

## Technical and Bibliographic Notes / Notes techniques et bibliographiques

Canadiana.org has attempted to obtain the best copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

- Coloured covers /  
Couverture de couleur
- Covers damaged /  
Couverture endommagée
- Covers restored and/or laminated /  
Couverture restaurée et/ou pelliculée
- Cover title missing /  
Le titre de couverture manque
- Coloured maps /  
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /  
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /  
Planches et/ou illustrations en couleur
- Bound with other material /  
Relié avec d'autres documents
- Only edition available /  
Seule édition disponible
- Tight binding may cause shadows or distortion  
along interior margin / La reliure serrée peut  
causer de l'ombre ou de la distorsion le long de la  
marge intérieure.
  
- Additional comments /  
Commentaires supplémentaires:

Canadiana.org a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /  
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed /  
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /  
Qualité inégale de l'impression
  
- Includes supplementary materials /  
Comprend du matériel supplémentaire
  
- Blank leaves added during restorations may  
appear within the text. Whenever possible, these  
have been omitted from scanning / Il se peut que  
certaines pages blanches ajoutées lors d'une  
restauration apparaissent dans le texte, mais,  
lorsque cela était possible, ces pages n'ont pas  
été numérisées.

MACHINERY - EGYPTIAN COTTON

PATENTS

**CANADIAN MANUFACTURER**  
 AND INDUSTRIAL WORLD  
 DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

VOL. 44. TORONTO, MAY 16, 1902. No. 10.

**ELEVATORS**  
 ...AND...  
**Conveying Machinery**  
 OF EVERY DESCRIPTION  
**WILLIAMS & WILSON**  
 320 St. James St.  
 MONTREAL

**MILL SOAPS**  
 For all TEXTILE PURPOSES  
 MANUFACTURED BY  
**Dominion Dyewood and Chemical Company,**  
 TORONTO

**Dominion Oil Cloth Co., Limited**  
 Manufacturers of  
**OIL-CLOTHS**  
 of Every Description.  
 Floor Oil-Cloth, Table Oil-Cloth,  
 Carriage Oil-Cloth,  
 Enamelled Oil-Cloth,  
 Stair Oil-Cloth, etc.  
 OFFICE AND WORKS:  
 Cor. St. Catherine & Parthenais Sts.  
 MONTREAL, Que.

CAVEATS ETC.

**RUBBER INSULATED WIRES AND CABLES**  
 OF EVERY DESCRIPTION for  
 Telephone, Telegraph and Electric Lighting Purposes.  
 MAGNET WIRES ANNUNCIATOR WIRES  
**The WIRE AND CABLE COMPANY, - Montreal.**

EGERTON R. CASE

Registered Solicitor of Patents; Notary Public; Member of the Canadian Manufacturers' Association

**WE MAKE THE BEST**  
**Lowell Burr Cylinder Works,**  
 Manufacturer of all kinds of **BURR AND LICKER**  
 -IN WIRE for Woolen or Cotton Cards.  
 Burr and Licker-In Cylinders, Feed Rolls,  
 Metallic or Plain. Repairers of Garnet Machines.  
**ROBERT CARRUTHERS**  
 Proprietor Lowell, Mass.

**RUBBER GOODS OF ALL KINDS.**

**THE GUTTA PERCHA & RUBBER MFG CO**  
 TRADE MARK  
 TORONTO  
 61 and 63 FRONT ST. WEST, TORONTO.

THE...  
**Walkerville Malleable Iron Co., (Limited)**  
 Manufacturers of  
**REFINED AIR FURNACE Malleable Castings**  
 ALSO LIGHT GREY IRON CASTINGS.  
 WALKERVILLE, - ONTARIO.

HEAD OFFICE TEMPLE BUILDING TORONTO OFFICES OTTAWA AND WASHINGTON, D.C.

WOOLEN WORSTED 281-285 CONGRESS ST., - BOSTON, MASS.

**JOHN J. KELLER & CO. INCORPORATED**

104 and 106 MURRAY ST., NEW YORK

BOSTON  
PROVIDENCE**Importers and Manufacturers**PHILADELPHIA  
ATLANTA

SOLE AGENTS FOR

**ANILINE COLOR & EXTRACT WORKS**FORMERLY JOHN R. GEIGY, BASLE, SWITZERLAND,  
AND GRENZACH, GERMANY.**ANILINE COLORS, DYESTUFFS,  
DYEWOODS AND SUMACH EXTRACTS****STEEL RAILS**

We are now offering Highest Quality

**BESSEMER STEEL RAILS**

made by the

**ALGOMA STEEL CO., Limited**  
of SAULT STE. MARIE, ONT.**DRUMMOND, McCALL & CO.,**  
GENERAL SALES AGENTS

OFFICES:

Canada Life Bldg., MONTREAL. 93 York St., TORONTO.

**CHARCOAL PIG IRON****Deseronto Iron Company**

(LIMITED)

**DESERONTO, ONTARIO**

MANUFACTURERS OF

High Grade Charcoal Pig Iron for Special  
Foundry Purposes, Malleable Castings, Car  
Wheels and other Chilled Castings.**SELBY & YOULDEN**

SOLE MANUFACTURERS IN CANADA OF

**PRESSED STEEL CAR WHEELS**

(Donovan Patent)

Roller Bearing Railway Section Hand and Push  
Cars, Track Laying Cars and Velocipedes,

ALSO OF THE

Celebrated "CARROLL" PROPELLOR WHEELS

MARINE ENGINES and BOILERS, CAPSTANS,  
STEERING GEARS, DOUBLE and SINGLE DRUM HOISTING ENGINES  
Mill and General Boiler and Engine Repairs  
promptly attended to.**KINGSTON FOUNDRY,** SELBY & YOULDEN,  
Proprietors,  
KINGSTON, ONT.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**ANILINES****St. Denis Dyestuff and Chemical Co.,**

(A. POIRRIER), of Paris, France.

Manufacturers of

Aniline Colors, Aniline Oil and Salt, Archil Extracts  
Cudbear, Cachou de Laval, Thiocatechines, etc.

A Complete Assorted Stock of the above always on hand.

**W. T. Benson & Co.,**

Sole Agents for Canada.

164 St. James St., MONTREAL

**ONTARIO'S MINERAL LANDS**The ungranted lands of the Crown in Ontario have an area of nearly  
100 million acres. They contain many mineral belts, in which deposits of  
gold, silver, iron, copper, nickel, zinc, graphite, pyrites, corundum, mica,  
etc., have been found. Excellent ground for prospecting. Travel by canoe;  
railway and steam navigation in many parts. Prices of land low. No  
royalties. For reports, maps and mining laws, apply to

HON. E. J. DAVIS,

Commissioner of Crown Lands, TORONTO.

**CANADA IRON FURNACE CO., LIMITED**

Montreal, Radnor and Three Rivers

Manufacturers of the well-known

**"C.I.F." Three Rivers Charcoal Pig Iron**Suitable for Car Wheels, Cylinders and Fine Castings,  
where the utmost strength is required.UNSURPASSED IN STRENGTH BY SWEDISH, RUSSIAN  
OR AMERICAN CHARCOAL IRON.

Offices: Canada Life Insurance Bldg., Montreal.

**MONTREAL PIPE FOUNDRY CO...**

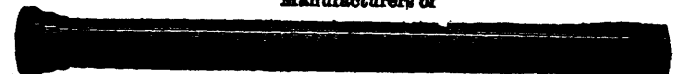
SUCCESSORS TO

(Limited)

**DRUMMOND-McCALL PIPE FOUNDRY CO.**

(Limited)

Manufacturers of

**"Specials," Hydrants, Valves, Etc.**

Offices: - - - Canada Life Building.

MONTREAL

There are **WHEELOCK ENGINES** that have been running over ten years and have not cost a dollar for repairs. Does this interest you? We also make the **IDEAL HIGH SPEED ENGINE.**

SEND FOR CATALOGUE

**WE MAKE** Wheelock Engines, Ideal Engines, Gas and Gasoline Engines, Boilers, Water Wheels, Pumps, Flour Mill Machinery, Oat Meal Mill Machinery, Oat Meal Steam Pan Kilns, Wood Working Machinery, Iron Pulleys, Wood Rim Split Pulleys, Shafting, Hangers, Gearing, Friction, Clutch Pulleys, Friction Clutch Couplings, etc., Safes, Vaults and Vault Doors.

**The GOLDIE & McCULLOCH CO.**  
LIMITED  
GALT, - - ONT.

**THE IMPERIAL OIL COMPANY, Limited**

Highest Awards at the World's Fair, Chicago, upon

**Lubricating, Water White Illuminating Oils, Paraffine Wax, Etc.**

We manufacture all grades of oils, greases, soap stocks, candles, wool stocks, leather and tanners' oils, fuel gas, machinery, cylinder oils, &c. And solicit opportunity to compete against any oil on the market. Write for prices and samples.

**Refineries at SARNIA and PETROLIA, CANADA. Merchandising Branches at:**

HALIFAX, N.S. HAMILTON, ONT. QUEBEC, QUE. LONDON, ONT. TORONTO, ONT. WINNIPEG, MAN. ST. JOHN, N.B. GUELPH, ONT.  
MONTREAL, QUE. CHATHAM, ONT. PETERBORO, ONT. VANCOUVER, B.C. MONCTON, N.B. STRATFORD, ONT. KINGSTON, ONT. WINDSOR, ONT.

**The John Bertram & Sons Co., Limited**

**DUNDAS, ONTARIO**

**Canada Tool Works**

**MACHINE TOOLS**

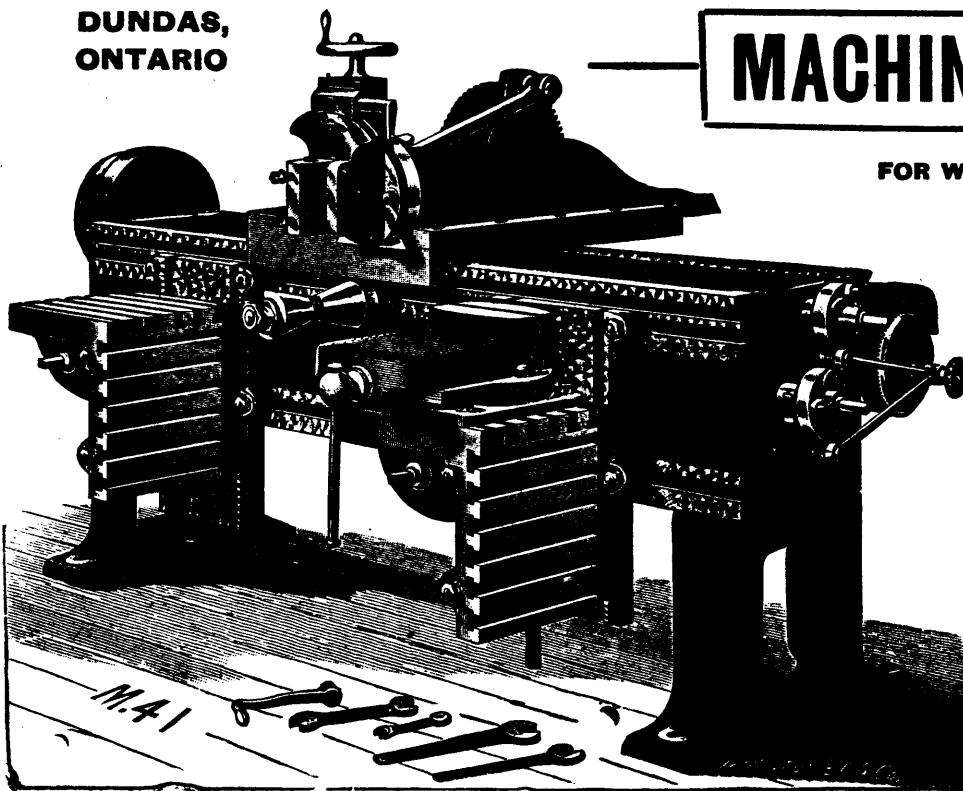
FOR WORKING

**IRON, STEEL**  
OR  
**BRASS**

.....  
**PULP AND PAPER**  
MACHINERY  
.....

Branch Offices and Agencies—

**Vancouver, B.C.**  
**Montreal, Que.**  
321 St. James St.



When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# THE NOVA SCOTIA STEEL & COAL CO.

MANUFACTURERS OF

LIMITED

## BRIGHT COMPRESSED STEEL SHAFTING

FROM  $\frac{1}{2}$  TO 6 INCHES IN DIAMETER. GUARANTEED STRAIGHT AND TRUE TO WITHIN  $\frac{1}{16}$  OF AN INCH.

Spring, Reeled Machinery, Tire, Toe Caulk, Sleigh Shoe, Angles, Special Sections  
and all Merchant Bar Steel. Sheet Steel up to 48 inches wide.

### RAILWAY AND ELECTRIC RAILWAY CAR AXLES

### FISH PLATES, SPIKES AND TRACK BOLTS

Tee Rails, 12, 18, 24 and 28 lbs. per yard

## ..HEAVY FORGINGS A SPECIALTY..

### "FERRONA" PIG IRON, For Foundry Use.

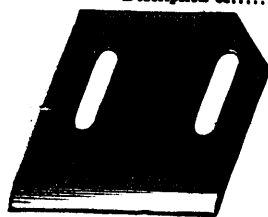
Works—NEW GLASGOW, N.S., and FERRONA, N.S.

Head Office—NEW GLASGOW, NOVA SCOTIA

## GALT Machine Knife Works

PETER HAY,

GALT, ONT.

Manufacturers of Every  
Description of.....

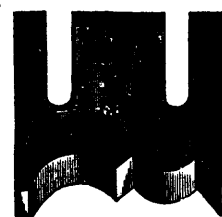
## KNIVES,

For Wood-Working, Paper  
Cutting and Leather-Splitting  
Machines

BARK  
KNIVES  
PULP  
KNIVES  
RAG  
KNIVES  
Etc., Etc.



Shear Blades,  
Straw Knives,  
Paper Knives,  
Etc., Etc.



Quality Guaranteed.

Special Knives Made to Order.

Send for Price List

## DOMINION BRIDGE CO., Limited,



MONTREAL AND  
LACHINE LOCKS, P.Q.

Steel Bridges for Railways and Highways,  
Steel Piers and Trestles, Steel Water Towers and Tanks,  
Steel Roofs, Girders, Beams, Columns for Buildings.

A large Stock of *ROLLED STEEL BEAMS, JOISTS, GIRDERS, CHANNELS, ANGLES, TEES, Z BARS and PLATES*

Tables, giving Sizes and Strength of Rolled Beams on application.

**ALWAYS ON HAND**IN LENGTHS TO  
THIRTY-FIVE FEET.

Post Office Address,  
MONTREAL.

## GEORGE E. EVANS,

Agent, 38 Canada Life Building  
TORONTO ONT.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**BRUNNER, MOND & CO., Limited,**  
NORTHWICH, ENGLAND.

**PURE ALKALI**

48% and 58% (Light and Heavy)

**BLEACH<sup>g</sup> PWD.**

35% to 37% (Hardwood Casks)

**CAUSTIC SODA**

60% to 77%.



**Winn & Holland,**  
MONTREAL,  
Sole Agents for Canada.

**SODA CRYSTALS**

Lump and Crushed. Brs. and Bags.

**CON<sup>CTD</sup> SAL SODA**

DOUBLE STRENGTH

**BICARBONATE SODA**

ABSOLUTELY PURE

Also for Mineral Water Manufacturers.

**The Wellington Mills, LONDON, ENG.**  
**GENUINE EMERY**

Oakey's Flexible Twilled Emery Cloth.  
Oakey's Flint Paper and Glass Paper.  
Oakey's Emery Paper, Black Lead, Etc.  
Prize Medal and Highest Award Philadelphia, 1876, for Superiority  
of Quality, Skilful Manufacture, Sharpness, Durability,  
and Uniformity of Grain.

Manufacturers **JOHN OAKY & SONS, LIMITED,** Wellington Mills,  
Westminster Bridge Road, London, Eng.

Inquiries should be addressed to

**JOHN FORMAN,** 650 CRAIG ST., MONTREAL

**HAMILTON COTTON CO.,**  
HAMILTON, ONTARIO.

**Yarn Manufacturers,**  
**DYERS AND BLEACHERS.**

Warp Yarns of all descriptions, in Skein, Chain or on Beams.  
Hosiery Yarns in single or double, in Cop, Skein or Cone.  
Yarns of all kinds for Manufacturers' use.

**Twines, Lampwicks, Webbing, Etc.**

Dyeing of all Colors, including **GENUINE FAST BLACK.**

**ALL MANUFACTURERS**

using Electric Power

**WANT A GOOD . . MOTOR**

Our Motors are the  
Standard of the World.

Send for Bulletin 822.

**CANADIAN GENERAL ELECTRIC CO.,**  
LIMITED.

HEAD OFFICE, - TORONTO, ONT.

BRANCH OFFICES:

MONTREAL, HALIFAX, OTTAWA, WINNIPEG, VANCOUVER,  
VICTORIA, ROSSLAND.



C. G. E. INDUCTION MOTOR.

FACTORIES:

TORONTO,  
PETERBORO',  
MONTREAL.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# ALBERT MANUFACTURING CO.

MANUFACTURERS OF THE  
WELL-KNOWN

"HAMMER BRAND"

## Calcined Plaster

AND

Patent Rock Wall Plaster

HILLSBOROUGH, N. B.,  
CANADA.

## PORTLAND CEMENT

**SAMSON BRAND**  
**MAGNET BRAND**

MADE AT  
SHALLOW LAKE, ONT.

Our Celebrated **Samson Brand** has been before the public for many years, and has made hosts of friends among Contractors and Municipal Corporations until it has become one of the leading Cements on the market to-day, being excelled by none. This year we have decided to place the **Magnet** on the market, and respectfully ask consumers to give it a trial. It will, we think, do its own advertising.

The OWEN SOUND PORTLAND  
CEMENT CO., Limited

GEO. S. KILBOURN, Sec'y-Treas.

Correspondence invited.

Works, SHALLOW LAKE, Ont.

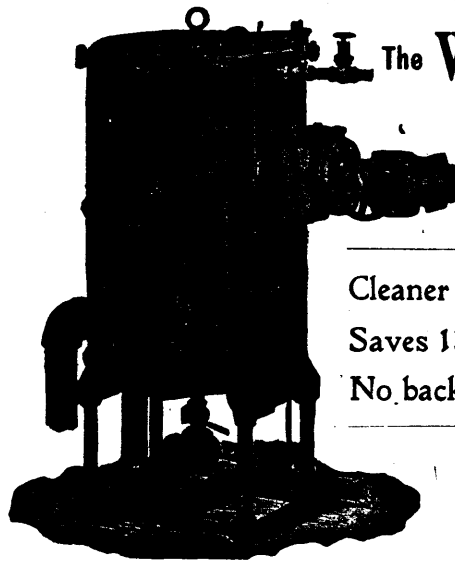
Head Office, OWEN SOUND, Ont.

Send for Catalogue and Price  
List to

THE JOHN MORROW MACHINE SCREW CO.

INGERSOLL, ONT.

Mfrs. of Set, Cap and Special  
Screws, Studs, Finished Nuts, etc.



## The Webster Feed Water Heater and Purifier

Saves 6% to 12% (or more)  
Coal.

Cleaner boilers. Uses Waste Steam.  
Saves 13% water. Prolongs life of boilers.  
No back pressure. It does more.

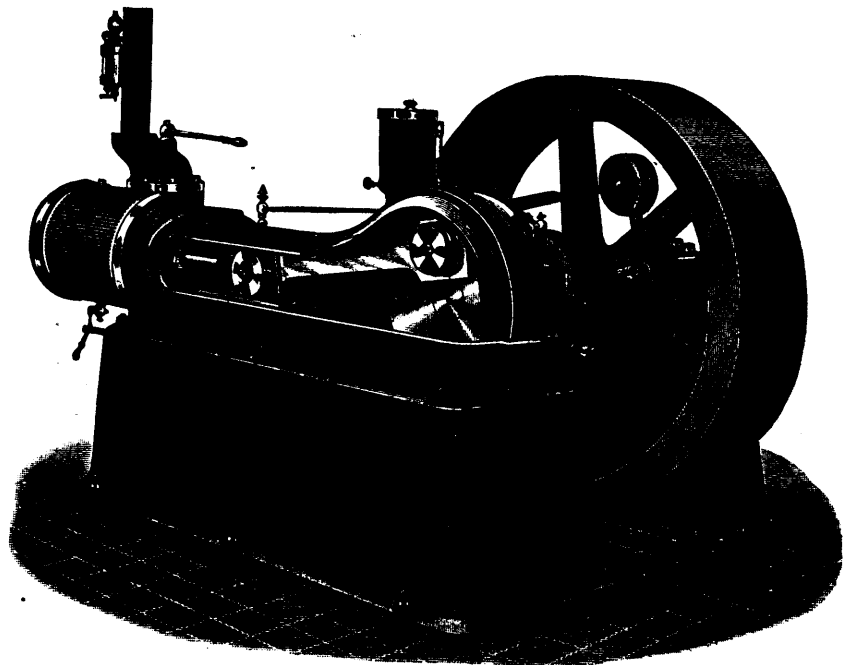
**DARLING BROS.,**  
RELIANCE WORKS,  
MONTREAL.

**A. KLIPSTEIN & CO.** 122 Pearl St.  
New York

**Anilines, Dyestuffs & Chemicals**

DELIVERY MADE AT NEW YORK, MONTREAL OR HAMILTON.

**WRIGHT & DALLYN,** AGENTS,  
HAMILTON, ONT.



**The Oiling System** of our engines consists of an oil reservoir, piped to a sight feed valve at each bearing, one valve controlling the supply to all bearings. The main bearing has self-oiling rings in addition to the sight feed valve. The crank pin is oiled automatically by oil from main bearing, and also by a sight feed valve on main bearing cap. All oil is caught in crank pit, and, after filtration, returned to oil reservoir.

**ROBB ENGINEERING CO., LIMITED,**  
AMHERST, N.S.

# CASSELLA COLOR COMPANY

(American Branch of Leopold Cassella & Co.)

## ARTIFICIAL DYE STUFFS

New York, 182-184 Front Street.

Boston, 524 Atlantic Avenue.

Philadelphia, 126-128 South Front St.

Providence, 64 Exchange Place.

Atlanta, 47 North Pryor Street.

Montreal, D'Youville Square.

# RUBBER BELTING

"Your Belting has given us uniformly good satisfaction."

W. C. EDWARDS & Co.

## THE CANADIAN RUBBER CO.

MONTREAL \* TORONTO  
WINNIPEG

### WE GUARANTEE the "ROSSENDALE," M.A.Y. WOVEN

You run no risk. Return at our expense if not satisfactory. These belts are twice the strength of leather, more durable, 30% cheaper.

R. H. BUCHANAN & CO., 692 CRAIG ST., MONTREAL

# BELTING

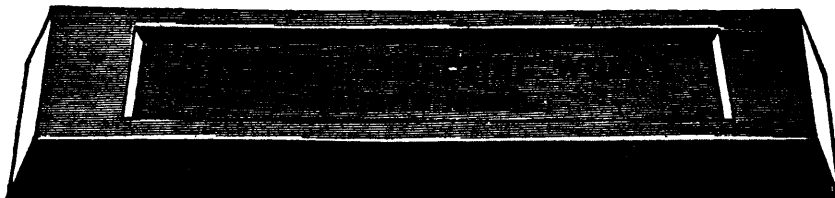
F. E. DIXON & CO., - Agents  
30 Wellington St. East, Toronto.

## THE BEST IS NONE TOO GOOD.

The largest machinery builders in Canada and United States use our Babbitt Metal. Is this not sufficient proof of its superiority over other anti-friction metals? If the largest users are satisfied with our Babbitt Metals, why should it not suit you? We can furnish you with numbers of testimonials.

Importers and Dealers in

PIG TIN, ANTIMONY  
INGOT COPPER  
ALUMINUM  
NICKEL, BISMUTH  
IRON AND STEEL  
SCRAP



<b>SYRACUSE</b>
<b>BABBITT</b>
<b>BEATS THEM ALL</b>

Manufacturers of

BABBITT METALS, SOLDER  
TYPE METALS  
COLUMBIA PHOSPHOR TIN  
AND  
ALL OTHER WHITE METAL MIXTURES

## SYRACUSE SMELTING WORKS

WILLIAM AND ST. THOMAS STREETS, - - MONTREAL

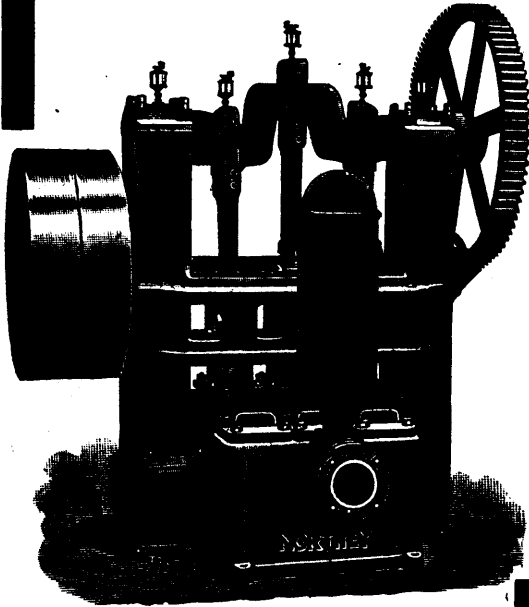
When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



THE NORTHEY  
TRIPLEX POWER PUMP

is a high class serviceable machine; it offers the best means of applying either steam, water or electrical power for pumping purposes. A special feature is the use of three cranks 120 degrees apart—ensuring a practically constant delivery. This pump, for Boiler Feeding, etc., and especially in connection with an electric motor, gives excellent results.

SEND FOR PUMP CATALOGUE.



# Pumping Machinery

"For all Duties"

Many manufacturers who are users of Pumping Machinery pay coal bills that are from 10% to 50% higher than they should be, because their pumps are old and leaky, do not give the service they should, and waste steam. Would it not pay you to look into this matter? We can advise you what you can do most profitably with your present plant—discard it or repair it. Our business is the making of Pumps for all services—we do it on a large scale, and we are experts in our line. Write for Specifications and Catalogues.

We manufacture also the  
Northey Gas and  
Gasoline Engine  
a handy and economical  
motor.

SEND FOR  
ILLUSTRATED BOOKLET

THE Northey  
Company  
Limited, Toronto

1000 KING ST.  
SUBWAY

**TO MANUFACTURERS! Do You Publish Catalogues and Circulars? Advertise in Trade Journals?**

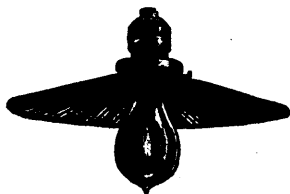
WE CAN SUPPLY YOU  
WITH ARTISTIC AND  
MECHANICALLY CORRECT

Photo Engravings, Wood Cuts, Electrotypes, Zine Etchings

Or anything that you may desire, **FIRST-CLASS** in every particular, at Prices that Defy Competition. Ask for Estimates.

**THE CANADIAN MANUFACTURER PUBLISHING CO., LIMITED, - TORONTO**

**RODERICK J. PARKE, CONSULTING ENGINEER TO MANUFACTURERS**—Competent and impartial advice on Industrial Electrical Systems of Lighting, Power Distribution, Heating and Welding, Etc. Plans, Specifications, Tests, Reports, Valuations.  
Temple Bldg., - TORONTO.  
Long Distance Telephone.



## Reflectors, Shades, Lamps

We Stock a Large Variety of **SHADES**  
and **REFLECTORS** in

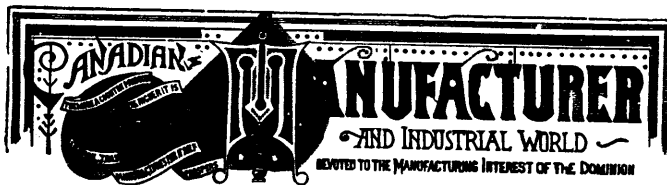
**ALUMINUM, MIRROR, CELLULOID, PAPER, PORCELAIN,**  
**FOR FACTORY AND OFFICE.**

**Imperial Lamps and Helios Upton Enclosed Arcs** Give **BEST LIGHT** with **LEAST CURRENT**  
**ELBRIDGE** Sparking Dynamos, **SAMSON** Batteries and **IMPERIAL** Salts, for Gas or Oil Engines.

Write us about Lighting  
your Factory or Office.

**JOHN FORMAN, 708 and 710 Craig St., MONTREAL**

When writing to Advertisers kindly mention **THE CANADIAN MANUFACTURER.**



ESTABLISHED IN 1880.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

The Canadian Manufacturer Publishing Co., Limited.

McKinnon Building, Cor. Melinda and Jordan Sts., Toronto.  
Cable address: "CANAMAN." Western Union Telegraphic Code used.

MESSRS. DAVISON &amp; CO.,

164 Federal Street, Boston, Mass.

AGENTS FOR UNITED STATES.

Index to Advertisers ..... Page 42

J. J. CASSIDY, Editor and Manager

## CANADIAN-GERMAN TRADE.

The Canadian Manufacturers' Association have made a declaration regarding Canadian-German trade that is somewhat remarkable. In its official organ—Industrial Canada—it tells us that those who have been studying Canadian trade with Germany, and its possibilities, say that that trade has suffered from woeful neglect—that it is to be hoped that a continued exposure of the trade openings with that country will appeal with increasing force to our manufacturers, and teach them to mark their foreign dealings with more energy, enthusiasm and confidence. This neglect has been due, we are told, to a prejudice caused by a mistaken idea in regard to Germany's tariff, while, as a matter of fact, the German maximum tariff is of narrow significance to Canadian manufacturers, for it affects only three or four lines of manufactured goods, and most of them but very slightly. It is shown that the German tariff comprises 43 schedules, and a comparative statement is given of the respective items in them where there appears a difference between the maximum tariff and the minimum or treaty tariff; and although the Association does not direct attention to it, it is a fact which has a very important bearing in this matter, that because Canada gives preferential tariff treatment to British goods, all Canadian goods entering Germany are liable to the terms of the maximum tariff of that country.

The Association says that it is unquestionably true that without proper adjustment of the (German) duties the imports of most kinds of Canadian grain into Germany cannot assume large proportions. At the same time, we are told, Germany ranks eighth among 49 enumerated countries to which we export. She is our fifth best customer for breadstuffs; she takes more dried apples from us than any other country; in total fruit shipments she stands our third best customer; in agricultural implements she is first; in musical instruments, fourth; in seeds, fourth; in wood pulp, third; in manufactured wood, third. Attention is directed to the fact that the United States exports six times as much to Germany as she does to the British Colonies; that German statistics show that Canadian and American goods are essentially competitive on the German market, from which it is argued that if the German market were thoroughly exploited by a good, live Canadian commercial agent, the result must of necessity show at least six times as much benefit to Canadian exporters as the combined efforts of all the Canadian commercial agents in the British colonies. This, we are told, is an argument for the

## The Canadian Manufacturer

Reaches all the Blast Furnaces, Iron and Steel Works, Rolling Mills, Manufacturers of Iron and Wood-Working Machinery, Steam Engines and Boilers, Pumping and Mining Machinery, Electric Machinery and Appliances, Machinery Dealers and Steam Fitters' Supplies, all Hardware Dealers, Cotton, Woolen, Knitting and Yarn Mills, Pulp and Paper Mills, etc., in Canada.

appointment of a Canadian commercial agent in Germany, and also a bit of advice to Canadian manufacturers to become searchers there for the golden fleece. In this comparison of trade between Canada and the United States with Germany no mention is made of the fact, and an important one it is, that American goods enter Germany under the treaty or minimum tariff, while Canadian goods, as we have shown, are entered under the maximum tariff, the difference between the two being a decided profit in favor of American exporters; and it should be borne in mind that much the larger part of American shipments consist of agricultural products, breadstuffs and provisions. The fact that the German maximum duty on wheat which Canada has to pay is about 43 per cent. greater than the minimum duty which the United States has to pay, illustrates the situation, although the Association thinks the difference is of narrow significance.

Alluding to the maximum duties of the German tariff, the Association says that it is hard to ascertain how far Canadian interests are injuriously affected by the different schedules, and it alludes to No. 39 of the schedule, which refers to living animals. The Trade and Navigation Returns for 1901 show that in that year the total value of our exports of live animals amounted to \$11,909,541, not one dollar's worth of which went to Germany.

Alluding to schedule No. 21—leather, and manufactures of—we are told that since the German discrimination has been enforced against Canada "there has been an increase rather than a decrease." According to the returns, all the leather sent to Germany last year was \$15,773 worth of sole and upper, while our total exports of leather and manufactures of were valued at \$2,453,204.

Schedule No. 25 has reference to "provisions, groceries, spices, confectionery and other articles of food," the difference between the two tariffs being 25 per cent. "Of course," says the Association, "in schedule No. 25 butter would appear to be excluded from entering Germany from Canada, but not ordinary cheese." Why not cheese as well as butter? We exported no butter to Germany last year, although we sent the article to other countries to the value of \$3,355,197; and while our exports of cheese were valued at \$21,123,251, Germany took just 100 pounds, valued at \$12. Certainly German discrimination against Canadian provisions, including butter and cheese, is quite effective.

On the other hand, the Association says there is nothing to hinder the entry on equal terms with all other countries of

Canadian produce and manufactures falling under certain other schedules, all of which would interest the German importer. These schedules are: 3. Lead, galena, and in connection with zinc and tin, and manufactures of. 5. Drugs, chemicals and paints. 6. Iron, and manufactures of. 7. Minerals, ores, precious metals, asbestos and manufactures of. 11. Hair, human and horse, and manufactures of. 12. Hides and skins. 15. Machinery. 19. Copper, and other not precious metals. 26. Oils. 27. Paper and cardboard. 33. Stone, and manufactures of. 42. Zinc contained in matte. 43. Tin contained in matte. There are but few of these items that materially affect the export trade of Canada, being produced in but inconsiderable quantities, and some of them are not produced in this country at all.

According to the Trade and Navigation Returns, the total value of all exports, being the products of Canada, and of all goods entered for consumption in Canada for the fiscal year ended June 30, 1901, was:

Total exports .....	\$196,487,632
Imported for consumption .....	181,237,988

Total foreign trade .....	\$377,725,620
---------------------------	---------------

Of this Canada's trade with Germany was:

Exports .....	\$1,374,716
Imports .....	7,021,405

Total trade with Germany .....	\$8,396,121
--------------------------------	-------------

The value of Canada's imports from Germany in 1901 was divided as follows:

Dutiable .....	\$5,780,948
Free .....	898,316
Post entries over collections .....	342,141

Total .....	\$7,021,405
-------------	-------------

Duty paid on dutiable goods, \$1,811,975.

Germany's proportion of Canada's foreign trade in 1901 was:

Export trade .....	0.7 per cent.
Import trade .....	3.8 "

Value of Canadian exports to Germany in 1901:

#### THE MINE.

Asbestos .....	\$85,345
Coal .....	1,759
Lead Ore .....	174,000
Mica, cut .....	400
Ores, n.e.s. ....	38,430
Stone, n.e.s. ....	582
Total .....	\$300,516

#### THE FISHERIES.

Lobsters, canned .....	\$64,438
Salmon, pickled .....	100
Other articles, n.e.s. ....	10,500
Total .....	\$75,038

#### THE FOREST.

Ashes, pot and pearl .....	\$1,335
Lumber, basswood .....	1,250
" Pine deals .....	2,157
" Planks and boards .....	1,580
" Shooks .....	436
" n.e.s. ....	3,005
" Match blocks .....	6,606
Timber, ash .....	630
Total .....	\$16,999

#### ANIMALS AND THEIR PRODUCE.

Bones .....	\$1,707
Cheese .....	12
Furs, undressed .....	5,072

Grease .....	1,091
Hides .....	250
Other articles, n.e.s. ....	320
Total .....	\$8,452

#### AGRICULTURAL PRODUCTS.

Apples, dried .....	\$78,191
" green .....	11,902
Fruit, canned .....	1,000
Grain, buckwheat .....	51,159
" Peas .....	44,737
" Rye .....	14,168
" Wheat .....	19,568
" Bran .....	2,250
Flour, wheat .....	1,425
Oatmeal .....	555
Hay .....	492
Seeds .....	63,360
Articles, n.e.s. ....	1,478
Total .....	\$300,285

#### MANUFACTURES.

Agricultural implements .....	\$474,249
Books, etc. ....	226
Carriages and parts .....	187
Carts .....	138
Charcoal .....	1,599
Clothing .....	112
Cotton waste .....	23,309
Drugs and medicines, n.e.s. ....	8,836
Explosives .....	156
Household effects, n.e.s. ....	65
India Rubber, manufactures of .....	2,015
Iron Castings, n.e.s. ....	33,589
Iron, pig .....	7,500
Machinery, n.e.s. ....	2,917
Hardware, n.e.s. ....	355
Steel, and manufactures of .....	51,618
Leather, sole and upper .....	15,773
Wines .....	32
Liquors, n.e.s. ....	1,812
Metals, n.e.s. ....	1
Musical Instruments, organs .....	16,880
" " pianos .....	200
Tin, manufactures of .....	281
Tobacco, cigars, etc .....	2,018
Household Furniture .....	100
Matches .....	480
Wood Pulp .....	18,736
Other manufactures of wood, n.e.s. ....	2,971
Woolens .....	25
Other articles, n.e.s. ....	7,246
Total .....	\$673,426

#### RECAPITULATION OF EXPORTS.

The Mine .....	\$300,516
The Fisheries .....	75,038
The Forest .....	16,999
Animals and their Produce .....	8,452
Agricultural Products .....	300,285
Manufactures .....	673,426
Total .....	\$1,374,716

The Winnipeg Commercial catches on to an idea regarding the Canadian home market that seems to have escaped the attention of the Canadian Manufacturers' Association in its endeavor to stimulate and encourage German and other foreign trade. The far-off foreign field looks green without doubt, but certainly our own field, that which is enclosed within our own Canadian fence, presents vistas of verdure which deserves more attention than the Association appears to be bestowing upon it. Our Western contemporary directs notice to the fact that the population of our great Canadian West is growing very rapidly, and there it is that our Canadian manufacturers have the greatest field in which to extend their operations.

That market is expanding far more rapidly, it says, than is that farther East. In fact, the West must be the main hope for the manufacturer who is desirous of holding and increasing his trade. The large influx of population into Western Canada has attracted the attention of a large portion of the people of the United States, especially of the Western States, and thousands of them are moving into Western Canada, where they will engage in agricultural pursuits, and become consumers of just such things as our manufacturers produce. The trade possibilities there are truly wonderful; and while we do not wish to discourage those who desire to engage in German or any other foreign trade, the supplies of this new element in Canada must come mainly from our Eastern sections, especially from Ontario and Quebec, or else from the United States. Which shall it be? What does the Association propose doing about it? The home market should be its first care.

#### THE TORONTO FAIR.

Such manufacturers as propose making exhibits at the forthcoming Toronto Industrial Exhibition are now, no doubt, making preparations therefore: and we sincerely hope there are many such. We understand that gratifying progress is being made in the construction of the large new Manufacturers' Building and the remodelling of the old Main Building, the probability being that the changes and improvements now being made will afford better opportunities for displays of machinery and mechanical appliances, and particularly of machinery in motion than ever before. This being the case it is to be hoped that the Fair managers are doing all in their power to induce manufacturers to make exhibits of their products.

We are not aware, however, that any special inducements are being offered for displays of machinery in motion, and without such exhibits a most important and attractive feature of the Fair would be lacking. Heretofore but few inducements have been offered to manufacturers to make exhibits at the Fair aside from offering them insufficient and unsuitable accommodations without charge. All other departments have been brought up to the highest efficiency, and large sums of money are annually bestowed as premiums upon exhibits of horses, cattle and other live stock, which is as it should be, and it seems to us that the time has come when much more than ordinary efforts should be made to make the exhibits of manufacturers of equal importance with the others.

What are the Fair managers doing in this direction? Under the most favorable circumstances difficulty is encountered in inducing manufacturers to move heavy machinery from their shops, bringing some of their best and most skillful workmen with them to set it up and explain its merits to visitors, and again dismantle it and return it to the place whence it came. Usually the expense is more than they care to bear; and these objections are greatly accentuated should the machinery be shown in motion, and processes of manufacture be a feature of the exhibit.

We suggest, then, that the Fair managers appeal to the Ontario Government to assist them in this matter; and such assistance might be in the way of bearing a part of the expenses incident to transportation and perhaps of operation where processes of manufacture are shown. The Government have shown great liberality in other directions in their endeavor to develop the manufacturing industries of the province, and no doubt they would lend a helping hand in this emergency. They have done much in assisting to make elaborate displays of live stock, agricultural, horticultural and

dairy products not only in this province but in other countries, but never much in the way of bringing our manufacturers to the attention of the world. Our great Western country is growing rapidly, and the wants of the people there are increasing much faster than the increase of population, and if the manufacturers of Ontario cannot capture and hold the fast growing business it will inevitably go elsewhere. The West very naturally looks to Ontario to supply its wants in manufactures; and in our opinion the Ontario Government would do exceedingly well to assist the manufacturers in making large and varied displays of their products at the forthcoming Toronto Fair, where they would be object lessons of the utmost value to the thousands of visitors from the West and other parts of Canada who will undoubtedly be in this city next fall. Such assistance would be in the line of a good business policy to exploit that which would bring great benefit to the country. To what extent the Government might extend such aid is a question which they would consider; and it is possible that a solution might be found in providing for the installation of exhibits and in bearing the expense of transportation, leaving to the manufacturer the expense of providing and maintaining his exhibit. The cost of installation is always the greatest hindrance to a general exhibition of manufactured products and the showing of processes of manufacture; and it would be clearly to the advantage of the province to have its manufacturing industries well represented at such an exposition as the Toronto Fair.

#### COMFORTING FIGURES.

In the course of the Canadian Budget debate, as reported in our Dominion Parliament, Sir Richard Cartwright, speaking as Minister of Trade and Commerce, quoted some interesting and comforting figures on the subject of Canadian trade. Taking the past decade, he showed that the total volume of Canadian trade has increased from \$44 per head in 1890 to \$71 per head in 1900. The mid-decade figure, that is to say the total for 1895, is also \$44. The comparison with the United States is most instructive. In 1890 the United States total per head was \$26; in 1895, \$23, and in 1900, \$29 per head; or to use the words of Sir Richard Cartwright, "very little more than one-third of that of the people of Canada." Taking the comparison with the Mother Country it is seen that whereas Canadian trade increased during the same ten years in the ratio of about 60 per cent., British trade increased in the ratio of only 7 per cent. These are, as we say, comforting figures for Canada.—Canadian Gazette.

It is no doubt comforting to know that the export trade of Canada is increasing, for it indicates that we are bringing into existence more natural or indigenous products than we can consume at home, and are finding profitable markets abroad for the products of our mines, our forests, our fisheries, and our farms; but we cannot see wherein lies the comfort in knowing that we are importing millions of dollars worth of manufactured goods that should have been made in Canada. The Gazette is unfortunate in comparing the foreign trade of Canada with that of the United States. The reason why the foreign trade of that country amounts to only \$29 per head of population is that, in the first place, nearly all the wants of the people are supplied from domestic sources, and they have the industrial enterprises and appliances with which to produce them, nearly all the dutiable imports taken into the country being in the nature of luxuries; while the balance of the imports, which are non-dutiable, are raw or only partially manufactured materials to be consumed in the various processes of completion at home. Of course the vast quantities of breadstuffs and provisions, and to some extent manufactures, which cannot be consumed at home, constitute the

export trade of that country. Heavy import duties shut out all such foreign merchandise as can to advantage be manufactured at home, and in this way home produced raw materials are consumed at home in the factories and workshops and industrial establishments which give remunerative employment to the people.

Would that it were so in Canada, but it is not, and that is the reason why the foreign trade of this country aggregates \$71 per head of population. There is no good reason why we should import millions of dollars worth of manufactures of iron, steel and other metals from the United States every year while, if we but observed the fiscal system that prevails in that country we would make all such articles at home. So too with our woolen industry. We have the raw materials, or they are easily obtainable, we have the skilled labor and we have the mills and factories already established for supplying the masses of our people with woolen and cotton cloths and clothing, but in our great love for our cousins, the British manufacturers, we reduce our duty upon their products to a point which allows Canada to be flooded with British woolens while our raw material, wool, goes to swell the volume of our export trade while our Canadian mills are closed, the machinery idle, and our woolen operatives forced to seek their living in other occupations. And this is the situation which the Canadian Gazette thinks so comforting for Canada.

#### DAUGHTERS OF THE EMPIRE.

About 250 delegates from various parts of Canada were present at the annual meeting of the Daughters of the Empire held in Toronto last week. Among other business transacted the following resolution was adopted :

Whereas, the importation of American and other foreign goods has greatly increased, and whereas, large contracts are being let to American firms in preference to British firms, this National Chapter of Canada, of the Imperial Order Daughters of the Empire assembled, do hereby record deep regret at the state of affairs, and pledge ourselves individually to purchase, wherever possible, goods of Canadian or British manufacture.

The spirit of this resolution is excellent, and Canadian manufacturers should be well pleased to observe that the women of this country are awake to the necessity of patronizing manufactures of home production.

The resolution refers to the fact of large contracts being awarded to American firms in preference to British firms, which the Daughters regret very much, and pledge themselves wherever possible, to purchase goods of Canadian or British manufacture; but we suggest to the ladies that the reason for purchasing American goods in preference to British is that they are better adapted to the wants of our people, and are cheaper. No matter how much we might desire to give preference to British goods, they will always find scant sale in Canada unless they fill our requirements quite as completely as American goods, and at as favorable prices. The duty on British goods coming into Canada is only two-thirds of that imposed upon American goods, which difference is of itself a large profit in the transaction, but the lack of enterprise on the part of British manufacturers as compared with that of their American competitors, is quite effective in keeping their goods out of this market. We do not see why the Daughters should so deeply regret this condition of affairs which British manufacturers could easily remedy if they so desired.

It will be observed that the Daughters, while desiring to discriminate against American goods, make no distinction as between Canadian and British goods. They do not seem to

bear in mind that all the merchandise to which they allude is the product of human labor; and that to quite a large extent this merchandise could be manufactured here in Canada by Canadian labor. Such being the case, if the merchandise is manufactured in some other country, Canadian labor suffers for lack of that employment; and if we must purchase abroad, remembering the tariff preference we are giving to the British producer, which he does not seem to appreciate, we are certainly justified in obtaining what we want from any country that will give us the best satisfaction and the best value for our money.

We would suggest to the Daughters and to all other Canadians, that when they make purchases of any description of articles which could be manufactured in Canada they demand to see some brand, trade mark, name or other distinguishing sign showing the country of origin of such articles. If tradesmen realized that Canadians really preferred to purchase Canadian made goods, they would be quick to please their customers. At the same time it should be made a penal offense for any merchant to display or offer for sale any goods that were falsely marked as to the country of their origin; and the products of any Canadian manufacturer which do not bear in plain letters the words "Made in Canada" should be given the go by.

#### MR. SWANK vs. TARIFF TINKERING.

Mr. James M. Swank, of the American Iron and Steel Association, has written a letter to Hon. John Dalzell, the Pittsburg member of the Ways and Means Committee of the United States House of Representatives showing why the bill introduced in the House by Mr. Babcock, Wisconsin, should not become law. Mr. Babcock's bill proposes to amend the existing United States tariff by placing certain articles therein enumerated in the free list, and reducing the duties on others 25 to 50 per cent. Mr. Swank's letter has but very recently been made public, a few extracts from which we give as being of more or less interest to Canada.

Answering the charge that the United States Steel Corporation were selling their products in foreign markets at lower prices than are charged to home consumers, waiving the enquiry whether or not this allegation is correct, Mr. Swank says :

1. Prices of iron and steel in this country are fixed by competition and the law of supply and demand. No corporation has a monopoly of their manufacture, or ever can have in this country of boundless individual enterprise, wide opportunities and widespread natural resources. The corporation alluded to does not to-day control one-half of the country's aggregate iron and steel capacity, more than one-half being controlled by independent companies, most of which possess ample capital, modern plants and abundant resources in raw material.

2. The United States Steel Corporation, instead of using its influence to unduly advance prices, has ever since its creation less than a year ago steadily insisted on keeping prices within reasonable limits. The temptation to advance prices of steel rails, for instance, which has been presented in a season of great railroad prosperity, has been resisted, and the price of steel rails is to-day just the same as it was ten months ago—namely, \$28 a ton, a price to which no objection is made by any railroad manager in the country.

Arguing that the Babcock Bill was aimed to destroy the prosperity of the iron trade, Mr. Swank says :

This Bill is invidious in this respect: That it aims a blow at our prosperous iron and steel industries, while leaving untouched the other prosperous domestic industries of equal or almost equal magnitude. Particularly may it be mentioned that the Dingley duties on products of the farm, the necessaries of life, have not been disturbed in this Bill. Iron

and steel products have risen with the general advance in values, but not as farm products have risen, except during the short lived boom of 1899. Dun's Review says that the rise in breadstuffs since July 1, 1897, has been little short of 90 per cent., and that meats have risen in the same time nearly 30 per cent., and dairy and garden products 75 per cent. Mr. Babcock makes no attack on the tariff duties which protect the farmers, nor upon the duties which protect our great lumber industry, nor upon the duties which protect any of our great mineral or other industries.

Mr. Babcock's Bill is also invidious in another noticeable particular. While transferring to the free list finished or half finished products of iron and steel, or radically reducing the duties on these products, it proposes to retain iron ore in the dutiable list at the rate of duty which is prescribed in the Dingley tariff, iron ore being a raw material which is wholly supplied by the bounty of nature. Intelligent advocates of a protective policy for American industries do not, however, deny the right of iron ore producers to a fair degree of protection from foreign competition, but that the Dingley duty on iron ore, a raw material, should be continued, and the duties on the finished or half finished products of iron and steel should be reduced or repealed altogether is a fragrant violation of the principles underlying a properly balanced protective tariff.

Speaking of the danger of Canadian competition, Mr. Swank says:

Next to iron ore in the Dingley tariff comes pig iron, upon which and upon scrap iron and scrap steel Mr. Babcock would reduce the duty from \$4 to \$2 per ton. Although often erroneously referred to as a raw material, pig iron is, in fact, one of the most delicate and troublesome products of metallurgical art, requiring in its manufacture a vast investment of capital and the application of the highest skill by the mechanical engineer, the chemist, and the experts who look after all the details. A modern blast furnace represents in construction and management a larger amount of capital and a larger display of scientific and mechanical skill than is generally supposed.

Mr. Babcock proposes to reduce the Dingley duty of \$4 a ton on pig iron to \$2; but he virtually places it in the free list, because the duty of \$2 which he concedes to pig iron is \$1 less than the bounty of \$3 a ton which Canada now pays to her pig iron manufacturers, who have already entered our markets. Under the stimulus of this and other bounties Canada is rapidly developing important iron and steel industries of her own. A bounty of \$3 a ton is paid on every ton of steel ingots produced in Canada and upon every ton of puddled iron bars.

The Canadian production of pig iron in 1901 was greatly increased by the blowing in of three large new furnaces by the Dominion Iron & Steel Co. in that year, while another of its furnaces was blown in in January of the present year. Other new furnaces are now being built in Canada, and still others are projected. The annual capacity of the furnaces that have been built or are now being built in Canada is not less than 1,000,000 tons. Canada now has 14 completed blast furnaces, four furnaces building and four projected furnaces. It has also 18 completed rolling mills and steel works and two buildings. It will very soon be able to make nearly 1,000,000 tons of steel annually, and to roll nearly 1,000,000 tons of iron and steel products.

Canada has in very recent years developed two large iron ore fields—one, the Wabana district, on Belle Island, Newfoundland, and the other, the Michipicoten district, on the northern shore of Lake Superior. Immense deposits of excellent iron ore are found in these two districts. At a very early day, even in this year, Canada will become an important rival of the United States in the production of iron ore and iron and steel. The Dominion Iron & Steel Co. is already shipping large quantities of pig iron to England and Scotland, and has commenced to make shipments to the United States. In 1901 Canada shipped to this country 160,000 tons of Michipicoten iron ore. Reduce our present duty on pig iron and Canada would flood our markets with its pig iron. The production of pig iron in Canada in 1901, as ascertained from the manufacturers by the American Iron and Steel Association amounted to 244,976 tons, as compared with 86,090 tons in

1900. Put iron and steel finished products in the free list, and Canada will be kept busy on American orders.

Mr. Swank, alluding to an adverse trade balance, says:

Official statistics just published show that our exports of domestic merchandise in 1900 amounted to \$1,453,010,112, and in 1901 to \$1,438,083,990, a decrease of \$14,926,122, while our imports of merchandise in 1900 amounted to \$829,149,714 and in 1901 to \$880,421,056, an increase of \$51,271,342, making the total loss in our foreign exchange last year \$66,107,464.

Regarding which he reaches his conclusion as follows:

There has been entirely too much thoughtless boasting of our ability to gain and keep control of foreign markets for our manufactured products. In cheap labor our European manufacturing competitors still possess one advantage over our own manufacturers that should never be lost sight of, nor will they hesitate to adopt our latest and best manufacturing methods. They are now doing this and are watching our markets like hawks. We should always be on our guard against their competition, and more particularly at a time when the home demand for some of their products has so declined that they are eager to book foreign orders at exceptionally low prices.

#### MEETING OF THE SHAREHOLDERS

OF THE

#### CANADIAN MANUFACTURER PUBLISHING CO., Limited.

The Shareholders of the Canadian Manufacturer Publishing Co., Limited, are hereby notified that a General Meeting of the Company will be held on Monday, the 2nd day of June, 1902, at the hour of 11 o'clock in the forenoon, at the Head Office of the Company, Room 408 McKinnon Building, corner Jordan and Melinda Streets, Toronto, for the purpose of receiving and considering a report from the Directors upon the affairs of the Company, to elect a Board of Directors for the ensuing year, and generally to consider other business of importance to the Company.

ARTA CASSIDY,

Secretary.

Dated at Toronto, this 16th day of May, A.D. 1902.

#### EDITORIAL NOTES.

The next regular annual meeting of the Canadian Manufacturers' Association will be held in Halifax, N.S., August 13 and 14.

The new British tariff imposing an import duty on cereals provides for a duty of 3d. per cwt. from April 15 on wheat, barley, oats, rye, maize, buckwheat, peas, beans, locust beans, lentils, uncleaned rice and offals thereof, and for a duty of 5d. on flour, meal, starch, arrowroot, tapioca, potato flour, sago, malt, pearled barley and cleaned rice. Drawbacks equal to the duty are allowed from May 7 on the re-export of any of the above articles which have undergone the process of manufacture or preparation in the United Kingdom. Drawbacks are also allowed on goods prepared in the United Kingdom, in which imported grains are used, to the amount of the duty paid on such foreign grains. Articles deposited in bonded warehouses for use as ships' stores are also entitled to drawbacks.

The city of Charlottetown, P.E.I., has imposed a tax of \$300 upon every transient trader or other person who occupies premises and carries on a business within the city for a temporary period, and whose name has not been entered on the assessment roll. Such a class are also liable to the Provincial Government's tax of \$20 on commercial travellers. If

the tax of \$300 should prove prohibitive, the legality of the bill will be called into question on the ground that it will be interfering with trade and commerce, a matter that belongs with the Dominion Government only.

In view of the fact that the next regular annual convention of the Canadian Manufacturers' Association will be held in Halifax, and that some of the Western members will not be able to visit the Maritime Provinces at that time, and as there seems to be no established precedents regarding representation by proxy, it may be interesting to know how that matter is managed by the National Association of Manufacturers of the United States. There is, we understand, no provision in the constitution or by-laws of that association touching the use of proxies. The question has never been raised in any convention, but it has been discussed by the Committee on Rules on at least one occasion, and it was then decided by the committee to recommend the rejection of proxies if any attempt should be made to vote them collectively. No such attempt has ever been made. It has been permissible for any member to transfer his membership to a partner or other business associate for the time of the convention, and this is a common practice, which has never been questioned. The use of proxies for collective voting has always been discountenanced by the members when it has been discussed informally during the conventions. It seems to be the generally accepted opinion that a member who does not attend the convention should not be entitled to vote, and furthermore, that to permit collective voting by proxy would introduce into the association an element of politics which happily has been wholly lacking hitherto. Of course, it is within the power of the convention to establish any rules touching the use of proxies, but such precedents as already exist are against the recognition of the voting rights of absent members.

The Ontario Government has taken another forward step in appointing Prof. Miller, of Kingston, Provincial Geologist and Inspector of Mines. This is a recognition of the recent progress in mining development and an evidence of the Government's determination to give every possible assistance to the mining industry. Last year the output of Ontario mines was over \$11,000,000, and 11,855 men were employed. In 1898 the output was \$7,235,000, and the number of employes was 7,495. In the presence of so many unused deposits of iron, nickel, copper, gold and silver, petroleum, salt, natural gas, limestone, marls and clay, it is hard to overestimate what may yet be done under proper encouragement and direction. Prof. Miller, besides doing extensive inspection work, will be at the service of companies and individuals needing expert advice on questions arising out of geological or mining discoveries. In this way he can render valuable and reliable service in cases where a report might ordinarily be more expensive and less trustworthy. The appointment is wise and praiseworthy from every standpoint, and gives further evidence of the progressive policy of Hon. E. J. Davis and of the Director of the Bureau of Mines, Mr. T. W. Gibson.—The Globe.

The Ontario Bureau of Mines has arranged to hold a course of summer mining classes at various mining centres in the province during the coming season. Instruction will be given to miners, prospectors and others interested in the rudiments of mineralogy, chemistry and similar branches, but principally in the determination of minerals. The instructors will be

Prof. W. S. Goodwin, of the School of Mining at Kingston, and Mr. J. W. Bain, demonstrator in analytical chemistry at the School of Practical Science. Tuition will be free, and the points to be covered will be in northern, western and eastern Ontario, and the entire course will cover about three months. The experience of these classes during the past season has shown the great interest taken in them by men actually engaged in mining who have attended the classes with the object of obtaining an elementary acquaintance with scientific mineralogy. It has been found that this knowledge equips men better for the actual work of mining and prospecting. The classes last season were particularly successful. The points to be covered in this season's series and the approximate dates will be announced later.

The Canadian Government has, it is said, been at a loss to know why it is that Canadian manufacturers are unable to get a fair share of the trade of the Yukon. The United States continues to control the business. The Pacific Coast cities have been making efforts to sell their wares there, but not with much success. Senator Templeman, of British Columbia, has been looking into the matter, and has decided to get some one acquainted with the needs of the Yukon to visit some of the leading manufacturers and business men in this country and point out to them that the class of goods they are trying to sell there does not meet with the views of the people. The American article, even if it costs more money, is preferred by the Yukoners. In addition to this, he has recommended, and it is understood that the Government has agreed, to give a subsidy to the Canadian Pacific steamers running between the cities of Victoria, Vancouver and Skagway. This has been done because the steamers are reported to be running at a loss, and Sir Thomas Shaughnessy has been offered a very high price for the line by the American companies that now have practically a monopoly of the Klondike trade.

A bill to amend the coasting laws is promised by the Government. It relates to vessels built in foreign countries which obtain British register. At present they are allowed to enter Canadian ports free of duty and engage in the coasting trade. The bill provides that on application of such vessels for a license to engage in the Canadian coasting trade they shall pay an ad valorem duty of 25 per cent. If the measure passes Parliament it will be reserved for the approval of the King.

We hope that some word of remonstrance will be addressed to the British Board of Trade on Canada's behalf in regard to certain changes which have been made in the British Board of Trade returns. As has been repeatedly pointed out in these columns, these returns are most inadequate as an indication of the exact channels of Anglo-Canadian trade, inasmuch as their compilers pay no heed to the actual country of origin and destination (though goods may go forward on a through bill of lading), but only to the actual port of entry and departure. Thus, British goods reaching Canada via the United States, appear as exports to the United States and not to Canada, while Canadian goods reaching this country via New York, Boston or Portland, appear in the British returns to the credit of the United States and not to that of Canada. This is bad enough, but the Board of Trade officials have made other changes which still further decrease the usefulness of the returns. Thus, the returns of wood pulp are now so arranged that it is impossible to tell the country of origin. For to past three years the exports of wood pulp from Canada to the British market were as follows:

1899.	1900.	1901.
£130,948	£246,435	£312,084

The progress is most interesting to follow. But the imports are now divided, not according to countries of origin, but according to the character of the wood pulp—that is to say, whether mechanical or chemical, and the result is to make the returns quite useless as an indication of the progress of this most important Anglo-Canadian industry.—Canadian Gazette.

## CAPTAINS OF INDUSTRY.

The following items of information, which are classified under the title "Captains of Industry," relate to matters that are of special interest to every advertiser on these pages, and to every concern in Canada interested in any manufacturing industry whatever, this interest extending to supply houses also.

If a new manufacturing enterprise of any kind is being started, or an electric lighting plant instituted, or an electric railroad, or a telephone, or a telegraph line is being constructed; or a saw mill, a woolen, cotton, or knitting mill; or if any industrial establishment has been destroyed by fire with a probability of its being rebuilt, our friends should understand that possibly there may be something in the event for them. Do you catch on to the idea?

The starting of any such concern means a demand for some sort of machines machinery, or supplies, such as steam engines and boilers, shafting, pulleys, belt ing, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamos, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, alkalis, etc. It is well worth the while of every reader of the Canadian Manufacturer to closely inspect all items under the head of Captains of Industry.

The Toronto Silver Plate Co. have recently completed the organization of a new department for the manufacture of German Silver (or hard metal) goods of all kinds. In common parlance, they propose to make everything in this line from "a needle to an anchor," and already have important special hotel orders on hand sufficient to keep them busy for the next three months. As our readers are probably aware, this class of goods—such as entree dishes, compartment vegetable dishes, and other similar hollow ware—have not been made to any great extent on this continent, but have usually been imported from Great Britain. The Toronto Silver Plate Co. have now added a complete plant for the manufacture of these goods, and they confidently expect to turn them out far superior in design and finish to any similar goods hitherto imported from the workshops of Sheffield or Birmingham. For hotel ware this quality of goods is particularly suitable, and the company propose to make a line so large and attractive as to command a ready sale not only in Canada but in Australia and Great Britain, in both of which countries they have opened offices, and have already secured a foothold amongst the trade. Heretofore the company have made a few lines of plated hard metal goods in their sterling silver department, but under the new arrangement the two departments will be entirely separate and distinct, each having its own special superin-

tendent. The Toronto Silver Plate Co. are to be commended for their enterprise, and we wish them success in their new venture.—The Trader.

F. L. Hill & Co's elevator, Markdale, Ont., was recently destroyed by fire.

The Canadian General Electric Co., Toronto, have sent in their 1902 catalogue having reference to fan motors for office and domestic use, etc. Both alternating and direct current motors are illustrated and described, specifications for each size and style being given. To each different machine is given a code word which has reference to catalogue number, cycles, volts and list price.

The Provincial Government has passed an Order-in-Council appointing Prof. W. G. Miller, of Kingston, Ont., to the position of Provincial Geologist and Inspector of Mines. Prof. Miller has been for some time connected with the School of Mining at Kingston, and has occupied the chair of geology and petrography at Queen's University. He has also for a number of years been associated with the Bureau of Mines in the economic exploration of northern and eastern Ontario, more particularly in connection with the iron, gold and corundum resources of those districts. Many companies and firms engaged in the exploitation of mineral deposits have felt the need of skilled advice on questions pertaining to the geology of their deposits, vein structures, rock formations, etc., and the difficulty of procuring such ad-

vice has been great. Prof. Miller has had extensive experience in the field, and is no stranger to mining men in the eastern and northern districts of the Province. Arrangements are under consideration by the department, which will permit of his services being obtained by mining concerns who feel the need of advice or assistance on questions of mineralogy or geology. Prof. Miller's headquarters will be in the Bureau of Mines in the Parliament buildings, Toronto.

At Port Arthur and Fort William, Ont., the Government, the Canadian Pacific and the Canadian Northern will have a great deal of work along the harbor front for a long time. The Canadian Pacific is to add 3,000,000 bushels to its grain storage capacity on the Kaministiquia river at Fort William, and contracts for the work have been given to C. F. Haglin of Minneapolis. The road will also build a concrete storage, in eight tanks of 62,500 bushels each, in connection with the wheat cleaning and drying elevator at Port Arthur. All this will give a capacity at the two points, for the Canadian Pacific, amounting to 9,000,000 bushels. The Canadian Northern Road has erected at Port Arthur an elevator of 1,500,000 bushels capacity and began shipping therefrom the past week. It will add to this during the coming season 2,000,000 bushels storage, so that all told there is in sight for the Canadian head of the lakes 12,500,000 bushels grain storage. If the wheat area of the Canadian Northwest grows, as is fully expected, this will be increased materially in a very few years. All this and other plans of the Canadian Northern for Port Arthur will require immense terminal, harbor and dredging improvements along the water front.

The Robb Engineering Co., Amherst, N.S., have received a contract for two boilers for heating and power purposes to be installed in the new Strathcona building in Winnipeg, Man.

The Empire Electric & Mfg. Co., Ottawa, has been incorporated with \$40,000 capital to manufacture electrical apparatus, electric heaters, articles of iron, brass, steel, tin, etc. The provisional directors include F. C. T. O'Hara, W. G. Hurdman and J. I. MacCraken, all of Ottawa.

## Pneumatic Tools and Appliances ARE GREAT MONEY SAVERS.

Air Hoists,  
Baggage Hand-  
lers, Agitation  
of Liquids or  
Syrups in Re-  
fineries.  
Cushion and Car-  
pet Cleaners,  
Chipping Tools  
for use by Ma-  
chinists, Boiler  
Makers, Stone-  
cutters and  
Marble Works.  
Calking and Drill-  
ing, Air Brushes

### INGERSOLL-SERGEANT

PISTON AIR COMPRESSORS FOR ALL DUTIES  
INLET

THE JAMES COOPER MFG. CO. LIMITED

299 St. James St., Montreal

BRANCHES - - ROSSLAND, B.C. RAT PORTAGE, Ont. HALIFAX, N.S.

Pneumatic  
Augers,  
Punches,  
Hammers,  
Rammers,  
Rotary Drills,  
and Augers.  
Reversible  
Boring Machine,  
Flue Cutters,  
Rollers and  
Welders,  
Air Lift Pumps,  
Jacks,  
Paint Spreaders,  
Bolt Nippers.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



Toronto Street Railway Co's earnings for April, 1902, show a large increase over those for the same month last year. City Treasurer Coady gives the following figures :

	Receipts.	City's Percentage.
1902 .....	\$132,794.77	\$13,243.22
1901 .....	124,066.50	10,208.58
1900 .....	107,696.63	8,615.73
1899 .....	95,769.25	7,661.54
1898 .....	87,301.80	6,984.14

The Canadian General Electric Co., Toronto, has received an order from the Jacques Cartier Water Power Co., Quebec City, for four 125 Brush arc machines, 400 latest type arc lamps, etc.

The Otis Elevator Co., New York City, manufacturers of electric, hydraulic and steam elevators, hoisting machinery of all kinds, escalators, etc., are about forming the Canadian Otis Elevator Co., and have leased the elevator plant of the Leitch & Turnbull Co., Hamilton, Ont. The Otis Elevator Co. will erect a large modern elevator plant in Canada, but have not yet decided definitely in what city the works will be located.

The Montreal Light, Heat & Power Co., Montreal, will double the capacity of the Chambly, Que., power house by the addition of four more generators.

The Ogilvie & Lake of the Woods Milling Co., Winnipeg, Man., have received an order from the British War Office for 20,000 tons of flour for South Africa.

The Burton & Baldwin Mfg. Co., Hamilton, Ont., has been incorporated with \$40,000 capital, to manufacture lumber, timber, etc. The provisional directors include James Burton, Harry Baldwin and W. J. Brigger, all of Hamilton.

The William Weld Co., London, Ont., publishers of the Farmers' Advocate, have purchased a lot on King Street West, Toronto, and will erect a building thereon, transferring their printing and publishing work to Toronto.

The Globe-Wernicke Co., Stratford, Ont., manufacturers of book cases, office desks, etc., will erect a brick factory 250x60 feet, to cost about \$35,000. Sixty hands will be employed at the start.

The Shawinigan Water & Power Co., located on the St. Maurice River, about ninety miles from Montreal, has made an arrangement with the Lachine Rapids Hydraulic & Land Co. to distribute its power throughout Montreal. The present development at Shawinigan Falls is about 35,000 h.p., but the most conservative estimate is that 100,000 h.p. can be developed there on a commercial basis.

The Mackenzie Power & Development Co., Parry Sound, Ont., has been incorporated with \$100,000 capital, to develop water or other power, etc. The provisional directors include J. A. Johnson, W. R. Foot and W. L. Haight, all of Parry Sound.

The Keewatin Power Co., Keewatin, Ont., will erect a large flour mill near Rat Portage, Ont.

Thomas Bros., St. Thomas, Ont., have been incorporated with \$250,000 capital, to manufacture brooms, whisks, wooden ware, etc. The provisional directors include E. H. Thomas, H. C. Thomas and W. F. Thomas, all of Norwich, Ont.

The broom factory of Gurd & Co., London, Ont., was damaged by fire May 11, to the extent of about \$1,500.

Halifax, N.S., will grant \$100,000 towards the establishment of a steel ship-building plant.

A large manufacturing plant will be erected by the Western Implement Co., Winnipeg, Man.

P. Gallagher & Sons, Winnipeg, Man., will erect a 93x43 abattoir at that place.

The ratepayers of New Hamburg, Ont., have voted favorably on a by-law to grant a loan of \$10,000 to the New Hamburg Mfg. Co.

One of the steel elevators of the Canadian Pacific Railway Co., at Fort William, Ont., was destroyed by fire May 10. Loss about \$100,000.

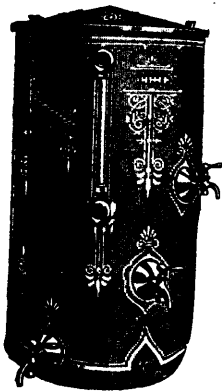
The Smart, Eby Machine Co., Hamilton, Ont., will increase their capital from the sum of \$5,000 to \$50,000.

The Maple Leaf Woolen Mills Co., Toronto, have increased their capital from \$40,000 to \$100,000.

The Collingwood Shipbuilding Co., Collingwood, Ont., will increase their capital from the sum of \$200,000 to \$2,000,000.

## "OPERATING EXPENSE"

One more place, Mr. Manufacturer, where you can cut it down. That place is the Oil Bill!



If waste oil is thrown away in your plant, or if the filter you're now using doesn't save at least half of what you would pay for oil without it, you are the man we want to talk to.

Let us send you a

### Cross Oil Filter

on 30 days' trial to prove that it will clean waste oil and drippings perfectly—better than any other filter made—and save anywhere from 50% to 75% on your oil bills.

If it doesn't you can send it back at our expense. No way for you to lose—Can we send one?

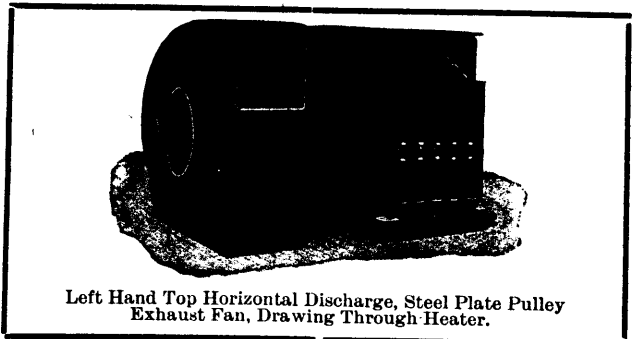
**THE BURT MFG. CO.,**  
AKRON, OHIO, U.S.A.

LARGEST MFRS. OF OIL FILTERS IN THE WORLD.

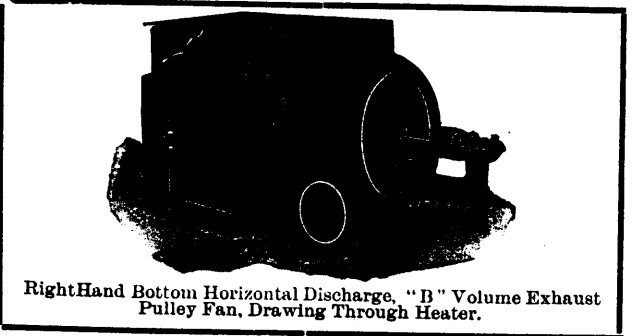
A complete stock carried by the  
**FAIRBANKS CO., MONTREAL, Sole Agents for Canada**

## BUFFALO STEEL PLATE FANS

HEATING—VENTILATING—DRYING  
AND  
MECHANICAL DRAFT.



Left Hand Top Horizontal Discharge, Steel Plate Pulley Exhaust Fan, Drawing Through Heater.



Right Hand Bottom Horizontal Discharge, "B" Volume Exhaust Pulley Fan, Drawing Through Heater.

**BUFFALO FORGE COMPANY,**  
BUFFALO, N.Y., U.S.A.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Foster Pottery Co., Hamilton, Ont., has been incorporated with \$40,000 capital, to manufacture pottery, etc. The provisional directors include F. L. Foster, S. C. Mewburn and E. H. Ambrose, all of Hamilton.

The factory of the Manitoba Mfg. Co., Winnipeg, Man., was damaged by fire recently. Loss about \$1,000.

The Sleeper Engine Co., Montreal, has been incorporated with \$250,000 capital to manufacture engines, boilers, etc. The charter members include J. A. Jacobs, E. A. Mahon and F. H. Sleeper, all of Montreal.

The W. J. Poupore Co., Montreal, has been incorporated with \$300,000 capital, to acquire business of Poupore & Malone, to construct railways, canals, bridges, etc. The charter members include W. J. Poupore, J. G. Poupore and F. L. Monck, all of Montreal.

The A. H. Sims Co., Montreal, has been incorporated with \$350,000 capital, to manufacture cotton, linen, silk, etc.

The charter members include A. H. Sims, L. R. Sims and H. W. Sims, all of Montreal.

The Ste. Anne Power Co., Beaufre, Que., has applied for incorporation with \$150,000 capital, to manufacture pulp, paper, etc. The applicants include J. R. Loomis, Glens Falls, N.Y.; O. W. Ordway and Edouard Morel, both of Beaufre.

The Hull Brewing & Malting Co., Hull, Que., has been incorporated with \$10,000 capital, to carry on a brewing and malting business. The charter members include F. S. Mattman, Ottawa; F. A. Labelle and H. E. Laflamme, both of Hull.

Guelph, Ont., will spend \$52,000 in the construction of sewers.

Chatham, Ont., will spend \$40,000 in improving its sewerage system.

The Grand Trunk Railway Co. and the Canadian Pacific Railway Co. have closed contracts for coal with the Dominion Coal Co., Sydney, N.S., which aggregate 500,000 tons.

The Jacques Cartier Water Power Co. will construct a steam power station at Quebec City.

A party of American capitalists are examining what are known as the Graham-McKellar iron properties on the Antikokan range.

The Dominion Supply Co., Ottawa, has been incorporated with \$500,000 capital, to acquire the business of The Capital Sand & Brick Co. The provisional directors include A. T. Shillington, E. E. La Bree and R. Lester, all of Ottawa.

The London Builders' Supply & Mfg. Co., London, Ont., has been incorporated with \$40,000 capital, to manufacture builders' materials, etc. The provisional directors include H. Hayman, E. R. H. Martyn and H. C. Simpson, all of London.

The Bird Woolen Mill Co., Bracebridge, Ont., has been incorporated with \$50,000 capital to manufacture tweeds, flannels, yarns, etc. The provisional directors include H. J. Bird, R. O. Bird, T. N. Bird and W. Ross, all of Bracebridge.

**CAMEL BRAND**  
**BALATA**  
**RUBBER**

**BELTING**  
.....  
Linen Fire Hose,  
Water and Steam Hose,  
Packings, Etc., Etc.

**THE STANDARD**



**GOLD WATER PAINT**  
WEATHER PROOF, FIRE PROOF  
WHITE AND COLORS.

**MILL SUPPLIES**  
Lubricating Oils and Greases  
PAINT, PAINT OILS, ETC.

**W. A. FLEMING & CO.**  
Montreal and St. John, N.B.

"RATHBUN'S  
STAR."

**Portland Cement**

"BEAVER"  
BRAND

MANUFACTURED BY

**THE CANADIAN PORTLAND CEMENT CO.  
LIMITED**

Capacity of Works—500,000 Barrels per Year.

THE RATHBUN COMPANY,  
310-312 Front Street West,  
Telephone Main 1379.

**TORONTO, ONT.**

**SALES  
AGENTS**

ST. LAWRENCE PORTLAND CEMENT CO.,  
2664 Notre Dame St. W.

Telephone Main 3987.

**MONTREAL, QUE.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

On April 14, the steamer Paliki arrived at Ashtabula, Ohio, with the first cargo of iron ore to come to the United States this year from the new Canadian ore fields. The arrival is unusually early. The probability is that more than twice as much ore will be shipped from Canada to Ohio harbors this season as last.

The Western Implement Mfg. Co., Winnipeg, Man., has been incorporated with \$60,000 capital, to manufacture farming machinery, etc.

The Canadian Pacific Railway Co. has let the contract for the second new elevator at Fort William, Ont., to the Macdonald Engineering Co., Chicago, Ill. It will have a capacity of 2,500,000 bushels, and cost about \$1,500,000.

The Canadian Rolling Stock Co., Toronto, has been incorporated with \$2,000,000 capital to manufacture cars, locomotives, etc. The provisional directors include F. H. Clergue, B. J. Clergue and H. C. Hamilton, all of Sault Ste. Marie, Ont.

The Toronto Roller Bearing Co., Toronto, has increased its capital from \$40,000 to \$100,000.

The Tavistock Milling Co., Tavistock, Ont., has increased its capital from \$20,000 to \$60,000.

The Canada Woolen Mills, Toronto, have decreased their capital from \$2,000,000 to \$1,954,000.

Robert Hannington is erecting a saw-mill for the manufacture of hardwoods at Glassville, N.B.

The Metal Shingle & Siding Co., Preston, Ont., have received the contract for the whole of the metal roofing and sides of the buildings of the Cramp Ontario Steel Co. works at Collingwood, Ont.

A beet root sugar factory will be erected in Brantford, Ont., at a cost of about \$600,000.

The Goold, Shapley & Muir Co., Brantford, Ont., will build a large addition to their works.

The flour and shingle mill of the Vanburen Lumber Co., Edmunston, N.B., was destroyed by fire May 3. Loss about \$15,000.

The shingle mill of Thomas Kirkpatrick, Vancouver, B.C., was destroyed by fire recently. Loss about \$6,000.

The Hanbury Mfg. Co., Brandon, Man., will erect a new sash and door factory at that place.

The Winnipeg Elevator Co., Winnipeg, Man., have erected a new elevator at Darlingford, Man., and a 30,000 bushel elevator at Crystal City, Man.

The Lake of the Woods Milling Co., Keewatin, Ont., is erecting a 30,000 bushel elevator at McLean Station, N.W.T.

The Bank of Hamilton will erect a \$35,000 bank building in Toronto.

A farmers' elevator company has been incorporated at Franklin, Man., and will erect a 30,000 bushel elevator at that place.

A lath mill, with a capacity of cutting about 50,000 laths a day, is being constructed at Harcourt, N.B.

S. Larne & Son are building a sash and door factory at Mountain, Ont.

The Ham & Nott Mfg. Co., Brantford, Ont., will erect a new machine shop, and addition to engine room, at a cost of about \$9,000.

The Pratt & Letchworth Iron Works, Brantford, Ont., are erecting a new building 175x71 feet, and will employ fifty more hands.

Messrs. J. J. Turner & Co., manufacturers of sails, tents, awnings, etc., will erect a factory at Peterborough, Ont., 132x45 feet, three stories high.

The Prescott Lumber Co., New Mills, N.B., is building a shingle mill to have an annual capacity of about 12,000,000 shingles.

The Canadian Heine Safety Boiler Co., Toronto, has received a contract from the Toronto Board of Control for three boilers for the city water works at a cost of \$11,231.

The Advance Thresher Works, Battle Creek, Mich., the Minneapolis Engine & Threshing Machine Co., Minneapolis, Minn., and the John Abell Engine & Machine Works Co., Toronto, have been amalgamated and will push the Abell Co's works to their fullest capacity and do all the Canadian trade for the three companies.

A shingle mill will be erected at Burrard Inlet, B.C., by James Smith.

# IRON GROOVED PULLEYS

Spiral Steel Conveyor.

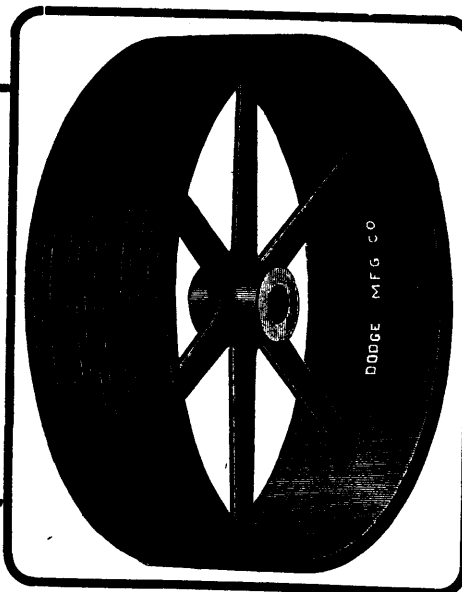
Elevator Buckets.

Detachable Chain.

Sprocket Wheels.

Belt Conveyors.

Friction Clutch Pulleys



Clutch Couplings.

Machine Moulded  
Iron Pulleys.

Steel Shafting.

Flange and Compression  
Couplings.

**..Improved Ball and Socket Adjustable Hangers..**

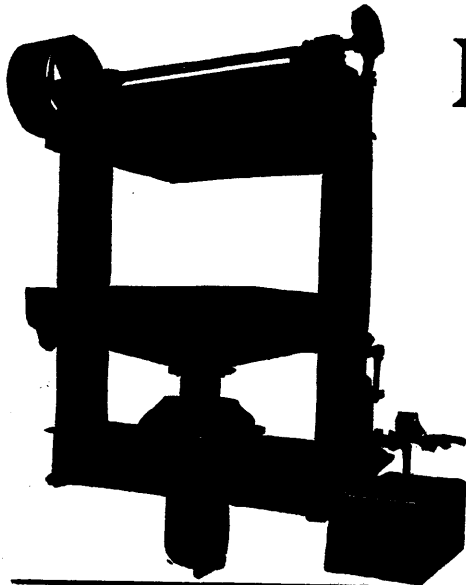
DROP AND POST, SAFETY COLLARS, ETC.

**Power Transmission Machinery. GRAIN HANDLING MACHINERY.**

SEND FOR CATALOGUE.

**DODGE MANUFACTURING CO., - TORONTO, ONT.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



# Hydraulic **PRESSES**

We Build Presses  
for...

**PRESSING VENEERS  
TANNERS' USES  
BALING, Etc.**

SEND FOR  
CATALOGUE  
AND PRICES

## William R. Perrin & Company

TORONTO, - CANADA

### BUFFALO IMPROVED VENTILATOR.

During their quarter of a century of experience in the heating and ventilating of buildings of all classes, the Buffalo Forge Co. of Buffalo, N. Y., has become thoroughly in touch with the

While requirements of a stationary ventilator are hard to fulfill, they have been perfectly met by the new Buffalo Improved Ventilator, which the above named company have recently placed upon the market. These ventilators provide a free exit for the impure air in the building, but effectually retard and prevent the air from re-entering the building through the ventilator. With the movement of air across the head of the ventilator there is a suction produced which actually draws or induces the air from the room. This sucking action is obtained because of the shape and construction of the ventilator head.

the additional quality of supplying light. These special ventilators may be constructed either of copper, brass or steel plate, or they may be made of the regular material and lined with pure lead to protect the ventilator when used to exhaust obnoxious gases or other injurious fumes.

These ventilators are also used to prevent down drafts and smoky chimneys. The usual methods of applying these ventilators to a chimney is with the outside flange, which forms a splendid protection for the top of the chimney. It is a rigid and desirable method of fastening.

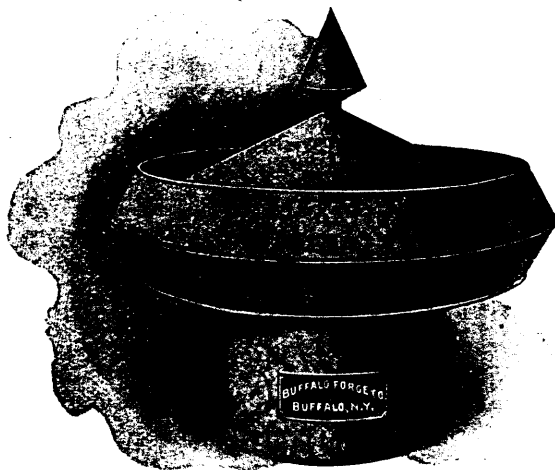
### PROTECTION OF CHIMNEYS.

The necessity of protecting chimneys against lightning recently received an illustration in Hanover, Germany, that may well be called striking. During a thunderstorm the lightning struck two tall chimneys. One of them, over 195 feet in height, was the highest in the neighborhood. It had been built but six months before and was coated with tar. Sufficient time had not elapsed for the mortar to dry out, and, consequently, the iron ladder on the outside, together with the wet mortar, formed a good conductor for the electricity. The inner wall of the chimney was thoroughly saturated with acid from the dye works,

These ventilators are built of heavy galvanized iron and will resist any strain of reasonable magnitude that may come upon them. They are perfectly silent in their work, and do not require the expenditure of available power which, in some instances, means a considerable

outlay of money each week. Many buildings need both light and ventilation. Where such conditions are met the ventilator is specially constructed with a glass top head. It loses none of its good qualities as a ventilator, but has

conditions which make stationary ventilators an efficient and servicable help. Their value when in use with the fan system is too often underestimated. In certain cases they are alone amply sufficient for proper ventilation.

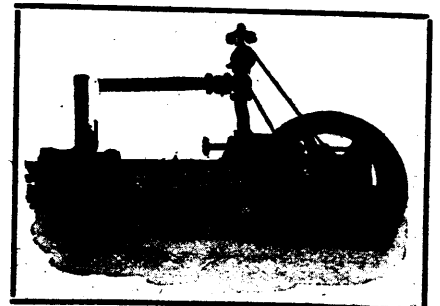


View of Ventilator from Above.

## BOILER, RAILWAY and MACHINE SHOPS CONTEMPLATING THE USE OF **PNEUMATIC TOOLS**

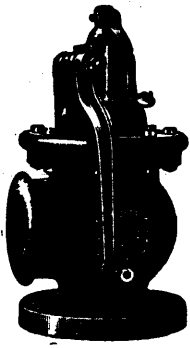
WILL DO WELL TO COMMUNICATE WITH US BEFORE  
INSTALLING PLANT

SEND FOR OUR CATALOGUE OF **AIR COMPRESSORS** ALL STYLES AND SIZES



**CANADIAN RAND DRILL CO.** Montreal and Sherbrooke

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



A VALVE YOU CAN RELY ON — SEND FOR PRICES

## CROSBY STEAM APPLIANCES EXCEL

Steam Engine Indicators.  
Recording Gages.  
Revolution Counters.  
Pressure and Vacuum Gages.  
Lubricators, etc.

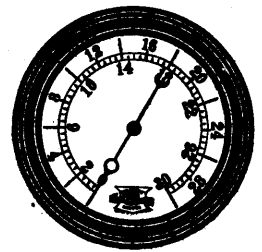


Stationary and Marine Valves.  
Water Relief Valves.  
Blow-off Valves.  
Globe and Angle Valves  
Single Bell Chime Whistles.  
SEND FOR CATALOGUE

### CROSBY STEAM GAGE and VALVE CO.

BOSTON, NEW YORK, CHICAGO, LONDON

A TRUTHFUL GAGE IS THE ONLY GOOD GAGE



for which the chimney was used. The chimney was located near the river, and the soil around it was very damp, so that all the conditions were favorable for the easy passage of the electric current.

The electricity was attracted by the lightning rods and by an electric power station in the immediate neighborhood. The upper 120 feet of this chimney were completely shattered, and below this cracks extended to within 16 feet of the ground. The iron hoops around the chimney, together with large pieces of the masonry, was scattered in every direction. The explosive force exhibited was attributed to the generation of steam or explosive gases in the damp masonry.

The other chimney that was struck was 136 feet in height. Two smaller chimneys stood near it. It had been built about twenty years, and cracks had

appeared during this time through which the moisture had penetrated, so that the masonry of this chimney, although much older, was saturated with water like the first, and formed a good conductor for the electricity. This second chimney was damaged only in the upper part, the current having apparently jumped to the telephone wires and a workman's house near by. One peculiarity was that both these chimneys were affected to a greater extent on the north, or weather side.—*The Textile World.*

#### CANADA'S PULP TRADE.

George Johnson, Esq., Dominion Statistician, Ottawa, has prepared a statement showing Canada's production and trade in wood pulp during the calendar year 1901. It shows how much of the product went to the United States and

how much to Great Britain, what proportion of the total manufacturing capacity was at work, and how much pulp wood went across the line. It is as follows:

The pulp mills of Canada actually in operation have a capacity of 387,000 tons a year, of which 204,000 is mechanical pulp, 17,750 soda pulp, and 160,000 sulphite. Their output last year was 264,600 tons, or about 70 per cent. of their capacity.

The export of wood pulp in the calendar year 1901 was valued at \$2,002,120, of which \$982,142 was shipped to Great Britain, \$988,007 to the United States, and \$51,972 to other countries. Great Britain took, according to her accounts, a total of 504,400 tons of wood pulp valued at \$11,742,455. Of this quantity Canada supplied 78,808 tons, valued at \$1,518,808; Norway supplied 280,600 tons, valued at \$5,122,629; Sweden, 117,447 tons,



WARM UP YOUR

Buildings

WITH

“Safford Radiators”

They are the triumph of the century.  
In demand the world over.

Made in countless sizes and every possible shape, and in a variety of styles, plain and ornamental, sufficient to suit the most exacting.

Send for Catalogue on up-to-date Heating.

THE DOMINION RADIATOR CO., Limited,

TORONTO

HEAD OFFICE, - - DUFFERIN STREET

**THE ARMSTRONG PIPE-THREADING and CUTTING-OFF MACHINES**

**THE ARMSTRONG GENUINE ADJUSTABLE STOCKS AND DIES**

**THE BEST WATER, GAS AND STEAM FITTERS' TOOLS**

—Are Manufactured by—

**THE ARMSTRONG MFG. CO.**

New York Office—139 Centre St.

Write for Catalogue #7.

BRIDGEPORT, CONN., U.S.A.

value of \$4,112,806 ; other countries supplying the remainder.

If all the mills in Canada built and running, and those under construction were running at their full capacity, they could not supply the demand of Great Britain alone for wood pulp. There is also a large demand in the United States for wood pulp. Besides the supply provided from within its own borders and from pulp wood imported from Canada (which latter amounted in 1901 to \$1,282,817,) the United States imported 51,207 tons of wood pulp, valued at \$1,635,000, from other countries, principally from Canada, nearly 79 per cent. of the whole quantity imported by the United States being from Canada. These two countries took nearly 56 per cent. of the whole make of Canada. About 40 per cent. is required for home purposes.

The customs returns of Canada, the United Kingdom, and the United States do not call for a division of wood pulp into the three sorts known to the trade—soda, sulphite, and mechanical—and those of Canada do not call for quantities. It is therefore impossible to separate the several branches so as to ascertain the quantities of each of the three kinds we export—a point of considerable importance on account of the great difference in their value.

The business of Canada with the United Kingdom shows considerable development. In 1899 Canada sent 6.5 per cent. of the total value of wood pulp imported by Great Britain from all countries. This increased in 1900 to 9.4 per cent., and in 1901 to 13 per cent.

**QUEBEC PULP WOOD.**

A Canadian correspondent of the Paper Mill says :

There is no doubt that Quebec's differential stampage rate does not check the importation of pulp wood from the Crown lands. When first adopted, it will be remembered, the arrangement was as follows: \$1.90 per cord was charged to all cutters of pulp wood on the public domain, but \$1.50 was refunded to those who should see that the wood was turned into pulp at some mill within the province.

This was as the law was enacted some two years ago. About a year ago it was amended so as to be in substance as follows: The stampage dues to be 65 cents per cord, with 40 cents refunded upon all shown to be used in pulp mills within Canada. Thus the net stampage dues were changed to 25 cents per cord, while the differential was lowered from \$1.50 to 40 cents. Also, manufacture anywhere in Canada became entitled to the refund, instead of as before, manufacture in Quebec exclusively.

Now \$1.50 would stop exportation from the Crown lands, but 40 cents will not; at least, not at present. Pulp wood is too high-priced now, too much in demand across the line, for 40 cents a cord to permit its exportation. The government's object in reducing the rate was ostensibly to free the pulp companies from the necessity of providing so large a volume of money over and above their actual needs. To put up \$1.50 differential per cord, and leave it for some

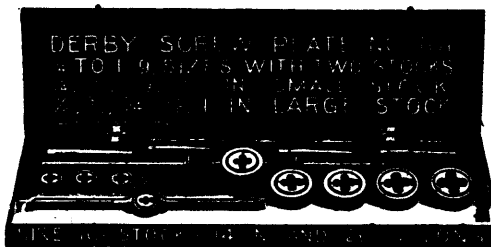
time in the hands of the government as a matter of form, was costly to the companies, for on several thousand cords the interest would mount up.

But probably the real reason of the government's action in reducing the differential was partly to benefit the revenue and partly to oblige large holders of timber rights who wanted to ship to the American market. At any rate, the American market is getting great quantities of Quebec pulp wood, one close observer placing it at 100,000 cords a year.

**WOODYATT LAWN MOWERS.**

Messrs. A. R. Woodyatt & Co., Guelph, Ont., of which John M. Taylor, Esq., late of the Dominion Radiator Co., Toronto, is general manager, have sent us their new illustrated catalogue for season of 1902-3, having reference to the lawn-mowers manufactured by them. These seasonable articles include the "Woodyatt," "Star," "Daisy," "Philadelphia" and "Ontario," each of which is suitably illustrated and described, sizes and prices being given; and a full page illustration is also given of all the parts included in each machine. In a notice to the hardware trade it is announced that in the construction and design of these lawn-mowers, the workmanship and quality of materials used are the very latest and best, and that every part is interchangeable and easily duplicated from stock; the name of A. R. Woodyatt & Co. on every machine being a guarantee of quality. Those interested would do well to send for this catalogue.

The universal satisfaction given by our **DERBY and REECE SCREW PLATES**, cutting from 1/16 to 1/2 inch, including all the machine screw sizes, has created a demand for a plate made on the same principle, to cut bolts to 1 inch in diameter. To meet this demand we have brought out these sizes.



**BICYCLE SCREW PLATES, REECE SCREW PLATES, DERBY SCREW PLATES, BLACKSMITH'S STOCKS AND DIES, BLACKSMITH'S IMPROVED SCREW PLATES, HAND TAPS, MACHINE TAPS, PIPE TAPS, EVERY KIND OF TAPS AND DIES.**



**BUTTERFIELD & CO., - Rock Island, Que.**

**RICE LEWIS & SON, LIMITED,**

**Hardware and Metal**

**MACHINIST TOOLS, PIPE FITTINGS,**

**COMPLETE STOCK OF STOCKS AND DIES.**

**PIPE VICES.**

**STILLSON AND TRIMO WRENCHES.**

**STEAM PIPE.**

**CORNER KING AND VICTORIA STREETS, - - - TORONTO.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# THE GEE ELECTRICAL ENGINEERING CO.

11 COLBORNE STREET, TORONTO.

LIMITED

WE have a Factory equipped with the very latest and best machines for the building of

**Dynamos, Motors,** AND ALL.....  
ELECTRICAL APPLIANCES

We have every facility for repairing. We guarantee all our work. We keep a large staff of competent electricians and wiremen, and are in a position to do Electrical Work of every description. We wire Residences, Business Houses, Factories, etc. We have on hand a large stock of

ESTIMATES AND PLANS SUBMITTED.

Electrical Fittings, Arc Lamps, Telephone Bells, Etc.

## WATER POWER DEVELOPMENT.

The utilization of water power for the generation of electricity has recently advanced with great strides, and both the number of plants and their individual size have greatly increased; and Power presents data regarding some of the more important ones, some of which we reproduce.

The Canadian Niagara Power Co., is now constructing works in the Queen Victoria Niagara Falls Park, above the Horseshoe Falls, designed for a capacity of 100,000 h.p. (net). The general design is similar to that of the plant of the Niagara Falls Power Co. now in operation on the United States side of the Niagara River. The tunnel contract has been let and the work is well under way, about 300 feet having been driven out of a total length of 2,200. The tunnel is to be lined with 17 inches of brick, and is horseshoe in shape, 21 feet high, 19 feet wide, built to a grade of 7 feet per 1,000. The head canal is to have a clear waterway 13 feet deep and 250 feet wide, and is to be crossed by a five-spanned concrete steel arch bridge, which will carry

the tracks of the Niagara Falls Park and River Railway, and will include as well a roadway and sidewalks. The wheel-pit will be 105 feet deep with 135 feet minimum head, and 21 feet wide, and is to be lined with brick. The present plan is to build a pit for 5 units of 10,000 h.p. each, and to install 3 units developing 30,000 h.p. net. The temporary coffer dam is now practically completed. The contract for the wheel-pit and canal has been let, and work is already in progress. The contract for 10,000 h.p. dynamos, which are of internal revolving field type, has been let to the General Electric Co. The turbines, each of the capacity of 12,500 h.p., are being designed by Messrs. Escher, Wyss & Co., Zurich Switzerland; they are of the twin Francis, vertical type, inward discharge, two draft tubes to each unit, discharging into an open tailrace immediately below. The electric current to be generated will be alternating 3-phase, 25 cycles, 12,000 volts, generated at 250 revolutions per minute. It is proposed to transmit power according to the demand to adjacent cities and towns in Canada, and also to local factories.

Among the cities which are likely to avail themselves of the opportunity to obtain power are Toronto, Hamilton, Brantford, St. Catharines, Stratford and Galt.

The falls of the Montmorency River, Quebec, drop over an abrupt cliff 260 feet and the Quebec Railway, Light & Power Co., have here obtained a working head of 180 feet, and a cotton mill uses the water afterwards under a head of 60 feet. This has been accomplished by erecting a dam 265 feet between abutments, 10 to 25 feet in height, and 23 feet wide on base, and a penstock 2,600 feet long of tank steel; 1,500 feet of this is 8 feet in diameter of  $\frac{1}{4}$ -inch plate. Balance of this pipe is 6 feet in diameter, of plates varying from 5-16 to  $\frac{1}{2}$  inch in thickness. The present installation comprises five turbines, 800 h.p. each; diameter of wheels, 54 inches; speed, 286 revolutions per minute; four 2-phase, 600-kilowatt generators yielding 5,500 volts at 286 revolutions, 8,000 alternations; one 2-phase double-current generator, 600 kilowatts, yielding direct current from one side at 550 volts, and alternating current from the other side at 400 volts. Trans-

## THE CANADIAN COLORED COTTON MILLS COMPANY.

Cottonades, Tickings, Denims,  
Awnings, Shirtings,  
Flannelettes, Gingham,  
Zephyrs, Skirtings,  
Dress Goods, Lawns,  
Cotton Blankets,  
Angolas, Yarns, etc.

Only Wholesale Trade Supplied.

**D. MORRICE, SONS & CO.**

AGENTS

MONTREAL and TORONTO.

## DEAN BROS.

Brass Founders

AND

... Finishers ...

Phosphorine Babbitt Metal

Copper and Aluminum

Castings a specialty.

184 RICHMOND ST. WEST,

TORONTO.

## J. M. NEIL

Technical Chemist

—AND—

Chemical Engineer

FOURTEEN YEARS PRACTICAL  
MANUFACTURING EXPERIENCE  
AS CHEMIST AND WORKS MANAGER

CONSULTATIONS, REPORTS,  
DUPLICATION OF PRODUCTS,  
PROCESSES WORKED OUT,  
DESIGNS AND  
CONSTRUCTION OF SPECIAL PLANTS,  
FURNACES, ETC.

ELECTROLYTIC PROCESSES  
A SPECIALTY.

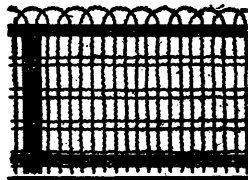
176 Roxborough St. East  
TORONTO

mission to St. Anne, 15 miles, at 1,100 volts, and to Quebec, 8 miles, 5,500 volts.

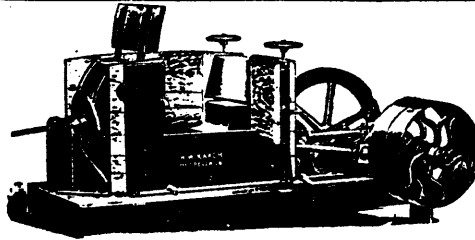
The Hamilton Electric Light & Cataract Power Co., St. Catharines, Ont., tap the old Welland Canal by a canal 4½ miles long, which leads the water to the brow of the mountain overlooking Twelve Mile Creek. Here the fall is 275 feet. Eight hundred feet from head gate to power house is a steel tube, 8 feet in diameter at top and of 5-16 inch steel, tapering down to 6 feet 10 inches diameter, ½-inch steel, until near the power-house, when the pipe is about 8 feet 6 inches. One-inch steel plate is used inside power house. Two 2,000-kilowatt generators direct connected to Italian turbines running at 286 revolutions per minute, and two 1,000-kilowatt generators, direct connected to American turbines, which run at 400 revolutions per minute, generate current at 2,400 volts, 2-phase, and this is transmitted at 24,000 volts, 3-phase, to Hamilton, Ont., 35 miles, by pole-line of No. 4 copper wire.

Shawinigan Falls, in the St. Maurice River, Québec, have been developed by the Shawinigan Water Power Co., by constructing a canal 1,000 feet long, 100 feet wide and 20 feet deep, and forming a forebay by concrete walls. From here the water is conducted to the power house, 130 feet below, by six penstocks, 9 to 11 feet in diameter, giving an effective fall of 125 feet. The power house contains 6 units, 5,000 h.p. each, at switchboard, and further extensions are provided for up to a total of 100,000 h.p. The generators are 2-phase, 2,200 volts, 30 cycles, and the water wheels, which have a capacity of 6,000 h.p. each, are on a horizontal shaft. The current is transmitted to Quebec, a distance of 90 miles, and to Montreal, 84 miles, at a voltage of 40,000.

The plant at Snoqualmie Falls, Wash., is similar in some respects to Niagara. A subterranean chamber 200 feet long, 40 feet wide, and 250 feet below the bed of the river contains the wheels and generators. The water falls through a penstock of steel pipe 7 feet 6 inches in diameter with a ½ inch wall and empties into a receiver of 1-inch steel 10 feet in diameter for 80 feet, and tapered to 7½ feet for a further 80 feet. Access to this chamber is had by elevators. There are four generators of 1,500 kilowatts each at



**Page Metal Ornamental Fence.** We now make fence that is ornamental, very showy and surprisingly cheap. It is just what is wanted for door yards, division fences in town lots, grave yards, orchards, etc. It is 20 cts. PER RUNNING FOOT. Painted and retails at only Just think of it. Let us send you full particulars. We also make farm fence, poultry netting, nails and staples.  
The Page Wire Fence Co., Limited, Walkerville, Ont. 8



**H. W. KARCH**  
HESPELER, ONT.  
**IRON FOUNDER and MACHINIST**  
Manufacturer of  
**WOOLEN MACHINERY,**

Rotary Fulling Mills, Kicker Fulling Mills, Soaping Machines, Cloth Washers, Wool and Waste Dusters, Rag Dusters, Drum Spool Winders Reels, Spooling and Doubling Machines, Ring Twisters, Card Creels Dead Spindle Spooler for Warp or Dresser Spools, Patent Double-Acting Gig Dyeing Machines.

**“SCIOTO” FIRE BRICKS**

are the best. WHY NOT USE THEM ?

More extensively imported into Canada than any others made in the United States. One million now sold for Spring delivery to Ontario. Special inducements. Write to-day.

MANUFACTURED BY

**THE SCIOTO FIRE BRICK COMPANY, - Sciotoville, Ohio, U.S.A.**

One of the oldest firms in the States

Canadian Representative: **STANYON ENGINEERING CO., 402 McKinnon Bldg., Toronto, Ont.**

Established 1834.

Incorporated 1900.

**The J. A. Gowdey Reed and Harness Mfg. Co.**

Manufacturers of

**LOOM REEDS FOR SILK, COTTON, WOOL AND LINEN WEAVING,**

Metal Reeds a Specialty.

Reeds for Carpet Weaving.

Reeds for Wire Weaving.

40 CLIFFORD STREET, PROVIDENCE, R.I.

**BROWN & CO.**

Manufacturers of

Square and Hexagon

**HOT PRESSED NUTS.**

PARIS, - ONT.



**Trimo Giant**



This Chain Pipe Wrench has interchangeable jaws. Improved method of holding and releasing chain. No locking. Send for catalog.  
**TRIMONT MFG. CO., Roxbury, Mass., U.S.A.**



Capacity 3-32 to 1½ inches.

Style "K"

The "NEW YANKEE"

**Drill Grinder**

SAVES 50 PER CENT. OF TIME IN ADJUSTMENTS

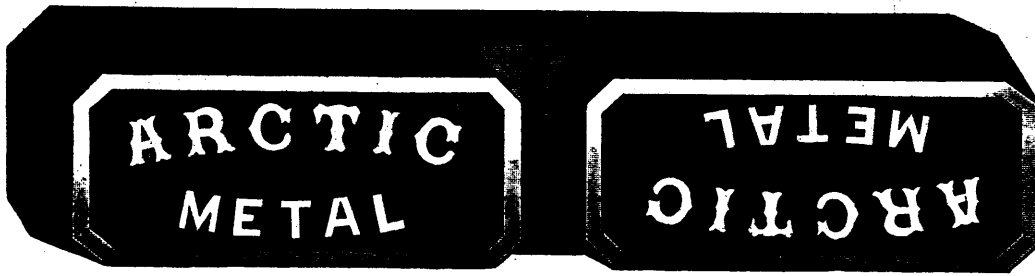
COMPLETELY SELF-CONTAINED

OUR machines require no wrench, measuring instruments or gauge saws. We have entirely done away with them. Any amount of clearance desired can be obtained instantly. Drills can be ground to do more and better work. Send for Catalogue showing 10 styles, and full explanation of machines grinding from No. 60 to 5 inches.

**JOHN LUMSDEN & CO., 375 St. James St. MONTREAL**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.





**J. N. TALLMAN  
& SONS**  
**Brass Founders  
Solder and  
Babbitt Mfrs.**  
...HAMILTON, ONT.

speed of 300 revolutions per minute, and the current is of 1,000 volts, 60 cycles. There are two transmission lines which run parallel 19 miles to Renton and then branch to Seattle, a total distance of 31 miles, and Tacoma 45 miles. Two circuits are carried on one pole line with 150 feet span and 15 inches sag.

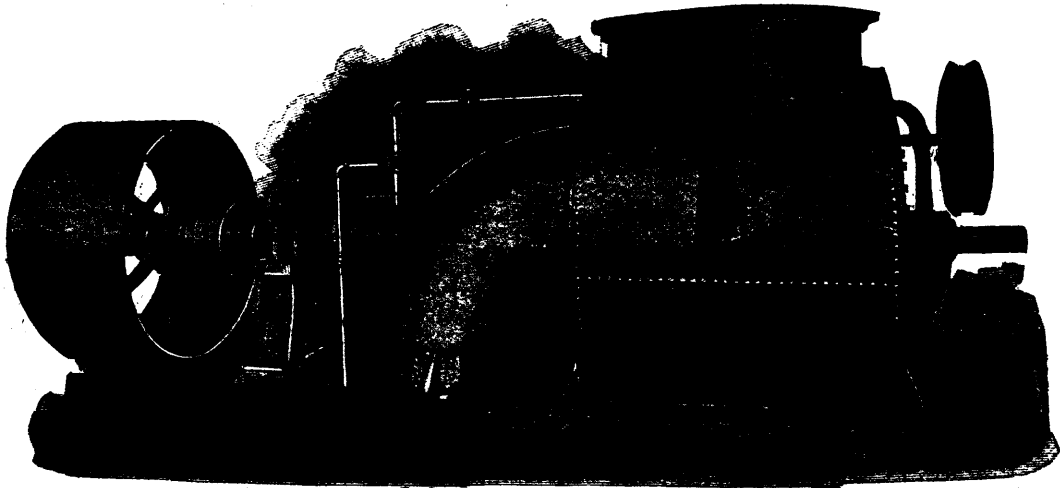
Fourteen miles from Bakersfield, Cal., is the plant of the Power Development Co., San Francisco, where water from the Kern River is led through a tunnel cut in solid granite a distance of 8,484 feet, with a cross-section of 6 feet 4 inches by 6 feet 4 inches, and having a capacity of 321 cubic feet per second. This tunnel terminates in a forebay within the mountain, and from there is conducted by a water pipe 66 inches in diameter and 600 feet long to the wheels. The total fall is 210 feet. Flow of water (mean low) is 300 cubic feet per second. The installation consists of three wheels (impulse type), one to each generator. Each wheel develops 750 h.p.; three generators of 450 kilowatts, 600 h.p. each,

3-phase, 60 cycles, 3,600 alternations, 500 volts. The current is transmitted to Bakersfield, 14 miles, by a 6-wire pole line at 11,500 volts. From sub-station here pole lines extend about twenty miles.

The Mount Whitney Power Co. is in Tulare County, Cal., where the Kaweah River flows over a natural dam 17 feet high, forming a considerable pool. A tunnel taps this pool 25 feet above the dam and 3 feet below the surface. A flume 2 x 3 feet in section, and 30,000 feet long connects with a 20-inch pipe line 3,300 feet long which leads to powerhouse. The fall here is 1,325 feet, the head 574 pounds, and the velocity 17,347 feet per minute. The pipe line, for a distance of 400 feet before entering the power house, is buried in concrete. The power house contains three water wheels 50 inches in diameter, 700 h.p. each; three generators, 450 kilowatts, 440 volts, 515 revolutions per minute, 60 cycles; and the current is transmitted to Visalia, Tulare and other towns to a distance of

65 miles at 17,300 volts. This voltage, however, is soon to be raised to 34,600.

A typical California plant, though located elsewhere, is that of the Pike's Peak Power Co., near Victor, Colorado. Here West and Middle Beaver Creeks are made use of by a dam, steel-faced, granite back filled, 375 feet long on top, 220 feet long on base, 72 feet high, giving a capacity for 150 days continuous operation at full station load. From here is a wood pipe, 30-inch inside drain, 22,400 feet long, built of redwood staves bound with steel. This is continued by a steel pipe, 2,900 feet long, 28-inch inside drain in eight thicknesses from  $\frac{1}{4}$  to  $\frac{3}{4}$  inch, passes over 180-foot bridge, 90 feet high, and through tunnel 330 feet long; 3-foot railway constructed on pipe entire length being the only access to power plant. The installation consists of four 400-kilowatt, 3-phase, 30-cycle, 600-volt generators driven by two impulse wheels each, directly connected with generators, running 450 revolutions under 1,165 feet or 505 pounds pressure. Wheels for each



The above engraving represents a style of setting sometimes adopted in connection with our

## CROCKER PATENT TURBINE

Under some conditions it is particularly well adapted to Pulp or Paper Mill use, also for operating Belt Driven Dynamos in Street Railway and Lighting Plants.

Remember, we undertake contracts for complete plants, built and installed, thus insuring to the purchaser uniformity, perfect adaptation of parts, and a single responsibility to be considered.

Our Bulletin No. 200 will interest owners of water power and prospective users. Free on request.

**THE JENCKES MACHINE CO.,**

28 Lansdowne Street,

SHERBROOKE, QUE.

BRANCH OFFICES

81 York St., Toronto.  
Halifax, N.S.

18 Victoria Sq., Montreal.  
Roseland and Greenwood, B.C.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# COAL JAS. H. MILNES & CO. COKE

WHOLESALE DEALERS IN  
**Best Grades of STEAM COALS.**  
**Best Grades of BLACKSMITHS' COALS.**  
**Best Grades of FOUNDRY COOKS.**

Shipments made direct from Mines to any point in Canada. Write for quotations.

Head Office: 78 QUEEN ST. EAST TORONTO. Docks: Esplanade, Foot of Yonge

unit, 700 h.p.; two independent exciting generators direct driven by impulse wheels; two 200-kilowatt, 3-phase, 60-cycle generators, 600 revolutions, direct connected. The current is sent to sub-station at Victor, 8½ miles, at 12,600 volts by three No. 4 and three No. 5 bare copper lines, and from there is distributed to various mining towns. A peculiar feature of this installation is that owing to the character of the country, and the impossibility of erecting poles during the first 3,400 feet from power house, four granite ridges serve as supports, and one span here is 1,120 feet.

At Massena, N.Y., the St. Lawrence Power Co. have constructed a canal connecting the St. Lawrence and Grasse rivers, and the difference in their levels is such that they obtain at the Grasse River end an effective head varying from 32 to 40 feet. The canal is 16,200 feet in length, 18 feet in depth, at St. Lawrence end, and about 20 feet just before entering forebay. Present width is 192 feet, but it is to be enlarged to 263 feet in width. The plant is planned for fifteen 5,000 h.p. units, seven of which are now in. They are of the 3-phase revolving field type, run at 150 revolutions, and yield 2,200 volts, 3,000 cycles. The power is to be used locally.

At Minneapolis, Minn., the Twin City Rapid Transit Co. utilize a fall of 20 feet in the Mississippi River, and with a flow ranging from 2,500 to 15,000 cubic feet per second, they have an available horse power of from 3,000 to 8,000. Their

installation consists of four horizontal turbines, 42 inches in diameter, 130 revolutions per minute; eight 3-phase alternating generators of 1,000 h.p. each, 3,450 volts, and two continuous current generators of 1,000 h.p., 650 volts. The continuous current is used for the nearby portions of the railway system, and the alternating current is transmitted to Minneapolis sub-stations, 1.6 and 4.5 miles distant, and to St. Paul 6.6 and 9 miles away. The Minneapolis current is transmitted at the primary voltage (3,450), but the St. Paul current is stepped up to 12,000 for transmission. The cables are lead covered and are laid underground in cement-lined conduits.

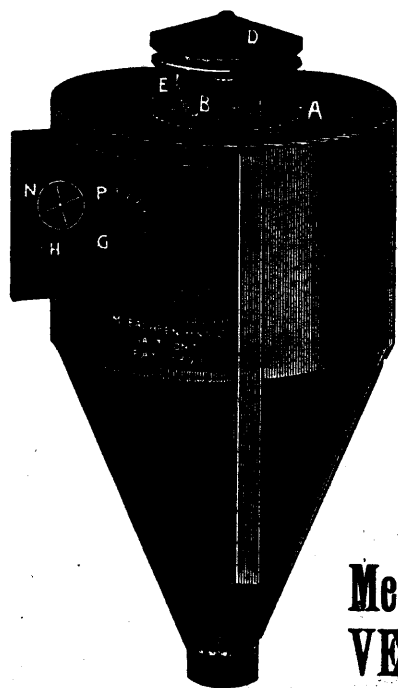
Interesting plants have also been installed at Oregon City, on the Willamette River, Oregon, where 12,800 h.p. is developed by 40 feet fall and transmitted 14 miles at 5,000 volts; on the Magog River, Sherbrooke, Quebec, 1,500 h.p.; at Redlands, Cal., 1,600 h.p.; Chambly, Quebec, 17,600 kilowatts; Sault Ste. Marie, where two enormous plants are in course of construction, each of which will be of about 40,000,000 h.p. Richmond, Va., has a plant of 11,000 h.p.; the Racquette River at Hannawa Falls, N. Y., yields 1,250 h.p.; the Lachine Rapids in the St. Lawrence will yield about 30,000 h.p. when present plans are completed. At Big Hole River, Montana, 4,000 h.p. is obtained; on Jordan River, Utah, 2,800 h.p. is the yield, and at Delta, Pa., 500 h.p. is obtained from a small creek 5 miles

distant. Another California plant is on the Santa Ana River in the San Bernardino Mountains, from which 3,000 kilowatts are sent 83 miles, at 33,000 volts, to Los Angeles.

### VARIABLE POWER FEED DOWEL MACHINE.

Cowan & Co., Galt, Ont., are directing attention to their new Variable Power Feed Dowell Machine, which they describe as follows:

This is strictly a high grade machine, and is excelled by none for making dowells, pins, chair stretchers, curtain rolls, etc. The cutter head is a very simple affair. It fits in socket in spindle, and is held in place by two bolts. The spindle is hollow, and cutters are situated at rear of head instead of the front, as is usually the case. The stock is delivered through a hollow socket directly at the cut of the knives, and immediately on leaving the knives is seized by feeding out rolls. Very short stock can be fed through the machine, and the liability to twist or break is reduced to a minimum. The feed rolls are self-centering, and will accommodate themselves to three or four sizes of stock without changing the rolls. The delivery rolls are grooved to suit sizes required, and can be adjusted by means of hand wheels, so as not to press the finished work out of shape. Rolls and heads can be changed in a few seconds. The variable feed is a great acquisition to the machine. Rates of feed from 0 to 60



## Dust and Shavings Separators

FOR WOOD REFUSE

The air carrying the refuse enters the separator at the top and whirls around inside. The shavings being heavier than the air are carried by centrifugal force to the outer shell of the separator and they then take up a spiral path for the outlet at the bottom, the air passing out of the opening at the top.

Write us for prices and particulars of Separators, Fans, Etc.

**McEACHREN HEATING and VENTILATING CO., GALT, ONT., CANADA.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

IN THEIR NEW FACTORY . .

32, 34, 36, 38 and 40 DUNDAS STREET

THE . . **Electrical Construction Co.** OF LONDON, Limited

Beg to call the attention of their patrons to their removal to a more commodious and up-to-date factory, where, with improved facilities, they can guarantee even better attention and satisfaction than ever before.

Don't buy before getting their prices, when purchasing Dynamos, Motors, Fixtures or Supplies.

Quotations Supplied on Application.

PHONE 1103

feet per minute, or 3,600 per hour can be obtained. Also, by means of this feed and feed socket, stock can be fed through that cannot be fed through any other. There are no gears or worms to break or get out of order. The cutter head is fitted with patent anti-pneumatic pulley, which, users claim, will give 50 per cent. more power than the ordinary pulley, and the belt can be run much slacker. The machine, as built, will handle stock from  $\frac{1}{4}$  inch to  $1\frac{1}{4}$  inch; by putting the head on feeding in side and countershaft on ceiling, it will handle stock from  $1\frac{1}{4}$  inch to  $2\frac{3}{4}$  inch. The company also make a smaller machine to handle up to  $\frac{3}{4}$  inch. Fast and loose pulleys  $10 \times 4$  inch should make 950 revolutions per minute. The company supply with each machine heads to make three sizes of dowels with rolls to suit. Other sizes extra. For prices and further information, address the manufacturers, Cowan & Co., Galt, Canada.

#### GRAPHITE IN CYLINDER OIL.

One of the Dixon salesmen advises us that a superintendent of a manufacturing company asked him why it was that a prominent dealer in cylinder oils advised customers not to use graphite in cylinder oil. The superintendent is a great believer in Dixon's graphite, and even the salesman of the oil company was unable to explain why the oil firm advised customers not to use graphite.

At the request of our salesman, we wrote to the superintendent and said that the only reason that we could give was

that, without any doubt, the dealers in cylinder oils were well aware of the value of graphite as a lubricant, and equally well aware that the addition of Dixon's Pure Flake Lubricating Graphite in cylinder oil or grease would largely increase the value of the oil or grease as a lubricant.

We pointed out the fact that an expert engineer in the employ of the Dixon Company indicated the Corliss Refrigerating Machine of the Genesee Fruit Co., Rochester. He found that 30 h.p. was required to drive the machine. He attached a small hand oil-pump to the steam pipe, mixed a very small quantity of Dixon's No. 2 (fine) flake graphite with their regular lubricating oil, and pumped the mixture into the cylinder. After the graphite had had a chance to thoroughly coat the inside of the cylinder, and after he had looked over the other bearings of the engine somewhat, and dropped a little graphite here and there where he thought it would count, he again indicated the engine and found it required 26 h.p.—a saving of 4 h.p. Their engine runs twenty-four hours a day, seven days a week. Previous to the visit of the Dixon expert the Fruit Company were using seven quarts of oil per week. After his visit they were able to run a week of seven days on only one quart of oil, and a very small quantity of graphite, not only making a saving of at least 75 per cent. in oil, deducting cost of graphite, but also a saving of over 13 per cent. in power. This is only one of many similar cases.—Graphite.

#### BUFFALO FORGE CO.

The usual brisk demand for Buffalo goods, manufactured by the Buffalo Forge Co., Buffalo, N. Y., is reported. Among the many contracts recently awarded to them might be mentioned the equipment of the Pennsylvania Steel Co's Forge Shop at Philadelphia, Pa., with twenty Buffalo down draft forges, by means of which all smoke and gases are immediately and completely exhausted.

Three large Buffalo fan system heating plants for the Lake Shore & Michigan Southern Railroad Shops, Collinwood, Ohio, may also be mentioned. This plant consists of the heating and ventilating of the woodworking mill, passenger coach paint shop, and the freight car repair shop.

The Bowery Bay Building & Improvement Co., New York City, are to be furnished with a 200 h.p. horizontal center crank engine for electric light plant. This firm bought the Buffalo Forge Co's engine, which was awarded a gold medal at the Omaha Exposition in 1898, which has been in active service at their plant ever since date of purchase. The order just entered calls for the same type engine of a larger horse power.

The Buffalo Forge Co. are also to furnish the Seaboard Realty Co., New York City, six 120 h.p. engines, and two 95 h.p. engines for their electric light plant.

James Lunney & Co. are building a saw mill at Hintonburg, Ont.

# COWAN & CO., of GALT, Limited

No. 0—VARIABLE POWER  
FEED DOWELL MACHINE.

"GALT FOUNDRY"  
Engine and Machine Works,

Galt, Canada

Wood-Working  
Machinery..

Patent Feed Water  
Heaters and  
Purifiers.

ENGINES, BOILERS

AND

Saw Mill Machinery,  
Etc., Etc.

SEND FOR CATALOGUE.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



**THIS SHOWS THE  
"HALITUS"**

**THE FINEST VENTILATOR OR CHIMNEY  
GOWL MADE.**

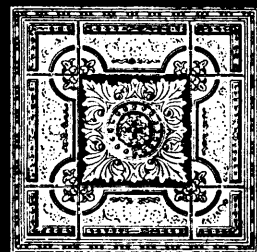
It gives a positive upward draft under all conditions—can't get out of order—and exhausts more cubic feet of air per minute than any other ventilator. Made of Galvanized Steel or Sheet Copper.

The perfect simplicity and clever mechanical arrangement of the "HALITUS" will delight you, if you want a ventilator that really and perpetually ventilates. Read all about them in our catalog.

**METALLIC ROOFING CO.,  
Limited,  
Wholesale Manufacturers,  
TORONTO, CANADA.**

**OUR METALLIC  
CEILINGS AND WALLS**

Are both artistic and serviceable. Popularly used by practical people everywhere.



Easily applied—most moderate in cost—fire-proof, sanitary and wonderfully durable—with countless designs to select from.

Write us for booklet telling all about them.

**METALLIC ROOFING CO., Limited  
Wholesale Mfrs. TORONTO, CANADA.**



**Corrugated Iron**

For Sidings, Roofings, Ceilings, Etc.

Absolutely free from defects—made from very finest sheets. Each sheet is accurately squared, and the corrugations pressed one at a time—not rolled—giving an exact fit without waste. Any desired size or gauge—galvanized or painted—straight or curved. Send us your specifications.

**The Metallic Roofing Co.  
WHOLESALE MANFRS. LIMITED  
TORONTO, CANADA.**

**ENCLOSED ARC LAMPS.**

The Canadian General Electric Co., Toronto, have sent us an "Instruction Book" having reference to the construction, care and management of inner globes for enclosed arc lamps.

In the more modern systems of arc lighting where the enclosed globe type of arc lamps is being used exclusively, the subject of enclosing globe renewals is an important item of central station maintenance. Upon the condition of the enclosing globe and the joints at the holder and cap depend to a large extent the uniformity and length of the carbon life, which are some of the most important advantages claimed for enclosed arc systems. In order to secure these advantages, however, it is evident that there must not be too free an entrance of air to the enclosing globe, and that renewals of enclosing globes must be made regularly, thus avoiding the continued use of defective globes.

A large percentage of unnecessary globe breakage can be traced to careless handling. No station manager or superintendent would countenance any evident carelessness of employees resulting in the cracking or breaking of a large number of globes. At the same time, however, a great amount of carelessness does exist, as will be shown by the number of globes having nicks at the top or bottom. These nicks, which are very easily overlooked, shorten the life of the carbon and form an excellent start for a crack when the globe is subjected to heat variation. No globe should be used which does not have perfectly ground edges.

In transportation and the operations of cleaning and placing the globe in its holder and underneath its cap, as great

an amount of ordinary care should be exercised as in the handling of other equally fragile glassware. Each lamp trimmer should know that no lamp on his circuit has a cracked or nicked globe.

The cause of excessive globe destruction due to improper lamp adjustment can be readily seen by an examination of the globes, where effects of large arc watts consumption and excessive heat will be evident. The globes will be found to be sagged on one or all sides, due to softening of the glass, or the glass may be blackened at the top. A globe subjected to this intense heat will not maintain a true surface contact and should not again be used.

No attempt should be made to use a lamp on a circuit for which it is not intended. Care should be taken to see that it is properly adjusted for the circuit on which it is to run, and neither the lamp nor its adjustments should be condemned, unless, without question, the circuit conditions are what they are nominally supposed to be. This applies to the current on series circuits, the potential at the lamp terminals on multiple circuits, and the frequency on alternating circuits.

Results very similar to those caused by high arc voltage may be obtained by the insertion of incorrect lengths of lower carbons, the "too long carbon" causing cracking or melting of the globe near the top, and probably burning the cap and forming a dark reddish deposit on the globe surface; the "too short carbon" causing the melting of the globe at the bottom, and partial or total destruction of the lower carbon holder. Never put in a lower carbon longer or shorter than 5¼ inch.

If an enclosing globe be merely wiped or brushed out at occasional trimmings it soon becomes discolored, due to the deposit being burned into the glass, and

an appreciable percentage of light is cut off. The globe must then be either destroyed or cleaned with acid. Repeated use of acid shortens the life of the globe.

The very successful method of cleaning enclosing globes, and trimming the lower holders at the station as facilitated by the removable type of enclosing globe holder, is strongly recommended. Having the globes brought into the station at each trimming will give the superintendent an opportunity for securing information regarding the system which otherwise would be very difficult for him to obtain. Here he has the globe and pair of carbons showing the condition of the lamp from which they have been taken. By examining the conditions of these carbons and comparing the length of them, a very good idea is obtained both of the individual arc adjustment, and the uniformity of arc adjustment of all lamps of the system. Flat and mushroomed ends, together with exceptionally long residue carbons indicate low arc voltage and short arc; pointed carbons and short residue indicate flaming arc and immediately suggest an abnormal arc voltage or possibly undue entrance of air to the enclosing globe. An examination of the globe may disclose a crack, a nick at the top or bottom, a globe tilting or loose in the holder, or no asbestos washer. Individual cases of short arc and long life might occur from an exceptionally hard pair of carbons or from the core having dropped out of the upper carbon. Again, a pair of very soft carbons might be responsible for the long arc and short life, but generally speaking a comparison of results during a certain period gives an opportunity for an efficient organization which is sure to produce commercially satisfactory and even gratifying results.

Messrs. Laird Bros. are erecting a new planing mill at Dresden, Ont.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# Zanzibar Paints

Made in all Colors

**Rust Proof.  
Decay Proof.  
Fire Proof.**

FOR  
**Bridges, Roofs,  
Factory Buildings,  
Structural Iron Work,  
Warehouses, Etc.**

USE  
**Zanzibar Crucible Black**  
For Smoke Stacks, Boilers, Steam Pipes,  
Furnace Cupolas, Etc.  
Extraordinary High Fire Test.  
Elastic and Durable.

Absolutely will not Blister, Peel Off or Chalk.

Manufactured by

**THE ZANZIBAR PAINT CO., Limited, TORONTO, CANADA.**

MR. JAMES M. NEIL.

We direct attention to the business card of Mr. James M. Neil which appears in another column. He offers his services to any who may require them as a technical chemist and engineer who has had many years of practical experience in some of the most important industries in the world—in Great Britain, in Spain, in South America, the United States, and in Canada. He is prepared to give consultations, reports, duplication of products, etc., making electrolytic processes a specialty. His address is at 176 Roxborough Street, Toronto.

## OPPORTUNITIES.

The following enquiries have been received at the offices of the High Commissioner for Canada in London, and at the Canadian Section of the Imperial Institute, London, England.

NOTE.—Those who may wish to correspond with any of these enquirers can obtain the names and addresses by applying to the CANADIAN MANUFACTURER, Toronto. No charge for giving information. When writing refer to the numerals opposite the enquiries, and enclose two-cent postage stamp for reply.

787. A Glasgow firm wishes to appoint reliable agents in the leading Canadian cities for the sale of Clyde refined sugar.

788. A London agent long established wishes to hear from Canadian manufacturers and shippers seeking representation.

789. Enquiry is made for the name of a

good firm in Canada who could deliver large quantities of railway sleepers and sleeper blocks of good red wood.

790. A London salesman has asked to be furnished with the addresses in Canada of exporters of poultry and provisions.

791. Enquiry is made for importers of cotton yarns and cloth by an English firm who are desirous of extending their business with Canada in these lines.

792. A Liverpool firm ask to be placed in communication with some Canadian milling firms with a view to handling their flour.

793. Application has been received for

names of poultry and fish exporters in Canada.

794. A Liverpool firm importing green fruit and hay are open to do business with Canadian shippers.

795. A firm in Hamburg, Germany, wish to hear from Canadian mining companies and others who can ship ores and minerals and who are looking out for agents.

796. A Canadian agent who takes occasional trips through the business centres of the country desires to hear from English firms requiring representation in the Dominion.

HYDRAULIC PRESSURE PUMP  
SMALL POWER FEEDER  
LARGE BOILER FEEDER  
MARSH  
MARSH  
MARSH  
MANUFACTURED BY  
AMERICAN STEAM PUMP CO.  
BATTLE CREEK MICH.  
FOR DEEP WELLS  
41,000 SOLD IN 12 YEARS  
MAXIMUM STRENGTH AND SERVICE  
WRITE FOR NO 10 CATALOGUE  
LARGE TANK  
COMPOUND  
AIR COMPRESSOR

Canadian Agents **The A. R. WILLIAMS MACHINERY CO. LIMITED**  
Head Office, — — — TORONTO  
Branch Office—MONTREAL

**B. GREENING WIRE CO. (LIMITED)**  
WIRE MANUFACTURERS & METAL PERFORATORS  
**HAMILTON & MONTREAL.**

Wire Screens for Every Class of Material.  
Perforated Metal of Steel, Copper, Brass, Zinc for all purposes.  
Special Attention given to Miners Requirements.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



By Special Warrant.

**EXPORT TRADE****NOW READY**

The Sixteenth Edition of

**KELLY'S DIRECTORY**

OF THE

**MERCHANTS, MANUFACTURERS  
& SHIPPERS of the WORLD.**

(Endorsed by the British Government).

**Highest Award, Gold Medal, Paris, 1900**

For further particulars, apply,

**Kelly's Directories, Limited, London, Eng.**

(ESTABLISHED 1799)

Dominion Branch—71 Victoria St., Toronto, Ont.

**W. P. DENT, - Manager.**

Branches in Great Britain—Glasgow, Liverpool, Manchester, Birmingham, Leeds, Sheffield, Nottingham; also Paris, Hamburg, New York, Bombay, Calcutta, Cape Town, Melbourne, Sydney, Dunedin, etc.

**A Few Extracts from Letters from  
British Consuls, etc.**

"I have to thank you very heartily for the copy of your Directory for 1901. I have always found it most valuable in supplying reliable information in answer to inquiries."—*H.B.M.'s Consul at Asuncion, Paraguay, Aug. 20th, 1901.*

"I am directed to thank you for the book and to express the opinion of this Consul that the work is one which cannot fail to be very useful to the commercial community."—*The Secretary of the Chamber of Commerce of Georgetown, Demerara, Aug. 12th, 1901.*

"I consider your Directory a most useful publication. Consuls are inundated with inquiries, which a reference to your work would have answered at once, and manufacturers would effect a large economy in wasted clerical work, postage and advertising, by purchasing the Directory."—*H.B.M.'s Consul at Amoy.*

"As a work of reference I consider it to be most useful. By keeping it up-to-date you are improving it in the best possible manner."—*H.B.M.'s Consul at Para.*

"I have to thank you for the two volumes of your work, which are very acceptable, as containing much useful information."—*H.B.M.'s Consul at Callao.*

"I beg to thank you for the copy of your Merchants' Directory, which is a most useful work, and one to which I am constantly referring business people who send inquiries to this Consulate for the names and addresses of houses connected with different trades."—*H.B.M.'s Consul at Cadix.*

"I have the last copy of the Directory—a most useful work, but which I think is not consulted by exporters as much as it deserves to be, as I am constantly receiving letters asking for information which could be obtained from its pages."—*H.B.M.'s Vice-Consul at Paysandu.*

"I beg to inform you that I shall be very pleased to offer you every assistance in my power to facilitate your very interesting work for the benefit of commerce and industry."—*H.B.M.'s Consul at Jaffa.*

"I have duly received your valuable and useful Directory of Merchants, Manufacturers and Shippers for 1899, and beg to express my best thanks for same."—*British Vice-Consul, Spezia (Italy).*

"I am constantly receiving letters of enquiry for information that in most cases could be obtained in your Directory."—*British Consulate, Uruguay.* "The only book consulted is Kelly's Directory."—*From British Consular Return, Riga.*

"Many of these inquiries would have been rendered superfluous by a reference to Kelly's Directory."—*Report from British Consul, Genoa.*

"The Directory has been of the greatest service to me in my former Consular posts, and will, I believe, be doubly useful here."—*B. C. Chicago.*

"We beg to express our appreciation of the thorough and exhaustive character of the Directory, which covers exactly the fields we desire to reach."—*Messrs. H. M. Anthony Co., New York.*

"The copy of Kelly's Directory has already been of great use to me."—*B. V. C. Thorshavn.*

"It is a Directory which is very often consulted by the Merchants of our town."—*B. V. C. Dedegatch, Turkey.*

"Your Directory was useful to me and the merchants in general."—*British Consular Agent, Tetuan.*

**MARKETS.**

This Department of THE CANADIAN MANUFACTURER is devoted to the interests of the Hardware Trade.

THE CANADIAN MANUFACTURER is distributed to the Wholesale and Retail dealers in Hardware, to manufacturers of Agricultural Implements, of Iron and Wood-working Machinery, of Electrical Appliances, of Steam Engines and Boilers, to Engineers and Foundrymen, and to Dealers in Machinery and Steam Fitters' Supplies throughout Canada. There are more than 10,000 manufacturing concerns in Canada which use Steam as a Motive Power. We reach them all. Every recipient of this paper is a buyer of Hardware of one kind or another; and Advertisers will do well to bear this in mind.

Following are reports and observations relating to the markets of Canada and elsewhere, having reference to Hardware, Metals, Paints, Oils and such specialties as are usually handled by jobbers and dealers in such goods. Following these items will be found current market quotations on such goods, and the trade are requested to suggest to the publishers any improvements by which it is believed the quotations may be rendered as correct and valuable as possible.

TORONTO, May 16, 1902.

The prosperity of the Province of Ontario is shown in the political campaign. Less interest is taken in the outcome than in any previous election. Outside of the professional politician and those directly interested in a candidate, there is very little "election talk." Business men are too much occupied with trade matters to devote time to politics. Returns from distributing points throughout the province show a satisfactory condition of affairs, and wholesalers are more confident of the future.

In the labor world the month of May, 1902, will long be remembered in Toronto. In several trades the men made demands for increases, which in the majority of cases were acceded to without recourse to strikes. The strength of organized labor is growing greater every year, and is an important matter with employers. While the cost of living has increased, there has been a corresponding increase in wages to members of organized bodies of workmen. There is just a possibility, however, that the employed may make demands which will have the effect of tying up capital. This would be followed by a period of depression, which at the present time would be disastrous for the country and cause untold misery. It is a matter for congratulation that the difficulties so far this year have been amicably adjusted.

The tightness of the money market has had the effect of "quieting" the speculative stock market. After the recent boom in securities the action of the banks in retaining the loan rate is a commendable one, especially to business men. Facility in obtaining loans on certain stocks at present would no doubt be a boon to speculation, a risky proceeding for a monetary institution and unfair to the commercial world, where the money is required for legitimate business. When the values of certain favorite speculative issues get back to a reasonable basis it will be time enough to lower the rate. In the meantime, the retention of the call loan rate is a protection to the public which the business world appreciates.

Advices from Montreal state that the importations of Summerlee pig iron are larger than for several years past, domestic furnaces being well sold ahead, and the quotation ex-wharf is \$20 net terms.

Eastern hardware men still report much delay in deliveries of bars, nails, barb wire and other staples by Canadian mills. Turpentine has declined another two cents a gallon in Montreal. The local trade in hardware and metals is good, with prices generally firm.

**BUFFALO PIG IRON MARKET.**—Office of Rogers, Brown & Co., Buffalo, N.Y., May 14, 1902.

The principal feature of note at the present time is the intense scarcity of iron, regardless of prices offered, for early shipment. Practically nothing is obtainable, and this fact coupled with the inability of many furnaces to keep up deliveries at the required rate on existing contracts has caused a very embarrassing

**GALVANIZING**

We are prepared to attend to all orders Promptly and Economically.

WINDMILLS, PUMPS, TANKS, Etc.

**ONTARIO WIND ENGINE and PUMP CO.**

LIMITED,

95 ATLANTIC AVE., TORONTO.

**BALE'S  
Fire Cement**

FOR  
LINING AND REPAIRING  
STOVES, FURNACES, RETORTS

And all work where  
great heat is required.

**BALE & CO., Newgate St., LONDON, ENG.**

**GAS PURIFICATION and GENERAL  
IRON MERCHANTS**

**.. TO MANUFACTURERS ..****GORDON, DRUMMOND & CO.**

134 LONDON WALL

LONDON, E. C., ENG.

Desire the representation in Europe of  
FIRST-CLASS MANUFACTURER.

References kindly permitted to the Editor  
of this journal. Address as above.

Telegrams: "Bierenate, London," A B C code used.  
Bankers: London City and Midland.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# CUPOLAS

# FOUNDRY EQUIPMENT

# CRANES

**E. A. WALLBERG, C.E.**

Temple Building, TORONTO

Merchants Bank Building, MONTREAL

situation to confront a great many foundries. The shutting down of two stacks in this district on account of labor troubles cuts off considerable tonnage from the local production.

Furnaces have sold their product so far ahead that there is really no fixed market at the present time, and on this account we have recently omitted our usual quotations from our weekly reports.

In order to give a general idea of the situation, however, we quote below figures which may be taken as a fair average of the prices at which new business is being entered for later deliveries. These are on the cash basis, f.o.b. cars Buffalo:

No. 1 Strong foundry  
coke iron, Lake Superior ore..... \$22 25 to \$22 75

No. 2 Strong foundry  
coke iron, Lake Superior ore..... 21 75 to 22 25  
Southern soft No. 1.... 21 75 to 22 50  
Southern soft No. 2.... 21 25 to 21 75  
Lake Superior charcoal. 22 00 to 23 00

**SKAGWAY CUSTOMS REGULATIONS.**—The Skagway Chamber of Commerce is seeking the co-operation of the Canadian Boards of Trade in the East in obtaining Government customs regulations at Skagway that will permit the warehousing in bond and subsequent re-entry of Canadian goods into Canada in broken bulk as the trade may require. In a lengthy resolution passed by the Skagway Chamber of Commerce and forwarded to the Toronto Board of Trade the benefits

that the people of the Canadian Yukon would derive are set forth, and as the resolution states are too self-evident to require more than a mere mention.

**NEW YORK METAL MARKETS.**—New York, May 15.—Advices from Pittsburg state that all the United States Steel Corporations' mills are well supplied with steel bars. It is reported that they are figuring on running the Vendergrift mill seven days per week. The Allegheny Steel & Iron Co's new open hearth furnace is to start in two weeks. No steel has been sold against it yet. The following are the closing quotations, New York prices, for carload lots, prompt delivery:

Copper, lake.....	Cash.
Copper, electrolytic.....	\$12 25
Copper, casting.....	12 00
Straits, tin, unchanged.....	\$11.75 to 12 00
Spelter.....	30 12½
Antimony, Cookson's.....	4 45
Antimony, Hallett's.....	10 00
Antimony, United States.....	8 00
Tinplate, coke, 100 lbs. basis, 14x20, f.o.b. mill.....	8 12½
	4 10

The following are the prices which the largest dealers will pay for old metals:

Heavy Cut Copper.....	\$10 25
Copper Wire.....	10 00
Light Copper.....	9 00
Heavy Mach. Comp.....	10 50
Heavy Brass.....	8 25
Light Brass.....	7 00
Clean Brass Turnings.....	7 00
Heavy Lead.....	3 95
Tea Lead.....	3 70
Zinc Scrap.....	3 25
No. 1 Pewter.....	21 00
Block Tin Pipe.....	26 00
Aluminum Scrap.....	\$20.00 to 24 00
Zinc Dross.....	2 70
" Skimmings, 65 p.c.....	75
" " 85 to 90 p.c.....	1 00

The following are the prices which dealers will pay f.o.b. cars New York for scrap iron and steel:

No. 1 Yard Wrought Scrap.....	\$18 00 to 19 00
Light Iron.....	12 00 to 12 50
Wrought Pipes and Tubes.....	15 00 to 15 50
Old Horse Shoes.....	18 00 to 19 00
Wrought Iron and Steel Turnings.....	13 50 to 14 00
Cast Iron Borings.....	7 50 to 8 00
Heavy Steel Scrap.....	18 50 to 19 00
Burnt Iron.....	9 50 to 10 00
Boiler Iron, ¼ inch thick and over.....	18 00 to 19 00
Steel Rails, Tees for re-rolling.....	21 00 to 21 50
Steel Rails, Tees and Girders, Scrap.....	18 50 to 19 50
Iron T Rails, standard sections.....	21 00 to 22 00
No. 1 Machinery Cast Scrap Iron.....	16 50 to 17 00
Stove Plate.....	12 00 to 12 50
No. 1 Wrought Railroad Scrap Iron.....	21 00 to 22 00
Old Car Wheels.....	18 50 to 19 00

**PUBLICITY IN STOCKS.**—"Publicity" is what is wanted in the stock market.

When a group of wild cat stocks decline 30 to 60 points in a day the oldest professional stock traders are jarred not a little. When this is followed by the suspension of three stock exchange houses and losses all through the market,



## Tenders for Coal, 1902.

Sealed tenders, addressed to the Provincial Secretary, Province of Ontario, Parliament Buildings, Toronto, and marked "Tenders for Coal," will be received up to noon on MONDAY, MAY 26th, 1902, for the delivery of coal in the sheds of the institutions named below, on or before the 15th day of July next, except as regards the coal for London, Hamilton and Brockville Asylums and Central Prison as noted:—

**Asylum for Insane, Toronto.**

Hard coal—1,250 tons large egg size, 200 tons stove size, 100 tons nut size. Soft coal—500 tons lump, 150 tons soft screenings.

**Asylum for Insane, London.**

Hard coal—2,600 tons small egg size, 250 tons stove size, 60 tons chestnut size. Soft coal—40 tons for grates. Of the 2,950 tons, 1,000 may not be required till January, 1903.

**Asylum for Insane, Kingston.**

Hard coal—1,350 tons large egg size, 260 tons small egg size, 25 tons chestnut size, 500 tons hard screenings, 500 tons soft screenings, 15 tons stove size (hard).

**Asylum for Insane, Hamilton.**

Hard coal—3,575 tons small egg size, 474 tons stove size, 146 tons chestnut size, coal for grates, 50 tons; for pump house, 200 tons soft slack; 120 tons hard slack screenings. Of the above quantity 2,000 tons may not be required until January and February, 1903.

**Asylum for Insane, Mimico.**

Hard coal—1,600 tons large egg size, 120 tons stove size, 165 tons chestnut, 100 tons soft screenings, 50 cords green hardwood.

**Asylum for Idiots, Orillia.**

Soft coal screenings or run of mine lump, 2,000 tons; 90 tons hard coal, stove size; 90 tons hard coal, ate size.

**Asylum for Insane, Brockville.**

Hard coal—1,800 tons large egg size, 125 tons stove size, 75 tons small egg. Of the above quantity 1,050 may not be required until January and March, 1903.

**Asylum for Female Patients, Cobourg.**

Hard coal—450 tons large egg size, 15 tons egg size, 50 tons stove size.

**Central Prison, Toronto.**

Hard coal—100 tons small egg size. Soft coal—2,500 tons soft coal screenings or run of mine lump. The soft coal to be delivered monthly as required.

**Institution for Deaf and Dumb, Belleville.**

Hard coal—800 tons large egg size, 90 tons small egg size, 15 tons stove size, 14 tons nut size.

**Institute for Blind, Brantford.**

Hard coal—475 tons egg size, 150 tons stove size, 15 tons chestnut size.

**Reformatory for Boys, Penetang.**

Eighty tons egg size, 51 tons stove size, 28 tons nut size, 800 tons of soft coal screenings or run of mine lump. Delivered at institution dock.

**Mercer Reformatory, Toronto.**

Soft coal screenings or run of mine lump, 650 tons; stove coal, 110 tons.

Tenders are to specify the mine or mines from which the coal will be supplied, and the quality of same, and must also furnish satisfactory evidence that the coal delivered is true to name, fresh mined and in every respect equal in quality to the standard grades of coal known to the trade.

Delivery is to be effected in a manner satisfactory to the Inspectors of Prisons and Public Charities. And the said inspectors may require additional amounts, not exceeding 20 per cent. of the quantities hereinbefore specified, for the above mentioned institutions to be delivered thereat at the contract prices at any time up to the 15th day of July, 1903.

Tenders will be received for the whole quantity above specified or for the quantities required in each institution. An accepted check for \$500, payable to the order of the Hon. the Provincial Secretary, must be furnished by each tenderer as a guarantee of his bona fides, and two sufficient sureties will be required for the due fulfillment of each contract. Specifications and forms and conditions of tenders may be obtained from the Inspectors of Prisons and Public Charities, Parliament Buildings, Toronto, or from the Bursars of the respective institutions. The lowest or any tender not necessarily accepted. Newspapers inserting this advertisement without authority from the Department, will not be paid for it.

J. R. STRATTON,  
Provincial Secretary.

Parliament Buildings, Toronto, May 12, 1902.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

there is naturally a great hurrying around to find out just what did it.

We are told that the president of one of the companies, finding his loans called at the banks, and being in immediate need of cash, decided to dispose of some of his holdings of stock. The current price was 198. He directed his broker to sell some 2,000 shares, but unfortunately failed to instruct him to use discretion and buy it back if the market sagged too much under the selling pressure. The result was a dip on the first sale, a break to 168, a terrific to 120, followed by utter demoralization. This, to be sure, was on the curb. But on the Stock Exchange proper the effect was very bad.

What a commentary upon the instability of some of the highly inflated stocks this is; that a man's stock is worth nominally 198, but if he wants to sell it shrinks like a snowball in the sun. Nearly all the stocks that have had the sensational declines of late have been industrials, of which the public knew little. Hence the growing sentiment in favor of enforced publicity.

**CAPITALIZATION OF UNITED STATES STEEL CORPORATION.**—The new basis of capitalization of United States Steel Corporation, which has accompanied the consolidation movement, has, of course, changed the situation materially. Yet it is obvious that if a company capitalized at \$1,400,000,000 does a gross business of, say, \$460,000,000, then its profits on the business actually done must be enormous if any large return is to be paid on the paper capitalization. The Steel Corporation has thus far been fortunate to secure such large profits. On its outfit of, roughly, 9,000,000 tons of steel, it made a net profit of about \$111,000,000, or over \$12 a ton. On the ability of the company to maintain a heavy per ton profit, either through control of prices or economies of manufacture, will depend its ability to pay satisfactory profits on all its securities. The same applies in large degree to industrial consolidations generally.

**THE STEAMSHIP COMBINATION.**—The interests of Canada are likely to be threatened by the pooling of the Atlantic steamship interest on the basis proposed by Mr. J. Pierpont Morgan.

According to Ottawa advices, the Dominion Government has been warned of this by one of the leading Canadian railway managers.

The Elder-Dempster Steamship Co. has complained to the Government that the shipping combine was adopted against it, but so far as known, the Government has not yet taken any official action in the matter.

The question is a vital one, and is being followed closely by manufacturers. In the discussion that is going on a prominent railroad man was heard to say that by the co-operation of the Canadian Pacific Railway and Grand Trunk Railway and Canadian Northern Railway Co's it would be possible to establish an independent Atlantic steamship line, providing the Government would guarantee



## ELECTRIC LIGHTING

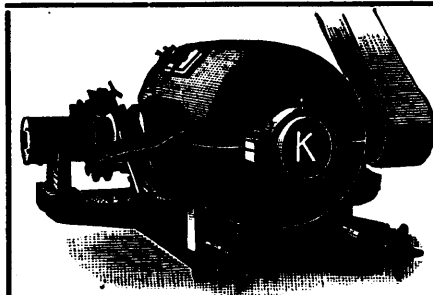
Before deciding on your system, give us a chance to figure—it may save you anxiety and many dollars.

SEND A POST CARD.

And we will furnish you with full information and prices.

### R. A. L. GRAY & CO.,

85 York Street, Toronto.

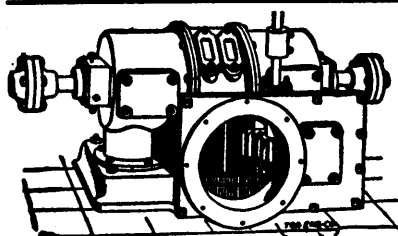


Special Attention Given to Electrical Repairing.

### THE KAY ELECTRIC DYNAMO & MOTOR COMPANY, Limited

219-221 Queen St. East,  
Manufacturers of — TORONTO, ONT.

MULTI-POLAR MOTORS.  
BI-POLE MOTORS  
ALTERNATING CURRENT MOTORS.  
INDUCTION MOTORS.  
DYNAMOS for Incandescent and Arc Lighting.  
DYNAMOS for Electro-plating and Electrotyping.  
ELECTRIC CONTROLLERS for Elevators.  
ELECTRIC ORGAN BLOWERS.



Horizontal Type.

### "LITTLE GIANT" TURBINE

....FOR ALL PURPOSES....

HORIZONTAL AND VERTICAL  
BUILT IN 44 SIZES.

We guarantee a higher percentage of power from water used than any other wheel on the market.

Water Wheel Governors, Machine Dressed Gearing, Pulleys, Shafting and Bearings.  
Catalogue and Gear List mailed on application. Correspondence Solicited.

J. C. WILSON & CO., - - GLENORA, ONT.

## BELL PIANOS and ORGANS

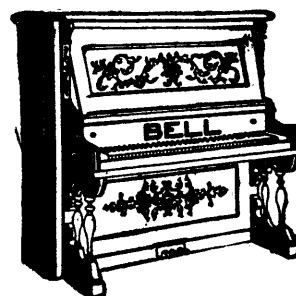
BUILT TO LAST A LIFETIME  
AND USED THE WORLD OVER

Send for Catalogue No. 47 to

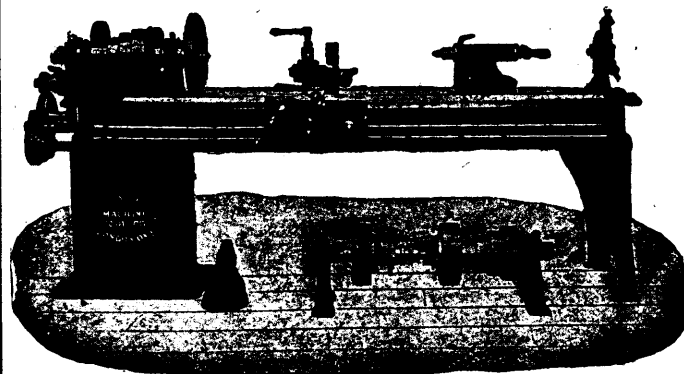
THE BELL ORGAN AND PIANO CO., LIMITED

QUELPH, - - ONTARIO.

LARGEST MAKERS IN CANADA.



## The London Machine Tool Co., LONDON, ONT.



MANUFACTURERS  
OF

### General Machinery

LATHES,  
PLANERS,  
DRILLS,  
SHAPERS,  
HAMMERS,  
BULL DOZERS,  
PUNCHES,  
PRESSES.



**IF YOU VALUE TIME and WANT COPIES OF WHAT YOU WRITE**

Drop a line to us and we will send you samples of our **IMPROVED**

**AUTOMATIC DUPLICATING BOOK** that makes copies without the trouble of inserting a Carbon Leaf.

**The MORTON CO., Limited,**  
46 RICHMOND ST. W.  
Phone Main 2554 TORONTO

**The Bourne-Fuller Co.**

**Iron, Steel**  
**PIG IRON.**  
Cleveland, - Ohio.

**KINLEITH PAPER COMPANY LIMITED**

MANUFACTURERS OF

**Book, Writing**  
**Envelope and Cover PAPERS**



AND SPECIALTIES

MILLS AND HEAD OFFICE

**St. Catharines, Ont.**

**EDWARD FINLAY**

MANAGING DIRECTOR.

**"GENUINE OAK" BELTING**

More SOLID LEATHER to the Foot than any Belt made.

**"LANCASHIRE" HAIR BELTING**

FOR EXPOSED SITUATIONS

**ENGLISH CARD CLOTHING**

**D. K. McLAREN**

Head Office and Factory, - MONTREAL.

Western Trade, - TORONTO STOCK DEPOT, 132 BAY ST.

**BLADEN, WAUGH & CO.,** 50 & 51 Lime St., London, E.C., England  
Telegraphic Address, "PHENOLATE, LONDON."

**TAR PRODUCTS. Refined Tar, Benzole, Solvent Naptha.**

**PITCH.** Carbolic Acid (Crude and Crystal), Picric and Cresylic Acids.  
**CREOSOTE.** Green Oil, Pyridine.

**NAPHTHALINE** (CRUDE, PRESSED, CRYSTAL, SUBLIMED, MARBLES.) **CYANIDES.** PRUSSIATE OF POTASH AND SODA, PRUSSIAN BLUE.

**AMMONIA** (SULPHATE, NITRATE, LIQUID, MURIATE, ANHYDROUS, CARBONATE.)

**Chemicals.** Sulphate of Copper. Chlorates of Potash and Soda. Calcium Carbide. Acetate of Soda. Wood Naptha. Acetone, Bichromates.  
**CHEMICAL MANURES.**

ALEX. GARTSHORE, President. J. G. ALLAN, Sec. Treas. JAS. THOMSON, Vice-Pres. and Gen. Mng'r.

**THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. Limited**

**CAST IRON PIPE**

3 in. to 60 in. diameter.

**For Water, Gas, Culverts and Sewers**

Special Castings and all kinds of

**FLEXIBLE AND FLANGE PIPE**

**WATER WORKS SUPPLIES**

**HAMILTON, ONT.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

the interest on the bonds. Ultimately the situation may call for joint action on the part of the Canadian railways.

**CANADA'S TRADE WITH NEWFOUNDLAND.**—The prospects for a big trade between St. John's, Nfld., and Montreal were never brighter. No less than five steamers will be employed in the St. Lawrence traffic, as against three last season. Much of the flour and other Western products were carried by rail last season to New York, Boston, Halifax and Sydney, and thence conveyed by steamer to St. John's. Montreal shipowners interested in the trade have made special arrangements for the conveyance of freight this season from Montreal direct to St. John's at figures which defy railroad competition. Five years ago the United States did a trade with Newfoundland valued at \$3,000,000, whereas Canada's was but \$2,000,000. To-day the conditions are reversed, and five years hence Newfoundland shall probably be doing 80 per cent. of the business with the Dominion.

**A STEAMER LINE TO JAMAICA.**—The Dominion Government has made a contract with the Halifax & West India Steamship Co. for a monthly service between Halifax and the Island of Jamaica, which will continue in force until December 31, 1906. The steamer to be used is the Beta, of 1,037 tons register. The company is to receive a subsidy of \$13,800 per annum, or at the rate of \$1,150 a trip for 12 months.



**To Contractors.**

Sealed tenders, addressed to the undersigned and endorsed "Tender for Works," will be received at this Department until noon of

**Friday, May 23rd,**

for the erection of the Chemistry, Mining and Geology Building, on College street, in connection with the School of Practical Science, excepting heating, plumbing, ventilation and electric work.

Tenders may be sent in separately or in bulk.

Plans and specifications can be seen and forms of tender procured at this Department. An accepted bank cheque, payable to the undersigned, for five per cent. on the amount of each tender for each of the above works will be required. The cheques of the unsuccessful parties tendering will be returned when the contracts have been entered into for the several works.

The bona fide signatures and business addresses of two parties as securities must accompany each tender.

The Department will not be bound to accept the lowest or any tender.

F. R. LATCHFORD,  
Commissioner.

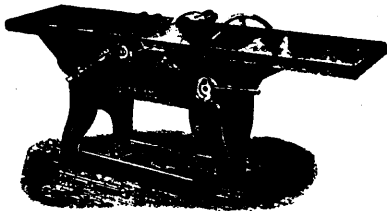
Department of Public Works, Ontario, May 3 1902.

Newspapers inserting (the above) this advertisement without authority from the Department will not be paid for it.

**HASSAN, TAGGE & DEAN**  
*Engineers and Chemists . . .*  
 UNION TRUST BUILDING  
 DETROIT, MICH.

Cement Properties Investigated.  
 Plants Designed,  
 Constructed and Operated  
**CHEMICAL AND PHYSICAL TESTS**  
**OF CEMENT MATERIALS**  
 WRITE FOR PARTICULARS.

**CLARK & DEMILL**  
 MANUFACTURERS OF **Wood Working Machinery**



**GALT, ONT.**  
 Prices and description furnished on application.



Established 1799.

**EXPORT TRADE.**

Canadian Merchants and Manufacturers desiring to do business with

**GREAT BRITAIN, THE COLONIES or FOREIGN COUNTRIES,**

will do well to consult Kelly's Directory of the

**MERCHANTS, MANUFACTURERS & SHIPPERS of THE WORLD,**

(endorsed by the British Government), the 16th edition of which is just published. In addition to the Classified Trade Lists of the Importers and Exporters, Merchants and Manufacturers of the United Kingdom and all principal trading centres of the World, it gives the Customs Tariffs for every country and all classes of goods. The work contains over 4,000 pages, and gives more information than any other work published.

**Highest Award, Gold Medal, Paris, 1900.**  
 For further particulars, charges, etc., apply

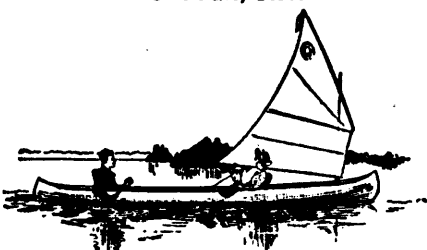
**Kelly's Directories, Ltd. (London, Eng.)**

Dominion Branch—71 VICTORIA ST., TORONTO.

W. P. DENT, MANAGER.

Branches in Great Britain—Liverpool, Manchester, Birmingham, Glasgow, Leeds, Sheffield, Nottingham; also at Paris, Hamburg, New York, Bombay, Calcutta, Cape Town, Melbourne, Sydney, Dunedin, Buenos Ayres, etc.

**The CANADIAN CANOE Co., Limited**  
 PETERBOROUGH, ONT.



Manufacturers of...  
**CANOE AND SKIFFS.** Best Quality. Lowest Prices.  
 Send for Catalogue J.

**YUKON TELEGRAPH TOLLS REDUCED.**  
 —The Dominion Minister of Public Works has decided to reduce the telegraph rates for commercial messages on the Government line between Dawson City and Ashcroft, B.C., from \$4.50 to \$3 for ten words. The reduction is in the nature of an experiment, and if it should result in a material loss of revenue the old rate may be restored.

**A SPECIAL CANADIAN OFFICE IN LONDON.**—The Toronto Board of Trade and the Manufacturers' Association, at a recent meeting, took action in regard to the establishing of a special Canadian office in London, with a trade representative. The resolution adopted is as follows:

"That the Dominion Government be urged to secure a building in a suitable district of London for the purpose of exhibiting the food and other natural products and the manufactures of Canada. That this building comprise, not only exhibits of Canadian goods, but that office facilities and sample-rooms be provided there to be rented to Canadian firms. That the whole building be under control of a Trade Commissioner appointed by the Dominion Government, who shall be thoroughly acquainted with the resources and manufactures of the Dominion. That each province be represented by a provincial commissioner, who shall serve under the Commissioner-in-Chief, and shall be appointed and remunerated by the Provincial Government. That the cost of the enterprise be defrayed by an annual appropriation from the Dominion Government, together with the rent derived from the various offices.

"That it shall be the duty of the Trade Commissioner to become thoroughly acquainted with the British market, and the sources of supply in Canada. To ascertain the possibilities of trade between Canada and the other portions of the Empire. To visit the large trade centres in Great Britain, and come in touch with the various Chambers of Commerce in these cities. To establish a well-equipped bureau of information, the function of which would be to supply for the use of Canadian firms any needed information concerning foreign markets. To endeavor as far as possible to bring to the favorable notice of all other countries the resources, products and manufactures of the Dominion.

"The building should be a museum for the display of the natural and manufactured articles of the Dominion. It should be the centre of commercial intelligence for everything pertaining to Canada. Canadian literature, maps, trade indexes, catalogues, pictures of public buildings and factories, should be found on its tables and walls. Our Trade Commissioner should exert his influence to have pupils of both sexes from schools and colleges visit museum and learn of the wonderful resources of our country. The educational advantages to the rising generation would be of inestimable value in teaching that Canada is something more than the Lady of the Snows, toboggan slides, furs, and ice palaces. Intelligent and courteous Canadian attendants should be on hand to assist the visitor in his search for information.

**PORTLAND CEMENT**  
 HIGHEST GRADES  
**FIRE BRICKS**

Describe your requirement and we will supply a fire brick in shape and quality to suit.  
 Mention whether you burn coal, coke, gas or oil.

**F. HYDE & CO.**  
 31 Wellington St., Montreal

**Bellhouse, Dillon & Co.**

30 ST. FRANCOIS-XAVIER ST.

MONTREAL

**DYESTUFFS, CHEMICALS**  
 AND  
**EXTRACTS**

SOLE AGENTS IN CANADA FOR

**KUTTROFF, PICKHARDT & CO'S**

**ANILINE and ALIZARINE COLORS**

TORONTO OFFICE:

**JAS. HAYWOOD, Agent, 30 Wellington St. E.**

NEW YORK OFFICE:

**DILLON & CO., 20 Cedar Street.**

**NOTICE.**

**Printers. USE PERUVIAN ASH,**  
 a marvellous CLEANSER  
 for TYPE and COMPOSITION ROLLERS.  
 WRITE FOR PARTICULARS.

**Steam Users. VULITE**  
 is unrivalled as a

disincrustant.  
 ON H. M. GOVERNMENT'S LISTS.

**Vulite Syndicate, Limited**

40 Wilson Street, Finsbury,  
 London, E.C., England.

**Wanted—An Active Representative for Canada**



**NOTICE**—The following are the Factory Inspectors for the Province of Ontario:

**JAS. T. BURKE,** Parliament Buildings, Toronto.  
**JAS. R. BROWN,** Parliament Buildings, Toronto.  
**MARGARET CARLYLE,** Parliament Buildings, Toronto.

**O. A. ROCQUE,** Orleans, Ont.

Persons having business with any of the Inspectors will find them at the above address.

**JOHN DRYDEN, Minister of Agriculture.**

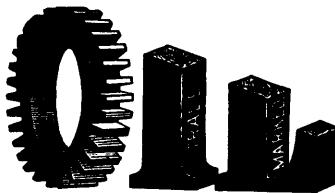
# "Capitol" Cylinder

"RENOWN" ENGINE

"ATLANTIC" RED

RELIABLE WELL-KNOWN BRAND

ALL ORDERS PROMPTLY FILLED



THE QUEEN CITY OIL CO. LIMITED  
SAMUEL ROGERS, Pres. TORONTO, Canada.

## THE EUGENE F. PHILLIPS ELECTRICAL WORKS

MONTREAL, CANADA (LIMITED)

**BARE and INSULATED ELECTRIC WIRE**

ELECTRIC LIGHT LINE WIRE,  
INCANDESCENT AND FLEXIBLE CORDS,

**RAILWAY FEEDER and TROLLEY WIRE**

RUBBER-COVERED, MAGNET, OFFICE AND  
ANNUNCIATOR WIRES.

**CABLES FOR AERIAL and UNDERGROUND USE.**

"We would point out to your Government that the need for such a representation in Great Britain is most urgent. The United States Government have this year secured the Crystal Palace for a mammoth exposition of their products, and unless Canada begins now to inaugurate an aggressive policy her opportunity will be lost."

Messrs. J. F. Ellis, J. D. Allan, Geo. H. Hees and R. F. Young were appointed to wait on Sir Wilfrid Laurier in support of the above resolution.

CANADIAN BUSINESS FAILURES.—Canadian failures in April numbered 77 with liabilities of \$584,480, compared with 86 last year for \$398,122. In manufacturing there were 20 defaults for \$147,992, against 25 last year owing \$171,784; in trading, 57 failures with an aggregate indebtedness of \$434,888, compared with 59 a year ago owing \$204,838. There appears a moderate decrease in number as compared with last year's April failures, but the defaulted liabilities were much larger. The increase occurred in the trading classes, only one of the fourteen reporting no defaults, while losses were especially heavy in general stores and stationery. The latter was entirely due to a single suspension at Montreal for \$100,000. As in the United States report for the month of April, while liabilities expanded considerable in comparison with the figures a year ago, compared with the preceding months this year, there appears a material decrease both in number and amount of defaulted indebtedness.—Dun's Review.



## Superiority

In the Manufacture of the Packard Lamp, the most modern electro, chemical and mechanical processes enable us to produce a lamp that is the most perfect of any lamp made. It has no superior.

**The Packard Lamp** passes through the most rigid tests in its manufacture, and we claim a perfection and uniformity for this lamp not equalled by any other maker. Let us send you our Catalogue "A," showing the various styles of lamps made by us, and detailing information concerning this—the satisfactory lamp.

Makers of  
**HYLO Lamps,**  
Lamps and  
Transformers.  
Scheefer Record-  
ing Watt Meters.

## THE PACKARD ELECTRIC CO., Limited

St. Catharines, Ont.



### TEMISKAMING AND NORTHERN ONTARIO RAILWAY.

SEALED TENDERS addressed to the undersigned, and endorsed "Tenders for Clearing Right of Way," will be received at this office, until noon, Friday, the 23rd day of May, 1902, for clearing the first two sections of the Temiskaming & Northern Ontario Railway, extending twenty miles north-erly from North Bay. Plans and specifications of the work may be seen and full information obtained at the office of the Chief Engineer at North Bay, or at the Department of Public Works, Ontario.

Tenders will not be considered unless made on the forms supplied for this purpose by the Department of Public Works, and signed with the actual signatures of the parties tendering. An accepted cheque on a chartered bank, payable to the order of the Commissioner of Public Works, for \$500, must accompany each tender. The cheque will be forfeited if the party whose tender is accepted declines to enter into a contract for the work at the rates and on the terms stated in the offer submitted.

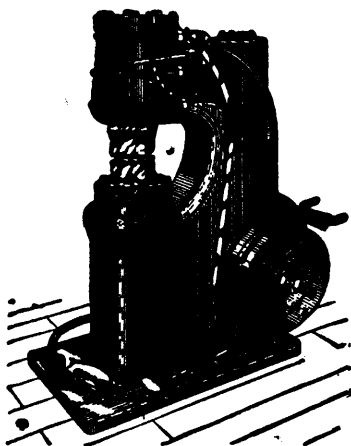
The accepted cheques thus sent in will be returned to the parties whose tenders are not accepted.

The Department does not bind itself to accept the lowest or any tender.

F. R. LATCHFORD,  
Commissioner.

Department of Public Works,  
Toronto, Ontario, May 7, 1902.

Newspapers inserting this advertisement without authority from the Department, will not be paid for it.



## The "YEAKLEY" Vacuum HAMMER, Patented

Is unique and unequalled by any other Power Hammer for its Simplicity, Power, Ease in Operating and Fewness of Parts; Nothing to Break, no Steam to Leak, no Pipes to Freeze, no Delays, no Expense for Repairs. SEND FOR CATALOGUE.

## GEORGE BRUSH

SOLE CANADIAN MANUFACTURER,  
MONTREAL

Advertise in The Canadian Manufacturer.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**FOREIGN TRADE AT HALIFAX, N.S.—** During the winter months, that is, from November 1 to April 22, 10,180 car lots of goods were handled at what is known as the deep-water terminus, Halifax. This was purely "winter port" trade, being goods inwards and outwards by steamer between Canada and Great Britain. The number of steamers to discharge at deep water during the period under review was 90—13 in November, 19 in December, 12 in January, 19 in February, 13 in March and 14 in April. The steamers outward for that period numbered one hundred—10 in November, 16 in December, 20 in January, 19 in February, 22 in March and 13 in April. These steamers were all regular ocean liners.

Our shipments to England embraced 2,194 car loads—171 in November, 334 in December, 430 in January, 295 in February, 495 in March and 469 in April. Our exports were made up of the following car lots:

Deals.....	1,238
Potatoes.....	136
Flour.....	154
Shooks, etc.....	189
Extracts.....	34
Bacon.....	48
Pig iron.....	22
Sundries.....	373

**TRADE WITH SOUTH AFRICA.**—Hopes of peace in South Africa strengthen as

time proceeds, and in the Old Country there is a longing that a settlement will be reached before the coronation. Numerous letters have been received by Canadian manufacturers regarding the exportation of Canadian goods, and there is every indication that with a settlement of the war, the trade with the Cape will boom. The present condition of affairs in South Africa is shown by the following letter from a resident of Johannesburg: "No one would think that we are in the midst of war. All the stores are open in their splendid buildings. A cup of tea or coffee costs 6d., and any kind of cake is 3d. No coin less than a threepenny bit is used. Eggs have come down from 7s. 6d. to 5s. 6d. per dozen. Soft sugar, the cheapest to be had, is 4d. per pound. So you've to buy three pounds at a time. Ladies think nothing of paying fourteen guineas for a plain gown."

**THE CLERGUE ENTERPRISES.**—The listing of the stock of the Consolidated Lake Superior Co. on the Toronto Exchange brings the enterprises with which Mr. Clergue's name is associated within the reach of local investors and speculators. The vastness of this corporation, with its \$82,000,000 authorized capital stock, of which \$62,000,000 is outstanding, and its \$35,000,000 preferred stock, with \$18,000,000 outstanding, exemplifies the difficulty, or perhaps the impossibility, of the ordinary investor informing himself as to the value of the

industrial securities in which he invests. The company absorbed and combined the Lake Superior Power Co., the Sault Ste. Marie Pulp & Paper Co., the Tagona Water & Light Co., the Michigan & Lake Superior Power Co. and the Algoma Steel Co. By the absorption of the Ontario & Lake Superior Co. the enterprises under its control were also combined under the same management. These were the Algoma Central Railway Co., the Algoma Central Steamship Co., the Manitoulin & North Shore Railway Co., the Algoma Commercial Co., the British American Express Co., and the Algoma Central Telegraph Co. The enterprises thus united under a single combination include mining and exploring, manufacturing, transportation by land and water, waterpower development, the operation of public franchises, and the administration of an extensive grant of land.

The iron mines in the company's possession include the Helen, the Josephine, the Francis and the McDougall, and in addition to these there are the ferromanganese and nickel properties. The manufacturing enterprises include the production of wood pulp, sulphide pulp and ferro-nickel, also the iron and steel works, the charcoal blast furnaces, the coke blast furnaces and the works for producing fuel and coke. Two railways, the Algoma Central and the Manitoulin & North Shore, and also the Algoma Central Steamship Line, are

# PITT & SCOTT

LIMITED

## Foreign Freight

### Contractors

and

### Forwarders

Through Bills of Lading to all parts of Europe, South Africa, Australia, Etc.

Invoices Collected Against Delivery.

Foreign Financial Reports, Trade Lists, Etc., Etc., furnished on application.


89 Broadway, New York 188 Milk St., Boston

Agencies all over the World.

## STURTEYANT

# BLOWERS

*of every conceivable form for every conceivable purpose. Built for endurance.*



— ALSO —

- Exhausters
- Steam Fans
- Electric Fans
- Engines
- Electric Motors
- Generating Sets
- Forges
- Exhaust Heads.
- Steam Traps
- Heating
- Ventilating
- Drying Apparatus
- Mechanical Draft

154

B. F. STURTEYANT & CO. BOSTON.  
NEW YORK - PHILADELPHIA - CHICAGO - LONDON.

## Stanyon Engineering Co.,

402 McKinnon Bldg.

Phone, Main 2177. TORONTO, ONT

### Consulting Engineers and ...Buyers' Agents...

When wanting Machinery or Iron and Steel products from the United States consult us.

General Office. - Pittsburg, Pa., U.S.A.

## E. M. & A. ALLAN CO.

**MANUFACTURERS' AGENTS,**

34 Yonge Street, - Toronto, Canada

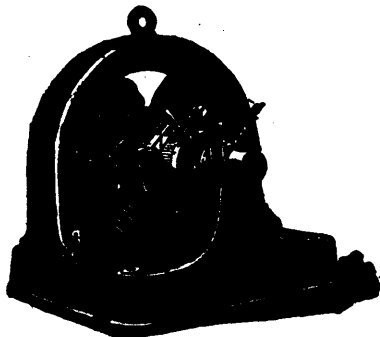
Have First-Class facilities for handling any business entrusted to them.

Experienced travellers reach all the principal Cities and Towns in Canada.

BEST REFERENCES.

CORRESPONDENCE SOLICITED.

## TORONTO and HAMILTON ELECTRIC CO.



### MOTORS and DYNAMOS

MODERATE and SLOW SPEED OF HIGH EFFICIENCY.

EITHER BELTED OR FOR DIRECT CONNECTION.

REPAIRS PROMPTLY EXECUTED ON ALL ELECTRICAL APPARATUS.

T. & H. ELECTRIC CO.

99-103 McNAB N., - HAMILTON, ONT.

## THE STOWE-FULLER CO.

FIRE BRICK MANUFACTURERS

ALL FURNACE MATERIAL

Superior Building SEND FOR  
CLEVELAND, O. CATALOGUE

## R. SPENCE & CO.

HAMILTON, ONT.

FILE and RASP MANUFACTURERS  
AND RE-CUTTERS.

A trial order solicited. Write for terms.  
C. P. MOORE, PROPRIETOR.

included in the transportation enterprises. The power development plant consists of the power canal and station at Sault Ste. Marie. The company controls an electric light, gas and street railway franchise in Sault St. Marie, Mich., and an electric light, gas, water and street railway franchise in Sault Ste. Marie, Ont. The land grant contains 1,850,000 acres. A combination of enterprises so varied and extensive must be bewildering to the ordinary investor, who contemplates purchasing a share in the eighty millions of capital by which it is represented. The permanent investor must ask himself if the company controls natural wealth and productive capacity equal to the market price of its securities. It would be a difficult matter for even the promoters and managers to answer that question. At Philadelphia the common stock sold at 35 and the preferred at 77 and 78. Two sales on the local Exchange on Monday were at 32 and 32½, the fall being clearly in sympathy with the recent general break in the market. Yesterday, with signs of activity, there was an advance to 33½. The requirements of the British law as to publishing information might be of advantage to the investing public when the shares of such corporations are offered for sale. This is a country of successful enterprise, and the field is continually widening. But every investor must determine for himself the values that sustain the securities he buys.—Toronto Globe.

AMERICAN WIRE NAIL PRODUCTION.—The production of steel wire nails in the United States in 1901, according to Mr. J. M. Swank, amounted to 9,803,822 kegs of 100 pounds, as compared with 7,233,979 kegs in 1900, an increase of 2,569,843 kegs, or over 35 per cent. In 1899 the production amounted to 7,618,130 kegs, in 1898 to 7,418,475 kegs, in 1897 to 8,997,245 kegs, in 1896 to 4,719,860 kegs, in 1895 to 5,841,403 kegs. The wire nails produced in 1901 were manufactured by 61 works, as compared with 56 in 1900. The production in 1901 was greatly in excess of that of any other year, exceeding by 906,577 kegs that of 1897, the next year of largest production.

### BUSINESS CHANGES.

FROM BRADSTREETS.

#### ONTARIO.

BRACEBRIDGE—Bird Woolen Mill Co., obtained charter.

DUNNVILLE—John Brown, miller, burnt out.

HAMILTON—St. Lawrence Terminals Co., obtained charter.

Wm. Wyndham Co., obtained charter.

LONDON—London Builders' Supply & Mfg. Co., obtained charter.

MEAFORD—Seaman-Kent Co., obtained charter.

OTTAWA—Columbia Asbestos Mica & Mining Co., incorporated.

Globe Refining Co., obtained charter.

Dominion Supply Co., obtained charter.

E. N. Hurtubise & Co., saw mill, meeting of creditors.

STEWART—Smith Bros., saw mill, etc., sold to John Cooper.

STRATFORD—Hodd & Cullen Milling Co., loss by explosion.

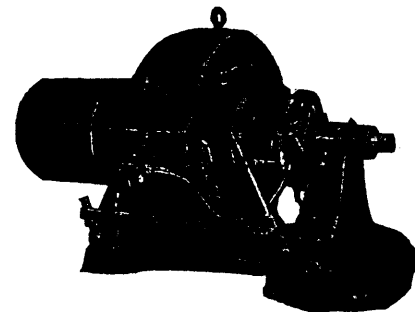
TORONTO—John Abell Engine & Machine Works Co., sold out to F. E. Kenaston and W. H. Mason as trustees for the Minneapolis Threshing Machine Co., Minneapolis, Minn., and Advance Thresher Co., Battle Creek, Mich.

American Tire Co., bicycle sundries and sporting goods, stock, etc., to be sold by auction, Canada Last Co., obtained charter.

## The Jones & Moore

**ELECTRIC CO.**

**ELECTRICAL CONTRACTORS**



DYNAMOS, TELEPHONES, SLOW SPEED MOTORS, MOTORS, SUPPLIES, DIRECT CONNECTED DYNAMOS.

We manufacture Direct Current Machinery in all sizes and for any purpose.

20 and 22 ADELAIDE W.,  
TORONTO.

## KERR'S

"COPPER-ALLOY"

### DISC VALVES

ARE THE BEST

—FOR—

### HIGH STEAM

ASK YOUR DEALER

FOR THEM.

CATALOGUE SENT

ON APPLICATION.

## THE KERR ENGINE CO.

LIMITED

WALKERVILLE, - ONTARIO

CHARLES F. CLARK, President. JARED CRITTENDEN, Treasurer.

Established 1849.

## BRADSTREET'S

Capital and Surplus, \$1,500,000

Offices Throughout the Civilized World.

EXECUTIVE OFFICES,

346 & 348 Broadway, New York City, U.S.A.

Correspondence Invited.

OFFICES IN CANADA:

Halifax, N.S. Hamilton, Ont.

London, Ont. Montreal, Que.

Ottawa, Ont. Quebec, Que.

St. John, N.B. Toronto, Ont.

Vancouver, B.C. Victoria, B.C.

Winnipeg, Man.

THOMAS C. IRVING, Gen'l Manager Western Canada, TORONTO.

JOHN A. FULTON, Gen'l Manager Eastern Canada, MONTREAL.

Alex. Brown, Milling & Elevator Co., obtained charter.  
 Consolidated Electric Co., obtained charter.  
 Canadian Rolling Stock Co., obtained charter.  
 Metallic Roofing Co., opened branch at Winnipeg.  
 National Cross-Ply Veneer Co., obtained charter.  
 Ontario Can Co., obtained charter.  
 Pin Cashion Black Board Co., obtained charter.  
 Stratford Peat Co., obtained charter.  
 Wm. C. Wilson & Co., mill supplies, etc., application made for winding-up order.  
**TORONTO JUNCTION**—Union Stock Yards Co., loss by fire.  
**WALKERVILLE**—Page Wire Fence Co., registered.  
**WINDSOR**—Penberthy Injector Co., obtained charter.

**QUEBEC.**

**BEAUHARNOIS**—Beauharnois Light, Heat & Power Co., incorporated, E. B. Greenshields, president.  
**BEAUPRE**—Sainte Anne Power Co., applying for charter.  
**LADYSMITH**—Ruckwald & Schack, planing mill burnt out.  
**MONTREAL**—Canadian Pneumatic Tool Co., applying for incorporation.  
 Gagne & Bonneau, trolley protectors, registered.  
 Montreal Roofing Co., Wilks & Michaud, curators.  
 Mutual Gas Saving Valve Co., W. N. McBeth and S. E. Cunningham registered.  
 W. J. Poupore Co., obtained incorporation.  
 Sleeper Engine Co., incorporated.  
 George Tuck & Co., asbestos and mill supplies, assigned to Kent & Turcotte.  
**QUEBEC**—E. J. Blouin & Frere, mfrs. soap and vermicelli, assigned, V. E. Paradis pro guardian.  
 James Muir Co., mfrs. shoes, applying for incorporation.  
 Quebec Jacques Cartier Electric Co., Edward Slade registered general manager.  
**ST. THERESE**—Dominion Furniture Mfg. Co., applying for charter.  
**SOREL**—Beauchemin & Fils, mfrs. implements, etc., incorporated.  
**WEST WICKHAM**—Lupien & Lupien, sawmill, Emilien & Wilfrid Lupien registered.

**NOVA SCOTIA.**

**PICTOU**—Pictou Foundry & Machine Co., Joseph & James Robb and D. A. Hannan registered partners.  
**TRENTON**—Humphreys Glass Co., small fire loss.  
**WINDSOR**—Windsor Furniture Co., small fire loss.

**MANITOBA.**

**HOMEWOOD**—Homewood Farmers Elevator Co., applying for incorporation.  
**WINNIPEG**—Walker Oil Co., incorporated.  
 Western Impl. Mfg. Co., applying for incorporation.  
**Winnipeg Hedge & Wire Fence Co.**, incorporated.

**BRITISH COLUMBIA.**

**EDMUNDSTON**—Vanburen Lumber Co., mfrs., grist and shingle mills burned, loss \$15,000.  
**VANCOUVER**—Carlisle Packing & Canning Co., official liquidator appointed.

All interested in South and Central American Trade should read

**THE SOUTH AMERICAN JOURNAL**

Founded 1863

The recognized organ of South American interests and business in the Anglo-Saxon World.

SUBSCRIPTION . . . 25s. PER ANNUM.

Specimen copy post free; also the pamphlet, "South America as a Field for Enterprise," giving much information with regard to the countries, moneys, weights, measures, mails, etc.

OFFICES

**DASHWOOD HOUSE,**  
**New Broad Street,**  
**LONDON, E.O.; ENG.**

Main Factory—BRADFORD, ENG.

Main Showrooms—LONDON, ENG.

**The Largest Truck Establishment in the World.**

**H. C. SLINGSBY for Canada, Factory—MONTREAL—Office**

We manufacture Hand Trucks for every imaginable purpose, all on the famous Slingsby patent sliding wheel system. Simply tell us what you need.

**We make every truck that leaves our factory advertise us.**

SPINS LIKE

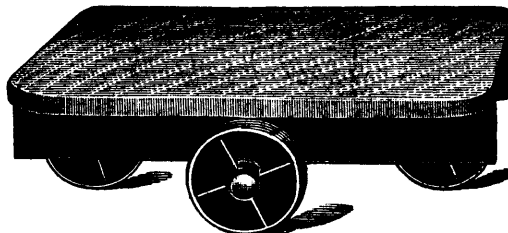
A TOP.

RUNS

EITHER

WAY.

End Wheels Slide on Axle.



WITH OR WITHOUT RUBBER TIRES.

EASIEST RUNNING TRUCK IN EXISTENCE.

**IF YOU CAN'T COME, WRITE**

to our nearest office for information about

E. HOWARD & CO., Watchman's Clocks.

**THEY WILL SAVE YOU 10 ON YOUR INSURANCE**

Established 1842

**The E. HOWARD CLOCK CO.**

395 to 403 Washington St., BOSTON  
 41 and 43 Maiden Lane, NEW YORK

**DIXON'S TWO THINGS**

DOES

AND DOES THEM THOROUGHLY

STOPS THE BELT FROM SLIPPING.

PLEASES THE MAN WHO USES IT.

SOLID Belt Dressing.

NOTHING EQUALS IT...

SAMPLE SENT FREE. SEND FOR ONE.

**JOSEPH DIXON CRUCIBLE CO., JERSEY CITY, N.J. U.S.A.**

**TRADE WITH RUSSIA**

Firms desirous of getting into communication with Russian buyers or merchants; or who wish to buy Russian products on the best possible terms; or who are willing to appoint agents for the sale of their goods in Russia, are invited to send particulars of their requirements for insertion in

**The Anglo-Russian Trade Messenger,**

10 Bolshaya Dvorianskaya Street, Moscow, Russia.

THE ANGLO-RUSSIAN TRADE MESSENGER is the sole commercial paper published in Russia, devoted to the interests of the Anglo-Russian trade. It circulates amongst the best firms all over Russia and Siberia.

**Circulars and Catalogues Translated, Printed and Distributed AT VERY CHEAP RATES.**

**CANADIAN MANUFACTURERS**

WHO WISH TO ADVERTISE IN THE

**BRITISH MARKET**

ADDRESS

**Ratcliffe's Advertising**

**Agency, ADVERTISEMENT CONTRACTORS,**

1 LOMBARD COURT, LONDON, ENGLAND.

Established 1849.

SOLE ADVT. CONTRACTORS FOR H. M. Board of Trade "Labor Gazette." (Official Organ Labor Department, Board of Trade). "London Chamber of Commerce Journal." (Official Organ London Chamber of Commerce, Incp.), Etc., Etc.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# HARDWARE, METALS, PAINTS and OILS

**Current Prices, Revised to May 16, 1902.**

The following quotations represent the prices current in the market, as obtainable by the trade, whether from the manufacturers or the jobbers. Small orders and broken packages usually command higher prices, while lower prices are usually given to larger buyers.

The Canadian Customs Duties imposed upon all imported articles enumerated in these lists are published in full in the 1900 Tariff Edition of THE CANADIAN MANUFACTURER. Price 50 cents per copy.

The publishers request the trade to suggest any changes and improvements which might be made in these lists, with a view to rendering quotations as correct and useful as possible.

**ADZES.**—Duty 30%.  
\$13 to \$20 per doz.

**AMMUNITION.**—Duty 30%.

Caps, Gun, gross.  
Cartridges, B.B. Cap, Dom., 50 & 5% discount, Can. list.  
Cartridges, B.B. Cap, Amer., 40% discount, Amer. list.  
Cartridges, Central Fire, Military and Sporting, Amer., add 5% to list.  
Cartridges, Central Fire, Military and Sporting, Dom., 15 & 5% discount.  
Cartridges, Central Fire, pistol size, Dom., 30% discount.  
Cartridges, Central Fire, pistol size, Amer., 10% discount.  
Cartridges, Central Fire, rifle size, Amer., 10% discount.  
Cartridges, Rim Fire, pistol, Amer., 40% discount.  
Cartridges, Rim Fire, pistol, Dom., 50 & 5% discount.  
Powder, sporting, Can., \$4.50 per keg 25 lbs.  
" " Eng., " " " " " "  
" " Amer., \$5.50 per keg 25 lbs.  
" blasting, \$2.50 per keg.  
Primers, Dom., 30% discount.  
Shells, Brass, Shot, 55% discount.  
" Trap, loaded or empty, 25% discount.  
" Rival and Nitro, net.

Shot, Buck, Seal or Ball, \$6.62½ per 100 lb. net. (duty 35%).  
" Chilled, \$6 per 100 lb. net.  
" Common, \$5.50 per 100 lb. net.  
Prices are f.o.b. Toronto, Hamilton, Montreal, St. John and Halifax. Terms 3% cash, freights equalized.

**ANCHORS.**

Small, 30 to 50 lbs., \$7.00 per 100 lbs.  
100 lbs. and larger, \$5.00 per 100 lbs.

**ANVILS.**—Duty 30%.

Boker & Co., 12 to 15 cents per lb.  
Brook's, 10 to 13 cents per lb.  
Peter Wright's, 12 to 15 cents per lb.

**AUGERS.**—Duty 30%.

Eye Augers, 60% discount.  
Nut Augers, 60 " "  
Ship Augers, 10 " "

**AXES.**—Duty 25%.

Bench, \$6.50 to \$14 per doz.  
Broad, \$26.25 to \$40 per doz.  
Double-bitted, \$11 to \$13 per doz.  
Handled, \$8.50 to \$12 per doz.  
Regular, \$6 to \$10 per doz.  
Ship Carpenters, \$22 to 25 per doz.

**AXLE GREASE.**—Duty 25%.

Ordinary, box, \$5.75 to \$6 per gross.

**AXLES.**—Duty 35%.

Half patent, short beds, 60% discount per set.  
long " 60% " "

**BAGS.**—Duty 20%.

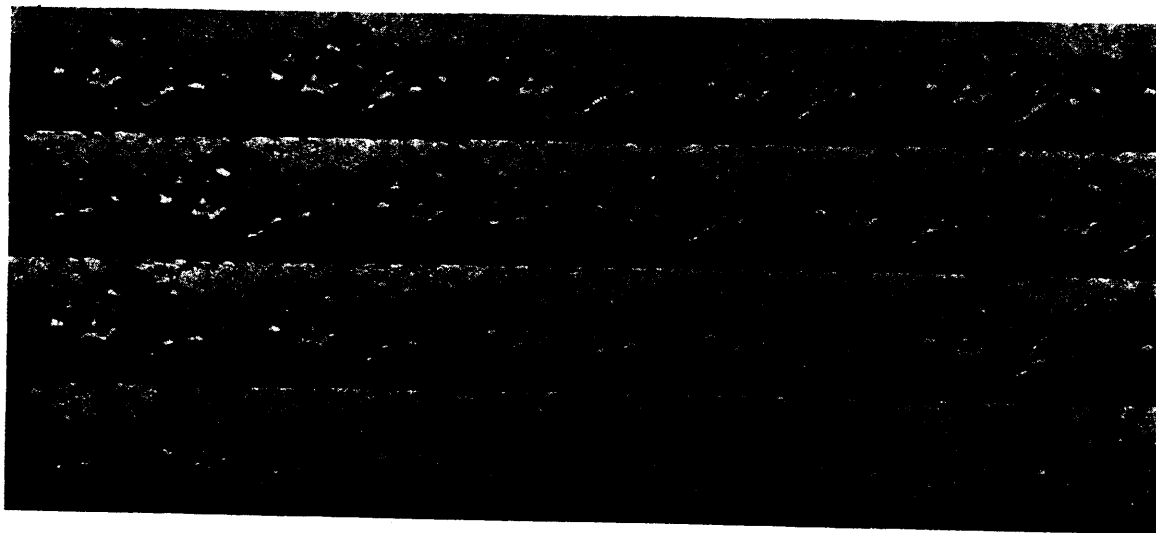
Cotton, seamless, \$14 @ \$24.50 per 100.  
Jute, \$7.75 @ \$9 per 100.

**BANDS.**—Duty 30%.

Carriage Hub, 2" x 1½", \$13.00 per set.  
" " 2½" x 1½", 14.00 " "  
" " 2½" x 1½", 15.00 " "  
" " 2½" x 1½", 16.00 " "  
" " 2½" x 1½", 17.00 " "  
" " 2½" x 1½", 18.00 " "  
" " 2½" x 1½", 19.00 " "  
" " 2½" x 1½", 20.00 " "  
" " 3" x 1½", 21.00 " "  
" " 3½" x 1½", 24.00 " "  
" " 3½" x 1½", 25.00 " "  
" " 3½" x 1½", 26.00 " "  
" " 3½" x 1½", 27.00 " "  
" " 3½" x 1½", 28.00 " "  
" " 3½" x 1½", 29.00 " "  
" " 3½" x 1½", 30.00 " "  
" " 4" x 1½", 31.00 " "

**BARROWS.**—Duty 30%.

See Wheelbarrows.



This cut illustrates a single sheet of our Fig. 825 Siding, 30 x 96 inches in size— It is a superior siding in every respect and we can supply it in Painted Steel or Galvanized Steel, with proper corner trimmings and everything necessary for a handsome and durable job. Give us particulars of your buildings (size and construction) and we will submit sample and estimate.

**THE METAL SHINGLE & SIDING CO., Limited**  
**PRESTON, - ONTARIO**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.







**PICKS.**—Duty 30%.  
\$4.50 to \$7 per doz.

**PITCH.**  
85 cents 100 lbs.

**PIPE.**—Duty, \$8 per ton.  
Cast Iron Soil, Medium and Heavy, 65% discount  
Light, 60% discount.

**PIPE.**  
Brass, 25 to 35 cents per lb., base price.  
Copper, 25 cents per lb., base price.

**PIPE.**—Duty 30%.  
Galvanized Iron.  
1/4, \$5.15 per 100 ft.; 1/2, \$5.50 per 100 ft.; 3/4, \$7.95 per 100 ft.; 1, \$10.80 per 100 ft.; 1 1/4, \$12.95 per 100 ft.; 1 1/2, \$17.35 per 100 ft.

**PIPE, BLACK IRON.**—Duty 30%.  
1/4, \$4.65 per 100 ft.; 1/2, \$3.40 per 100 ft.; 3/4, \$3.45 per 100 ft.; 1, \$3.30 per 100 ft.; 1 1/4, \$3.75 per 100 ft.; 1 1/2, \$5.25 per 100 ft.; 1 3/4, \$7.40 per 100 ft.; 2, \$9.30 per 100 ft.; 2 1/2, \$12.75 per 100 ft.; 2 3/4, \$22.75 per 100 ft.; 3, \$30.00 per 100 ft.; 3 1/2, \$37.50 per 100 ft.; 4, \$42.75 per 100 ft.; 4 1/2, \$51.50 per 100 ft.; 5, \$57.50 per 100 ft.; 6, \$74.50 per 100 ft.

**PIPE.**—Duty 30%.  
Wrought Iron, 1 inch, per ft. 16 1/2 cents.

**PIPES.**—Duty 30%.  
Stove, 5 and 6 in., \$7 per 100 lengths.  
7 in., \$7.50 per 100 lengths.

**PLANES.**—Duty 30%.  
Bailey's, 40% discount.  
Canadian wood, 25% discount.  
Mathieson wood, 20

**PLUMBERS' BRASS GOODS.**—Duty 30%  
Check Valves, 60% discount.  
Compression Cocks, 50% discount.  
Gate Valves, 55% discount.  
Genuine Jenkins' Valves, 45 "  
Imitation Jenkins' Valves, 55 "  
Radiator Valves, 55% discount.  
Standard Angle Valves, 65% discount.  
Standard Globe Valves, 65 "  
Stop Cocks, 65% discount.

**POLISH.**—Duty 25%.  
Liquid Stove, \$5 per gross.  
Paste, \$5 per gross.

**PULLEYS.**—Duty 25%.  
Awning, 25 to 60 cents per doz.  
Clothes Line, 50 cents per doz.  
Dodge wood split, 50% discount.  
Sash, 25 to 27 cents per doz.

**PUMP CYLINDERS.**—Duty 25%.  
Regular patterns, 65% discount.

**PUMPS.**—Duty 25%.  
Cistern, 50% discount.  
Force, 50

**PUNCHES (centre).**—Duty 30%.  
Assorted sizes, \$1.80 per doz.

**PUTTY.**—Duty 20%.  
In bbls. (Bladders), \$2.10 per 100 lbs.  
In kegs, boxes or loose, \$2.25 per 100 lbs.  
In 25-lb. tins, \$2.35 per 100 lbs.  
In 12 1/2-lb. tins, \$2.65 per 100 lbs.  
In bulk or tins less than 100 lb., \$2.90 per 100 lbs.  
Bulk, in bbls., \$1.90 per 100 lbs.  
" in less quantity, \$2.05 per 100 lbs.

**RASPS.**—Duty 30%.  
Blacksmiths, Woodworkers, etc., see Files.

**REGISTERS.**—Duty 30%.  
Floor and Wall, 50% discount.

**RIVET SETS.**—Duty 30%.  
Canadian, 35 to 37 1/2% discount.

**RIVETS AND BURRS.**—Duty 30%.  
Copper Rivets and Burrs, 35 & 5 off; cartoons, 1 cent per lb. extra.  
Extras on Iron Rivets in 1-lb. cartoons, 1/2 cent per lb.  
Extras on Iron Rivets in 1/2-lb. cartoons, 1 cent per lb.  
Extras on Tinned or Coppered Rivets, 1/2-lb. cartoons, 1 cent per lb.  
Iron Rivets, black and tinned, 60 & 10% discount.  
Iron Burrs, 55% discount.

**ROPE, ETC.**—Duty 25%.  
Cotton, 3-16 in. and larger, 16 cents per lb.  
" 5-32 in., 21 cents per lb.  
" 1/4 in., 2 1/2 cents per lb.  
Crucible Steel Rope, 25% discount.  
Galvanized Wire Rope, 25% discount.  
Jute, 8 cents per lb.  
Lath Yarn, 9 1/2 cents per lb.  
Manilla, 7-16 in. and larger, 13 1/2 cents per lb.  
" 1/2 in., 14 1/2 cents per lb.  
" 3/4 and 5-16 in., 15 1/2 cents per lb.  
New Zealand Rope, 10 cents per lb.  
Russia Deep Sea, lines 15 1/2 cents per lb.  
Sisal, 7-16 in. and larger, 10 cents per lb.  
" 1/2 in., 11 cents per lb.

**RULES.**—Duty 30%.  
Boxwood, 75 and 10% discount.  
Ivory, 37 1/2 to 40% discount.  
Lumbermans'.

**SAD IRONS.**—Duty 30%.  
Mrs. Potts', No. 55, polished, 62 1/2 cents per set.  
No. 50, nickle-plated, 67 1/2 cents set.  
"Sensible," 55 and 60 cents set.  
"Toy," \$13.00 gross.

**SAND AND EMERY PAPER.**—Duty 25%.  
B. & A. Sand, 40 & 5% discount.  
Garnet, 5 to 10% advance of list.

**SAP SPOUTS.**—Duty 30%.  
Bronzed iron, with hooks, \$9.50 per 1,000.

**SASH WEIGHTS.**—Duty 25%.  
Sectional, \$2.75 to \$3 per 100 lb.  
Solid, \$1.25 to \$2.25 per 100 lb.

**SAWS.**—Duty 30%.  
Crosscut, Disston's, 35 to 55 cents per foot.  
Hack, complete, 75 cents to \$2.75 each.  
Hack, frame only, 75 cents each.  
Hand, Disston's, 12 1/2% discount.  
S. & D., 40% discount.  
S. & D., 35 off on Nos. 2 and 3.

**SCALES.**—Duty 30%.  
Gurney's, 40 discount. Canadian list.

**SCREEN'S.**—Duty 30%.  
Door, \$7.50 to \$12 doz.  
Window, \$1.75 to \$2.75 doz.

**SCREWS.**—Duty 35%.  
Bench, iron, \$4.25 to \$5.75 per doz.  
" wood, \$3.25 to \$4 per doz.  
Drive Screws, 87 1/2 & 10% discount.  
Hexagon Cap, 45 "  
Set, case-hardened, 60 "  
Square Cap, 50 & 5 "  
Wood, F.H., bright and steel, 87 1/2 & 10% discount.

**SCREWS, (Machine, Iron and Brass)**—Duty 35%.  
Flat head, 25% discount.  
Round head, 20 "

**SCYTHES.**—Duty 25%.  
Grass, \$3 to \$10 doz.  
Grain, \$12 to \$14 "

**SHEARS.**—Duty 30%.  
Tailors, 30% discount Amer. list.

**SHELLS (Cartridge).**—See Ammunition.

**SHOT, See Ammunition.**

**SHOVELS AND SPADES.**—Duty 35%.  
Jones', 40 and 5% discount.  
Steel, Snow, \$2.45 @ \$2.60 per doz.

**SKATES.**—Duty 35%.  
Canadian Hockey, 40 cents to \$2.50 pair.

**SNAPS.**—Duty 30%.  
Harness, 40% discount.

**SNATHS.**—Duty 25%.  
Sythe, \$5.25 to \$8 per doz.

**SOLDER (Plumbers).**—See Metals.

**SOLDERING IRONS.**—Duty 30%.  
20 to 90 cents each.

**SPIKES.**—Duty 1/2 cent per lb.  
Rail, 20% discount.  
Ship, \$5 per 100 lb.

**SPRINGS.**—Duty 35%.  
Bright Carriage, 6 1/2 per lb. net.

**STAPLES.**—Duty 30%.  
Barb wire, \$3.75 per 100 lb.  
Bed, 50% discount.  
Blind, 25 "  
Wrought iron, 75% discount.

**STEEL.**—See Metals.

**STOCKS AND DIES.**—Duty 30%.  
Blacksmiths', Lightning, 25% discount.  
" " Reece, 30% discount.  
" " Jardine, 35% "  
Pipe, Solid, 70 & 10% discount.  
" Duplex, 33 1/2% discount.  
" Jarecki, 33 1/2% "  
" Oster, 30% "  
" Armstrong, 35% "

**STONES.**—Duty 30%.  
Scythe, \$3.50 to \$5 per gross.

**TACKS, BRADS, etc.**—Duty 35%.  
Carpet tacks, blued, 80 & 15% discount.  
" " tinned, 80 & 20 "  
" " in kegs, 40% discount.  
Cheese-box tacks, blued, 85 & 12 1/2% discount.  
Copper tacks, 50% discount.  
Cut tacks, blued, in dozens only, 80% discount.  
" " 1/2 weights, 60% discount.  
Fine finishing, 40% discount.  
Leather carpet tacks, 55% discount.  
Lining tacks, in papers, 10% discount.  
Patent brads, 40% discount.  
Picture frame points, 10% discount.  
Strawberry box tacks, bulk, 75 & 10% discount.  
Swedes, cut tacks, blued and tinned, in bulk, 80 & 10% discount; in dozens, 75% discount.  
Swedes, upholsterers', bulk, 85, 12 1/2 & 12 1/2% dis.  
" brush, blued and tinned, bulk, 70% dis.  
" gimps, blued, tinned and japanned, 75 & 12 1/2% discount.  
Trunk tack, black and tinned, 85% discount.  
Zinc tacks, 35% discount.

**TAGS.**—Duty 25%.  
Shipping, 50 @ 70 cents per M.

**TAR.**  
Coal \$2.75 bbl.  
Refined, \$4 per bbl.

**TENTS.**—Duty 30%.  
Canadian list, 20% discount.

**TONGS.**—Duty 30%.  
Ice, \$9 per doz.  
Pipe, "Brown's," net.  
" "Brook's," 25% discount.  
" "Trimco," 25 "

**TRAPS.**—Duty 30%.

**TRUCKS.**—Duty 30%.

**TURNBUCKLES.**—Duty, 1/2 cent per lb., 25%; 3/4% discount.

**TURPENTINE.**—Duty 5%.  
55 cents per gal.

**TWINES.**—Duty 25%.  
Bag twine, 3-ply, 20 cents per lb.  
4-ply, 20 cents per lb.  
Binding, 12 1/2 cents per lb.  
Colored, 27 cents per lb.  
Cotton bag, 30 cents per lb.  
Cotton, White, 20 to 30 cents per lb.  
" Colored, 30 to 40 "  
Hemp, 20 cents per lb. "  
Jute, 20 cents per lb.  
Mattress, 45 cents per lb.  
Sewing, 45 cents per lb.

**TWINE—Continued.**  
Tarred Lath, 11 cts.  
Wrapping, 22 to 27 cts.

**VARNISHES.**—Duty 20 cents per gal.  
Black Japan, \$2 per gal.  
" No. 1, 75 cents to \$1.50 per gal.  
Brown Japan, \$1.50 to \$2.50 per gal.  
Carriage, No. 1, \$2 to \$3 per gal.  
" body, \$4 to \$6 per gal.  
" rubbing, \$2.50 to \$4 per gal.  
Furniture Brown Japan, \$1.25 to \$2 per gal.  
Furniture, extra, \$2 to \$2.50 per gal.  
" No. 1, 75 cents to \$1.50 per gal.  
Gold Size Japan, \$1.50 to \$2.50 per gal.  
Hard Oil Finish, \$1.50 to \$2.50 per gal.  
Light Oil Finish, \$1.50 to \$2.50 per gal.  
Shellac, orange, \$2 to \$2.50 per gal.  
" white, \$2 to \$2.50 per gal.

**VICES.**—Duty 30%.  
Amer., 13 1/2 cents per lb.  
Brooks', 13 1/2 cents per lb.  
Peter Wright's, 15 cents per lb.

**WASHING MACHINES.**—Duty 35%.  
Re-acting square, \$51.00 per doz.  
" Round, \$48.00 "  
Rocker, \$48.00 per doz.  
Popular Brands, \$30.00 to \$42.00 per doz.  
Dowsell, \$3.75 each.  
Re-acting (Dowsell), \$5 each.

**WIRE.**  
Brass Wire, (duty 10%), 50 to 50 & 2 1/2% discount.  
Copper Wire, (duty 15%), 45 & 10% discount net cash 30 days, f.o.b. factory.  
Smooth Steel Wire, (duty 20%), is quoted at the following net selling prices:  
No. 6 to 8 gauge, \$2.90 per 100 lbs.  
" 9 " 2.80 "  
" 10 " 2.87 "  
" 11 " 2.90 "  
" 12 " 2.95 "  
" 13 " 3.15 "  
" 14 " 3.37 "  
" 15 " 3.50 "  
" 16 " 3.65 "

Other sizes of plain wire outside of Nos. 9, 10, 11, 12 and 13, and other varieties of plain wire remain at \$2.80, base, with extras as before.

Galvanized Wire, per 100 lb.: Nos 6, 7, 8, \$3.50 to \$3.85; No. 9, \$2.85 to \$3.15; No. 10, \$3.60 to \$3.95; No. 11, \$3.70 to \$4.10; No. 12, \$3 to \$3.30; No. 13, \$3.10 to \$3.40; No. 14, \$4.10 to \$4.50; No. 15, \$4.60 to \$5.05; No. 16, \$4.85 to \$5.35. Base sizes, Nos. 6 to 9, \$2.57 1/2 f.o.b. Cleveland.

Clothes Line Wire, solid 7 strand, No. 17, \$4.25; No. 18, \$2.65; No. 19, \$2.35; f.o.b. Toronto, Hamilton and Montreal.

**WASTE (Cotton).**  
Colored, \$5.50 to \$6 per 100 lb.  
White, \$7.75 per 100 lbs.  
" extra, \$5 per 100 lb.

**WHEELBARROWS.**—Duty 30%.  
Garden, \$2 to \$4.50 each.  
Navy, \$19 per doz.  
" Iron wheel, \$22.50 per doz.  
Steel tubular, \$7.50 to \$10.50 each.

**WRENCHES.**—Duty 30%.  
Agricultural, 60% discount.  
Alligator, 50 "  
Trim, pipe, 25 "

**WRINGERS (Clothes).**—Duty 35%.  
Canadian, \$26 to \$30 per doz.  
Popular Brands, \$16.50 to \$22 per doz.

**ZINC.**—See Metals.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

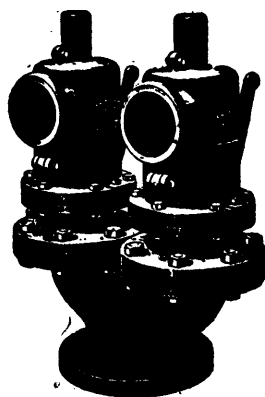
# INDEX TO ADVERTISEMENTS.

Where the follo is not given the Advertisement appears at intervals.

Agriculture, Ontario Minister of, Toronto.....	33	Fetherstonhaugh & Co., Toronto.....	ofc	Nova Scotia Steel & Coal Co., New Glasgow, N.S.....	4
Albert Mfg. Co., Hillsborough, N.B.....	6	Firstbrook Box Co., Toronto.....	43	Oakey, John & Sons, London, Eng.....	5
Algoma Steel Co., Sault Ste. Marie, Ont.....	2	Fleming, W. A. & Co., Montreal.....	17	Ontario Malleable Iron Co., Oshawa, Ont.....	obc
Allan & Co., E. M. & A., Toronto.....	36	Forman John, Montreal.....	5-8	Ontario Wind Engine & Pump Co., Toronto.....	29
American Steam Gauge & Valve Mfg. Co., Boston, Mass.....	42	Frick, H. C. Coke Co., Pittsburg, Pa.....	obc	Owen Sound Portland Cement Co., Owen Sound, Ont.....	6
American Steam Pump Co., Battle Creek, Mich.....	28	Frost, W. H., Smith's Falls, Ont.....	obc	Packard Electric Co., St. Catharines, Ont.....	34
Anglo-Russian Trade Messenger, Moscoow, Russia.....	37	Gartshore, John J., Toronto.....	43	Page Wire Fence Co., Walkerville, Ont.....	23
Archbold, George, Prescott, Ont.....	43	Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.....	32	Parke, Roderick J., Toronto.....	8
Armstrong Mfg. Co., Bridgeport, Conn.....	21	Gee Electrical Engineering Co., Toronto.....	2	Parker, Alfred S., New Toronto, Ont.....	43
Bale & Co., London, England.....	29	Goldie & McCulloch Co., Galt, Ont.....	3	Patent Clothboard Co., Parry Sound, Ont.....	43
Barber, Wm. & Bro., Georgetown, Ont.....	43	Gooding William, London, Eng.....	43	Perrin, Wm. R. & Co., Toronto & Chicago, Ill.....	19
Bellhouse, Dillon & Co., Montreal.....	33	Gordon, Drummond & Co., London, Eng.....	29	Peterborough Canoe Co., Peterborough, Ont.....	6
Bell Organ & Piano Co., Guelph, Ont.....	31	Gowdey, J. A., Reed & Harness Mfg. Co., Providence, R. I.....	23	Phillips, Eugene F., Electrical Works, Montreal.....	34
Benson, W. T. & Co., Montreal.....	2	Gray, R. A. L. & Co., Toronto.....	31	Pitt & Scott, New York City.....	35
Bertram, John & Son, Dundas, Ont.....	3	Greening B. Wire Co., Hamilton.....	28	Queen City Oil Co., Toronto.....	ofc-34
Big Four Route, Boston, Mass.....	43	Gutta Percha & Rubber Mfg. Co., Toronto.....	ofc	Ratcliffe Advertising Agency, London, E.C., England.....	37
Blagden, Waugh & Co., London, England.....	32	Hamilton Brass Mfg. Co., Hamilton, Ont.....	5	Rehder Plating & Mfg. Co., Thorold, Ont.....	43
Bourne-Fuller Co., Cleveland, Ohio.....	32	Hamilton Cotton Co., Hamilton, Ont.....	obc	Rice Lewis & Son, Toronto.....	21
Bradstreets, Toronto and New York.....	36	Hamilton Facing Mills Co., Hamilton, Ont.....	33	Riley, C. E. & Co., Boston, Mass.....	ofc
Bristol Co., Waterbury Conn.....	obc	Hassan, Tagge & Dean, Detroit, Mich.....	4	Robb Engineering Co., Amherst, N.S.....	6
Brown & Co., Paris, Ont.....	23	Hay, Peter, Galt, Ont.....	4	Rosmond Woolen Co., Almonte, Ont.....	43
Brush, George, Montreal.....	34	Hay, Peter, Galt, Ont.....	4	Rossendale Belting Co., Manchester, Eng.....	7
Brunner, Mond & Co., Northwich, Eng.....	5	Howe, F. W. & Son, Hamilton, Ont.....	13	Schoellkopf, Hartford & Hanna Co., Buffalo, N.Y.....	23
Buchanan, R. H. & Co., Montreal.....	7	Howard, E. Clock Co., Boston, Mass., and New York City.....	37	Scioto Fire Brick Co., Sciotoville, Ohio.....	23
Budden, Hanbury A., Montreal.....	43	Hyde, F. & Co., Montreal.....	31	Slingsby, H. C. for Canada, Montreal.....	37
Buffalo Forge Co., Buffalo, N.Y.....	16	Imperial Oil Co., Petrolia, Ont.....	3	Smith & Cameron, Toronto.....	obc
Bureau of Mines, Toronto.....	2	Jenckes Machine Co., Sherbrooke, Que.....	24	Smith Woolstock Co., Toronto.....	43
Burt Mfg. Co., Akron, Ohio.....	16	Jones & Moore Electric Co., Toronto.....	36	South American Trade Journal, London, E.C., England.....	37
Butterfield & Co., Rock Island, Que.....	16	Karch, H. W., Hespeler, Ont.....	23	Spence, R. & Co., Hamilton, Ont.....	36
Canada Foundry Co., Toronto.....	5	Kay Electric Dynamo & Motor Co., Toronto.....	31	Stanyon Engineering Co., Toronto & Pittsburg, Pa.....	36
Canada Iron Furnace Co., Montreal.....	2	Keller, John J. & Co., New York, N.Y.....	31	Storey, W. H. & Son, Acton, Ont.....	43
Canada Switch & Spring Co., Montreal.....	obc	Kelly's Directories, Toronto and London, Eng.....	29-33	Stowe-Fuller Co., Cleveland, Ohio.....	36
Canadian Canoe Co., Peterborough, Ont.....	33	Kerr Engine Co., Walkerville, Ont.....	8	Stratton, J. R., Toronto.....	30
Canadian Colored Cotton Mills Co., Montreal.....	22	Kingston Foundry, Kingston, Ont.....	2	Sturtevant, B. F. Co., Boston, Mass.....	35
Canadian Heine Safety Boiler Co., Toronto.....	22	Kinleith Paper Co., St. Catharines, Ont.....	32	Syracuse Smelting Co., Montreal.....	7
Canadian Manufacturer Pub. Co., Toronto.....	8	Klipstein, A. & Co., New York, N.Y.....	6	Tallman, J. N. & Sons, Hamilton, Ont.....	24
Canadian Office & School Furniture Co., Preston, Ont.....	43	Laurie Engine Co., Montreal.....	43	Thompson, W. G. M., St. Catharines, Ont.....	43
Canadian Portland Cement Co., Deseronto, Ont.....	17	Leitch & Turnbull, Hamilton, Ont.....	43	Toronto & Hamilton Electric Co., Hamilton, Ont.....	36
Canadian Rand Drill Co., Montreal.....	19	Lewis, Rice & Son, Toronto.....	21	Toronto Paper Mfg. Co., Cornwall, Ont.....	43
Canadian Rubber Co., Toronto and Montreal.....	7	London Machine Tool Co., London, Ont.....	31	Trimont Mfg. Co., Roxbury, Mass.....	23
Carrier, Laine & Co., Levis, Que.....	obc	Lumsden, J. & Co., Montreal.....	23	United Electric Co., Toronto.....	obc
Carruthers, Robert, Lowell, Mass.....	ofc	Mason Machine Works, Taunton, Mass.....	43	Vulite Syndicate, London, E.C., England.....	33
Case, Egerton R., Toronto.....	ofc	Merrimac Chemical Co., Boston, Mass.....	43	Walkerville Malleable Iron Co., Walkerville, Ont.....	ofc
Cassella Color Co., New York and Montreal.....	7	Metallic Roofing Co., Toronto.....	27	Wallberg, E. A., Toronto.....	30
Clark & Demill, Galt, Ont.....	33	Metal Shingle & Siding Co., Preston, Ont.....	38	Whiting Foundry Equipment Co., Harvey, Ill.....	30
Cooper, James Mfg. Co., Montreal.....	15	Milnes, J. H. & Co., Toronto.....	25	Williams, A. R. Machinery Co., Toronto.....	ofc
Cowan & Co., Galt, Ont.....	26	Montreal Pipe Foundry Co., Montreal.....	2	Winn & Holland, Montreal.....	5
Crosby Steam Gauge & Valve Co., Boston, Mass.....	20	Morrow, John, Machine Screw Co., Ingersoll, Ont.....	6	Wilson Bros. Bobbin Co., Todmorden, Eng.....	31
Darling Bros., Montreal.....	6	Morton Co., Toronto.....	32	Wire and Cable Co., Montreal.....	ofc
Dean Bros., Toronto.....	22	McArthur, Corneille & Co., Montreal.....	obc	Worth & Martin, Toronto.....	9
Department of Public Works, Toronto.....	32-34	McEachren Heating & Ventilating Co., Galt, Ont.....	25	Wright & Dallyn, Hamilton, Ont.....	9
Deseronto Iron Co., Deseronto, Ont.....	2	McLaren, D. K., Montreal and Toronto.....	32	Zanzibar Paint Co., Toronto.....	28
Dixon, Jos., Crucible Co., Jersey City, N.J.....	37	Neff, A. C., Toronto.....	43		
Dodge Mfg. Co., Toronto.....	18	Neil, James M., Toronto.....	22		
Dominion Bridge Co., Montreal.....	4	New Toronto Woolstock Co., New Toronto, Ont.....	43		
Dominion Dyewood & Chemical Co., Toronto.....	ofc	Northey Mfg. Co., Toronto.....	8		
Dominion Oil Cloth Co., Montreal.....	ofc				
Dominion Radiator Co., Toronto.....	20				
Drummond, McCall & Co., Montreal, Que.....	2				
Eby Mfg. Co., Toronto.....	25				
Electric Construction Co., London, Ont.....	25				

ofc..... outside front cover.

obc.....outside back cover.



American Twin Pop Safety Valves.

## AMERICAN STEAM GAUGE AND VALVE MFG. COMPANY

BOSTON, MASS., U.S.A.

MANUFACTURERS OF

Standard Appliances for Measuring, Indicating, Recording and Governing Water, Steam, Gas, Ammonia, and all pressures.

Sole Manufacturers of The Thompson Improved Indicator

HIGHEST AWARD AT PARIS EXPOSITION, 1901—The only American Indicator to receive a Medal. The Gold Medal awarded at Pan-American Exposition on Gauges, Pop Valves, Indicators and Engineering Specialties.

THE INDICATOR THAT MADE INDICATORS FAMOUS

Also Gauges, Clocks, Revolution Counters, Pop Safety, Cylinder and Underwriters' Water Relief Valves, Recording Gauges, Pyrometers, Salinometers, and all Steamship Instruments. Send for New General Catalogue.



Underwriters' Pattern Iron Water Relief Valve.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

PAGE

MISSING

PAGE

MISSING