to give the position all the time required looking to the welfare of the company and its future development. I am fortunate in having a man of the ability of A. B. Thomas as secretary and general manager in the main office. He is well qualified for the responsibilities imposed on him. The future outlook is for a steady and sane revival of the paper industry. We are amply equipped to take care of any business that comes our way."

J. H. O'Connell Resigns from King Division

J. H. O'Connell, general superintendent of the King Division of the Allied Paper Mills, has tendered his resignation, which has been accepted. Other plans for the immediate future are now in a formative state. He was generally recognized as one of the best mill superintendents in the Middle West and was a student in both the production and power end of the industry.

He was brought to Kalamazoo from the Miami valley and since becoming associated with the King Paper Company he has practically rebuilt that plant and except in the case of repairing machinery has been able to operate the mill steadily. The buildings were slow burning construction when he took hold. He has left them practically fire proof.

The resignation of Mr. O'Connell leaves Jacob Kuss, superintendent of the coating division and Frank A. Johnson, superintendent of the paper division, acting in their respective capacities.

Mr. O'Connell is national president of the American Pulp and Paper Mill Superintendents' Association and had just issued a call for the annual convention of that organization to be held in Kalamazoo, June 2 and 3. His resignation will not interfere with the convention being held in this city. As soon as he realized that his future activities were a bit unsettled, he appointed Edward T. A. Coughlin, superintendent of the coating division of the Monarch Paper Company and former president of the Michigan division of

the Superintendent's Association, as general chairman of the national convention executive committee. Mr. Coughlin intends to go right ahead with all arrangements for the sessions here and they will be carried out in all details.

Cost Association Meets

The Kalamazoo Valley local division of the Cost Association of the Paper Industry holds its last monthly meeting at the Park-American hotel, Monday evening, 8 o'clock. The program included executive reports by Jay Bachelder, Standard Paper Company and R. E. Baum, Eddy Paper Company, George K. Ferguson, of the Watervleit Paper Company, discussing "Power, Heat and Light."

Paper Mill Election

No changes whatever in the personnel of the officers and directors of the Watervleit Paper Company occurred at the annual election held Wednesday, January 18. Those named to continue in their respective capacities are: President, W. M. Loveland; vice-president, Charles B. Hays; secretary, F. D. Gilchrist; treasurer, A. B. Scheid; directors, W. M. Loveland, Charles B. Hays, A. B. Scheid, James B. Balch, Fred Scheid, R. A. LeRoy, John A. Pyl, Kalamazoo; W. M. Baldwin, Watervleit; Harrison Geer, Detroit. The Watervleit mill has operated practically all the past year, being forced to shut down only for brief periods. It is one of the very successful mills in the Kalamazoo valley district.

Michigan Paper Company, Plainwell, held its annual election of officers and directors Wednesday, January 11. The result was that those serving were returned for another year as follows: Directors, J. D. Wagner, H. J. Mesick, H. C. Jackson, B. D. Keppel, H. Pelgrim, E. A. Stowe, George M. Ames, William Thomas, G. W. Kilkey; president, J. D. Wagner; vice-president, E. A. Stowe; secretary-treasurer and general manager, G. W. Gilkey; general superintendent, William Thomas; assistant secretary, C. C. Wagner; sales manager, T. D. Earl.

Officers and directors of the Lee Paper Company were re-elected at the annual meeting of that corporation, held Friday afternoon, at the New Burdick hotel. The official personnel is as follows: President, Fred E. Lee; vice-president, George E. Bardeen; secretary-treasurer and general manager, Norman Bardeen; directors, Sam Folz, Norman Bardeen, Kalamazoo; Fred E. Lee, A. B. Gardner, John A. Howard, Dowagiac, George E. Bardeen, Otsego; Dr. C. H. McKain, Vicksburg, George D. Cobb, Schoolcraft.

The Hawthorne Paper Company picked officers and directors for the ensuing year as follows: President, A. H. Dwight; vice-president and secretary, R. L. Pease; treasurer, S. B. Monroe; directors, the above and C. H. Kleinstuck, J. H. Dewing, A. G. Wightman, Edmund W. Chase.

Superintendents to Meet at Black River Valley Club

[FROM OUR REGULAR CORRESPONDENT.]

WATERTOWN, N. Y., January 23, 1922.—The New York Division of the American Pulp and Paper Mill Superintendents' Association will hold an important meeting Friday afternoon at 2 o'clock and dinner at 6 o'clock in the Black River Valley Club. The meeting is arranged by the Northern New York Branch of which C. T. Jewel, superintendent of the Herrings mill of the St. Regis Paper Company is president. It is expected that 50 mill superintendents from all sections of the State will be present.

William Argy, superintendent of the Black River plant of the St. Regis Paper Company, is chairman of the committee on program. He announces a list of distinguished experts as speakers at the afternoon meeting. They will be Charles Wolfe, a prominent engineer from New York; a representative from the Stowe & Woodward Rubber Company, a representative of the Dupont color company who will present slides, N. J. Argy of the Cliff Paper Company who will speak on automatic magazine pulp grinding and William Lewis, electrician of Knowlton Brothers, who will speak on illumination of pulp and paper mills.

MORE INQUIRIES FOR PAPER REPORTED BY BOSTON TRADE

This Is Taken as a Favorable Indication and Is Thought to Mean that February and March Will Be Fairly Good Months—S. D. Warren Co. Begins Advertising Campaign in Newspapers that Is Attracting Widespread Attention—Paper Stock Market Continues Dull and Is Expected to Continue So Until the Mills Get Orders—Improvement Looked for in Board Market.

[FROM OUR REGULAR CORRESPONDENT.]

BOSTON, Mass., January 26, 1922.—Boston paper merchants are waiting for a revival in the paper business. The trade in this section has emerged from the period of stagnation to that of the "inquiry stage," queries on prices, quality of goods, conditions of transportation and the like, coming from all quarters. Taking the large numbers of inquiries as a good barometer, men of the industry in these parts predict a good February and March. That the tide toward better business is about to turn, is the general belief here.

This stage of price information follows the dormant spell during the long process of inventory, now fast nearing completion. Investigation shows that stock is low in most quarters and the trade, for that reason if no other, see better times coming—for a while at least.

S. D. Warren Co. Advertising

Of great interest, not only to the local trade but throughout the country, is the inauguration this week of a country-wide newspaper advertising campaign being conducted by the S. D. Warren Company, of Boston, for the purpose of stimulating trade. Twice each week, in Boston, there will be inserted (for six months in the *Herald* and *Traveler*, a quarter-page-bold-face-type advertisement. The first copy appeared in Monday's issue, page three, January 23.

The proposition is a joint one between the Warren Company and its service houses all over the country. The insertion in the Boston papers is signed by the S. D. Warren Company, Boston, and A. Storrs & Bement Company, Boston-New Haven. The slug line is, "Better Paper—Better Printing—Better Business," and is headed "The Public Isn't Out Of The Market". The copy follows: "The Public Isn't Out of the Market. The public is buying—but buying in a different mood from that of a few years ago.

"Today it needs some stimulus—some reason why.

"The public is buying those articles that are properly presented to it. The presentation of your goods to the public is today the turning point of success.

"Today the best printing and the best of paper—Warren's Standard Printing Papers—are proving their value for getting more than one's share of the business going.

"Ask your printer, 'What about Warren Papers'?"

At the close it reads: Warren's Standard Printing Papers are sold by A. Storrs & Bement Company.

The innovation is creating much comment and the campaign is being watched eagerly by advertisers and the paper trade in general.

Larger Orders Looked for

Anticipation of spring orders is prevalent in all branches of the business here. In fact, several houses have been notified to prepare for a lively spurt during the coming three months. Queries are coming repeatedly from hat manufacturers to the board box trade, as well as from the shoe men and manufacturers of light underwear and many other lines.

Paper Stock Trade Dull

Paper stock trade continues dull and, according to one of the big dealers, will remain so until the mills get orders. At present the fine writing mills in this section are running about 75 per cent capacity while the Holyoke mills, it is reported, are operating only about 50 per cent normal. Kraft mills, on the other hand, are reported as unusually busy.

Roofing rags are firm with the price pointing toward an advance. Kraft is scheduled for a jump within a very short time, according to several. Mixed papers have jumped from 5 to 7½ cents.

Fine grades houses, however, are doing a better volume of business than for some time but in small orders. Printers' stocks are low and they are in the market almost continually.

Board Trade Slightly Improving

Box board houses are getting a few orders but more inquiries. A spurt in this business, which was good the opening week of the new year, is expected most any day. The threatened strike of 40,000 textile workers in various Rhode Island mills is being watched with interest by dealers who sell cloth boards. Other branches of the trade, also will be effected in event of labor trouble.

Chip remains at \$37.50 but the moment business is reported will, it is said, jump to around \$40. This report stimulated a bit of business this week with those who wanted to get in at the old price—\$37.50. Filled news this week is quoted at \$40.

To Address John Carter Sales Force

George W. Wheelwright, Jr., manufacturer of "B.F.P." and other paper will address the John Carter sales force this week. The Carter salesmen have been attending a series of meetings during the past fortnight and the results have already been noticed, according to an official for the house. This firm, this week, also put out a neat sample of "Lodestone Covers". The sample is a striking one and has created a big demand.

W. S. McClelland Heads Grass Fibre Corp.

LEESBURG, Fla., January 23, 1922.—At the first meeting of the directors of the Grass Fiber Pulp and Paper Corporation for 1922, Major W. S. McClelland, of Eustis, president of the First State bank of that city, was elected president of the company, Col. W. F. Stovall, who resigning because his interests in Tampa, particularly the *Morning Tribune* would not permit him to spend any time in Leesburg. Col. Stovall, however, retains his place on the board of directors.

Major McClelland has taken a great interest in the grass fiber plant and has in the past few months assumed a large share of the financing. His experience in the ownership of a paper plant some years ago caused him to take an initial interest and the possibilities of the new industry intrigued him until he has made this one of his main occupations during the past few weeks. His election was by unanimous vote of the directors at the meeting.

This meeting was to outline the policies of the company for the immediate future and the work was not completed but will be taken up again at another meeting to be held soon. It was decided, however, to push the work to the earliest possible completion so that the manufacture of pulp can be started.

Satisfactory progress along all lines is being made and the only possible delays anticipated are in the securing of the remaining special machines, which are being manufactured. One of these is the harvesting machine upon which nearly \$35,000 has been expended to date. This machine has been promised for test this month, but in case it is found necessary or desirable to make any changes after the initial test, the changes will be made at the foundry before shipment to the plant here. It is believed, however, that no changes will be necessary and if this is the case shipment will be made immediately after the test.

MO och DOMSJÖ AKTIEBOLAG

STOCKHOLM, SWEDEN

We have for immediate shipment from dock at Boston and Baltimore limited quantities of the Mo and Domsjö



1st QUALITY
STRONG
CLEAN

UNBLEACHED SULPHITE

For Samples and Quotations
Write or Telegraph

A. J. PAGEL & CO., Inc.

347 Madison Avenue

New York City

PAPER ORDERS IN TORONTO ARE GRADUALLY INCREASING

Market Conditions on the Whole Are Getting More Satisfactory and With the Reduction of Freight Rates Which Are Expected It Is Anticipated that Jobbers Will be Induced to Order Larger Supplies of Paper than They Have Been Doing for Some Time Past—George Carruthers Believes There Will Be a Gradual Return to Normal Conditions by March 1.

[FROM OUR REGULAR CORRESPONDENT.]

TORONTO, Ont., January 23, 1922.—Orders are for larger quantities than for some time and market conditions on the whole are getting more satisfactory. Freight rates are expected to come down and this should have an influence in inducing the ordering of bigger supplies of paper by jobbers and large consumers.

Interviewed with respect to the prospects during 1922, George Carruthers, President of the Interlake Tissue Mills Company, Toronto, stated that he believed about March 1 there would be a gradual return to normal conditions "and," added, "there is nothing seriously wrong with the industry today except a general return of confidence, which will cause our plants to increase their volume of production to a more normal basis, thus reliving unemployment and incidentally increasing the purchasing power of the people as a whole. No doubt, adverse exchange conditions have interfered with our export sales but, on the other hand, they have served as a protection to us in some lines.

H. F. E. Kent, of Toronto, Managing Director of the Kinleith Paper Mills, whose plant is located at St. Catharines, Ont., said that there is no doubt that the high freight rates have had a great deal to do with the increased cost of manufacturing paper, as most paper mills take in about three cars of raw material in order to ship out one, and, as freight rates gradually recede, prices of finished paper will recede and should, therefore, help to increase sale. "The outlook for the coming year is very favorable. Stocks are low and there should be considerable movement from now on and, if we have as good a crop in the West this year as we hope, business will be back to normal next fall. Prices of our product have dropped about thirty to fifty per cent according to grade."

Manufacturing Stationery Trade Growing

Barber-Ellis, Limited, Toronto, manufacturing stationers and envelope makers, said that a slight improvement became noticeable several months ago and since then prices had been stabilized to an extent which had resulted in a loosening up on the part of buyers. Prices, although they have declined somewhat, had not dropped to the full extent that was at one time anticipated. The firm does not think that the low level has been reached but further reductions will no doubt come gradually and will not be a materially disturbing element. From the present outlook there is every reason to hope that this year is going to bring in a good flow of steady business.

Underlying Conditions Are Good

I. H. Weldon, of Toronto, President of the Provincial Paper Mills, Limited, who are the largest producers of book papers in Canada, said that practically all their output is sold in Canada, only a small percentage being exported. During the first six months of the past year the mills of the company averaged about eighty per cent. The demand, however, during the last few months had so improved that it enabled them to run to about capacity. The outlook for 1922 is improving all the time and there appears to be a strong tendency to stabilization of prices and production. It is believed by Mr. Weldon that the coming year will be one of increasing volume and, while no boom may be

launched, the underlying conditions are promising and hopeful. No one desired to see a runaway market or the abnormally fictitious characteristics which developed during 1920. Labor today is abundant and efficient and from the employment standpoint there is little to complain of.

Concluding, Mr. Weldon remarked that generally speaking the supply of raw materials during the past year had been ample, the quality had improved somewhat, and prices had fallen to a considerable degree but not to the same extent as the finished paper. The undercurrent of business sentiment is good and there is really no reason for any depressed feeling in the paper trade. He felt that with optimism, cooperation and confidence, there would be a decided improvement during 1922. With regard to prices, he thought there were some special grades which, in all probability, would be lower. In regard to other lines, it would seem that the present prices had about reached their minimum for some time for the reason that manufacturers with their present costs are unable to make any reduction.

Building Paper Trade Outlook

The Strathcona Paper Company, of Strathcona, Ont., manufacturer of building papers, states that business is rather quiet at present but it is looking for better trade in the near future. It believes that 1922 is going to be a good year and that unless firms put in more stock they will find it difficult to get building paper at short notice. The company also make box board and report a fair turn over in this line.

Veteran Paper Salesman Retires

Joseph Taylor, one of the pioneer paper travelers of Canada, has retired from business and left recently for England where he will make his future home. Mr. Taylor has resided in Canada for forty-seven years and engaged in the paper trade, first with Kilgour Brothers, of Toronto, and later with the Canada Paper Company, Toronto, from which position he lately resigned. He was for many years a director of the Commercial Travelers' Association and for four years President of the Commercial Traveler's Mutual Benefit Society.

Mr. Waldie Is Kept Busy

Robert S. Waldie, for many years President of the Toronto Paper Manufacturing Company, from which position he retired when the company sold its plant at Cornwall to the Howard Smith Paper Mills over a year ago, is now devoting his time to other interests. He is Vice-President of the Victoria Harbor Lumber Company, Vice-president of the General Accident Assurance Company of Canada, and last week was elected a director of the Confederation Life Assurance Company of Canada. Mr. Waldie is also a director of the Imperial Bank and since he negotiated the favorable sale of the Toronto Paper Manufacturing Company, his services have been sought by many financial organizations.

The Burt Co. Has Good Year

The F. N. Burt Company, Limited, of Toronto, of which S. J. Moore, Toronto, is President, has two factories in Toronto and three in Buffalo and is declared to be the world's largest manufacturers of small paper boxes. Dividends of ten per cent are paid on the common stock and during 1921 a special bonus of ten per cent on the common was paid on July 1. The company has just closed a good year. It is stated, however, that, owing to the prevailing depression, the business of the firm during 1921 was less than that of the previous year. The earnings were greater in proportion to the business done than in 1920.

Whalen Co. Starts Third Mill

Hon. T. W. McGarry, of Toronto, President of the Whalen Pulp and Paper Company, who is now in the West, has sent word East that the third mill of the company in British Columbia has resumed operations in the manufacture of sulphite pulp.



Why?



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

**LAWRENCE
GROCCERS' BAGS
*Exclusively***

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

James Lawrence, President

THE LAWRENCE BAG COMPANY
MIAMISBURG, OHIO

WISCONSIN PAPER INDUSTRY SHOWS SOME IMPROVEMENT

None of the Mills Have Shut Down and Some of the Plants Have Speeded Up Operations—Union Mfg. Co. Gets Important Flowage Rights for the Purpose of Building a High Power Dam—Consolidated Water Power & Paper Co. Cuts Wages of Common Labor About 8 Cents Per Hour—Rhineland Paper Co. also It Is Reported Has Reduced Wages From 6 to 10 Cents Per Hour.

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., January 24, 1922.—Although the paper industry in the Fox river valley and in Wisconsin is not booming, business conditions are showing some little improvement, it is said. There has been no shutdowns of mills, in fact some plants have speeded up operations.

At Wisconsin Rapids the Ahdawagam Paper Products Company now is operating all its departments. Some of the divisions were either closed down or operating with greatly reduced forces but now all are running with nearly full crews and the intention is to keep them operating at that speed. It had been rumored that the plant was to shut down indefinitely, but inquiry revealed that these rumors were unfounded.

Union Mfg. Co. Gets Flowage Rights

The Union Manufacturing Company of Oconto Falls, of which J. H. Delbridge is president, has been given flowage rights over a large tract of land below Oconto Falls by the Falls Manufacturing Company, a connected concern, for the purpose of building a huge power dam. The dam is to be large enough to raise a 42-foot head of water, it is said. The consideration named in the transfer is \$1 but revenue stamps attached indicate a total consideration of \$120,000.

The Union Manufacturing Company and the Falls Manufacturing Company are practically under one management, but the Union Manufacturing Company is incorporated to manufacture and sell power while the other is not.

No announcement has been made when work will be started on the power development which is to be a big affair. Detailed plans for the improvement have not been made public.

Reduction in Wages

A cut in wages amounting to about 8 cents an hour for common labor has been made by the Consolidated Water Power and Paper Company for employees in the Wisconsin Rapids, Stevens Point and Biron divisions. The cut was effective January 16. The basis scale for common labor now is 32 cents an hour, it is understood.

The revision was made following a conference of mill officials and union representatives of the three mill divisions. It is understood that the scale follows very closely a revision accepted recently by employees of eastern mills following conferences with workers. The Consolidated company was represented at that meeting.

It also is reported here that a wage revision has become effective in the plant of the Rhineland Paper Company at Rhineland. The revision is from 6 to 10 cents an hour, it is understood here.

To Build Great Reservoir Dam

Men, supplies and machinery have been sent to the upper reaches of the Chippewa river, in western Wisconsin preparatory to construction of a great reservoir dam costing from \$250,000 to \$300,000 for the Wisconsin-Minnesota Light and

Power Company. The contract, which was awarded to A. Larson & Co., Eau Claire, calls for completion of the project in a year.

The dam will be a solid concrete and dirt fill structure 1,000 feet long and 49 feet high at its highest point. It will have storage capacity of 12,000,000,000 cubic feet, is 1,313 feet above sea level and will back water up over an area of 17,000 acres.

The dam will be for water storage purposes. It will be equipped with the latest type of control gates by which stored water can be let out in whatever quantity desired.

There are now two smaller dams on the Flambeau river, in that region, for the same purpose.

The Wisconsin Valley Electric Company, one of the large power companies of Wisconsin, will spend \$10,000 for improving its distribution station at Stevens Point. The purpose is to enable the company to take on more customers and to maintain current at an even voltage, eliminating fluctuations. About three months will be required to complete the work.

Tremendous water power possibilities of Wisconsin were described in an address by Burt Williams, Milwaukee, former internal revenue collector for this district, who declared that less than half of the available water powers of Wisconsin have been developed.

Wausau Sulphate Co. to Dispose of Stock

It was decided to dispose of the remaining preferred stock in the Wausau Sulphate Fiber Company, Mosinee, at the annual meeting of that company's stockholders last week. The following officers and directors were re-elected:

Karl Mathie, chairman; E. P. Stone, president; Louis Desert, vice-president; O. Bache-wig, vice-president and general manager; A. L. Kreutzer, treasurer; G. D. Jones, secretary. The officers with M. C. Ewing, John F. Ross and H. M. Thompson, are directors of the company.

Nathan S. Stone was elected assistant secretary and treasurer.

Wausau Paper Mill Co. Elects Officers

All directors of the Wausau Paper Mill Company were re-elected at the annual meeting of that company last week. They are Walter Alexander, W. L. Edmonds, F. C. Boyce, and J. E. George. The following officers were re-elected: President, Walter Alexander; vice-president, C. C. Yawkey; secretary, treasurer and general manager, W. L. Edmonds.

To Manage Patten Paper Co.

Adam C. Remley was promoted to be general manager of the Patten Paper Company, Appleton, at its annual meeting. He formerly was head of the sales department.

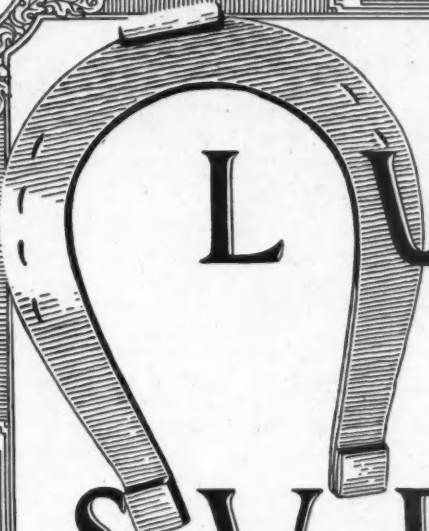
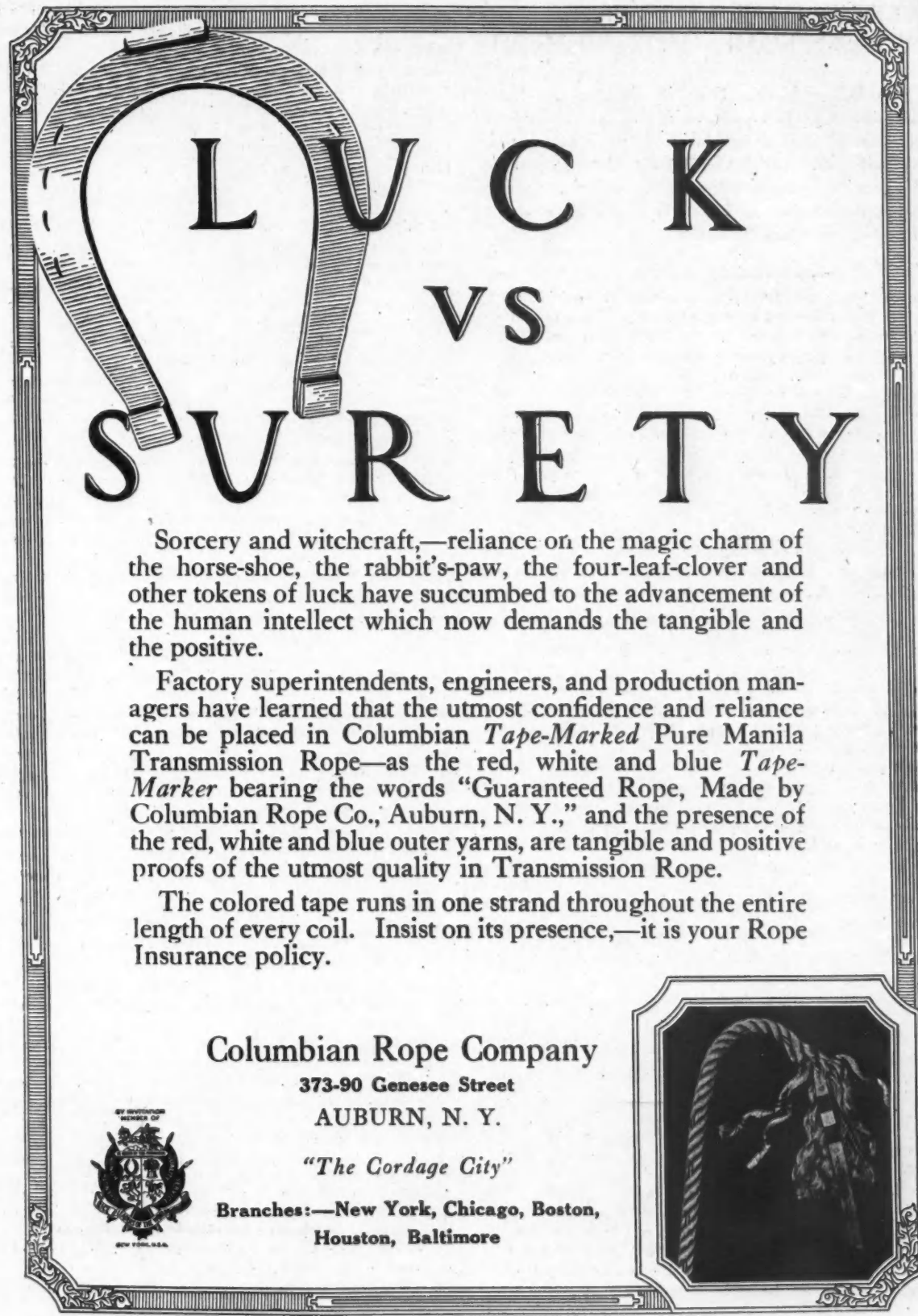
Settles Pulpwood Case

Settlement of the case of R. C. Thielman against the Wausau Paper Mills involving a pulpwood contract of about \$65,000 was reached before the case went to trial. It is understood that the defendant company has agreed to take the hemlock logs under stipulations of the contract and both parties made concessions as to other items in the controversy.

Paper Mill Men Made Bank Officers

Several prominent Fox river valley paper mill men were elected officers of banks this month. Directors of the First National Bank of Appleton include F. J. Sensenbrenner, of the Kimberly-Clark Company; Judson G. Rosebush, of the Patten Paper Company; M. A. Wertheimer, of the Thilmany Pulp and Paper Company, and G. E. Buchanan, of Appleton Wire Works. Mr. Sensenbrenner is vice-president of the bank.

Wisconsin Rapids banks also include paper mill men among their officers and directors. Directors of the Wood County National Bank include L. M. Alexander, J. G. Rosebush and L. E. Nash. Mr. Alexander is vice-president of the bank.



LUCK
VS
SURETY

Sorcery and witchcraft,—reliance on the magic charm of the horse-shoe, the rabbit's-paw, the four-leaf-clover and other tokens of luck have succumbed to the advancement of the human intellect which now demands the tangible and the positive.

Factory superintendents, engineers, and production managers have learned that the utmost confidence and reliance can be placed in *Columbian Tape-Marked Pure Manila Transmission Rope*—as the red, white and blue *Tape-Marker* bearing the words "Guaranteed Rope, Made by *Columbian Rope Co., Auburn, N. Y.,*" and the presence of the red, white and blue outer yarns, are tangible and positive proofs of the utmost quality in *Transmission Rope*.

The colored tape runs in one strand throughout the entire length of every coil. Insist on its presence,—it is your *Rope Insurance policy*.

Columbian Rope Company

373-90 Genesee Street

AUBURN, N. Y.

"The Cordage City"

Branches:—New York, Chicago, Boston,
Houston, Baltimore



HOPEFUL SIGNS IN CHICAGO OF AN EARLY IMPROVEMENT

Buying to Be on Heavier Scale in Near Future—Buyers Regaining Confidence and Asking More and More for Quality—Paper Houses Making Effort to Establish Co-operation With Printers—McNulty Paper and Twine Corporation to Expand—Bonds, Writings, Envelope Paper and High Grade Box Board to Be Added to Line—General News of Trade.

[FROM OUR REGULAR CORRESPONDENT.]

CHICAGO, January 23, 1922.—The consensus of opinion among paper merchants is that buying will show signs of quite a little improvement next month. Business in some instances is said to have picked up a little during this month, but most houses say that they did not do the volume they should have, but that they expect buying will be done in February on a heavier scale.

A noticeable feature of the market is the change that is taking place in the buyer's attitude. Previously buyers worked a system of forcing sellers to concede to their demands, but now, it is said, buyers are asking more and more for quality.

Many of the houses here look forward to a good business this spring. There are indications of quite a little advertising being done and this will mean paper sales to begin with. Business is reported to be showing improvement in many lines, and optimism is more noticeable than ever in the trade here.

To Co-operate With Printers

In an effort to protect the printers of Chicago as specialized paper customers, Chicago paper houses distributing print papers have asked for co-operation from these printers in an effort to permit the sale of paper to only what are termed legitimate paper buyers. In the past, it is said, a man wanting a small printing job done would call upon a paper house and buy what paper he needed for the job. He would then take this paper stock to his printer who would run it off. The result in numerous cases was a poor printing job, which was rightfully blamed on the paper because its selection had not been rightly made. The printers claim that if they are given the privilege to select paper, or help select it for their customers, they can guarantee a perfect job. So the agreement which was entered into three years ago to sell paper only to legitimate buyers is again being brought up. This agreement was signed three years ago by 32 out of 33 houses here carrying print papers. The house which held out claimed that it sold to but printers anyway.

This agreement protects the printers inasmuch as it states that paper for printing purposes will not be sold to buyers other than what are termed "mill order buyers." The printers are looked upon here as a natural source of distribution, which should be protected by all the consideration the paper houses can give them.

At several recent meetings of printer factions held in various sections of the city, paper merchants have been asked to appear as speakers and tell members of the printing trades of the policy which paper merchants are willing to follow in distributing print paper in Chicago.

McNulty Paper Corporation to Add to Lines

The McNulty Paper and Twine Corporation of Chicago has begun to put into practice some of its plans which will give the firm a much increased territory and add largely to the lines

of paper it is handling. Judge M. Hawk, who recently went with this company has been placed in charge of a sales department which has been opened. A dozen salesman have been added to the force during the past few weeks and Mr. Hawk announces that they will add more as needed. This firm which formerly handled, wrapping, coarse paper and twines, now carries a line of high grade box board, bonds and writings, envelope papers, and has recently made connections which will identify it in Chicago as a Kraft Agency.

General News of Chicago Trade

Bradner Smith & Co., of Chicago, have added three salesmen to their city staff. Leo Meyer, Bernard Hochstetter and Frank Barcal are now representing this house in local territory. Mr. Meyer was formerly an inside man with this company. F. H. Gilchrist has also identified himself with the firm covering territory surrounding the city. A. G. Overton, formerly representing Bradner Smith & Co. through Illinois territory, is now covering Indiana.

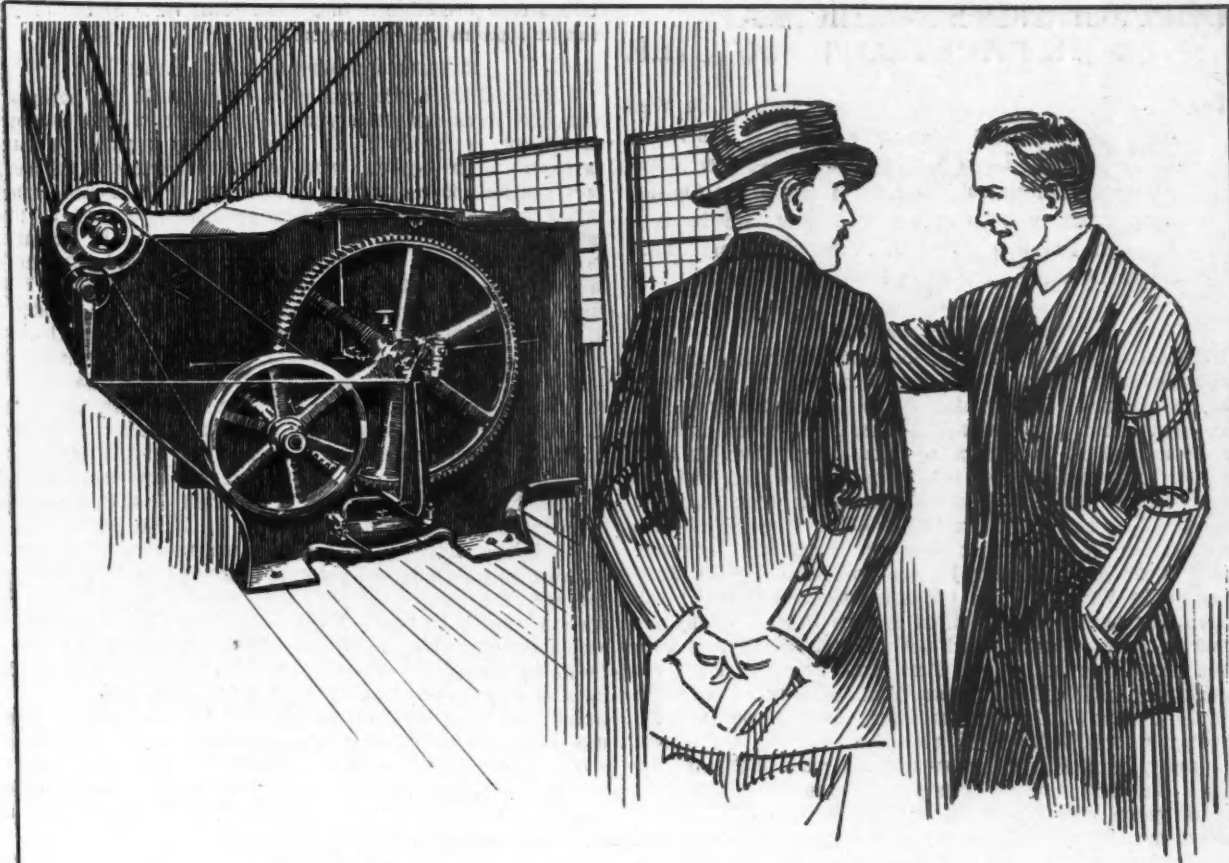
R. E. Parker, of Parker, Thomas & Tucker, Chicago, was the principal speaker at a meeting of Chicago printers held in the Morrison Hotel, Friday, January 20, at noon. Mr. Parker took as his subject: "Is a Printer a Retailer of Paper?" A printer is not a retailer of paper, Mr. Parker said, because a retailer buys in large quantities and sells over a counter in small quantities without changing the article handled. A printer, he said, was looked upon by the paper merchants as a paper converter who buys paper and converts it into a salable article.

Robert H. Ritchie, president of the W. C. Ritchie & Co., has been appointed by the Citizens Committee which is upholding the Landis Building Award in Chicago, to collect funds from the paper box and allied industry which will be used in the fight against the unions which refuse to accept this award. Three million dollars is being asked for from Chicago industry, but not all of this will be called for at present. Mr. Ritchie in explaining the drive to members of the paper box industry recently, said, that one of the things which has held business back more than anything else in Chicago and has been a sore spot in the city's growth has been the building situation which must be dealt with in a very serious manner, and was a subject for serious consideration by all Chicago business men. A. D. Shoup & Co., have pledged to subscribe \$500 to the fund and an equal amount will be subscribed by the W. C. Ritchie company. Other box manufacturers have promised to subscribe substantially.

Canadian Paper Trade Improves

MONTREAL, January 23, 1922.—In a statement regarding the Canadian pulp and paper situation a leading financial house which has a specialty of financing pulp and paper industries in the past issues the following statement:

"Deflation in the pulp and paper industry has not been more drastic than in many other staples, but has been over emphasized in the Canadian mind by the unprecedentedly large public interest in the securities of that industry. The basic physical elements which give the Canadian pulp and paper industry its strength are permanent and are not in the least affected by temporary conditions, however, extreme or uncomfortable. Meanwhile there are signs that readjustment in this industry, as in others, is in its final stages and may, indeed, be already complete in some departments. During the summer bleached and easy bleaching sulphite pulp were practically unsalable. They are now in demand at improved and satisfactory prices. The summer low level was created by forced sales under pressure of curtailed credit and cannot possibly be regarded as a permanency."



JUST PUT IT TO WORK

Set the Bird Save-All in place, connect the piping and start it up.

This is what happens:

The best of the fibre—the longest stock is recovered from the White Water.

The recovered stock is returned to the point where it is to be used without a labor charge for handling.

The Bird Save-All operates 24 hours a day, with only casual attention.

The first cost of the Bird Save-All is low, and the operating charges are negligible.

Isn't this the Save-All for your Mill?

BIRD MACHINE COMPANY

South Walpole, Massachusetts

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

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

THE BIRD SAVE-ALL

DEMAND IN PHILADELPHIA OF RESTRICTED CHARACTER

Despite Softness in Spots, Prices However, Seem to Be Well Stabilized—Agitation of the Long List It Is Believed Is Holding Back Looked for Expansion—Paper Stock Market Continues Dull but Dealers Are of the Opinion that Demand Will Grow Rapidly as Soon as It Starts—Monarch Envelope Mfg. Co., Inc. Is Chartered in Delaware With Capital Stock Placed at \$100,000.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA Pa., January 24, 1922.—Despite softness in spots, especially in the wrapping paper line, the market now that activity is just beginning to resume after the holiday idleness generally is firm, prices seem to be entirely stabilized so far as the mills are concerned and the near advent of spring activity finds the trade no less confident than when the old year closed that conditions will improve. An unusual element tending to some extent to restrict buying has been the vexatious "long list" contest. Despite the fact that the ranks of the "long list" houses which originally stood at only one, E Latimer, Jr., has been increased by the accession of the Whitaker Paper Company, and on February 1 will receive the further addition of the Atlantic Paper Company, the trade as a whole absolutely feel that the "long list" issue is dead. It is pointed out that none of these three "long list" houses are members of the Philadelphia Paper Trade Association whose ranks remain absolutely unbroken even though from Typothetæ headquarters repeatedly there came declarations that the early weeks of January would bring defections from the ranks of the Association. The three "long list" houses while growing, it is true are by no means dominant factors in the distribution of printing papers and while the other distributors are by no means championing their cause, express the opinion that perhaps their course was not altogether an unwise one, since by following it they certainly had nothing to lose but had some possibility of gain. Meanwhile the Typothetæ, however, is at least endeavoring to put on the semblance of a battle for the "long list" and in its official organ Form 9-H which appeared during the week, urges its members that for any and all paper needs, they call on E. Latimer, Jr., or the Whitaker Paper Company.

Paper Stock Market Continues Dull

The paper stock dealers freely admit that during the week, there was not even the slightest semblance of the improvement of business which had been prophesied for the new year. But there is no gloom among them. They are merely waiting. They believe that the business improvement will not be heralded long in advance by slight preliminary activities, but that it will begin overnight and with a rush and that the beginning may be tomorrow, the day after, next week or perhaps not even until next month. Meanwhile quotations are quite steady under the circumstances attributable to the fact that while mill demand is negligible, only very limited quantities of stock are being received.

Foreign Made Papers

The trade continued to hear considerable of foreign made papers and one of the most commented upon during the week was in an offer of Holland made, machine glazed sulphite at 3½ cents f.o.b. Philadelphia and an offer from a New York importing company of a Finish Kraft at 5½ cents, same conditions. On the other hand, there were received reports of a slight increase averaging about ¼ of a cent on a line of envelope papers particularly made by a large Pennsylvania corporation. In the coarse paper market, tissues are still quite weak and in plentiful supply, screenings and silk fibers fall in the same category and a drop of 20 per cent in quo-

tations on a line of corrugated straw paper made by one of the smaller southern mills was reported.

Monarch Envelope Mfg. Co. Formed

The outstanding development of the week was the final confirmation, after considerable negotiation, of the sale of a large envelope manufactory which the D. L. Ward Company organized a little more than a year ago, and which at that time embodied the most advanced ideas in manufacture as conducted in the United States and including some special features brought to the firm by the newly engaged manager of the establishment, W. F. Leonard, previously connected with the American Paper Goods Company, who spent considerable time abroad, studying developments. The envelope factory occupies considerable space in the Arrott Building, 1723-25 No. Phillip street. The purchaser of the plant is Thomas J. K. Parker, who for six years was general business manager of the D. L. Ward Company, and C. Oscar Edgerly who was superintendent of the factory. They have organized the Monarch Envelope Manufacturing Company, Inc., and have secured a charter under the laws of Delaware with a capitalization of \$100,000. Subsequent to the incorporation in Delaware, the firm registered in Philadelphia January 16, making it competent as a Pennsylvania organization. The officers are, Thomas J. K. Parker, president, and C. Oscar Edgerly, vice-president and treasurer. The new organization occupies a manufacturing space of some 25,000 square feet and has a capacity of one million envelopes a day. It will make a general commercial line together with glassine and other specialties. Mr. Edgerly will continue supervising the manufacturing end, while Mr. Parker will look after the distribution. A sales organization is now being perfected. Mr. Leonard, who recently severed his connection with the envelope manufactory, has taken a position on the sales force of the Whiting Patterson Company, but will not restrict his activities to the selling of envelopes and will handle the general Whiting-Patterson line especially its wrapping papers.

Ward Co. Entertains in Baltimore

President George W. Ward and secretary Wm. A. Hentz of the D. L. Ward Company returned during the week from a trip to Baltimore, where a branch house is conducted, and where the firm entertained at the Emerson Hotel, 150 printers of the Oriole City, at an educational meeting. The meeting was opened by Breckenridge C. Rust, manager of the Baltimore branch, who presented President Ward, to make the address of welcome. The Warren publicity campaign for 1922 was outlined by Edward Hastings of the S. D. Warren Mills. He was followed by W. F. Rogers, who after talking on papers and their manufacture in general, and with particular application to the printing industry, demonstrated just how the finished product left the mills after actual test of its printing qualities. The story was given added clearness by a presentation of a moving picture showing every detail in the progress of paper from the felling of the tree to the shipment of the tested product from the Cumberland mills of the Warren Company.

General News of Philadelphia Trade

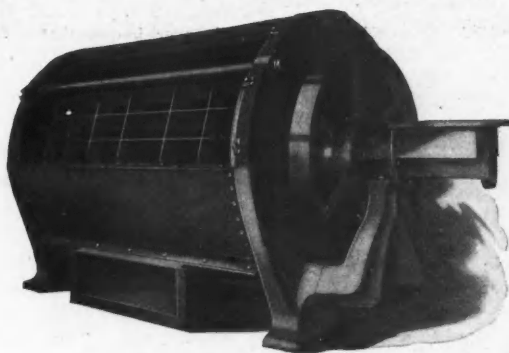
During the week many hundreds of persons attended the exhibition in the School of Industrial Art arranged by A. Hartung & Co., and D. L. Ward Company, of 300 designs out of 3,500 submitted in a contest offered by the Hampden Glazed Paper and Card Company for cover designs on a Sunburst paper. Philadelphians whose designs were among those shown are: C. H. Busse, B. J. Fullmer, C. Barton McCann, William Mahr, Robert Pullinger, Ernest E. Shearer, Paul M. Swisher and Robert J. Williams.

Stockholders of the Phillip Rudolph & Company will meet during the week for the purpose of a re-organization made necessary by the recent death of George Rudolph, head of the company. The place of the father for the time being, has been taken by the son.

The Typothetæ of Philadelphia has finally received answers to
(Continued on page 34)

"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.

Trade-Marks Department

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

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

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

A. on picture of an eagle within shield—No. 153,790. American Writing Paper Company, Holyoke, Massachusetts. For Writing and Printing Paper.

THE ADDRESS—No. 145,987. The Address, Baltimore, Md. For Address Labels, Letterheads, Bill Heads, Contract Forms, Envelopes for Mailing or Correspondence, Checks, Blotters and Drafts.

GF ALLSTEEL—No. 144,391. The General Fireproofing Company, Youngstown, Ohio. For Filing Folders, Paper-Filing Guides, Binder Folders, Index Cards, Tickler Sheets, and Paper Labels.

PERFEX in white letters on black background—No. 141,930. U. S. Manifold Company, Chicago. For Carbon Paper.

STONE MOUNTAIN ATL ANT A-1 KRAFT, in form of circle with picture of snow capped mountain in center—No. 107,741. Atlanta Paper Company, Atlanta, Ga. For Paper Bags.

PHILADELPHIA DEMAND RESTRICTED

(Continued from page 32)

the second questionnaire sent out by it for the purpose of sounding opinion on the joint collection of waste and sale under one contract. It is reported that sentiment for such a plan was preponderant. Details of its practical operation will be worked out during the coming week upon the arrival in this city of J. O. Adams, field secretary who has had much experience in the proposition.

John B. Buzby, treasurer of the Wm. Mann Company whose paper mills at Lambertville, N. J., are now producing more largely than ever before, celebrated during the week the anniversary of fifty years of continuous service with the company, and as evidence of that fact was presented with a bouquet of 50 long-stemmed American beauty roses by President H. A. Prizer, in an assemblage of his co-workers, in whose ranks were many who had served with the company from one to two score years. Mr. Buzby entered the firm's employ as a shipping clerk, then became private secretary to Wm. Mann, the founder, a score of years ago, and upon the incorporation of the company became its treasurer and a director.

The Whiting-Patterson Company through W. H. George, who for decades has been identified with the book paper business, being for many years owner of his own brokerage business, is conducting an educational campaign among printers hoping to be of helpfulness to them in the selection of the right kind for each particular job. Concrete suggestions are made on the subject of increasing business and profits. An interesting series of folders has been prepared to be issued in quarterly cycles taking up various phases of circular folder and catalogue production arranged in portfolio form and giving striking examples of increased efficiency attainable by a proper display of the printers' wares.

The Dennison Manufacturing Company is placing on the market a special line of 1922 Christmas and seasonal crepe papers which it wholesales. The line is being shown in the Philadelphia store and is being taken out on the road by the sales organization.

Representative John F. Coffey, of the C. S. Garrett Corporation, is traveling through Pennsylvania with its line of roofing, sheathing and building papers.

E. L. Matlack, manager of the Eaton, Crane & Pike Company, Philadelphia branch, is taking out part of the new year line of social and commercial paper through Western Pennsylvania.

The Philadelphia Manufacturers Company, Inc., is putting out a new adding machine roll of a deep golden rod shade that will be known as "Eye Ease." Every one with experience in the handling of paper knows that goldenrod shade of all colors is the most restful to the eye. It is recognized as a signal in the conduct of a great many businesses, and is used on special forms for this reason. When used as an adding machine roll it intensifies the black ink used and positively relieves eye strain. Totaled lists are distinguishable at once, no matter how crowded the desk, when this paper is used. The company expects a large demand for this new roll.

Corrugated and Fiber Box Men Meet

The National Association of Corrugated and Fiber Box Manufacturers met at the Hotel Pennsylvania Wednesday and Thursday, January 18 and 19. Morning and afternoon sessions were held and on the 18th the members of the National body, about one hundred in number, were the guests of the New York Association of Corrugated Paper Box Manufacturers.

Discussion at the several sessions and at the banquet centered on the general situation existing in the trade and on the various methods that should be employed to improve conditions.

The cost system was discussed at length and many firms signified their intention of adopting the system in their own establishments. It was suggested that this Association in conjunction with all others that could be allied in the common cause take the leadership in causing Congress to legislate upon the matter of legalizing the trade associations and their work, and of permitting the exchange of information between associations and firms, and of making possible an agreement between allied industry to the effect that none of the parties involved manufacture and dispose of products at a loss or at a figure which does not indicate a minimum of profit of 8 to 10 per cent on invested capital.

Without such an agreement as last stated members are at liberty to sell at any price and if they so desire create unfair competition by means of which the smaller and weaker members are put out of business. The suggestion is a novel departure and its relation to the Sherman Act a complicated one. In connection with discussion on the suggestions the Sherman Act as created and as now interpreted was subjected to careful scrutiny. The law of the land specifies that money may be loaned at certain specific rates and it is felt to be only just that there should be some legislation to create specific minimum profit.

An exhibition of corrugated box making machinery from the Langston Machine Company was held in connection with the convention.

I. P. to Start Three River Mill

WASHINGTON, D. C., January 25, 1922.—The Department of Commerce is in receipt of a report from the American Consul at Montreal, stating that the new mill of the International Paper Company at Three Rivers is scheduled to begin operations in February. The report continues:

"With two machines, it will have an official output of 100 tons a day, and is expected to increase the amount to 200 tons, or about 60,000 tons a year.

"A recent cut in the price of news print to \$70.00 a ton is said to have had the effect of bringing out many orders, and from 75 per cent operations, the average is expected to go to 85 per cent early in 1922, with 100 per cent capacity production before the end of the first quarter."

**Hercules Rosin
Is Clean**

The three big points in favor of Hercules Wood Rosin are:

1. Freedom from foreign material.
2. Uniformity.
3. Dependable supply.

These qualities are assured, first, by the care exercised in making Hercules Rosin; second, by strict physical and chemical control of every process; and, third, by the quantity production of our three big plants.

Use Hercules Rosin and you will no longer need to make changes in your processes and formulas to suit each shipment of rosin which comes in.

Naval Stores Division
HERCULES POWDER CO.
Wilmington Delaware
Sales { 120 Broadway, New York
 332 S. Michigan Ave., Chicago
Offices { 1012 Chronicle Bldg., San Francisco



HERCULES
Naval Stores
Produced Under Chemical Control

**POTDEVIN'S
20**

**PAPER BAG MACHINES
TUBERS and BOTTOMERS for**

**Printed Glacine Bags,
Printed Garment Tubes,
Nail Bags, Sacks & all other types.**

POTDEVIN MACHINE CO.

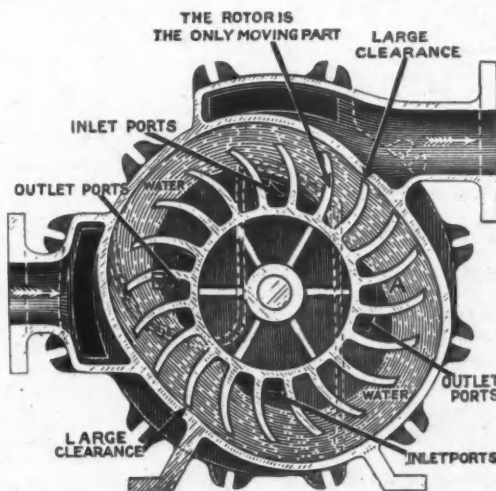
Department 1
1223—38th Street Brooklyn, N. Y.

**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.

New York Trade Jottings

George Seaman of the Seaman Paper Company, returned to Chicago Sunday, January 22.

* * *

L. L. Alsted, president, and A. J. McKay, manager of the Combined Locks Paper Company, were in town last week.

* * *

The Ace Paper Company, of 355 West Broadway, in order to meet the growing demands on its business, has taken additional warehouse space at the above address.

* * *

Frank P. Lyden, of the International Paper Company, will leave the local offices the last of the week to become supervisor of the fine paper division of the mills at Winnipissogic, New Hampshire.

* * *

Eugene A. Steinfeld, 49-51 West 24th street, paper and twine, will be located at his new warehouse at 423-5 West 37th street, after February 1, where facilities for stock and shipping are very much better.

* * *

A branch office of the Seaman Paper Company was opened last week in the Massachusetts Trust Building, formerly known as the Hancock Building, Boston, located in charge of Robert Shatsneider.

* * *

Clarence P. Robinson, of the Borregard Company, Inc., returned the first of the week from a western business trip. He found the general sentiment in business to be improved although things were still dull.

* * *

A group of paper manufacturers will visit the Chamber of Commerce of the United States at Washington next week and will be initiated into some of its intricacies by President Joseph H. Defrees.

* * *

O. M. Porter, assistant secretary of the American Paper and Pulp Association, has been indisposed with a bad case of grip since the middle of last week and is not expected at his desk until the first of next week.

* * *

F. J. Kress, of the F. J. Kress Paper Box Company, Pittsburgh, and B. C. Tamlin, of Chicago, who have been attending the convention of the National Association of Corrugated and Fiber Box Manufacturers, left New York Friday, January 20.

* * *

E. R. Mosher Company, Inc., announces that M. Deverich who was formerly connected with the Interstate Pulp and Paper Company, Inc., in the capacity of purchasing agent, has resigned from the concern and is now vice-president of E. R. Mosher Company, Inc.

* * *

Philip T. Dodge, president of the International Paper Company, a member of the recently organized Committee of American Business Men, has been appointed to its executive committee upon which are fifty leaders of industry in America. The Committee of American Business Men will conduct a campaign of education on sound taxation.

* * *

Among New York paper men to leave for the Convention of the Canadian Pulp and Paper Association to be held this week Thursday and Friday, January 26 and 27, are: Chester Lyman, George Ferris, O. E. Horton, of the International Paper Company; C. J. McMillan, F. B. Murray, of the Union Bag and Paper Corporation; R. S. Kellogg, G. A. Ware, George D. Bearce, C. W.

Halligan, of the News Print Service Bureau; E. A. Kendler, secretary of the Gilman Paper Company; J. Wohnsiedler, of the St. Maurice Paper Company; Arthur Hastings, of the Cliff Paper Company; Dr. Hugh P. Baker, secretary of the American Paper and Pulp Association; W. G. MacNaughton, secretary of the Technical Association of the Pulp and Paper Industry, and R. B. Wolf.

Crystal Tissue Co. Opens New York Office

The Crystal Tissue Company, manufacturers of white, colored and waxed tissues, Middletown, Ohio, has completed arrangements for opening an office at room 926, National City Bank Building, 17 East 42nd street, New York. The new office will be in charge of W. E. Piper, who has been with the company at the mill for several years and who is now fully familiar with its selling policies as well as with its manufacturing facilities.

The company feels that this new office will be a great convenience to its customers in the New York market as inquiries which formerly had to be sent to Middletown can now be answered from the New York office and quotations will be in the hands of customers three or four days sooner than formerly. In addition the company will have a warehouse stock of its standard items in New York from which emergency orders can be delivered on short notice. In this way the mill expects to render its New York city customers and those of Brooklyn and Newark as well a complete all around service.

In addition to the New York office the company now maintains the following district-selling offices: D. F. Peck, 874 Larabee street, Chicago; F. W. Peterschen, 127 Federal street, Boston; L. K. Mallinckrodt, 103 Cheapside street, Baltimore; E. M. Harford, 427 South 7th street, St. Louis, and P. S. Calhoun, 13th and Hickory streets, Kansas City.

Stocks of the company's standard items are carried at all of these points except Chicago, to which city club cars are shipped so often that it is not thought necessary to carry a stock in that city.

Canadian Paper for Philadelphia

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., January 23, 1922.—Philadelphia journals have not been getting any paper from Canada, for several years, and a trial shipment of 600 tons was recently ordered by the Canadian Export Paper Company from Prince Brothers & Co.'s mills. The 24 cars left Kenogami by a special Canadian National train Saturday midnight, January 14, and arrived at Philadelphia midnight on the 17th, making the run of 944 miles exactly in three days. The 329 miles from Kenogami to Hawkesbury over the Canadian National Railways was made in twenty-two hours, including stops. The 90 miles over the Grand Trunk to Rouses Point took five hours, and there was a delay of five hours at the border. The actual running time for the 372 miles on the Delaware and Hudson from Rouses Point to Wilkes-Barre consumed twenty-four hours; the 84 miles over the Central Railroad of New Jersey from Wilkes-Barre to Allentown took four hours; and the last 68½ miles into Philadelphia could have been made in four hours, but took nearly ten. It is interesting to note that this shipment will bring forty-two thousand U. S. dollars into Canada, as well as contribute some \$5,600 in freight charges to the railways.

R. L. Greene Paper Co. Elects Officers

PROVIDENCE, R. I., January 23, 1922.—The following officers and directors were elected at the annual meeting of the R. L. Greene Paper Company, January 9: N. L. R. Gardner, president and treasurer; A. A. Adams, vice-president; T. C. Gregory, vice-president; L. R. M. Gardner, secretary; R. S. Allen, general manager; A. C. Gardner, W. J. Kent, C. D. Short.

**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

Editorial

Vol. LXXIV New York, January 26, 1922 No. 4
FIFTIETH YEAR

The Paper Bid

The bids which were opened on Monday of this week by the Joint Committee on printing for the furnishing of supplies of paper for the use of the Government Printing Office of Washington, D. C., and which are printed in full elsewhere in this issue are unusually interesting, especially as furnishing an index of the considerable decline that has occurred in paper prices during the past year. It will be remembered that when the bids were opened on February 2 last year, all of them were rejected because they were considered too high and new bids were invited for the entire list. Although the new bids, which were opened February 21, in most cases showed a considerable downward revision, awards were made for only a part of the list and it was determined to have the public printer buy the remaining items on the open market. Especially in view of this experience it may be assumed that the prices submitted this year are about as near bed mark as it is possible to reach.

Some of the lowest bids made this year as compared with the prices at which awards were made last year on the more important items cannot fail to be of interest.

The lowest bid this year on white news print was made by Dobler & Mudge, at 3.79 cents. This item was awarded to the same concern last year at 5.48 cents.

On No. 1 machine finish printing 25 x 38—35, cut 24 x 32 inches, flat, International Paper Company bid low this year at 6.63 cents. This item was awarded last year to the American Writing Paper Company at 9.25 cents.

On rag machine finish printing 25 x 38—40, and 32 x 48 flat the Bryant Paper Company this year was low at 7.54 cents and the same item was awarded last year to the American Writing Paper Company at 10.09 cents.

On sized and super calendered printing 25 x 38—45, cut 24 x 32 and 32 x 48, flat, the Bryant Paper Company was low at 6.92 cents. This item last year was awarded to Kalamazoo Paper Company at 8.34 cents.

On half tone printing 25 x 38—70 cut 24 x 38 and 38 x 48 flat, Dobler & Mudge were the low bidders at 5.97 cents. This item last year was awarded to the Kalamazoo Paper Company at 8.37 cents.

On single coated both sides book 25x38—70 Dobler & Mudge this year were the low bidders at 8.4 cents. The Whitaker Paper Company was awarded this item last year at 11.37 cents.

On white writing paper No. 16 the R. P. Andrews Paper Company this year was the low bidder at 6.88 cents and this item was awarded last year to the same concern at 9.4 cents.

On stationery bond No. 20 the Aetna Paper Company this year bid low at 10.31 cents which item was awarded to the same concern last year at 12.28 cents.

On commercial ledger Aetna Paper Company this year bid 14.31

cents and this item last year was awarded to the Carew Manufacturing Company at 19.5 cents.

On smooth colored covered paper Knowlton Brothers this year bid low at 8.89 cents, which item last year was awarded to the American Writing Paper Company at 9.97 cents.

On manila board Samuel Alcorn bid low this year at 4.75 cents and this item last year was awarded to the Whiting-Patterson Company at 5.9 cents.

The Strike Menace

A galaxy of strikes in the next year will in no way assist industry in its struggle from the throes of depression. At a time when the efforts of so many patriots are being bent to ameliorate unhealthy business conditions it is wholly inappropriate for labor leaders or captains of industry to act in a way detrimental to the country's good. Any who are so short sighted and greedy that they will place their own interests before the public weal automatically place themselves in a traitor class.

Many leaders of industry are applying every known panacea to the abnormal business situation in an honest endeavor to call back prosperity, for they realize, as those equipped with brains will, that no one unit in the present complication of society can forge ahead at the expense of others. Profit taking is at a minimum and losses are being sustained cheerfully on every side in an effort to further liquidation.

A strike won or lost means retarded production, increased cost of living, and a prolongation of the present feeling of uncertainty all of which are directly opposed to national prosperity and the recovery of equilibrium in business.

The monetary loss to strikers in 1921 was second only to the loss sustained by the multitude of the unemployed during the same period. No figures can tell the story of the bad psychological effect of strikes or the suffering occasioned thereby. The age of arbitration of differences has arrived. Those who flatly refuse to settle disputes in fair and open discussion are far behind the times and contribute to the destruction and not to the advance of civilization. Nations are conferring on momentous questions liable to give rise to war and its attendant horrors unless the misunderstandings involved therein are dispelled. Nations are struggling for peace and prosperity and are striving to prove that right makes right. Labor and capital must move in accord with the trend of the times and through the medium of friendly conference prevent strikes which sap the vitality of American industry and undermine the welfare of the American Public.

Human nature stands in the way of the perfect solution of industrial disputes but more and more the animal nature of man inherited from his ancestors is being sublimated so that constructive settlements of issues arising between employers and employees will in time replace the destructive method of strikes.

Benefits of Standardization

Some of the worth-while benefits that accrue to the manufacturer, wholesaler, retailer and consumer through standardization and elimination of excess variety in industry are enumerated in a report just issued by the Fabricated Production Department of the Chamber of Commerce of the United States.

"It takes 'backbone' to tell your sales forces, in these times, that you will cut your variety," the report says. "But it is being done not only by individual producers but in entire lines through trade association co-operation. The Department of Commerce, with an eye to increasing our world's trade, also has a constructive plan to help those who desire help.

"The important role which standardization plans in industrial evolution is not generally appreciated. Here are some significant aspects of standardization, when carried out on a sound engineering basis:

"It enables buyer and seller to speak the same language, and make it possible to compel competitive sellers to do likewise.

"Better quality of product through ability of manufacturer to concentrate on better design and through the reduction of manufacturing expense.

"It lowers unit cost to the public by making mass production possible, as has been so strikingly shown in the unification of incandescent lamps and automobiles.

"By simplifying the carrying of stocks, it makes deliveries quicker and prices lower.

"It decreases litigation and other factors tending to disorganize industry, the burden of which ultimately falls upon the public.

"It eliminates indecision both in production and utilization—a prolific cause of inefficiency and waste.

"It stabilizes production and employment, by broadening the possible market, and by making it, safe for the manufacturer to accumulate stock during periods of slack orders to an extent which would not be safe with an unstandardized product.

"By focusing on essentials, it decreases selling expense, one of the serious problems of our economic system.

"By concentrating on fewer lines, it enables more thought and energy to be put into designs, so that they will be more efficient and economical."

Papermen Vote on American Valuations

Nearly twenty official delegates have been named by President Raybold to represent the American Paper and Pulp Association at the special tariff conference to be held in Washington under the auspices of the National Manufacturers' Association beginning January 30:

Grellet Collins, Dill & Collins Company, Philadelphia, Pa.

George A. Galliver, American Writing Paper Company, Holyoke, Mass.

M. E. Marcuse, Bedford Pulp and Paper Company, Richmond, Va.

Martin Cantine, Martin Cantine Company, Saugerties, N. Y.

B. F. Crump, The Tissue Company, Saugerties, N. Y.

I. O. Van Duzer, Louis DeJonge Company, New York.

A. D. Coffin, C. H. Dexter & Sons, Windsor Locks, Conn.

Norman W. Wilson, Hammermill Company, Erie, Pa.

B. A. VanWinkle, Hartford City Paper Company, Hartford City, Ind.

Dr. James E. Campbell, Dexter Sulphite Pulp and Paper Company, Dexter, N. Y.

Louis T. Stevenson, Mountain Mill Paper Company, Lee, Mass.

Henry W. Stokes, York Haven Paper Company, Philadelphia, Pa.

F. O. Walther, Walther & Co., New York.

Arthur C. Hastings, Cliff Paper Co., New York.

D. K. Brown, Neenah Paper Company, Neenah, Wis.

O. M. Porter, American Paper & Pulp Association, New York.

O. B. Towne, Secretary Waxed Paper Manufacturers' Association, New York.

Dr. Hugh P. Baker, Secretary American Paper and Pulp Association, New York.

The results of a ballot of the entire membership of the American Paper and Pulp Association on the American Valuation Plan is being compiled, and shows a large majority in favor of this plan. The first question in the ballot of the entire association, on the question "The American Valuation Plan or an equivalent plan is necessary for the proper application of a tariff law at this time," has received to date 103 votes in the affirmative, as against 7 opposed. The second question, "Prompt passage of tariff legislation by Congress is necessary to the proper 'come-back' of business," received 106 affirmative votes, and 4 voted against. Only one out of 110 voting was against the proposition that paper manufacturers should take more active interest and part in the application of tariff laws by Customs officials.

The Riordon Situation Improved

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., January 23, 1922.—The Royal Securities Corporation which has been closely identified with the Riordon Company, states that while the Riordon situation has not clarified to the point where a definite forecast of the future is possible, it is understood that reasonable improvement is being shown. All interests concerned are co-operating with gratifying harmony in carrying out plans for the rehabilitation of the company. On November 17, creditors granted one year's extension until November 19, 1922. Interest on the 8 per cent first and refunding mortgage bonds was deferred on December 1; the interest of holders of these bonds being conserved by a protective committee. A similar protective committee has been formed to protect the interests of holders of the 6 per cent general mortgage bonds, due 1929; a substantial working majority of these bonds has been deposited under control of the protective committee and interest on them due upon January 1st was deferred. No committee has been formed to deal with the 6 per cent first mortgage debentures, due 1942, by reason of the smallness of the issue and the fact that interest on these first mortgage 6's due upon December 31 was paid. It is possible that in due course a shareholders' committee will be formed to work with the bondholders' and creditors' committees.

The current indebtedness of the company is being liquidated through the operation of the Kipawa and Hawkesbry mills, the market for bleached sulphite pulp having shown some improvement in recent months. It is probable that some time in the next few months a definite plan will be put before bondholders' creditors and shareholders looking toward the complete financial rehabilitation of the company. The Riordon position today is more favorable than could have been expected a few months ago, and, granted maintenance of improvement in the market for its products, should make slow but definite progress from this time on.

In the meantime, Mr. Justice Archer, in the Superior Court, here, has delivered judgment maintaining a conservatory attachment made by James Labelle and Robert Johnston, upon a quantity of logs and pulp seized to secure their lien, privilege and claim against the Riordon Company, Limited, for a sum of \$32,638.23, being the balance owing to the plaintiffs for delivery of pine logs and pulpwood to the Riordon Company at Waltham, district of Pontiac, on September 21, 1920.

Frank P. Miller Paper Co. Elects Officers

EAST DOWINGTOWN, Pa., January 23, 1922.—The Frank P. Miller Paper Company held its annual meeting January 14 and elected the following officers: President, J. Gibson McIlvain; vice-president, Walter B. McIlvain; secretary, Frank Parke; treasurer, Frank Parke.

*Kalbfleisch***DRY SATIN WHITE***Ryan-Seaman Process***GIVES**

THE IDEAL FINISH TO COATED PAPER

SAVESCASEIN, FREIGHT, COOPERAGE, LABOR, STORAGE,
LOSS BY FREEZING AND WASTETHE 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 Rope 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. Mac NAUGHTON, Secretary**

JOINT COMMITTEE ON FELTS MEETS

The Joint Committee of the Felt Manufacturers' Association, and the Technical Association of the Pulp and Paper Industry met January 19 at the Baltimore Hotel, New York, to consider felts used in paper and pulp mills. The following were present:

F. C. Cowdery, Albany Felt Company, Albany, N. Y.; M. C. Burrell, Orr Felt and Blanket Company, Piqua, Ohio; H. M. Ashby, F. C. Huyck & Sons, Albany, N. Y.; Roger Williams, Draper Brothers, Canton, Mass.; G. H. Harvey, Gardner-Harvey Paper Company, Middletown, Ohio; H. F. Obermanns, Hammermill Paper Company, Erie, Pa.; G. D. Bearce, News Print Service Bureau, New York; W. G. MacNaughton, Secretary of T. A. P. I., New York, N. Y.

In a full discussion of felts from the standpoint of both the felt manufacturer and the paper mill, many valuable suggestions were brought out which, if generally adopted, it is believed would result in lower costs to the paper mill as well as to enable the felt manufacturers to give more intelligent service to their customers. It was suggested that the dimensions of felts be standardized to even feet in length and to even inches in width, and by such standardization a greatly increased economy in manufacture would result.

It was also suggested that all orders for felts be accompanied by a data sheet giving full information covering machine conditions and kind of service desired. George H. Harvey agreed to prepare the data sheet, the details of which were discussed, and to submit it for the committee to the paper mills and felt manufacturers of the country for criticism and approval. The tentative form, which may be modified before being adopted, is as follows:

Felt Data Sheet

Attached to order No.....Date.....
 For.....(name of company).....Address.....
 MillMachine No.
 Position on machineStyle of felt
 Type of machine(Cylinder, Harper, etc.).....
 Speed of machine
 Width of press rolls
 Size of felt required
 Kind of paper
 Suction box or suction press used
 Kind of press roll: Top
 Bottom
 Remarks:
 For cylinder felts:
 No. of cylinders
 No. of primary presses

No. Cylinders and primary presses driven
 No. of suction rolls or boxes to each felt
 Maximum speed
 Are rollers or ball bearings used on cylinders?
 Remarks:

Another meeting was arranged for the time of the annual meeting in April at which it is expected a general program can be adopted.

Among the suggestions brought out covering the use of felts, including desirable lines for investigation, are the following:

A standard method of calculating felt efficiency should be adopted. The one suggested is "pounds of paper per pound of felt" as used by the News Print Service Bureau.

An appreciation of the abrasive action on felts, of suction boxes, whippers, guide rolls, spread rolls and bars, felt carrying rolls and a study of methods to lessen this abrasive action.

The regulation and reduction of tension on bottom cylinder wet felts on board machines, and the desirability of the measurement of this tension by a recording instrument.

The injury done to felts in washing with strong alkali or with hot water. A good soap or a mild alkali such as sal soda and water not over 120 degrees Fahr. If felts are washed in a felt washer care should be taken to avoid shrinkage and fulling of the fabric. In drying the felt it should be kept in tension by hanging it up and using a roll for a weight.

Particular care should be used when a new felt is put on a machine. Every machine man should know what to avoid in breaking in a new felt but many apparently do not. These should be instructed. The effect on operation and efficiency of felts of the quality of the water in any locality. The most desirable from the felt standpoint is soft water having a low degree of hardness and free from iron and alkali.

Testing Pulps

The Committee on Paper Testing of T. A. P. P. I., of which F. A. Curtis, Bureau of Standards, is a member, has prepared samples of mixtures of different pulps which Mr. Curtis is prepared to submit to different testing laboratories for comparison of the methods used and the accuracy of this work. These samples have already been prepared and are now ready for distribution. A large number of laboratories have volunteered to co-operate in the work as above indicated, but it is hoped that an additional number of those not already heard from, will be able to do so. Any laboratories that have not taken advantage of the opportunity, and desire to do so, should act at once in order to get samples for examination.

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.

CHAPTER VI Rotary Pumps

As its name clearly implies, the rotary type of pump is one in which the moving element or rotor turns on a shaft and in some designs of rotary pumps there are two rotors mounted on separate shafts working parallel to each other, and arranged to carry the liquid taken in through the suction and deliver it into the discharge of the pump either with intermeshing projections on the rotors or with close running clearances which prevent excess slippage of the liquid between the pressure and suction chambers.

The rotary is a positive displacement type in that the quantity of liquid delivered at the discharge is exactly proportional to the volume of liquid which can be contained within the clearance spaces when open to the inlet opening multiplied by the number of revolutions per minute or for any period of time under consideration for example:

A rotary pump having clearance space between the rotor and casing amounting to 231 cubic inches in volume which equals 1 U. S. gallon and operated at a speed of 200 R. P. M. will deliver theoretically

$$\frac{231 \times 200}{231} = 200 \text{ U. S. gallons per minute.}$$

231

We say that it will deliver 200 G. P. M. theoretically because there is always some slippage between the rotor and the pump casing again which reduces the actual capacity delivered and likewise the efficiency of the pump.

There are but two sources of loss between the theoretical and brake H. P. of most types of rotary pumps and these losses consist of slippage between the rotor and shell and friction between the liquid in the pump and the surfaces of the interior of the pump and friction in the pumps bearings.

From the fact that the sources of loss of efficiency in this type pump are few, it will be inferred that the general efficiency of rotary pumps is high and this is true to a large extent of most rotary pumps. When they are new and in good condition with clearance between rotor and casing small and slippage reduced to a minimum but there are very few rotary pump designs which maintain their high efficiency after the clearances become worn and the percentage of slip increases.

Those pumps which maintain their original high efficiency must be constructed with suitable means for following up the wear mechanically.

The general principles of rotary pump design are quite old and pumps of this type which conform quite closely the same construction as those of the present day were used as far back as the seventeenth century and were designed by French and German inventors.

Perhaps the original design of rotary pump which is known as Ramelli's rotary pump is shown in Fig. 19.

This type consists of a cylindrical casing A and a single concentric rotor B mounted on a shaft C whose center is

eccentric to the casing and a series of flat pistons D are carried by the rotor.

These flat plates or pistons are held away from the center of the rotor by springs S as shown by Fig. 19, and the rotation of these plates forces the liquid through the pump. Inlet and outlet are shown by arrows.

Another old form of pump is shown by Fig. 20. This is

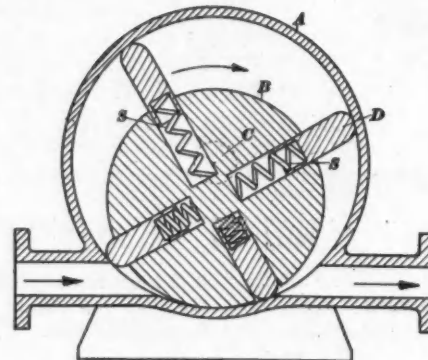


FIG. 19.

known as Seviere's rotary pump and dates back to about the same period as the pump shown by Fig. 19.

The principles of Ramelli's and also of Seviere's pump are quite generally used in several well known makes of rotary pumps of the present time.

This pump is the original of the double or two rotor type of pump with two shafts, A A' one of which R is driven and in turn drives the other R' by means of gearing and the lobes

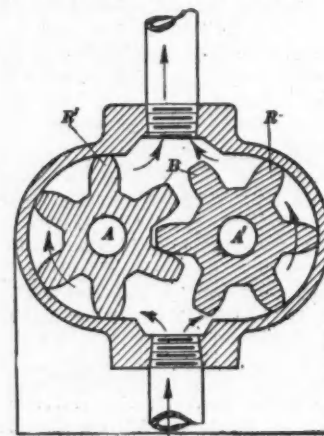


FIG. 20.

or teeth B of the internal rotor force the liquid through the pump.

There are many variations of rotary pump designs, most of which employ one of the old original principles with more or less variation in detail.

The rotary pump is a very useful member of the pump family because it can be used in several kinds of pumping successful where other types are not suitable. For instance, in handling thick liquids which are viscous, stringy and must be handled at low velocities such as heavy crude oil, moderately hot tar, greases and similar liquids and semi-liquids.

Most rotary pumps are suited for operation at low and moderate rates of revolution and on this account must be belt driven or geared to standard speed motors and for this and other reasons their field has been encroached upon to a large extent by the centrifugal pump. Within recent years several new types of rotary pumps have been developed which are especially suited for condenser work and other classes of service where the development of high vacuum is essential.

These pumps are designed and built strictly for vacuum service and are not adapted for high pressure conditions.

An important feature of such pumps lies in the sealing of the valves and clearance spaces either by retaining a portion of the liquid which is handled through the pump for the purpose or in the case of "dry vacuum" pumps which are intended only for handling air and vapor, a sufficient quantity of liquid such as oil is usually circulated through the pump with the vapor for the purpose of sealing the clearance spaces and thus assist in producing the high vacuum necessary for efficient operation. It will be understood that such circulating liquid as is used for the above purpose is kept continually within the pump and does not pass out of the discharge with the air and vapor handled.

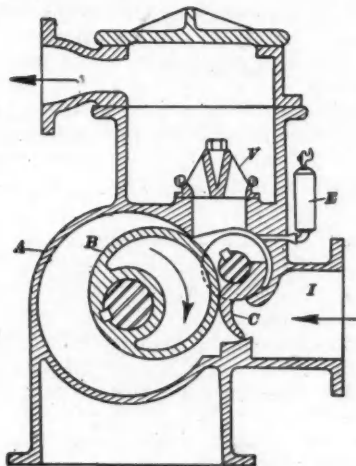


Fig. 21.

A pump of this improved vacuum type is shown by Fig. 21.

The general construction is similar to the older types of rotary pumps in that the principle of design is a cylindrical casing A and a rotor B or piston revolving eccentric within such casing. V is a special spring-flap discharge valve.

The improvements consist of the design of the inlet I and prevention of air from entering same after the clearance space has been filled and started on the discharging portion of the revolution and likewise on the prevention by slippage of air or vapor, which has already been discharged back into the pump casing.

The arrangement E for circulating liquid for sealing and filling up the clearance spaces is plainly shown in this design.

These rotary vacuum pumps can usually be arranged to be operated at higher speed in R. P. M. than is customary for rotary pumps handling liquids and therefore, while their speeds are not as high as standard electric motor speeds so as to permit of direct shaft connection; yet a single reduction of gearing is usually all that is necessary to connect them with fairly high speed motors.

On account of the liquid sealing feature actual metal contact between the casing and rotor may be avoided and there-

fore high efficiency can be maintained with this type of vacuum pump.

CHAPTER VII Centrifugal Pumps

Part 1.

The Centrifugal Pump is perhaps in more general use in paper and pulp mills than any other type and it is therefore important that engineers and operatives should be familiar with their fundamental principles and operating characteristics.

This pump is entirely different in regard to its method of operation than any other known type.

It will be noted that all of the various types of pumps which we have previously considered are of the "displacement" principle in their operation; so called, for the reason that the capacity or quantity of water delivered by the pump is in direct proportion to the speed at which it operates, regardless of the pressure or head pumped against.

In the centrifugal pump as we will shortly explain in detail the capacity or quantity of liquid pumped and the pressure, or head pumped against are both dependent upon the speed or velocity of the revolving wheel or impeller. Both the capacity and the head bear a separate and distinct relation to the speed; but both of them are inseparable from each other.

It may be advisable to explain here the general definition and give a brief description of the simplest form of centrifugal pump.

Centrifugal pumps are so named for the reason that centrifugal force or the change of pressure due to rotation is the most important factor in their operation.

A centrifugal pump in its original and simplest form consists of an impeller, sometimes called the "wheel" or "runner" which is mounted on a shaft and revolves within a casing or "shell".

In operation the liquid enters the impeller at its center and due to the action of the vanes of the impeller it is forced radially outward and is discharged from the outer diameter or periphery of the impeller into the casing.

While the liquid is passing from the inlet to the outside or discharge of the impeller it is receiving energy from the vanes of the impeller with the result that both its pressure and velocity are increased. When the liquid is discharged from the impeller into the casing a large proportion of the energy which it has had imparted to it by the vanes is velocity or kinetic energy.

Part of this velocity or kinetic energy must be conserved as it leaves the impeller in order to obtain the desired capacity of liquid to be discharged—the balance of this velocity is transformed into pressure in the casing and an efficient pump depends very largely upon the proper design of the casing that will convert this excess velocity into pressure with as little loss as possible.

In Fig. 22, we show a sectional diagram of a simple form of single stage centrifugal pump which follows quite closely the original historical designs which are credited to both American and European engineers of a century ago.

This figure shows a section through the pump in two directions, the view to the right is parallel with the shafts and to the left at right angles to them.

The large arrow near the top of the impeller I indicates the direction of rotation, which is clockwise, and the smaller arrows show the direction of flow which the liquid follows in passing from the central suction inlet A of the impeller to the discharge on the casing.

It will be noticed that this figure shows a casing C of the volute construction, which was one of the first of the early

improvements made on the original design which had a concentric casing with no change of area in the cross section and resulted in a constantly changing velocity as the liquid was driven through the casing.

The volute casing provides for a constantly and gradually changing area of cross section, increasing towards the discharge opening D, which results in a practically constant rate of flow through the shell. This prevents the formation of eddy currents and shock losses due to sudden changes of velocity and therefore increased efficiency in the conversion of velocity into pressure.

The second important improvement made by the early designers on the original design consists in the backward curvature of the impeller vanes, those in the original pump were straight and radial or nearly so.

The backward curvature of the vanes permits the designers to control the velocity of the liquid in passing through the impeller; also to provide for proper inlet and outlet angles to meet certain pumping conditions and the formation of the vanes may be such as to permit the liquid to follow a natural path through the impeller with the least possible friction.

The volute form of casing and backward curvature of impeller vanes are generally recognized as the most logical and efficient design for centrifugal pumps of both the single and multi-stage types at the present time.

These conclusions have been reached after many comparative tests with different designs of casings and impellers.

It was formerly considered necessary to introduce sta-

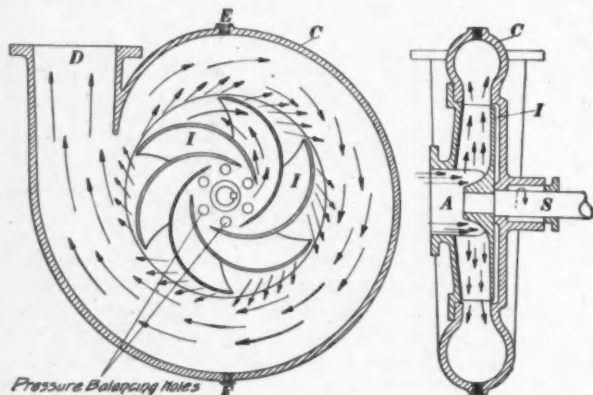


FIG. 22.

tionary vanes in the casing between the outside diameter of the impeller and the outer part of the casing called diffusion vanes, these were constructed with the object of forming passages of proper area and angular direction to carry the water from the impeller outlet to the casing proper and secure an efficient reduction of velocity and change into pressure, while passing between these two points:

The introduction of these stationary vanes does improve the efficiency slightly over that obtained by a pump without diffusion vanes but this increase of efficiency is obtained only for certain conditions of capacity and head and is not secured over the wide range of capacities under which a centrifugal pump is usually required to work.

This increased efficiency is also obtained at greater first cost for the pump and higher cost of upkeep and repairs on account of wear and corrosion of the stationary vanes so that the great majority of manufacturers have abandoned this type of pump except for special cases where extremely high efficiencies are desired and the pumping conditions are practically constant.

A more recent improvement in the design of centrifugal pump casings consists of the volute form of suction inlet leading to the impeller.

It will be noticed that with the simple form of pump shown by Fig. 22 that the water enters the impeller inlet radially or parallel to the axis of the shaft.

This requires that the liquid be picked up by the impeller

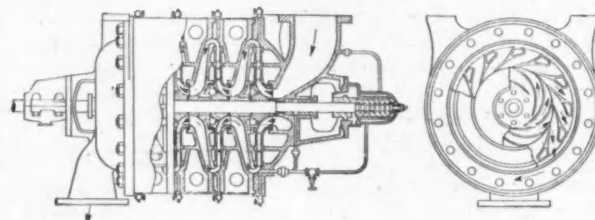


FIG. 23.

while it is traveling at right angles to the direction in which the impeller rotates and at a difference in velocity between that which the liquid is moving in the suction pipe and that which the impeller revolves; thus resulting in a shock or inlet loss due to the change of direction and sudden change of velocity imparted to the liquid as it is picked up by the impeller.

With the above general treatment of our subject, we will now consider the classifications of forms and types of centrifugal pumps.

The first sub-divisions consists of two classes:

First.—Volute Pumps.

These are pumps having a discharge casing or shell constructed of the volute or spiral form and sometimes with the suction passages of volute form also; all as described above.

Second.—Turbine Pumps.

These are pumps having a discharge casing usually of the concentric form, with uniform areas at all sections surrounding the impeller but sometimes they are made with volute shaped casing.

The distinguishing feature of the turbine pump is the stationary diffusion vanes between the impeller and the free water-way of the casing.

These pumps derive their name of "turbine pump" from their resemblance to the construction of the reaction type of water turbine.

There was, and possibly still is, in some quarters, an impression that the so-called "turbine pump" is a different type from the well known and similar form of centrifugal pump, but such is not the case, as the theory and operating characteristics are quite similar in both pumps. The introduction of the diffusion vanes is for the one identical purpose as explained already in this chapter and they do not necessarily change the shape of the pump characteristic.

In Fig. 23 two diagrammatic views of a three stage "turbine" pump are shown and the direction of the liquid flow through the pump is clearly indicated.

The second sub-division consists also of two classes into which the original sub-divisions are again divided.

First: Single stage pumps: These are pumps which usually contain but one impeller which develops the total head against which the pump operates and single stage pumps may either be of the volute or "turbine" designs.

These single stage pumps are suitable for operating against heads which range from low to moderately high. In general single stage pumps are best suited for operating against heads from 0 to

200'. Although in several instances these have been successfully used for much higher heads, when operated at high speeds, still the general run of commercial pumps will come within the range of heads stated.

The exception to the general rule that single stage pumps are equipped with but one impeller is in the case of the so-called multirotor pumps which contain two or more impellers; for instance, bi-rotor pumps, containing two impellers and tri-rotor pumps which contain three impellers in one casing.

These two or three impellers located in one casing, as the case may be are operated in parallel, which means that each impeller takes its water at the same inlet pressure and discharges it at the same outlet pressure, and all impellers discharge into a common discharge chamber, the casing being arranged with suitable inlet and outlet passages to permit such operation.

The object of the bi-rotor and tri-rotor construction is to permit the use of higher speeds in R. P. M. of the driving unit by the designs of impellers of smaller diameter than could be used with single impeller pumps for the same conditions.

A typical diagrammatical arrangement of a tri-rotor pump with double suction inlet impellers is shown by Fig. 24.

These pumps are usually designed where large capacities are required to be pumped against low heads and at comparatively high rotative speeds.

Their development commercially has not been very extensive and has been generally in connection with large condensing water requirements, but it is increasing somewhat.

Second: Multi-stage pumps: These are pumps having two or more impellers mounted on a shaft and housed within the same casing. These two or more impellers are so located, and with suitable water passages in the casing, that the water discharged from the first impeller is carried into the suction inlet of the second impeller so that they operate in series. This means that the head or pressure developed by the first stage impeller is delivered to the inlet of the second stage

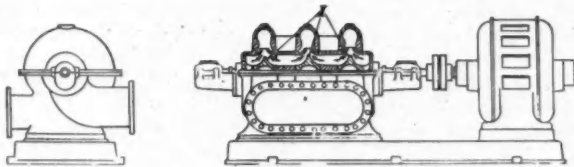


Fig. 24.

impeller which in turn increases the head or pressure. In other words the total head against which a two-stage pump will operate is the head which each of its impellers is capable of developing multiplied by two. In the case of a pump with more than two stages the head developed by one of its impellers is multiplied by the number of impellers, which indicates the total head which the pump will develop. For instance a three-stage pump having three impellers of such characteristic and such speed that each impeller will develop a head of 150 feet and deliver its normal capacity. This head multiplied by three impellers would mean that the pump would deliver its normal capacity against 450' head.

A characteristic section of a three-stage multi-stage pump is shown by Fig. 25 (note that the size of the ports decreases as the pressure increases). Fig. 23 illustrates a three-stage pump of the turbine type.

The third sub-division consists of two more general types as follows:

First: Single Suction or Inlet Pumps, sometimes called side suction pumps in which the impeller is made with an inlet opening in one side only as shown by Fig. 22 (view to the right).

With this type of impeller there is an unbalanced area equivalent to the area of the suction inlet less the area of the shaft; this unbalanced effect being due to the difference in pressure at inlet and outlet of the impeller.

The area at the suction inlet is exposed to the inlet pressure while the equivalent area at the opposite side of the impeller is exposed to the outlet discharge pressure.

This difference in pressure results in thrust, the tendency

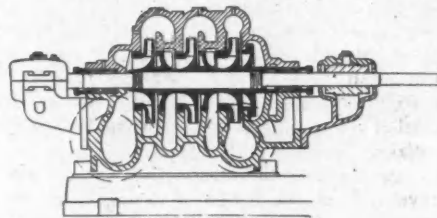


Fig. 25.

being to force the impeller and entire rotor to which it is attached, towards the suction or inlet side of the pump.

A pump with excessive thrust or without proper means being provided to balance and absorb such thrust will not operate satisfactorily; the result of such condition being rapid and excessive wear caused by the impeller rubbing against the shell; overheating and excess wear on the thrust bearing and consequent increased power consumption and lowered efficiency due to the presence of one or both of these conditions.

While the single suction type of impeller is not the ideal design yet there are many pumping conditions, well known to paper mill engineers where they are the most suitable type and therefore when their use is desirable means should be employed for taking care of the end thrust.

There are three ways in which this can be accomplished as follows:

(A) By means of a thrust bearing attached to the shaft of suitable design and ample strength to absorb the entire thrust on the impeller.

This is not considered good practice.

(B) By a combination of a balancing chamber located in the casing behind the impeller and a ring cast on the impeller with a small running clearance, and also a thrust bearing to absorb the thrust not taken care of by the balancing chamber.

Fig. 26 shows a typical design of a balancing chamber B and it will be noted that the removal of pressure from the back of the impeller A depends on maintaining a small clearance C between the balancing ring R on the impeller and the bore of the running fit at the balancing chamber.

On account of wear a thrust bearing must be provided of ample strength to hold more thrust than calculation for a new pump indicates as necessary. In order to prevent pressure building up in the balancing chamber from leakage at the running joint, holes H are provided through the central web of the impeller which release such pressure back into the suction chamber.

(C) By means of hydraulically balancing the end thrust through counter pressure.

The usual and generally most effective means of accomplishing this is by the introduction of a balancing piston or disc which is mounted on the pump shaft behind the impeller.

A typical design is shown by Fig. 27 and indicates the direction in which the pressure is exerted on the unbalanced area of the impeller and also in the opposite direction on the area of the balancing piston P (other letters are the same as in Fig. 26).

It will be noted that the area of the balancing piston is slightly larger than the unbalanced area of the impeller and that as the impeller tends to move over towards the suction due to the presence of discharge pressure on the unbalanced area, the ports between the pump shell opposite the unbalanced area of the impeller are opened by the movement of the impeller towards the suction; this admits the discharge pressure to the opposing area of the balancing piston so that a balance is at once effected and the balancing piston revolves within its chamber with a very slight opening between the running fit of the balancing piston and the stationary clearance surface on the casing.

Such leakage as takes place past these clearances is, of course, a loss and results in a loss of efficiency in the pump but under favorable conditions the loss may be less important than the power absorbed by the thrust bearings.

The leakage is usually carried back to the pump suction through a by-pass pipe. With the hydraulically balanced type of pump a thrust bearing is never used as it is entirely unnecessary and the pump must be free to move endwise so that the balancing piston may be permitted to find its proper location in order to effect a perfect balance.

*The hydraulic balancing device is effective and fairly durable when handling clean water which does not have corrosive properties; When the water has corrosive chemical properties or deposits scale as is frequently the case with hot water for boiler feeding the hydraulic balancing device becomes ineffective for balancing purposes and on account of the deposits of scale it will open up to such an extent that a large percentage of the water handled by the pump is by-passed from the balancing chamber back to the suction, which very materially reduces the capacity and efficiency of the pump.

Second. Double suction or inlet pumps in which the liquid enters the impeller at both sides through openings of equal area.

With this construction there is theoretically no unbalanced

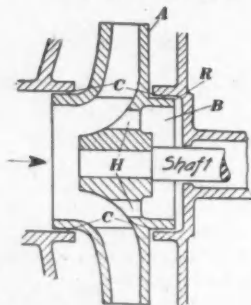


FIG. 26.

area on either side of the impeller and the original double suction pumps, which were designed at a period when centrifugal pumps were only used for low heads and moderate speeds, were not equipped with thrust bearings and very good results were obtained with them.

In later days, however, with the coming of high speeds and heads it was found that a small thrust bearing is advantageous on double suction pumps as it was found to be practically impossible to ensure foundry and machine work of sufficient accuracy to prevent a slight amount of thrust. A thrust bearing of either the collar or ball type is usually provided which will take care of a small thrust load in which ever direction it may develop.

The double suction type of pump is practically ideal for any pumping conditions with some few exceptions such as handling heavy or fibrous paper stock.

The suction openings into the impeller being divided, may be of

smaller diameter than in the case of single suction pumps. This enables the double suction pump to have smaller diameter of impeller and consequently higher speed than a single suction pump for the same conditions of capacity and head.

The fourth sub-division also relates to impeller type:

First: Open impellers which may be either single or double suction. The vanes are supported from the central hub and the liquid passing through the impeller is in contact with the inner surfaces of the casing which confines the impeller.

This is the original design of impeller and is fairly efficient under low heads and is a desirable form to use for handling fibrous

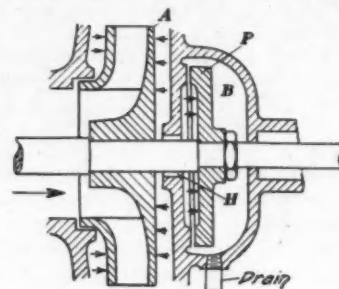


FIG. 27.

material such as sulphite pulp. The slippage past the vanes at the clearance between them and the casing and the extra friction of the liquid passing through the shell reduces the efficiency of this type of impeller, and such losses are bound to increase as these clearances wear and become greater.

Second: Enclosed impellers, of either single or double suction. The vanes are supported from the central web and are also enclosed or shrouded at both sides.

In this type the liquid passing through the impeller does not come in contact with the sides of the pump casing and slippage can only take place at the running clearance space surrounding the suction inlet to the impeller. This will also increase with wear but in most designs the clearance ring can easily be replaced by a new one whenever sufficient wear takes place, and the efficiency may again be brought back to normal.

In high efficiency pumps it is customary to construct them with enclosed type impellers made of bronze and also to machine and polish the inner and outer surfaces in order to reduce the friction to the smallest possible amount.

The fifth and final sub-division consists of:

First: Horizontal pumps, the axis of the shaft being in a horizontal position.

This is the most common form and is always installed when the conditions will permit.

Second: Vertical pumps, the axis of the shaft being in a vertical position.

These pumps are only used in cases where it is necessary to submerge the pump below the surface of the liquid to be pumped to get within suction limits or to prevent the motor from becoming flooded on account of occasional rise of water level.

The vertical type of pump may again be sub-divided into:

Pumps which are actually submerged in the liquid they pump, and which should be equipped with bearings which are suitable for operating under water, and pumps known as vertical non-submerged type which are either set above the water level on the suction side or are located in dry wells so as to be accessible. This latter type is the most desirable arrangement of vertical shaft pump and should be given preference of the two kinds of vertical pumps whenever circumstances will permit.

(To be continued.)

MAGNITUDE OF POWER PLANTS' CHIMNEY LOSS

In the process of producing steam in a boiler—or in any other operation involving the combustion of fuel—the most important factor affecting efficiency is the heat escaping to waste up the chimney. In ordinary practice this heat loss ranges from 15 to 50 per cent of the heat contained in the fuel.

Fig. 1, reproduced from a government bulletin* shows the great importance of the chimney loss as compared with the other boiler losses and Fig. 2, from the same bulletin, shows the possibilities of improving the efficiency, principally by reducing the chimney loss.

The same paper of the Bureau of Mines states that "In the average boiler plant, 35 per cent of the heat in the coal burned under the boilers is lost with the stack gases. That is, out of every 100 tons of coal burned under the boilers, the heat of 35 tons literally goes up the stack. It is this loss that can be greatly reduced and every effort should be made to do so.

"The stack loss is so large because its magnitude can not be readily detected. Nobody can tell how much heat is going up the stack simply by looking at the stack. The density of the visible smoke is no indication of the amount of heat being lost. The magnitude of the loss can be found only by the use of special instruments and carefully kept records."

Recording CO₂ Meters and Recording Pyrometers are the instruments which enable the operator to keep tab continuously on the extent of the chimney loss. The pyrometer measures the flue temperature whereas the CO₂ Meter measures the relative weight or volume of the flue gases. The relation between the percentage of CO₂ and the volume of the products of combustion per pound of carbon consumed is clearly illustrated by Fig. 3. It will be seen, for example, that when the

CO₂ in the products of combustion is 7%, the amount of gases that must be heated up to stack temperature is three times as great as when the percentage of CO₂ is the theoretical maximum (viz. 21%) and the heat lost up the chimney is in proportion, namely 3 times as great. It is therefore apparent that by reducing the quantity of the flue gases (increasing CO₂) as much as possible, as well as by reducing the tempera-

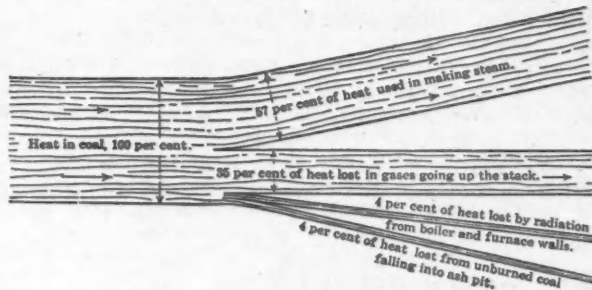


Fig. 1—Where the heat goes in the average Boiler Plant

ture of these waste gases, the loss of heat up the chimney will be minimized.

However the temperature of the flue gases is a variable over which the firemen have no control at all (being dependent upon the rate of driving the boiler, the cleanliness of the boiler heating surfaces and the condition of the baffles) whereas the quantity of flue gases per pound of fuel burned depends upon the air supply and is entirely within the control of the fireman provided he is furnished with CO₂ recording equipment to guide him. Without such a guide the quantity of flue gas per pound of fuel is bound to vary within wide limits and to be in excess-

*Technical Paper No. 205 of the U. S. Bureau of Mines, entitled "Saving Fuel in Boiler Plants," by Henry Kreisinger.

Heat Carried Away by the Chimney Gases per pound of Combustible*

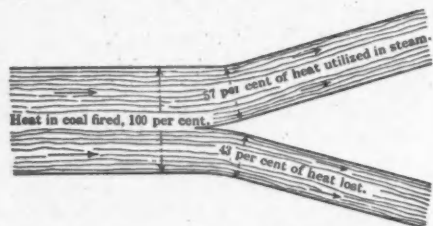
Boiler Room Temperature 60 Deg. Fahr.

Based on Carbon as fuel and not including such minor losses as those of moisture and unburnt gases escaping up the chimney (Waste Expressed in Both B. t. u. and Per Cent Total Heat in Fuel)

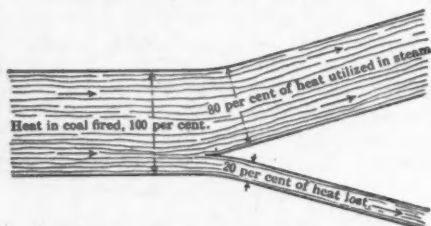
Per Cent CO ₂	Lbs. Air per lb. Carbon	Lbs. Flue Gas per Lb. Carbon	Temperature of Chimney Gases, Deg. Fahr.															
			300°		350°		400°		450°		500°		550°		600°		650°	
			B.t.u. waste	% waste	B.t.u. waste	% waste	B.t.u. waste	% waste	B.t.u. waste	% waste	B.t.u. waste	% waste	B.t.u. waste	% waste	B.t.u. waste	% waste	B.t.u. waste	% waste
21%	12	13	750	5.2	905	6.2	1060	7.3	1216	8.7	1370	9.5	1528	10.5	1683	11.6	1840	12.7
16.8%	15	16	865	6	1112	7.6	1305	9.1	1498	10.3	1679	11.6	1880	13.0	2072	14.3	2262	15.6
14.0%	18	19	1004	7.2	1321	9.1	1550	10.7	1778	12.2	2010	13.9	2235	15.4	2460	17	2692	17.9
12.0%	21	22	1266	8.7	1530	10.5	1785	12.3	2060	14.2	2320	16	2582	17.8	2846	19.5	3118	21
10.5%	24	25	1440	9.9	1740	12	2040	14	2340	16.1	2640	18.2	2940	20.3	3240	22.4	3540	24.4
9.3%	27	28	1611	11.1	1950	13.5	2281	15.7	2620	18.1	2958	20.4	3291	22.7	3628	25	3962	27.4
8.4%	30	31	1785	12.4	2160	14.9	2530	17.4	2900	20	3270	22.6	3641	25	4016	27.8	4396	30.4
7.6%	33	34	1957	13.5	2362	16.3	2779	19.2	3180	22	3589	24.7	4000	27.6	4405	30.5	4820	33.2
7.0%	36	37	2130	14.7	2579	17.8	3020	20.8	3461	23.9	3910	27	4350	30	4798	33	5290	36.6
6.5%	39	40	2300	15.9	2781	19.2	3261	22.5	3743	25.8	4220	29.2	4700	32.4	5180	35.7	5670	39
6.0%	42	43	2479	17.1	2999	20.6	3508	24.7	4023	27.7	4540	31.3	5052	34.8	5570	39.4	6100	42
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)

*From Gebhardt's "Steam Power Plant Engineering" with the addition of Columns 1 and 3.

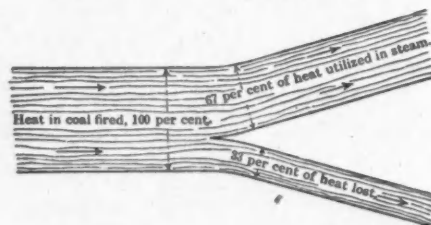
sive amount a large part of the time. Hence it is apparent that the CO_2 Meter is the more valuable of the two instruments, although both should be installed where a complete knowledge of chimney loss is desired.*



A. The average boiler plant does like this.



B. The best plants are doing like this.



C. The average plant can and should do like this.

Fig. 2 Diagrams showing Possible Improvements in Efficiency at Average Boiler Plants.

It is a foregone conclusion that the power plant which does not strive for a high percentage of CO_2 and low flue gas temperature will experience a very appreciable needless waste of

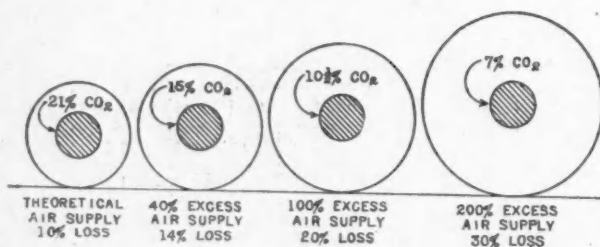


Fig. 3. Areas of the circles represent the relative volumes of flue gas per pound of carbon burnt for different percentages of CO_2 . It will be noted that the lower the percentage of CO_2 the greater will be the volume of flue gases. This is due to the excess air as noted under each circle.

fuel up the chimney—a waste that will assert itself in every fuel bill.

The magnitude of this loss for different percentages of CO_2 and flue temperatures is shown by the Table. It will be noted particularly from column 2 of this table that a low percentage of CO_2 represents a large amount of excess air. This excess air not only lowers the furnace temperature, thereby cutting

*See Uehling Bulletin No. 223 entitled "The ABC of CO_2 ".

down the boiler's capacity, but it also greatly increases the quantity of products of combustion (column 3) all of which must be heated up to chimney temperature before they leave the boiler as waste gases. This waste heat represents the largest individual loss in any boiler plant and since this large loss bears a definite relation to the percentage of CO_2 (as will be noted from the table) the simplest means of keeping tabs on it and reducing it to the minimum is by autographically and continuously recording the percentage of CO_2 at a point just before the hot gas leaves the boiler.

For the simplest method of recording and indicating this most important loss for the benefit of both engineer and firemen see Uehling Bulletin No. 111.

Uehling Bulletin No. 221 also contains information on the effect of CO_2 and chimney loss on the fuel bill for various kinds of fuel.—Uehling Bulletin.

Powdered Coal

Interest in powdered coal has been increasing. Satisfactory results have been obtained in the large boilers at the River Rouge plant of the Ford Motor Company and from the Lakeside plant in Milwaukee come the reports of efficiencies running close to 90 per cent. This figure, of course, represents the overall economy of boiler, furnace, superheater and economizer with no deduction for auxiliaries. Continued operation has not brought forth the series difficulties predicted. In some of the trial installations slag washed away the furnace lining and was difficult to remove from the furnace. These troubles have been overcome and a furnace developed that for days may be operated at 250 per cent rating with only a limited amount of ash in free form accumulating in the bottom of the furnace which can be removed while the furnace is in operation.

Continued experiments have also indicated that to be burned successfully the coal need not be so fine as usually specified, and that it may contain as impurity moisture up to 7 or 8 per cent. There is, however, some difference of opinion on this point. Coal with a moisture content of 11 per cent has been burned but the experts do not recommend so much moisture for a steady diet if mechanical troubles, such as packing in storage and transportation, are to be avoided.—POWER, January 3, 1922.

Course for Paper Makers at Syracuse

SYRACUSE, January 23, 1922.—For the benefit of mill men who have not had technical training, but who have had practical experience in mills, a short course on the elements of pulp and paper manufacture will be held during March at the New York State College of Forestry at Syracuse university. The object of the course is to give to such men as specific knowledge of the principles which govern mill operations, to acquaint them with processes with which they are now unfamiliar, and to broaden their outlook by giving them the opportunity to meet and talk with leaders in the important branches of mill work.

Registration for the course will be on March 1. Applications for admission should be sent to Prof. C. E. Libby, who will furnish any information desired.

Storing Wood Pulp

Total immersion of wood in water protects against ordinary decay. This fact has been applied by R. J. Blair of the Forest Products Laboratory of Canada, in Montreal, to perfect a method of storing groundwood pulp, for paper making.

Commercial pulp stored in clean water for seventeen months was found by experiment to be in better condition than that stored in a warehouse or open air. Partially moist pulp deteriorates seriously.

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

Fluorescence of Cellulose and Its Derivatives.—S. J. Lewis. —*J. Soc. Dyers and Col.*, xxxvii, 201-204 (1921); *J. Soc. Chem. Ind.*, xl, 620A (Sept. 15, 1921).—The method of observation adopted consists in focussing an ultra-violet spectrum on the specimen of paper or fabric placed in the position usually occupied by a photographic plate in a large quartz spectrograph. A fluorescent glow is emitted from the surface of the material and is photographed by means of a special camera of the ordinary type, the back lens of which is inserted in the back of the camera of the spectrograph. The general fluorescent properties of cellulose and its derivatives have been established and it is shown that specimens differ not only in their fluorescent power but also in their selective properties for light of various wavelengths. Material regarded as the same by manufacturers and experts are by no means the same from the standpoint of their fluorescent properties. Two No. 30 Whatman filter papers, for example, taken from different batches were widely different, but repeated experiments show that the same specimen gives approximately constant results from time to time.—A. P.-C.

Volumetric Determination of Sulphurous Acid in Organic Substances by the Distillation Method.—V. Froboese.—*Arbb. Reichs-Gesundh.-Amt.*, lii, 657-659 (1920); *J. Soc. Chem. Ind.*, xl, 641A (Sept. 15, 1921).—The method of Hass (distillation in a current of carbon dioxide, oxidation to sulphuric acid, and gravimetric determination of the latter) is modified in that the sulphur dioxide is absorbed in a known quantity of sodium bicarbonate solution, then oxidized to sulphuric acid with hydrogen peroxide, and determined by titrating the excess of alkali with hydrochloric acid in the presence of methyl orange. If necessary the sulphuric acid may afterwards be determined also, as barium sulphate. No appreciable loss by oxidation of sulphurous acid occurs during the distillation even without carbon dioxide, but probably some oxidation occurs when the liquid is first heated. With a current of carbon dioxide, distillation of volatile acids may be prevented by using a long reflux cooling tube. The method is suitable for sulphite waste liquors.—A. P.-C.

Determination of Sulphur Dioxide (and Sulphur Trioxide) in Burner Gases.—B. C. Stuer and W. Grob.—*Chem. Zeit.*, xlv, 770 (1921); A. Sander, *Ibid.*, 771; *J. Soc. Chem. Ind.*, xl, 656A (Sept. 30, 1921).—Stuer and Grob point out that if oxidation of sulphur dioxide during absorption in alkalis is caused by agitation in presence of air, as contended by Sander, it will not be prevented by excluding contact with air, as burner gases contain oxygen. The oxidation can be reduced by addition of certain compounds, but probably not sufficiently to render Sander's method satisfactory. In reply, Sander gives a series of comparative analyses by his method and the Reuch-Lunge method, the former giving a lower sulphur trioxide content in each case. He points out that the high percentage of oxidation (31-38%) found by Stuer and Grob is contrary to every day experience in sulphite manufacture, and repeats that unless the solution is violently agitated the error is inappreciable.—A. P.-C.

Depolymerization of Ethylcellulose.—K. Hess, W. Wittelsbach and E. Messmer. *Z. angew. Chem.*, xxxiv, 449-454 (1921); *J. Soc. Chem. Ind.*, xl, 688A (Oct. 15, 1921).—Reliable conclusions as to the constitution of cellulose from the products of acetolysis of alkylated celluloses can be drawn only when alkylation has been conducted in such a way as to exclude

the probability of the disruption of glucoside or ether-like linkages. Under these conditions the limit of alkylation is reached when two ethyl groups per $C_6H_{10}O_2$ have been taken up. The resulting diethylcellulose is an individual substance, and when subjected to acetolysis a far-reaching depolymerization occurs with the absorption of one acetyl group for each $C_6H_7O_2(OC_2H_5)_2$, and without the generation of a free aldehyde group. The substance contain at most four dextrose residues, and since free aldehyde groups are absent it must be assumed that these structural units are held together by another linking system than the "glucoside" linkage in the original ethylcellulose. Although with different preparations isolated at different stages of the acetolysis approximately identical molecular weights were obtained, differences in optical rotation and melting-point indicate that the depolymerization is accompanied by isomerization.—A. P.-C.

Use of Iodine Solution in the Microscopical Examination of Paper. G. Wisbar. *Mitt. Materialprüf.*, xxxviii, 316-318 (1920); *J. Soc. Chem. Ind.*, xl, 689A (Oct. 15, 1921).—The microscopical examination of paper is facilitated by the use of solutions of stannic chloride and iodine, calcium chloride and iodine, and particularly aluminum chloride and iodine. The fiber mass is moistened with dilute glycerin on the object glass, some drops of aluminum chloride-iodine solution are added and then taken up with blotting paper, followed by a drop of zinc chloride-iodine solution, after which the cover glass is fitted. The yellow color of the lignified fibers is darker and more stable than when zinc chloride-iodine alone is used, the wood cellulose is colored in pure blue tones. If the red-violet is too pale a second drop of zinc chloride-iodine solution is added, whilst if the blue is too dark zinc-chloride-iodine solution somewhat diluted with water should be used. The differentiation of straw cellulose from wood cellulose is well effected with dilute calcium chloride-iodine solution, the former giving a grey-blue color and the latter yellowish-red. Aluminum chloride-iodine and stannic chloride-iodine solutions are prepared by the dissolving 0.1 g. of iodine and 0.5 g. of potassium iodine in the minimum quantity of distilled water, and making up to 10 cc. by the addition of a saturated aluminum chloride solution, or stannic chloride solution of specific gravity 1.53. Calcium chloride-iodine solution is prepared in a similar way except that the mixture is filtered through asbestos and the filtrate diluted with an equal volume of water.—A. P.-C.

The Action of Thiocyanates on Cellulose.—H. E. Williams.—*J. Soc. Chem. Ind.*, xl, 221-224T (Oct. 15, 1921); *Paper*, xxix, 9-14 (Nov. 2, 1921); *Paper Trade J.*, lxxiii, 48-49 (Dec. 15, 1921); *Pulp and Paper*, xix, 1277-1281 (Dec. 22, 1921).—Recent work by the author has shown that to dissolve cellulose a concentrated aqueous solution of a neutral or acid salt must consist of a liquid hydrate—an associated molecular complex of salt and water—which must have a viscosity above a certain minimum and a positive heat of dilution between certain well-defined limits. Of all the cellulose solvents examined the concentrated solution of calcium thiocyanate has the most profound and far reaching effects, and as it has the further industrial advantage of having a cheap base it is the one that has been the most closely studied from an industrial standpoint. A solution of calcium thiocyanate of such concentration that it boils between 135° and 150°C will dissolve bleached cotton or chemical wood pulp when heated to 80°-100°C. A portion of the calcium thiocyanate solution may be replaced by a solution

of certain salts which do not react chemically with it, but maintain its boiling point and other necessary properties without altering the solvent properties of the solution for cellulose. Such a solution of mixed salts will serve the same purpose as a cellulose solvent as the pure calcium thiocyanate solution. The most suitable salt for this purpose is calcium chloride, which has the advantage of cheapness. The possible industrial applications of these observations include the spinning of filaments, mercerization of cotton fabrics, parchmentization of paper, and the preparation of "vulcanized" fiber. (The parchmentization of paper by thiocyanates is covered by the following patents: U. S. 1,333,465; Eng. 124,979; Fr. 500,504; Can. 203,364. Cf. *Pulp and Paper*, xviii, 953, K-20 (Sept. 9, 1920).—A. P.-C.

The Use of Pulverized Fuel.—Paul Frion.—*Monit. Papeterie Française*, xlii, 327-328, 364-368, 409-411, 510-511, 578-579, 618-620, 681-684 (June 1, 15, July 1, Aug. 15, Sept. 15, Oct. 15, Nov. 1, 1921).—A detailed analysis of the advantages and disadvantages of pulverized coal at the present time, based on data furnished by the U. S. and Canadian Departments of Mines, the British Ministry of Scientific and Industrial Research and various builders of machinery for the use of pulverized coal. The advantages are (1) complete combustion with complete liberation of the total heat of the fuel; (2) possibility of using certain low grade fuels which could not be used otherwise; (3) great ease in starting up, shutting down, and controlling the fires, and great flexibility of the system. The disadvantages are (1) accident hazards; (2) troubles arising from the ashes; (3) high initial cost. Accident hazards can be very greatly reduced by proper precautions. Troubles from ashes can be overcome by the proper choice and use of equipment. The greater first cost is in many cases more than compensated by the savings effected by using a lower grade of coal or by consuming less of a given grade.—A. P.-C.

Notes on straw pulps.—Raymond Fournier.—*Papeterie*, xliii, 921-928 (Oct. 25, 1921).—A description of the process of manufacture of high grade straw pulps.—A. P.-C.

Some Modern Plastics.—Albert Hutin.—*Rev. Prod. Chim.*, xxiv, 525-534, 621-628 (Sept. 15, Oct. 31, 1921).—The author gives such information as he was able to obtain from scientific literature, patent specifications, and his personal researches, concerning a large number of commercial plastics, including vulcanized fiber and numerous plastics with a cellulose base.—A. P.-C.

How to Interest Workers in Safety Campaigns.—Al. Kroes, Employers' Mutual Insurance Co., Wausau, Wisconsin.—*Paper*, xxix, 12-13 (Oct. 5, 1921).—It is necessary for the safety man to talk so as to be understood by his audience. When dealing with workmen, tables of figures and statistics are ineffective; pictures and slogans should be used.—A. P.-C.

Concentrators in the Chemical Industry.—H. Molinari.—*Giorn. Chim. Ind.* i, 267-276 (1919); ii, 60-73 (1920); *Rev. Prod. Chim.*, xxiv, 493-498 (Aug. 31, 1921), 593-600 (Oct. 15, 1921).—A monograph on concentrators of solutions by means of evaporation of water. Description of processes and apparatus are given. The topics treated are: Heating by direct contact, indirect heating with warm gases, concentration by steam heating, concentration under reduced pressure, multiple effect evaporators, vacuum condensers and pumps, and special concentration systems. Diagrams and photographs are given.—A. P.-C.

Automatic Electrolytic CO₂ Recorder.—K. von Haken.—*Z. angew. Chem.*, xxxiii, 188 (July 27, 1920); *Chimie et Industrie*, vi, 483 (Oct., 1921).—The flue gases are first washed and are then sent to an absorption tube containing glass beads and a 0.1% caustic soda solution. The sodium bicarbonate solution

formed is decomposed in a small cell, the current for which is supplied by a small induction coil. In the circuit of the induction coil is a milliammeter, which may, if desired, be graduated to read percentages of CO₂ directly. The gases enter and leave the apparatus through two valves which are controlled by floats which rest on a light liquid in two differential manometers, so that the rate of flow of the gases through the apparatus can be maintained constant and adjustable. The rate of flow of the gases also controls the rate of flow of the soda solution which is so chosen that only bicarbonate will be formed, thus ensuring complete absorption of the CO₂. The apparatus may also be used for the determination of SO₂, NO₂, NH₃, etc. It readily shows differences of 0.1%.—A. P.-C.

Washing and Washing Ports in Connection with "Chamber" and "Frame" Filter Presses.—Eustace A. Alliot, London, England.—*J. Ind. Eng. Chem.*, xiii, 976-982 (Nov., 1921).—A consideration of some of the factors that affect washing, of the various chemical appliances for effecting it, and of some of the practical and experimental results with various appliances.—A. P.-C.

Filter Cloth and Its Relation to Filtration.—Alvin A. Campbell, Newark Wire Cloth Co., Newark, N. J.—*J. Ind. Eng. Chem.*, xiii, 982-984 (Nov., 1921).—A brief discussion of the advantages of metallic filter cloth.—A. P.-C.

Industrial Filter Media.—Arthur Wright, Filtration Engineers Inc., New York, N. Y.—*J. Ind. Eng. Chem.*, xiii, 984-986 (Nov., 1921).—A brief discussion of filter media, more particularly cotton and metallic cloths, giving the requirements of a filter cloth and the purpose for which the various kinds are best adapted.—A. P.-C.

Filter Aids.—C. P. Derleth, Celite Products Co., Monadnock Bldg., Chicago, Ill.—*J. Ind. Eng. Chem.*, xiii, 989-990 (Nov., 1921).—A brief discussion of filter aids, giving their necessary characteristics and advantages, and the conditions under which it is advisable to use them.—A. P.-C.

Plate and Frame Filter Presses.—E. C. Alford, T. Shriver & Co., Harrison, N. J.—*J. Ind. Eng. Chem.*, xiii, 1000-1001 (Nov., 1921).—A general description of plate and frame filter presses, of their construction and method of operation.—A. P.-C.

Oliver Continuous Filters.—H. A. Morrison, Oliver Continuous Filter Co., New York, N. Y.—*J. Ind. Eng. Chem.*, xiii, 1005-1006 (Nov., 1921).—A description of the principles involved in the Oliver filter, of its uses, advantages and limitations.—A. P.-C.

LIST OF ABBREVIATED AND FULL TITLES AND OF ADDRESSES OF THE JOURNALS FROM WHICH ABSTRACTS HAVE BEEN MADE FOR THIS ISSUE

Chem. Age.....	The Chemical Age, 8, Rouverie St., London, E. C. 4, England.
Chem. Zeit.....	Chemiker Zeitung, Walter Roth, Cöthen, Germany.
Chimie et Industrie.....	Chimie et Industrie, 49, Rue des Mathurins, Paris, France.
Giorn. Chim. Ind.....	Giornale di Chimica Industriale, Via S. Paolo N. 10, Milan, Italy.
J. Ind. Eng. Chem.....	Journal of Industrial and Engineering Chemistry, 1709 C St., N. W., Washington, D. C.
J. Soc. Chem. Ind.....	Journal of the Society of Chemical Industry, Central House, 46 and 47 Finsbury Square, London, E. C. 2, England.
J. Soc. Dyers and Col.....	Journal of the Society of Dyers and Colourists, Pearl Assurance Buildings, Market St., Bradford, England.
Mitt. Materialprüf.....	Mitteilungen aus dem königlichen Materialprüfungsamt zu Berlin-Lichterfelde West, Julius Springer, Link-Str. 23/24, Berlin, W. 9, Germany.
Monit. Papeterie Française.....	Le Moniteur de la Papeterie Française, 154 Boulevard Haussman, Paris (8 ^e), France.
PAPER.....	PAPER, 251 West Nineteenth St., New York City.
PAPER TRADE J.....	PAPER TRADE JOURNAL, 10 East Thirty-ninth St., New York City.
Papeterie.....	La Papeterie, 9, Rue Larrange, Paris (5 ^e), France.
Pulp and Paper.....	Pulp and Paper Magazine of Canada, Gardenvale, Que., Canada.
Rev. Prod. Chim.....	La Revue des Produits Chimiques, 54 Rue de Turbigo Paris (9 ^e), France.
Z. angew. Chem.....	Zeitschrift für angewandte Chemie, Nürnberger Str. 48, Leipzig, Germany.



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.



PRODUCTION OF NEWS PRINT FOR THE MONTH OF DECEMBER

Production for December, 1921, Compared with December, 1920, Shows a Decrease Amounting to About 14 Per Cent for Total News Print and 9 Per Cent for Standard News Print—Stock of Rolls in the Hands of Jobbers at the End of December Were 100 Tons Less Than Stocks in Hands of the Same Jobbers at Beginning of Month—Average Price \$4,102 per 100 Pounds.

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 25, 1922.—The following is a review by the Federal Trades' Commission of the reports received from domestic manufacturers of news print paper, from jobbers buying and selling news print paper and from leading publishers using news print paper. Import and export statistics of the Department of Commerce are also included in the review. Whenever possible the figures for 1921 are compared with those for the corresponding period of 1920, 1919, and 1918.

The figures which follow show the results of the Commission's tabulation for December, 1918, to 1921, inclusive:

	Number of Mills	Stocks on Hand 1st of Month	Production Net Tons	Shipments Net Tons	Stocks on Hand End of Month
Total news print:					
December, 1921.....	86	23,127	107,877	107,070	23,934
December, 1920.....	86	20,266	124,857	120,360	24,763
December, 1919.....	87	15,336	122,781	122,748	15,369
December, 1918.....	63	20,297	100,935	101,824	19,408
Total (12 mos.) 1921.....	..	24,763	1,225,235	1,226,064	23,934
Total (12 mos.) 1920.....	..	15,369	1,511,968	1,502,574	24,763
Total (12 mos.) 1919.....	..	19,408	1,374,517	1,378,556	15,369
Total (12 mos.) 1918.....	..	31,713	1,260,285	1,272,590	19,408
Standard news:					
December, 1921.....	67	18,895	100,834	100,122	19,607
December, 1920.....	68	16,599	111,038	108,064	19,573
December, 1919.....	55	11,790	104,262	103,714	12,338
December, 1918.....	50	16,696	87,797	88,837	15,656
Total (12 mos.) 1921.....	..	19,616	1,129,297	1,129,306	19,607
Total (12 mos.) 1920.....	..	12,338	1,380,239	1,373,004	19,573
Total (12 mos.) 1919.....	..	15,656	1,227,180	1,230,498	12,338
Total (12 mos.) 1918.....	..	26,482	1,125,086	1,135,912	15,656

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

The average production of total news print and standard news, based upon the total combined production for the years 1918, 1919, and 1920, amounted to 121,959 tons of total news print and 109,782 tons of standard news, for a period corresponding to December. The actual production amounted to 107,877 tons of total news print and 100,834 tons of standard news, which, for total news print was 12 per cent below the average for the three-year-period and for standard news 8 per cent below the average.

The production of news print for December, 1921, compared with December 1920, shows a decrease, amounting to about 14 per cent for total news print and 9 per cent for standard news.

The production for December, 1921, compared with December, 1919, shows a decrease of 12 per cent for total news print and a decrease of about 3 per cent for standard news.

The increase of production for December, 1921, compared with December, 1918, amounted to about 7 per cent for total news print and 15 per cent for standard news.

Mill stocks of both total news print and standard news increased during December, 1921.

Loss of Production

The following tabulation shows idle machine time reported to the Commission for the month of December, 1921. This does not include mills shut down during the entire month.

Reasons	Number of Machines	Hours Idle
Lack of orders.....	12	1,957

Repairs.....	36	2,324
Other reasons.....	69	4,611

Imports and Exports

The imports and exports of printing paper not dutiable (practically all news print) and of wood pulp for the month of November, 1921, compared with the month of November, 1920, were as follows:

	Nov., 1921 Tons	Nov., 1920 Tons
Imports of news print (total).....	74,544	61,248
From Canada.....	63,267	52,337
Netherlands.....	392	861
Sweden.....	5,416	2,920
Finland.....	1,110	2,920
Germany.....	2,295	4,059
Norway.....	1,736	1,472
Other countries.....	328	460
Exports of news print (total).....	1,256	5,544
To Cuba.....	842	861
Philippine Islands.....	138	137
Other countries.....	276	4,546
Imports of ground wood pulp (total).....	33,824	19,243
Imports of chemical wood pulp (total).....	71,209	55,752
Unbleached sulphite.....	29,263	28,488
Bleached sulphite.....	10,130	14,399
Unbleached sulphate.....	31,816	12,844
Bleached sulphate.....	0	21
Exports of domestic wood pulp.....	2,188	4,406

Jobbers' Tonnage

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

	On Hand First of Month	Received During Month	Shipped During Month	On Hand End of Month	Commitments to Buy	Commitments to Sell
Total news print:						
December, 1921.....	6,333	9,403	9,176	6,560	18,378	18,380
December, 1920.....	8,865	10,247	9,634	9,478	32,449	40,114
December, 1919.....	5,646	9,595	9,908	5,333	35,032	30,465
December, 1918.....	7,664	6,762	5,510	8,916	*206,075	*192,874
<p>^a To buy after December 31, 1918. ^b To sell after December 31, 1918.</p>						

Publishers' Tonnage

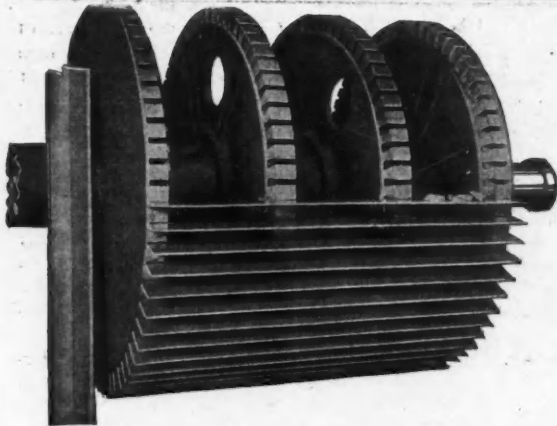
Monthly tonnage reports from 661 (a) of the most important newspaper publishing concerns and associations grouped according to the principal business sections of the United States together with a separate tabulation for the agricultural publications shows the following results for December, 1921:

Location of Publishers ^(b)	Number of Concerns	On Hand First of Month	Received During Month	Used and Sold During Month	On Hand End of Month	In Transit End of Month
New England States.....	80	19,030	15,449	16,931	17,548	2,077
Eastern States.....	173	52,685	55,293	58,963	49,015	8,475
Northern States.....	129	49,359	37,126	37,319	49,166	8,829
Southern States.....	74	8,606	7,562	8,913	7,255	2,328
Middle West States.....	147	28,781	25,430	24,967	29,244	3,985
Pacific Coast States.....	31	17,792	12,386	15,219	10,959	1,627
Farm papers ^(c)	27	6,196	1,184	1,248	6,132	101
Total.....	661	178,449	154,430	163,560	169,319	27,422

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

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

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



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

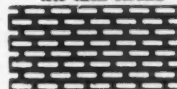
For Pulp and Paper Mills

STEEL, COPPER, BRASS, BRONZE
and other Alloys

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



.045 Inch Round



1/2 x 1/2 Inch Slots

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

PAPER MAKERS CHEMICAL CO. WESTERN PAPER MAKERS CHEMICAL CO.

EASTON
JACKSONVILLE

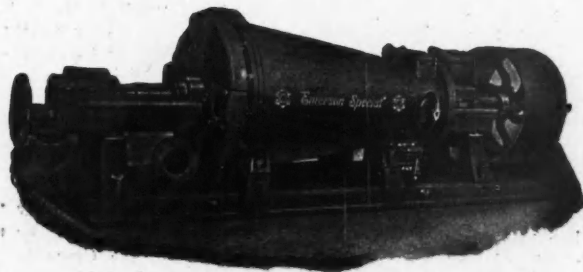
HOLYOKE
PENSACOLA

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.

Recent Incorporations

NATIONAL PAPER STOCK COMPANY, Norfolk, Virginia. Capital, \$10,000. A Fivel, president, Norfolk; A. Friedberg, secretary, and B. Friedberg, Hampton. To deal in rags and paper stock.

ALLIANCE PAPER BOX COMPANY, Manhattan, New York. Capital, \$6,000; Incorporators N. and I. Weiss, H. Edelson. (Attorney, L. E. Greenberg, 132 Nassau St.).

DECEMBER NEWS PRINT PRODUCTION

(Continued from page 52)

Publishers' stocks decreased 9,130 tons during the month. The average daily tonnage used during December was 5 tons less than the average used in November.

Publishers' stock and transit tonnage on December 31st, represented 38 days' supply at the existing rate of consumption.

Eighty-four publishing concerns held 70 per cent of the tonnage on hand at the end of the month.

The domestic consumption of standard news by metropolitan dailies using between one-half and three-fourths of a million tons annually for December, 1921, when compared with December, 1920, and 1919, respectively, shows an increase of 12 per cent over each year.

Average Prices Paid by Publishers

The weighted average price of contract deliveries from domestic mills to publishers during December, 1921, f.o.b. mill in carload lots for standard news in rolls, was \$4.102 per 100 pounds. This weighted average is based upon December deliveries of about 47,000 tons on contracts involving a tonnage of approximately 455,000 tons of undelivered paper manufactured in the United States.

The weighted average contract prices based on deliveries from Canadian mills of about 29,000 tons of standard roll news in carload lots, f.o.b. mill in December, 1921, was \$4.018 per 100 pounds. This weighted average is based upon the December deliveries on contracts involving slightly more than 210,000 tons of undelivered Canadian paper.

The weighted average market price for December of standard roll news in carload lots f.o.b. mill based upon domestic purchases totaling slightly less than 7,000 tons was \$3.666 per 100 pounds. This weighted average may be less than market quotations on account of contract relations, quantity discounts, mill stock ownership and other causes unknown to the Commission.

Freight Rates on Coal Burdensome

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 25, 1922.—A. H. Campbell, traffic manager of the International Paper Company, at the general rate investigation of the Interstate Commerce Commission last week said that coal freight rates have become so burdensome that two of the mills of the company in Maine have been changed from coal to oil burners. In some instances the freight rate on coal used by the company has been 250 per cent of its cost at the mine.

In 1914, Mr. Campbell said, his company consumed a total of 462,150 net tons of bituminous coal and anthracite, upon which the freight was \$1,014,013. In 1920, the company consumed 346,636 tons of coal upon which the freight charges amounted to \$1,199,085. Basing the cost of bituminous coal in the Clearfield region and anthracite in the Carbondale region the mine cost of coal in the past year has been not much more than one-third of the cost of the freight to transport it to the companies mills.

Numerous exhibits depicting the decline in the price of news print and the increase in news print exports were introduced by Mr. Campbell. Taking January, 1914, prices as the base, he showed that the selling price of news print reached a peak increase

of 328 per cent in the latter part of 1920 and the early part of 1921. Today news print has dropped 46 per cent from this high peak he said. The condition of the business today is very poor said Mr. Campbell and practically every item entering into the cost of manufacturing save freight has decreased.

C. R. D. Meier Gets Control of Heine Boiler Company

ST. LOUIS, Mo., January 23, 1922.—Judge Vital W. Garesche of the Circuit Court has signed a decree by which C. R. D. Meier gains control of the Heine Boiler Company, the St. Louis plant of which is at Marcus avenue and the Terminal tracks. Meier is a son of the founder of the company, Col. E. D. Meier. He obtained control by buying the interests of other litigants.

Incidentally, the signing of the decree by Judge Geresche terminates sixteen years of litigation and one of the most complex legal tangles and involved business complications ever before the courts of Missouri.

C. R. D. Meier was born in St. Louis in 1883 and from the public schools of St. Louis he went to the preparatory school at Andover, Massachusetts, and later to Harvard University, where he graduated in the class of 1905.

In the beginning of his business career he traveled for the American Diesel Engine Company and later worked in the shop of the Power Mining Equipment Company of Milwaukee, to learn the business at first hand.

At the beginning he had only a small interest in the Heine Company, and he began as a salesman, but he has been successful in adjusting the litigation from which the company suffered and is now in control.

Empire State Paper Association Meets

SYRACUSE, N. Y., January 23, 1922.—Improved business conditions are in prospect for the paper trade during 1922. D. E. Reeves, of Rochester, president of the Empire State Paper Association, declared in his report to the annual meeting of that body here. Other members of the association also held out optimistic prospects in discussing the outlook for improvement in the paper business.

David F. Teetor, of Rochester, was elected president; W. W. Plackman, of Saratoga Springs, vice-president, and Fred D. Morgan, Rochester, secretary.

New Superintendent of Springfield Glazed Paper Co.

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., January 23, 1922.—Frank Yelinek of 19 Railroad street, West Springfield, has been made superintendent of the Springfield Glazed Paper Company. Jeremiah H. Whitehouse, who had been superintendent of the company for 27 years, was recently retired.

Scott Paper Co. Elects Officers

CHESTER, Pa., January 23.—At a meeting of the stockholders of the Scott Paper Company held at their main office at the foot of Market street, this city recently the following officers were elected: E. L. Scott, president; A. H. Scott, vice-president; Owen Moon, Jr., second vice-president; James G. Lamb, secretary; E. S. Wagner, treasurer.

To Erect Memorial for Senator Crane

[FROM OUR REGULAR CORRESPONDENT.]

DALTON, Mass., January 23, 1922.—A suitable memorial for the late Senator W. Murray Crane of Dalton will be erected by the people of Dalton. Senator Crane was one of the Crane family which made papermaking a big industry in the Berkshires.

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-
TIAL SEAMS
HEATED WITH
FURNACES
AND HAMMER
WELDED**

Felt Test—Lowest Cost per Ton

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

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

THE ORR FELT & BLANKET COMPANY, Piqua, Ohio

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



Safety Census in Paper Industry

How many persons are engaged in preventing accidents and promoting good health in the paper industry? Although it is known that this industry has made great strides in safety work in the past few years and accomplished great things, there is nothing to show how many men and women have been responsible for this work in the industry as a whole. The National Safety Council is now taking a census which when completed will reveal how many safety workers there are, who they are, and where they are located. This census will include all the persons engaged in safety and industrial health activities in all industries, and those who are doing public safety work as well. The results of the census will show how the paper industry compares with the other industries in respect to the number of persons it has engaged in safety and health work. It will give a good indication of how extensive the safety and health activities of paper mills are. This is the first time that any attempt has ever been made to list the thousands of people who are now professionally engaged in the safety movement. The census includes not only members and employees of members of the National Safety Council, but all persons engaged in safety and industrial health activities regardless of whether they are connected with the Council in any way or not.

Every reader of THE PAPER TRADE JOURNAL who is professionally engaged in industrial or public accident prevention or industrial health work, whether he is devoting all or only part of his time to accident prevention, is urged to assist in the taking of this census by sending to the National Safety Council, 168 North Michigan avenue, Chicago, his name and the other data requested in the Council's census form.

It is expected that when the job of taking this census is completed there will be registered at the headquarters of the National Safety Council in Chicago the name of every man and woman responsible for the safety work of every industrial plant, public utility, municipality, and every organization which devotes any part of its efforts towards the promotion of either industrial or public safety, in the United States. Up to the present date there has not been in existence any data to show how many persons are engaged in this work either in any single industry or class or in the country as a whole.

Industry in general and the nation at large will profit from the results of this census. It will enable the Council to quickly find speakers on industrial and public safety for any occasion in any locality; authors for special articles on accident prevention; writers of safety textbooks; lecturers on accident prevention and industrial health work for universities and colleges. The Council at present continually receives requests from industrial companies, municipalities, civic associations, clubs, schools, colleges, and other organizations for help in finding speakers or writers on safety subjects. The census records will greatly increase the facilities of the Council for filling such requests.

Following is the form which all safety workers are requested to fill in and send to the National Safety Council, 168 N. Michigan avenue, Chicago.

Name.....
 Company or organization.....
 City..... State.....
 Nature of company's business.....
 Is safety your principal work?.....
 Please check other activities you engage in:
 Fire protection..... Legal.....
 Health and sanitation..... Insurance.....
 Workmen's compensation and claims..... Welfare.....

General executive (such as manager or superintendent)..... Educational.....
 Engineering (other than safety)..... Industrial relations.....
 How long have you been in your present position?.....
 Technical or other special education?.....
 Signed.....
 Title.....

G. M. Jones to Head Paper Division

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 24, 1922.—Grosvenor M. Jones, a former assistant chief of the Bureau of Foreign and Domestic Commerce, will begin work on Wednesday as chief of the new paper division of the Bureau. This division is being organized under the new administration of the department and is the last of these divisions to get under way.

Mr. Jones not only was at one time an assistant chief of the Bureau but made special investigations in South American countries, and following his resignation from the Government Service he was in South America for some time for one of the leading New York banks making an independent investigation. He has recently been doing some special work for the United States Shipping Board. Mr. Jones has also had some experience in paper work and he is personally very well liked by officials of the Bureau.

Simultaneously with the announcement which the Department of Commerce will make within the next few days of the appointment of Mr. Jones as chief of the paper division, will be the announcement of the following advisory committee to the paper commodity division: George W. Sisson, Jr., president, Racquette River Pennsylvania Company, Potsdam, N. Y.; Arthur H. Nevius, vice-president, Miami Paper Company, West Carrollton, Ohio; R. Frank McElwain, vice-president, Crocker-McElwain Company, Holyoke, Mass.; David L. Luke, president, West Virginia Pulp and Paper Company, New York City; Chester W. Lyman, vice-president International Paper Company, New York City; James Logan, president, U. S. Envelope Company, Springfield, Mass.; Norman W. Wilson, vice-president, Hammermill Paper Company, Erie, Pa.; William F. Brunner, president, Paterson Parchment Paper Company, Passaic, N. J.; Louis T. Stevenson, Mountain Mill Paper Company, Lee, Mass.; C. R. McMillen, vice-president, Union Bag and Paper Corporation, New York City; Phillips Kimball, Liberty Paper Co., New York City.

Do Not Expect Shortage of Coal

The Holden-Kelley Company, of Clearfield, Pa., miners and shippers of Bituminous coal state they do not expect a shortage of coal because of lack of production, for several years to come. So many operations were started during the war that any ordinary demand can be taken care of. The lack of coal carrying cars would bring about a coal shortage. Cars have been standing idle for over a year and are in a deplorable condition so that any rush to buy coal would find a lack of cars suitable for coal carrying purposes. In the Clearfield district mine operators have had to wait days for cars, owing to the bad condition of near-by cars which necessitated the hauling of good cars great distances. The company states the price of good coal will not be lower until the wage schedule is adjusted.

F. C. Clark Goes With Pejepscot Paper Co.

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., January 23, 1922.—Frederick C. Clark, manager of the industrial division of the American Writing Paper Company's sales department, has resigned to accept a position with the Pejepscot Paper Company at Brunswick, Me. Mr. Clark was with the American Writing Paper Company for about three years. He will assume his new duties within a few days.

(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)

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

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 Claflin 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



GRISSINGER
Patented

**AUTOMATIC
TUBE
MACHINE**

Wire Stitched Tube
TOILET PAPER
MACHINERY

GRISSINGER MACHINE WORKS
PHILADELPHIA, PA.

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

HEINE

LARGE-UNIT

BOILERS

LONGITUDINAL AND
CROSS DRUM TYPES
WASTE-HEAT BOILERS
ALL EQUIPMENT TO ORDER



Heine Boiler Company Saint Louis U.S.A.
BOILER MANUFACTURERS FOR 40 YEARS

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.

New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, JANUARY 25, 1922.

Developments of a startling character were not present in the New York Paper market during the last week. What expansion there is is slow and fairly steady. Buying continues on a hand to mouth basis with spasmodic gasps of activity here and there. Improvement is lacking in general although the feeling in the trade grows more optimistic as time smoothes the rough edges of the numerous stumbling blocks in the path of progress to normalcy. Manufacturers and dealers are becoming reconciled to the necessity of accepting small profits which for some time to come will appear very minute in comparison with war time earnings, and are working hard to glean orders from a strong competitive field. Advertising is due to increase on account of the necessity of effective competition and an improved demand for paper is expected therefrom. Transportation rates are as severe a hindrance to the paper business as they have been for some time. As commonly thought of the charges for the shipment of the finished paper alone are obstructing improvement in general. However, this expense for movement of the finished product is only a small fraction of what the industry has to bear. All commodities used in paper-making are subject to the high rates and when a heavy charge for portage of pulp is added to the equally heavy charge for rosin, clay, talc, and the other products employed in the manufacture of paper, the sum total is sufficient to greatly embarrass the trade. It is expected that business will pick up slowly but surely throughout February and in the light of advances already made those who hold that this will be true are certainly not over optimistic.

The news print situation is encouraging for the demand is scheduled to improve under the influence of an increased volume of advertising. The ups and downs experienced by the paper trade in the last years have not been felt so keenly by the news print industry because the demand throughout has remained fairly constant. Few become too poor to purchase a paper and it is exceptional when the body of newspaper readers decreases so that the influence is felt. The American Paper and Pulp Association is actively striving to obtain essential protection for domestic news print and the chances for satisfaction appear to be improving although nothing is expected to be forthcoming in the very near future.

Little change is noticeable in the book paper market. Buying is of the small-though-often-type and manufacturers and dealers appear to be more and more reconciled to the necessity of catering to this fastidious demand. Prices are firm and very little variation is anticipated throughout the year other than that occasioned by the seasons.

The fine paper market continues spotty although some dealers report better business during the last week than for some time. Most commitments are "chiefly to cover nearby and well defined requirements" while manufacturing continues subnormal.

Tissue had a better week although the trade is not over-elated by developments since flashes in the pan are to be expected for some little time. After being put through the stiff lessons in economy lately received buyers are loath to overstock and for the most part are content to order small lots with frequency much to the dissatisfaction of the manufacturer.

Kraft maintains its superior position with a good volume of business transacted regularly. Coarse paper is a necessity and as such may expect to be more in demand than its finer relatives at a time when it is the rule to save. Production

is going on at mill capacity and the product of several mills is sold up for a month or so in advance.

For the board market it may be said that the feeling is firmer and the demand only holding its own. Board mills are not overcrowded with business and are running on part time in most localities. Although the business is very quiet improvement is looked for in the course of the next month.

Mechanical Pulp

The mechanical pulp market is quiet with only a moderate demand. It is reasonable to expect increased buying in the near future because the trade is not well supplied at the present time and will of necessity be in the market soon. It is understood that prices will go no lower and some rumors indicate increases as very possible in the next few weeks.

Chemical Pulp

Little change is to be noted in the quiet condition of the chemical pulp division. Demand still lags in spite of the low stocks of pulp carried everywhere. A larger volume of orders is looked for and the undercurrent of the market is optimistic in the face of present slack buying. Inquiries are continually received from points to which freight rates are so great as to make abortive all attempts to do business. Prices are steady and without material change.

Old Rope and Bagging

The demand is niggardly in the old rope and bagging market where even an encouraging number of inquiries is lacking. Dealers are at a loss to account for the inactivity as it now exists and find that even with much effort it is difficult to drum up sales. In the near future paper mills are expected to add to their low stocks of old rope and bagging and it is to the demand from this source that this market now turns for encouragement.

Waste Paper

The waste paper market is quiet although it maintains the slight advances it has gained over December business. It is commonly believed that prices are at lowest level. Little more can be done with the price range to effect a normal volume of sales and so waste paper men depend upon their own efforts to make sales and await the normal demand from paper mills which ought soon to be operating upon a more healthy basis.

Rags

There is no demand for rags with the exception of roofing stock. Foreign rags continue to arrive and these together with the domestic supply allow little reason to fear any shortage in the supply for some months.

Twine

While twine is not active an improvement has been noticed in the last two weeks and numerous inquiries and a fair volume of orders have resulted. The trade is optimistic and feels that it has little to fear from the future.

Nash Engineering Co. Bulletin

The Nash Engineering Company, South Norwalk, Conn., has issued its bulletin No. 18 on the "Jennings Hytor Vacuum Heating Pump Steam Turbine Driven." The pump is especially well adapted for return line heating systems, dryer exhaust in paper mills, and other vacuum work where liquid is handled with a gas. The bulletin is illustrated with five cuts in color of the pump and its integral parts. The turbines have been designed to operate at 75 pounds steam pressure at the turbine with back pressure not to exceed five pounds.

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations January 24, 1922:

Table with columns: STOCKS, BID., ASKED. Includes American Writing Paper Company, International Paper Company, etc.

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

Paper

Table listing various paper products like Ledgers, Bonds, Writings, News, Manila, Fiber Papers, Wax Paper, Mechanical Pulp, Chemical Pulp, Sulphite, Bleached, etc.

Domestic Rags

Table listing domestic rags like Shirt Cuttings, New White, Silesias, Washables, Cottons, Foreign Rags, Bagging, Twines, etc.

Table listing various types of twines and ropes like India, Light, Dark, B. C., Italian, etc.

Old Waste Papers

Table listing old waste papers like Shavings, Flat Stock, Manila, News, etc.

CHICAGO

Table listing Chicago market items like Paper, F. o. b. Mill, All Rag Bond, No. 1 Rag Bond, etc.

Old Papers

Table listing old papers like Shavings, No. 1 Hard White, No. 1 Soft Shav., etc.

PHILADELPHIA

Table listing Philadelphia market items like Paper, Bonds, Ledgers, Writings, etc.

Table listing Philadelphia market items like Best Tarred, Bagging, Old Papers, etc.

(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 21, 1922

SUMMARY

News print.....	3,284 rolls
Wrapping.....	406 rolls, 566 bls.
Packing paper.....	25 rolls
Tissue.....	2 cs.
Wall paper.....	892 rolls, 2 bls.
Surface coated paper.....	50 cs.
Cigarette paper.....	240 cs.
Printing paper.....	122 bls., 32 cs., 129 rolls, 59 pgs.
Miscellaneous paper.....	77 cs., 262 bls., 236 rolls

CIGARETTE PAPER

R. J. Reynolds Tobacco Co., Pipestone Co., Bordeaux, 240 cs. cigarette paper.
L. A. Consmiller, Noordam, Rotterdam, 50 cs. surface coated paper.
The Prager Co., Kroonland, Antwerp, 892 rolls wall paper.
American Shipping Co., by same, 2 bls. wall paper.
Meadows, Nye & Co., Cedric, Liverpool, 2 cs. tissue paper.
Birn & Wachenheim, Noordam, Rotterdam, 25 rolls packing paper.

WRAPPING PAPER

Equitable Trust Co., Arkansas, Gothenburg, 382 rolls.
J. P. Heffernan Paper Co., by same, 320 bls.
N. Y. Trust Co., by same, 24 rolls.
C. K. MacAlpine, Walness, Hamburg, 246 bls.

NEWS PRINT

Chemical National Bank, Arkansas, Gothenburg, 535 rolls.
Sun-Herald Corp., by same, 552 rolls.
National Bank of Commerce, Arkansas, Kristiania, 338 rolls.
New York Tribune, by same, 141 rolls.
Haring Paper Corp., by same, 368 rolls.
Pattison & Co., by same, 29 rolls.
Arne Maltzan, by same, 551 rolls.
Publishers Buying Corp., by same, 47 rolls.
M. Gottesman & Co., Walness, Kristiania, 724 rolls.
New York American, Tancred, Hallstank, 5,200 rolls.

PRINTING PAPER

M. O'Meara Co., Bloemfontein, Antwerp, 122 bls.
Equitable Trust Co., by same, 20 cs.
Chemical National Bank, Bayern, Hamburg, 73 rolls.
Agar Bernsson Corp., by same, 38 rolls.
Gerhard & Hey, by same, 18 rolls.
Coyle & Grant Co., Inc., Algeria, Glasgow, 12 cs.
Northern & Western Finance & Trading Corp., Noordam, Rotterdam, 59 pgs.

PAPER

P. C. Zuhlke, Kroonland, Antwerp, 69 cs.
Meadows, Nye & Co., Valacia, London, 11 bls.

S. Jones & Co., by same, 16 rolls.
Wilkinson Bros. & Co., Arkansas, Gothenburg, 68 rolls.
The Celluloid Co., by same, 2 rolls.
Equitable Trust Co., by same, 140 bls.
Equitable Trust Co., by same, 150 rolls.
Equitable Trust Co., Arkansas, Copenhagen, 111 bls.
Gruner & Reinhardt, Bayern, Hamburg, 8 cs.

RAGS, BAGGING, ETC.

G. W. Millar & Co., Noordam, Rotterdam, 115 bls. rags.
P. Berlowitz, by same, 235 bls. old cottens.
American Woolstock Co., Bloemfontein, Antwerp, 47 bls. rags.
A. Katzenstein, by same, 233 bls. rags.
Castle, Gottheil & Overton, by same, 89 bls. rags.
Irving National Bank, by same, 61 bls. waste.
Lahn & Simons, Bloemfontein, Hull, 247 bls. rags.
Ross Woolstock Co., by same, 52 bls. rags.
J. J. Patrikoff & Co., New Britain, Antwerp, 965 bls. rags.
E. Butterworth & Co., by same, 125 bls. bagging.
Salomon Bros. & Co., by same, 217 bls. flax waste.
Ladenburg, Thalman & Co., Londonier, Antwerp, 49 bls. news cuttings.
Ladenburg, Thalman & Co., by same, 107 bls. rags.
Ross, Malstock & Co., by same, 5 bls. rags.
Stene Bros. & Sherwin Co., by same, 80 bls. rags.
Irving National Bank, by same, 566 bls. rags.
Castle, Gottheil & Overton, by same, 229 bls. rags.
Mechanics & Metals National Bank, by same, 112 bls. bagging.
D. Murphy, Phoebus, Genoa, 87 bls. cotton waste.
B. D. Kaplan & Co., Cedric, Liverpool, 7 bls. rags.
Mutnick Bros., by same, 38 bls. rags.
Albion Trading Co., by same, 53 bls. rags.
E. J. Keller Co., Phoebus, Marseilles, 406 bls. rags.
E. J. Keller Co., Londonier, Havre, 51 bls. rags.
E. J. Keller Co., Bayern, Hamburg, 109 bls. rags.
Castle, Gottheil & Overton, George Washington, Bremen, 220 bls. rags.
Castle, Gottheil & Overton, Londonier, Havre, 229 bls. rags.
Castle, Gottheil & Overton, Londonier, Rouen, 112 bls. old bagging.
Castle, Gottheil & Overton, Ohio, Bordeaux, 438 bls. rags.
American Woodpulp Corp., Bayern, Hamburg, 8 bls. news cuttings.
American Woodpulp Corp., by same, 250 bls. rags.
Equitable Trust Co., by same, 109 bls. rags.

E. J. Keller Co., Chicago, Havre, 100 bls. rags.
Castle, Gottheil & Overton, by same, 74 bls. bagging.
Salomon Bros. & Co., by same, 102 bls. news cuttings.
Equitable Trust Co., Stanmore, Leith, 281 bls. paper stock.
M. O'Meara Co., by same, 23 bls. paper stock.
Crane Co., by same, 45 bls. paper stock.

OLD ROPE

M. O'Meara Co., Arkansas, Copenhagen, 115 coils.
Ladenburg, Thalman & Co., Londonier, Antwerp, 275 coils.
American Express Co., by same, 115 coils.
International Purchasing Co., by same, 70 coils.
Equitable Trust Co., Noordam, Rotterdam, 68 coils.
First National Bank of Boston, Bloemfontein, Antwerp, 264 coils.
Brown Bros. & Co., Bloemfontein, Hull, 297 coils.
E. J. Keller Co., New Britain, Rotterdam, 109 coils.

WOOD PULP

Tidewater Papermills Co., Adour, Salahruguet, 15,000 bls., 3,000 tons.
E. M. Sergeant & Co., Arkansas, Christiania, 409 bls.
Scandinavian American Trading Co., Gothenburg, 1,169 bls., 232 tons.
Nilsen, Rantoul & Co., by same, 343 bls., 50 tons.
Castle, Gottheil & Overton, Walness, Hamburg, 375 bls. wood pulp.
Castle, Gottheil & Overton, George Washington, Bremen, 1,250 bls. wood pulp.
M. Gottesman & Co., Falls City, Hamburg, 769 bls. wood pulp.

CASEIN

British American Tobacco Co., Valacia, London, 5 bags.
--

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 21, 1922

E. J. Keller Co., Alness, Hamburg, 313 bls. rags.
E. J. Keller Co., Themisto, Hamburg, 360 bls. rags.
Castle, Gottheil & Overton, Sutherland, Antwerp, 125 bls. rags.
Castle, Gottheil & Overton, Maryland, Antwerp, 93 bls. rags.

NEW ORLEANS IMPORTS

WEEK ENDING JANUARY 21, 1922

E. J. Keller Co., Samnanger, Hamburg, 355 bls. bagging.
E. J. Keller Co., Coldbrook, Antwerp, 646 bls. rags and 51 bls. bagging.

Geo. W. Sisson, Jr., Honored

WASHINGTON, D. C., January 23, 1922.—The paper industry has been again given governmental recognition in the naming of its well known representative as a delegate to the national farm conference which will be held at Washington the week of January 23. George W. Sisson, Jr., of Potsdam, N. Y., former president of the American Paper and Pulp Association has been asked to serve by Secretary Wallace of the Department of Agriculture, who is making up the list of those who are to attend. Mr. Sisson, in addition to his work in the manufacture of paper has long been deeply interested in dairying, and was a leader in the organization of the Jersey cattle breeders of the country. He was for several years president of the New York State Agricultural Society, and only a year ago was on the Pacific Coast to judge cattle.

Oil and Stationary Steam Engines

The educational division of the Vacuum Oil Company has prepared and distributed and holds for further distribution to those interested two publications entitled "Oil Engines" and "Stationary Steam Engines." These publications prepared by the technical department of the company are a valuable addition to the large and usable collection of educational booklets already issued.

The two types of engines are classified respectively and dealt with as to principle, construction, operation, cooling, fuels employed, methods of lubrication, lubricating oils employed, and the several causes of carbonaceous deposits.

These booklets already have a wide circulation and are used as text books by many technical schools throughout the country. Copies may be obtained upon application to Eben Griffiths, Vacuum Oil Company, 61 Broadway, New York.



REG. U.S. PAT. OFF.
 TRADE MARK
JENKINS
 MARK
Jenkins Bros

“Genuine”

Discriminating buyers, the country over, are insisting on the valves that they know are the original and true stock—genuine Jenkins. Every Jenkins Valve is easily identified by the Jenkins “Diamond Mark” and signature which is cast on the body. Know this mark and demand the valves that are a standard of dependability and service.

Sold at supply houses everywhere.

JENKINS BROS.
 New York Boston Philadelphia Chicago
 Montreal London Havana
 FACTORIES: Bridgeport, Conn.;
 Elizabeth, N. J.; Montreal, Canada

Jenkins Valves
 SINCE 1864

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.

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.

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

BLEACHED SULPHITE
FOR
Writing, Book and Tissue Papers

PARSONS
Pulp and Lumber Co.

EDWIN J. DEWEY, Manager Pulp Sales

Office, 1807-1810 Finance Bldg., PHILADELPHIA, PA. Mills at PARSONS, WEST VA.

The Peace
By Ray Stannard Baker

Written from Woodrow Wilson's Private Papers

Tells the Inside Story of the Paris Conference. Secret Documents. Authentic Reports of Private Conversations. A Notable History.

Running in
THE SPRINGFIELD WEEKLY REPUBLICAN

The News of the Week, Special Features and the Editorials of a Famous Newspaper, all for

\$1.50 Per Year
Price Reduced

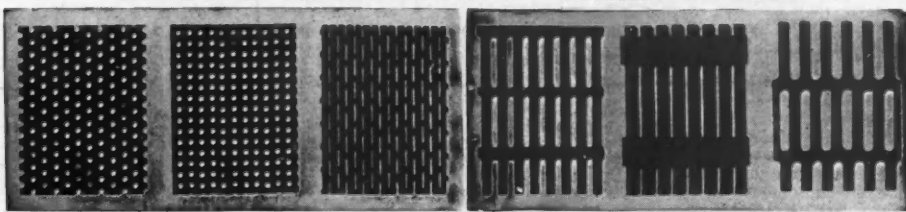
Address Today
The Republican, Springfield, Mass.

NORWOOD
PAPER FINISHING
MACHINERY

Write for Information

NORWOOD ENGINEERING CO.
Florence, Mass., 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

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—Two first class Yankee Fourdrinier 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 SALESMAN—Must be hustler, with successful record selling to Paper Manufacturers. One who has handled China Clay preferred. Reply, giving complete experience, age, nationality, etc. Address, Box 4750, care Paper Trade Journal. J-26

WANTED—Practical Paper Mill Color Man fully experienced in coloring High Class Special Papers. Give references and state experience. Address, Box 4751, care Paper Trade Journal. F-9

WANTED—Machine Help and Beaterman. Mill in good location. Address, Box 4753, care Paper Trade Journal. F-9

WANTED—Graduate Engineer or Draftsman for Paper Mill in Middle West. Work to be Designing and drafting. Paper Mill and Power House experience preferred. Please give age, experience and salary expected. Address, Box 4754, care Paper Trade Journal. F-9

BUYER—Young man for Purchasing Department large Corporation. Essential requirements: A Trading Mind, Executive Ability, energy, thoroughness, good morals and pleasing personality. College or Practical Training preferred. Opportunities of this position limited only by the man's capacity and ability. Give full details, past experience, references and salary desired in first letter; also enclose photograph. Address, Box 4755, care Paper Trade Journal. J-26

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. tf

WANTED—By new Wholesale and Jobbing House in Paper and Paper Specialties, several experienced salesmen to cover Metropolitan Districts, New Jersey, Connecticut, Massachusetts and New York States. Men who are business getters and can dig up new business are the type wanted. Wonderful opportunity for right man. Commission basis. Address, Box 4771, care Paper Trade Journal. F-2

WANTED—A Fourdrinier Wire Salesman to cover Mills in this Country and Canada. One who has had several years of experience in a Paper Mill preferred. Submit reference and full information. Address, Box 4772, care Paper Trade Journal. F-9

NOTE SALESMEN

An opportunity for High Class Man who calls on Paper Mill Trade to sell as side line high grade established steam appliance for Paper Machine. Increases production 5% to 15% at a reduced coal cost. Exclusive territory. Man must be well acquainted with Paper Mill Men and of high morals. Experience not necessary. Commission very attractive. Can consign territory at once. Address, Box 4752, care Paper Trade Journal. J-26

HELP WANTED

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. tf

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. tf

WANTED—Salesman for Wrapping Papers in New York City. Exceptional opportunity to the man having Established Trade and Sales Ability. We will give a number of good active accounts. Liberal drawing account against commission. L. Hyman & Sons, 121 Spring Street, New York City. J-26

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

WANTED—No. 1 machine tender on Glassine, Greaseproof and Waxing Papers. Address, Box 4769, care Paper Trade Journal. F-2

WANTED—Back Tender for two Tour, News and Chip Board Mill. 45 cents per hour. Eastern State. Address, Box 4770, care Paper Trade Journal. J-26

SITUATIONS WANTED

WANTED—By young man of exceptional ability, position as Assistant Manager or Superintendent. Fifteen years' experience in the manufacture of News, Hanging, Kraft, and all Sulphite Papers. Understands Mill Construction and General Repairs. Can arrange help to obtain highest efficiency. Also furnish best of references as to ability and character. Address, Box 4759, care Paper Trade Journal. J-26

SUPERINTENDENT—At present running high grade Writing Mill, would like to connect with a high grade Book Mill, as assistant to the Manager. Have had Cost and Statistical experience. Twenty-five years old and married. Address, Box 4757, care Paper Trade Journal. J-26

UNIVERSITY GRADUATE with real practical mill experience wishes position. Proven ability as assistant to executive. Will do anything. Best references. Address, Box 4758, care Paper Trade Journal. J-26

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

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

SEVENTEEN YEARS' PAPER experience, particularly printers' Papers, in Sales Department. Traveling Salesman. Export Department Manager. desires connection in New York as Executive or Salesman with Mill or well known jobbers where experience and consistent effort are appreciated. Now employed; 35 years of age; married; steady; good record; best references. Address, Box 4702, care Paper Trade Journal. J-26

SITUATIONS WANTED

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 sums 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

SITUATION WANTED—Sulphite Superintendent with twenty years of experience. Five years as Wright Superintendent. Have specialized in Cooking and Acid making. Best of references. Address, Box 4773, care Paper Trade Journal. F-9

SITUATION WANTED—By Superintendent of Ability. Twenty years' practical experience on all grades of felt and floor coverings and building papers of all kinds. Wide experience on mill construction and repairs, also in managing help to get greatest efficiency. Middle-aged, married. Can furnish No. 1 references. Address, Box 4774, care Paper Trade Journal. F-2

A-1 ALL AROUND MECHANIC—Wishes to make change. Twenty years' experience in Pulp and Paper Mills. Satisfactory work guaranteed. Employers interest is mine. References. Address, Box 4760, care Paper Trade Journal. F-2

BOSS FINISHER—Open for engagement in coating mill. Experienced on Book, Litho, Glazed, Embossed Paper and all Specialties. Address, Box 4761, care Paper Trade Journal. F-2

BOSS MACHINE TENDER desires change. Eight years' experience large and fast machines all grades, News, Book, Kraft, Specialties. Married. Best references. Can produce the goods. If your mill needs new blood answer this advertisement. Address, Box 4762, care Paper Trade Journal. F-9

SUPERINTENDENT—Open for position, experienced on high grade Stock, Tissues, Silver Tissue, Cigarette, carbon, stereotype, typewriter, copying, Pattern, Wrapping and colored specialties. Can get production. Address, Box 4763, care Paper Trade Journal. F-2

SITUATION WANTED—Mechanical Engineer who has had four years' engineering experience in Sulphite Mill, would like position with Paper and Pulp Importer or Mill. Moderate salary. Address, Box 4764, 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

MASTER MECHANIC—Desires position. Twenty years' experience in Mills of all grades of Paper and Pulp; also on Steam, Water and Electric Power. Best references. Address, Box 4765, care Paper Trade Journal. F-9

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

MILL EXECUTIVE—Now employed, is desirous of making change. Years of experience in Paper Manufacturing. Capable of taking over full management of business. Expert in Sales Purchasing, Cost Accounting and Office Supervision. Best of References. Address, Box 4778, care Paper Trade Journal. F-9

SITUATIONS WANTED

SITUATION WANTED—Executive and Salesman, 37 years old, 18 years' experience with jobber and manufacturer, desires to connect with Mill in Executive Capacity or Traveling Representative. Willing to remain on road for long periods. Address, Box 4777, care Paper Trade Journal. F-2

PAPER SALESMAN—Wishing to handle a line of Book, Super and Coated Papers. Is seeking connections with a concern that has a warehouse in New York City. Address, Box 4776, care Paper Trade Journal. F-9

WOODPULP SALESMAN—Young man of good character and appearance desires to connect with reliable concern. Well informed on both foreign and domestic pulps. Can furnish best of references. Wants plenty of action. Address Box 4779, care Paper Trade Journal. J-26

ANALYSIS—Has enabled him to secure unusual results in Accountancy and Administration. His training has been in Coarse Papers and Generic Products, which he knows fluently. In a lesser degree, he knows the Fine Grades. His late experience has been in Merchandising Analysis, the profitable use and reproduction of the Graphic Arts. His Mission is the study, clear understanding, interpretation and administration of Purchases, Sales, Records and Service. His work is the supervision of these departments for a strict observance of profits. Address, Box 4775, care Paper Trade Journal. F-2

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. tf

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. tf

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.

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 Pans. Complete triple-deck frames for 4 Dryers. Will arrange terms to suit. Chesapeake Paper Board Co., Baltimore, Maryland. tf

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

FOR SALE—70 to 100 narrow gauge industrial cars used in handling 4 ft. wood. Due to changes have no further use for this equipment. The right thing to use in handling wood from saw mills, etc. Mt. Tom Sulphite Pulp Co. Mt. Tom, Mass. F-9

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. tf

FOR SALE

One five-gallon International Electric Glue Heater with switch. Has only been used two months.

Two Grissinger Tube machines for the manufacture of Toilet Paper Tubes. Wortendyke Manufacturing Co., Richmond, Va.

J-26

MISCELLANEOUS

WANTED—Pulp and Paper Mill equipment, such as Grinders, Wet Machines, Screens, Pumps, Beaters and Jordans; also Fourdrinier Paper Machine to trim 76" or more. Would also consider buying Equipment of entire Mill. In reply give particulars. Address, Box 4766, care Paper Trade Journal. F-2

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-26

BERLOWITZ, PAUL,
132 Nassau street, New York.
Importer of Rags, Bagging, New Cuttings.
Jan.-25

MILLER PAPER CO., FRANK P., high grade specialties. Boards. East Downton, Pa. Mar-15

SIMMONS, JOHN, SONS, Paper and Paper Stock, 23 and 30 South Marshall street, Philadelphia, Pa. Mar.-1

SWIFT, GEORGE W., JR., Designer and Manufacturer of Special Machinery for Manufacturing and Printing Paper Goods, Bordentown, N. J. 1-1-24

WILSON, H. P. & H. F., Manufacturers of Steel Wire Bale Ties, for baling all compressible material. 544 West 22nd street, New York City. Jan.-25

WANTED—To buy all Tissue Culls for drop shipment, direct from Manufacturer. Address, P. O. Box 871, Norfolk, Va. M-2

WANTED—Standard Mullen and Basis testers. State condition, how long used, and delivered prices. Address, Levin Bros. 1340 Carroll Ave. Chicago, Ill. J-26

WANTED—Used 2,000 lbs. beater with 70" by 54" roll; also two small Beaters, 400 lbs. to 500 lbs. capacity. Address, Gibbs-Brower Co., 261 Broadway, New York City. J-26

WANTED

MANUFACTURERS WHO HAVE SOLD OR ARE SELLING WATER RIGHTS WITH CYLINDER MACHINE AND EQUIPMENT ON HAND SUITABLE FOR MAKING BOX OR CHIP BOARD. WE NEED SAME IN CONJUNCTION WITH BINDERS BOARD MILL WHICH WE OPERATE. ADDRESS, JNO. S. SETTLE, 100 BROADWAY, DENVER, COLORADO. J-26

MR. MANUFACTURER, WANTED

A complete line of paper specialties to sell in Chicago and adjacent territory on a strictly commission basis. Lines from manufacturers only, considered. Will consider Bags, Boxes, Glassines, Grease Proofs, Toilet or other Standard Lines which will stand intensive development. Must have exclusive handling of lines selected but will not carry competing lines. Answer in confidence. Your letters will be treated confidentially. Address, Box 4767, care Paper Trade Journal. J-26

MISCELLANEOUS

WANTED—Pulp and Paper Mill Equipment such as Grinders, Wet Machines, Screens, Pumps, Beaters and Jordans; also Fourdrinier Paper Machine to trim 76" or more. Would also consider buying Equipment of entire Mill. In reply give particulars. Address, Box 4766, care Paper Trade Journal. F-2

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-26

I WILL BUY

EITHER ALL OR CONTROLLING INTEREST IN A

BOARD MILL

MUST BE IN GOOD CONDITION, DAILY PRODUCTION FORTY TONS OR OVER. GIVE FULL DETAILS. NO BROKERS. ALL REPLIES HELD IN STRICT CONFIDENCE. ADDRESS, BOX 4768, CARE PAPER TRADE JOURNAL. J-26

REBUILT PAPER MILL MACHINERY IN STOCK AND GUARANTEED NOT WHERE IS AND AS IS

Fourdrinier Tissue Machine—One 96", one 72".
Fourdrinier Parts—Pusey & Jones 118", 100".
Kutter Trowbridge 96".
Press Parts for Paper Machines—Pusey & Jones Bell Crank housing, two sets 18" x 96"; Black & Clawson swing arm housings with rolls.
Dryers—Four 48" x 111", four 48" x 68", one 84" x 67", eleven 42" x 66".
Marshall Drives—Three Black & Clawson self-contained stand with friction clutch cone pulley and 6" mortise gears. Mortise gears and pinions for Pusey & Jones Marshall drives 5" to 8" face.
Chilled Calenders—One 66" face, five roll; one 54" face, five roll.
Dillon Doctors—For Machine Calenders 60" to 120" face.
Slitters and Winders—One 120" Warren, one 108", 36" Kidders.
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 52", seven Horne 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. Six 10 plate. Two six plate.
Stuff Pumps—Deane Triplex 8" x 12", Gould triplex 8" x 10", Sandusky triplex 4" x 6".
Revolving Sheet Cutters—One 104" Horne, one 50" Hamblet diagonal, one 42" Finlay, four 61" Hamblet, four 61" Finlay.
Wet Machines—Four 72" Bagley & Sewall Hydraulic.

We have a large number of pumps and over five hundred calender, press and couch rolls in stock.

FRANK H. DAVIS COMPANY
175 Richdale Avenue, Cambridge, 48, Mass.

PAPER MILL

**For Quick Sale at Right Price to
Close an Estate**

Near Philadelphia, Penna., Railroad Siding, Complete up-to-date Mill Buildings and equipment. Steel warehouse, barn, office, 50 acres of land with mill village of 23 houses.

76" Pusey and Jones. Fourdrinier trimming 68½"—Smith and Winchester Jordan—2 Umpherson beaters—2 Downingtown washers—3 rotaries—Cranston cutter—drainers and 3 Heine boilers.

Mill run by steam with excellent water for manufacturing purposes.

Equipment adapted to making part rag papers, or wood specialties. 10,000 lbs. 24 hours. Price and terms upon application.

GIBBS-BROWER COMPANY

Paper and Pulp Mill Brokers

261 Broadway New York City

Telephone—Barclay 8829

OUR MOTTO: "Service First"

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

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. Svendsen Trading Co., Christiania, Norway

It Never Fails in its Mission to Produce Results

January 21, 1922.

Lockwood Trade Journal Co., Inc.,
10 East 39th St.,
New York City, N. Y.

Gentlemen:

We are in receipt of your communication of the 19th inst. relative to classified advertisement which we placed in the Paper Trade Journal and would say that "we are very much pleased with the results which we got from this advertisement," inasmuch as we received 36 replies to same and have been successful in securing a very capable boss beaterman.

This has impressed very strongly upon our minds that your paper is very widely read by the mass of individuals engaged in the paper industry. The writer has been one of your subscribers for some time and can say that he thoroughly enjoys reading your different issues.

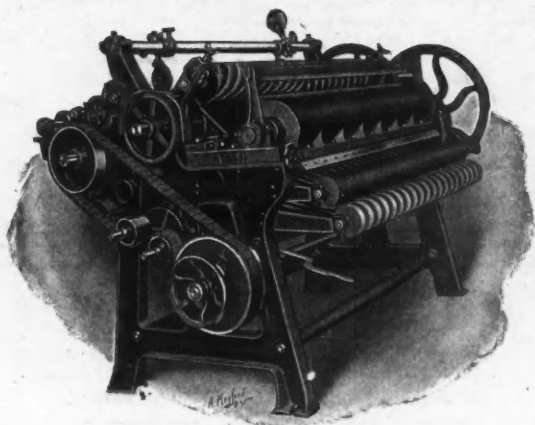
Respectfully yours,

(Signed) Pres. & Treas.

*Original of this letter is on file in our
office and may be seen at any time.*

Paper Cutters

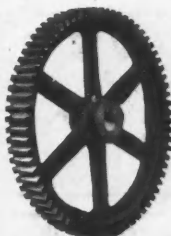
Single, Duplex and Diagonal



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



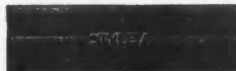
CENTRAL MANUFACTURING COMPANY

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

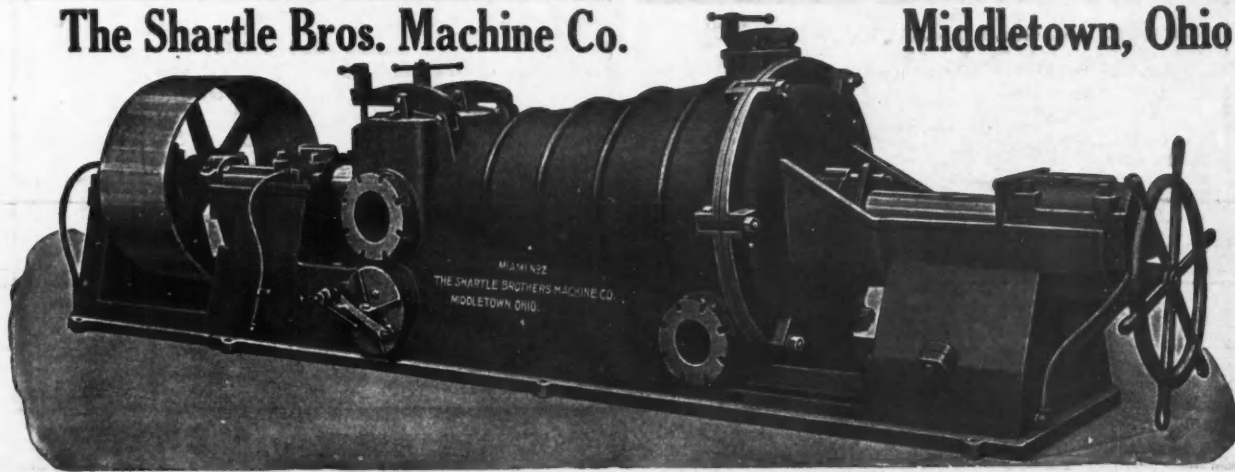
Secure Our
Prices



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.
205 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
PLANTS**

**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

286 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 Munsey 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
STOKERS**
BOSTON NEW YORK
CINCINNATI

"A type to meet every stoker need"



PHILADELPHIA
CHICAGO

PITTSBURGH
ST PAUL

MURPHY IRON WORKS
DETROIT, MICH.

Makers of
**MURPHY
FURNACES**
BUFFALO CLEVELAND
DENVER

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 11 x 17, 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

◇ W ◇ "WATERBURY"
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
MFR.
ADJUSTABLE-HOLDER

Special Shaped Carbon, Black Diamond POINTS FOR TURNING Paper, Cotton
Chilled Iron and Hardened Steel Calender Rolls, Hard Rubber, Fibre, etc.
Successor to John Dickinson, Established 1786.

Agents for Great Britain, C. W. BURTON, GRIFFITHS & CO.,
Ludgate Square, London.

Manufactured by **THOS. L. DICKINSON.** 26 Gold St., NEW YORK

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

ESTABLISHED 1861
 IRA L. BEEBE CYRUS E. JONES

IRA L. BEEBE & CO.

132 Nassau St., New York



IMPORTERS AND DEALERS IN

WOOD PULP

AGALITE FILLER

UNITED STATES TALC CO.
 GOUVERNEUR NEW YORK

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
 ENTIRE PRODUCT FOR 1922 CONTRACTED
 Mills at
 Felts Mills, Great Bend and Lefebvre, N. Y.
 Main Office
 Trust Co. Building, Watertown, N. Y.

**SLITTERS
 AND
 WINDERS**

SAMUEL M. LANGSTON COMPANY
 CAMDEN, N. J.

TRADE
CAMACHINE
 MARK
SLITTERS AND WINDERS
 CAMERON MACHINE CO. BROOKLYN, N.Y.

**CRANE
 BRASS VALVES**

NEW ENGLAND TANK & TOWER CO.



**WOOD TANKS
 FOR ALL
 PURPOSES**

Everett Station, Boston, Mass.
 New York Office, 30 Church St.

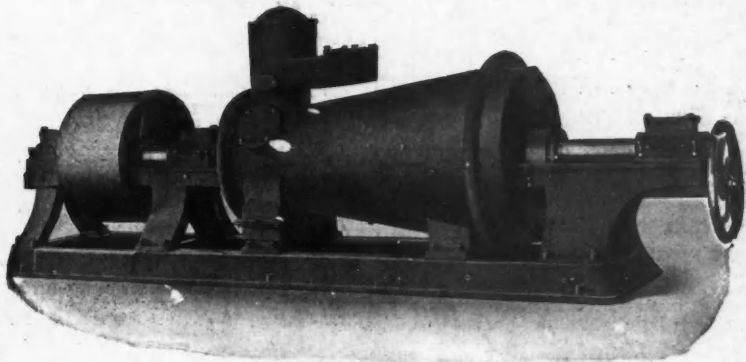
**“DRAPER”
 FELTS**

For Any Grade of Paper or Pulp
ARE GUARANTEED

To Give Entire Satisfaction

MANUFACTURED BY
DRAPER BROS. CO., CANTON, MASS.

THE DILLON JORDAN



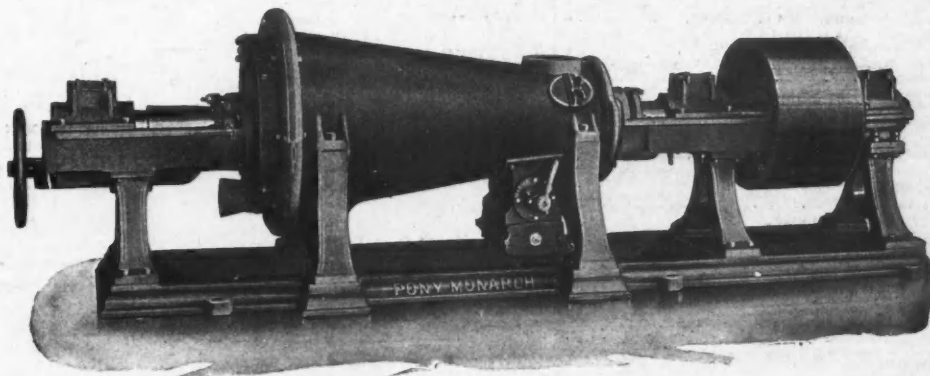
Our latest Improved Machine, three sizes; belt or direct connected motor driven. All Bearings self-oiling, adjustable and water-cooled. Outside stand fitted with gauge to keep the plug central with the shell.

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.	Page	COATED PAPERS.	Page	GAUGES (Pressure, Indicating and Recording).	Page
Paper Manufacturing Co.	70	McLaurin-Jones Co.	—	Bristol Co., The	—
AGALITE.		COGS.		Manning Gauge Co.	—
Union Tale Co.	69	N. P. Bowsher Co.	76	GUMMED PAPERS.	
U. S. Tale Co.	70	COMPRESSORS (Air).		McLaurin-Jones Co.	—
ALUM.		The Nash Engineering Co.	35	GUMMING AND GLUING MACHINERY.	
The Kalbfleisch Corp.	7	CONVEYORS, PULPWOOD		Potdevin Machine Co.	35
Pennsylvania Salt Mfg. Co.	76	Jeffrey Mfg. Co.	—	HEATERS.	
Superior Chemical Co.	3	CORDAGE.		Gordon Co., Inc., Robert	9
Winkler Bros., Inc.	75	Columbian Rope Co.	29	ICE CREAM CONES	
ARCHITECTS AND ENGINEERS.		CUTTERS.		McLaren Products Co., Robert	—
George F. Drew	68	Smith & Winchester Mfg. Co.	8	IRON EXTRACTORS	
Hardy S. Ferguson	68	DIE CUTTERS.		Oakes Co., Roland T.	—
William T. Field	68	Hogson & Pettis Mfg. Co.	2	KNIVES, ETC.	
George F. Hardy	68	Independent Die Co., Inc.	—	Bolton & Son, J. W.	9
Herbert S. Kimball	68	DIGESTERS.		Machinery Co. of America	—
Management Engineering and Development Co.	69	American Welding Co.	55	LUBRICANTS.	
H. B. Frather	68	DRIVES (Gear).		Vacuum Oil Co.	—
V. D. Simons	68	Farrel Foundry & Machine Co.	—	MICROMETERS.	
F. L. Smith	68	DRIVES, SILENT CHAIN.		E. J. Cady & Co.	—
Stebbins Engineering Co.	69	Morse Chain Co.	69	Foreign Paper Mills, Inc.	3
Thomas L. Tomlines & Son	68	DRYER EXHAUSTS.		MILL COGS.	
Vitale & Rothery	68	The Nash Engineering Co.	35	N. P. Bowsher & Co.	76
Joseph H. Wallace & Co.	68	DRYING SYSTEMS.		MOTORS.	
ASBESTINE PULP.		Open Coil Heater & Purifier Co.	—	B. F. Perkins & Son, Inc.	11
International Pulp Co.	Front Cover	W. F. Pickles	—	OILS AND GREASE.	
ASHES HANDLING MACHINERY.		Ross Engineering Co.	—	Vacuum Oil Co.	—
Jeffrey Mfg. Co.	—	DYES, ANILINE.		PACKING.	
BALL BEARINGS.		Calco Chemical Co.	—	Jenkins Bros.	61
S. K. F. Industries, Inc.	—	Heller & Merz	13	PAINTS & VARNISHES.	
BEATING ENGINES.		National Aniline & Chemical Co.	—	Du Pont de Nemours Co., E. I.	—
Beloit Iron Works	14	The White Tar Aniline Corporation	—	PAPER BAG MACHINERY.	
Clafin Engineering Co.	57	DYE STUFFS.		Potdevin Machine Co.	35
Dayton Beater & Hoist Co.	71	E. I. Du Pont de Nemours & Co.	—	Smith & Winchester Mfg. Co.	8
Dillon Machine Works, Inc.	53	ELECTRIC HOISTS.		PAPER BAG MANUFACTURERS.	
Ditts Machine Works, Inc.	73	Shepherd Electric Crane & Hoist Co.	—	Lawrence Bag Co.	27
Dowdington Mfg. Co.	54	ENVELOPE MACHINES.		Schorath & Co.	63
Emerson Mfg. Co.	73	Potdevin Machine Co.	35	PAPER BOX BOARDS.	
Noble & Wood Machine Co.	71	F. L. Smith Machine Co.	—	C. L. Boiteaux Co.	12
Valley Iron Works Co.	—	EVAPORATORS.		PAPER CUTTERS.	
BELTING.		Zaremba Company	—	Hamlet Machine Co.	67
Goodyear Tire & Rubber Co.	—	FELTS AND JACKETS.		McLauthlin & Co., G. T.	—
R. D. Skinner & Co., Inc.	—	Albany Felt Co.	—	PAPER DEALERS.	
BOILERS.		Appleton Woolen Mills	8	M. M. Elish & Co.	12
Heine Boiler Co.	57	Draper Bros. Co.	70	R. F. Hammon	Front Cover
BRONZE CASTINGS.		Fitchburg Duck Mills	11	Midwest Paper Co.	69
Hyde Windlass Co.	13	E. C. Hays & Son	3	PAPER EXPORTERS.	
BUCKETS (Elevator).		Knox Woolen Co.	3	A. M. Capen's Sons, Inc.	76
Hendricks Mfg. Co.	10	Lockport Felt Co.	53	Hudson Trading Co.	2
CALENDAR ROLLS.		Orr Felt & Blanket Co.	55	Parsons Trading Co.	Front Cover
Farrel Foundry & Machine Co.	—	Shuler, Benninghofen Co.	—	PAPER MANUFACTURERS.	
Lobdell Car Wheel Co.	61	Waterbury Felt Co.	4	American Coating Mills	5
Norwood Engineering Co.	63	Waterbury & Sons Co., H.	69	Bayless Mfg. Co.	4
Perkins & Son, Inc., B. F.	11	FELT ROLLS.		Becker Paper Corporation	—
Textile Finishing Machinery Co.	—	Rodney Hunt Machine Co.	2	Brown Company	5
CARBON TOOLS.		FILTERING SYSTEMS.		Collins Mfg. Co.	6
Thomas L. Dickinson	69	Norwood Engineering Co.	63	Diamond State Fiber Co.	Front Cover
CASEIN.		FLOOR COVERINGS.		Eastern Mfg. Co.	71
Cascin Mfg. Co.	3	L. Sonneborn & Sons	57	Easton-Dikeman Co.	57
CHAINS.		FLOOR HARDENER (Concrete).		Fort Howard Paper Co.	5
Jeffrey Mfg. Co.	—	L. Sonneborn & Sons	57	Franklin Paper Co.	—
CHEMICALS, COLORS, ETC.		FOURDRINIER WIRES.		Hammermill Paper Co.	—
Arnold, Hoffman & Co., Inc.	—	Appleton Wire Works	76	Hanna Paper Corporation	6
Du Pont de Nemours & Co.	—	Buchanan Bolt & Wire Co.	72	Howard Paper Co.	55
Heller & Merz Co.	13	Cable Excelsior Wire Mfg. Co.	76	McLaurin-Jones Co.	—
Kuttroff, Pickhardt & Co.	Front Cover	Cheney, Bigelow Wire Works	74	Missisquoi Pulp & Paper Co.	3
Sandoz Chemical Works, Inc.	7	Eastwood Wire Mfg. Co.	76	Mountain Mill Paper Co.	12
The White Tar Aniline Corporation	4	Lindsay Wire Works	75	Poland Paper Co.	—
C. K. Williams & Co.	76	Joseph O. O'Neill Wire Works	75	Saint Regis Paper Company	6
CLAY.		The W. S. Tyler Company	75	Sherman Paper Co.	70
Atterbury Bros.	Front Cover	FURNACES (Automatic).		Stratford Paper Co.	69
John W. Higman Co.	53	Murphy Iron Works	68	Wausau Sulphate Fibre Co.	51
Paper Makers Chemical Co.	53	GAUGES (Calliper).		West Virginia Pulp & Paper Co.	5
Western Paper Makers Chemical Co.	53	Farrel Foundry & Machine Co.	—		
Star Clay Company	76				
COAL MINING.					
Empire Coal Mining 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.	Page	RAG CUTTERS.	Page	SULPHUR.	Page
Bagley & Sewell Co.	74	B. F. Perkins & Sons, Inc.	11	Texas Gulf Sulphur Co.	6
Baker Mfg. Co.	14	Taylor-Stiles & Co.	—	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.	57
Frank H. Davis.	65	ROLL GRINDERS.		G. Woodford 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.	61	Hercules Powder Co.	35	P. T. Coolidge	68
Improved Machinery Co.	33	ROSIN SIZE.		James W. Sewall	68
Sandy Hill Iron & Brass Co.	10	Arabol Mfg. Co.	75	TRANSMISSION MACHINERY.	
Shurtle Bros. Machine Co.	67	Paper Makers Chemical Co.	53	H. W. Caldwell & Sons Co.	67
Smith & Winchester Mfg. Co.	8	Western Paper Makers Chemical Co.	53	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.	35
Melver, Dana T.	2	SATIN WHITE.		TWINES.	
Melby, E. C.	66	Kalbfleisch Corporation	40	American Manufacturing Co.	40
PAPER AND PULP MILL BROKERS.		Paper Makers Chemical Co.	53	VALVES.	
Gibbs-Brower Co.	66	Western Paper Makers Chemical Co.	53	Crane Co.	70
PAPER STOCK.		SCALES (Paper).		Jenkins Bros.	61
Atterbury Bros.	Front Cover	Fred Baker	—	VAPOR ABSORPTION SYSTEMS.	
Butterworth & Co., Inc., E.	Front Cover	E. J. Cady & Co.	—	J. O. Ross Engineering Co.	—
Castle, Gottheil & Overton.	75	Foreign Paper Mills, Inc.	3	VENTILATING FANS.	
Gumbinsky Bros.	76	SCREENS.		B. F. Perkins & Sons, Inc.	11
Hicks, Daniel M.	70	Bird Machine Co.	31	Ross Engineering Co.	—
Penn Paper & Stock Co.	69	Central Mfg. Co.	67	VEGETABLE PARCHMENT PAPERS.	
Salomon Bros., & Co.	69	Wm. A. Hardy & Sons Co.	55	Kalamazoo Vegetable Parchment Co.	51
Train-Smith Co.	Front Cover	Union Screen Plate Co.	73	WAXED PAPERS.	
PAPER TESTERS.		SHREDDERS (Pulp and Paper).		Dragon Paper Mfg. Co.	7
Foreign Paper Mills, Inc.	3	Gruendler Patent Crusher & Pulverizer Co.	—	WOOD FLOUR.	
B. F. Perkins & Son, Inc.	11	SKYLIGHTS.		Union Wood Flour Co.	69
PAPER TUBE MACHINERY.		E. Van Noorden & Co.	75	WOOD PULP IMPORTERS.	
Dietz Machine Works.	10	SLASHERS.		American Wood Pulp Corp.	4
Grisinger Machine Works.	57	Ryther & Pringle Co.	—	J. Anderson & Co.	4
PAPER WAXING MACHINERY.		SLITTERS AND REWINDERS.		Ira L. Beebe & Co.	70
Farrel Foundry & Machine Co.	—	C. Benninghofen & Sons	67	The Boregard Co., Inc.	—
Potdevin Machine Co.	35	Cameron Machine Works	70	M. Gottesman & Co.	—
PERFORATING MACHINES.		Dietz Machine Works	10	Hammond, R. F.	Front Cover
Dietz Machine Works	10	Samuel M. Langston Co.	70	E. J. Keller Co.	57
PERFORATING METAL.		SPLICING TISSUE.		Lagerloef Trading Co.	Front Cover
Harrington & King Perforating Co.	63	Sergeant Co., E. M.	75	Mead Sales Co., The	31
Hendrick Mfg. Co.	10	STARCH.		Nilsen, Rantoul & Co., Inc.	37
Charles Mundt & Sons.	53	Corn Products Refining Company	6	A. J. Pagel & Co., Inc.	25
Manhattan Perforated Metal Co.	—	STEAM SPECIALTIES.		J. F. Patton & Co., Inc.	51
PRESS ROLLS		Crane Co.	70	Perkins-Goodwin Co.	37
Rodney Hunt Machine Co.	2	Open Coil Heater & Purifier Co.	—	Scandinavian-American Trading Co.	12
PLUGS (Wood).		STITCHING MACHINERY.		WOOD ROLLS.	
O. L. Bartlett.	—	Saranac Machine Co.	—	Rodney Hunt Machine Co.	2
PULP PROCESS.		SULPHITE BLEACHED AND UNBLEACHED.			
Castle, Gottheil & Overton	8	J. Anderson & Co.	4		
PULP STONES.		The Boregard Co., Inc.	5		
International Pulp Stone Co.	Front Cover	Brown Company	—		
Lombard & Co.	2	Butterworth & Co., Inc., E.	Front Cover		
PUMPS.		Canadian Robert Dollar Co.	33		
Frederick Iron & Steel Co.	2	Craig-Becker Co., Inc.	51		
Hayton Pump & Blower Co.	7	Eastern Manufacturing Co.	71		
PUMPS (Vacuum).		Mead Sales Co., The	—		
The Nash Engineering Company	35	Parsons Pulp & Lumber Co.	63		
PRESSURE BULKERS.		Price & Pierce, Ltd.	Front Cover		
B. F. Perkins & Sons, Inc.	11	Pulp & Paper Trading Co.	4		

Fitchburg, Mass., U. S. A. UNION SCREEN PLATE COMPANY Leavenworth, 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 Making Machines

Cylinder and Fourdrinier

Downingtown Manufacturing Co.

East Downingtown, Pa., U. S. A.

ESTABLISHED 1842

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, Con-
 densed 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

 Jute Stock
 Sizing, Sulphite
 and Soda Pulps
 200 FIFTH AVE. NEW YORK

Van Noorden Skylights
 are as
To work by the Sun
 Means twice the work done. **Indispensable**

 To a modern Paper
 Mill as its important
 inner equipment.
 "DAYLITE" means
 Nature's light with-
 out weather or con-
 densation 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.

C. K. WILLIAMS & CO., EASTON, PA.



Proprietors of the Penna. Dry Paint and Color Works and the Hollis 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

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.

Rags are the most expensive paper-making material. Lower your ultimate costs with America's best

"G.B." 3RDS & BLUES

Inquiries solicited

GUMBINSKY BROS. CO.

America's Largest Packers of Rags and Waste Paper
 2261 South Union Ave., Chicago, Illinois

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

STAR CLAY CO.
 TRADE MARK
 MINERS & MANUFACTURERS OF
WHITE CHINA CLAY
 ESPECIALLY ADAPTED TO PAPER MAKERS USE
 MERTZTOWN, PA.

THE WM. CABLE
EXCELSIOR WIRE MFG. CO.

Established 1848
 Incorporated 1870-1886



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



Write for Price List

74-90 Ainslie St. BROOKLYN, N. Y.

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.



EASTWOOD
WIRE MFG. CO.
FOURDRINIER WIRES
 BELLEVILLE, NEW JERSEY, U.S.A.

C. K. WILLIAMS & CO., EASTON, PA.



Proprietors of the Fenna, Dry Faint 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, Tale, China and other Clays.

COLORS FOR PAPER MANUFACTURERS' USE

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.

Rags are the most expensive paper-making material. Lower your ultimate costs with America's best

"G.B." 3RDS & BLUES

Inquiries solicited

GUMBINSKY BROS. CO.

America's Largest Packers of Rags and Waste Paper
 2261 South Union Ave., Chicago, Illinois

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

STAR CLAY CO.
 TRADE MARK
 MINERS & MANUFACTURERS OF
WHITE CHINA CLAY
 ESPECIALLY ADAPTED TO PAPER MAKERS USE.
 MERTZTOWN, PA.

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.

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.