

## 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.

**THE QUEEN CITY OIL CO. LIMITED, LUBRICATING AND REFINED OIL**

SAMUEL ROGERS, President.

TORONTO.

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

*MANATION THAT MANUFACTURES FOR ITSELF PROSPERS*

Vol. 43.

TORONTO, AUGUST 2, 1901.

No. 3.

**STEAM BOILERS**

FOR ALL PURPOSES  
**ECONOMY DURABILITY SAFETY**

HEATERS, SUPERHEATERS,  
 ECONOMIZERS  
 AND STEAM ACCESSORIES

**BABCOCK & WILCOX LIMITED**  
 202 ST. JAMES ST., MONTREAL  
 Toronto Office—114 King St. West

**MILL SOAPS**

For all TEXTILE PURPOSES

MANUFACTURED BY  
**Dominion Dyewood and Chemical Company,**  
 TORONTO

**Wire Rope**

FOR....  
 Hoisting, Mining,  
 and Other Purposes  
 IMPORTED PROMPTLY  
 AT  
 LOW PRICES.....

**A. C. LESLIE & CO.,**  
 MONTREAL  
 Sanderson's Tool Steel in Stock.

**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.

**Fensom's**

**ELECTRIC HYDRAULIC STEAM HAND-POWER**

All made of the best material and finest workmanship.

The Fensom Elevator Works...  
 52, 54, 56 Duke Street, Toronto, Ont.

**Elevators**

**RUBBER GOODS OF ALL KINDS.**



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.

THE HAMILTON FACING MILL CO., LIMITED, Foundry Facings, Ceylon Plumbago  
 HAMILTON, ONT. Manufacturers of  
 THE HAMILTON FACING MILL CO., LIMITED, Foundry Facings, Ceylon Plumbago  
 FOUNDRY FACINGS and FIRE SAND, also Extra Fine Quality  
 SUPPLIES  
 THE HAMILTON FACING MILL CO., LIMITED, Foundry Facings, Ceylon Plumbago  
 FOUNDRY FACINGS and FIRE SAND, also Extra Fine Quality  
 SUPPLIES  
 THE HAMILTON FACING MILL CO., LIMITED, Foundry Facings, Ceylon Plumbago  
 FOUNDRY FACINGS and FIRE SAND, also Extra Fine Quality  
 SUPPLIES

PATENTS  
 CAVEAT ETC.  
 REGISTERED SOLICITOR OF PATENT  
 NOTARY PUBLIC  
 MEMBER OF THE CANADIAN MANUFACTURERS' ASSOCIATION  
 HEAD OFFICE  
 TEMPLE BUILDING  
 TORONTO  
 OFFICES  
 OTTAWA  
 AND  
 WASHINGTON

**PATENTS Fetherstonhaugh & Co.**  
 TORONTO MONTREAL OTTAWA WASHINGTON

**JOHN J. KELLER & CO.,** 104 and 106 Murray St.  
NEW YORK  
220 Church St., Philadelphia.  
135 Pearl St., Boston. 18 Pryor St., Atlanta, Ga.

**Aniline Colors, Dyewood Extracts,  
Sumac and Nutgall Extracts. . .**

**FAST COLORS** for Wool Dyeing, One Dip Cotton Colors,  
Novelties and Specialties for Calico Printing.

MANUFACTURED BY

**JOHN R. GEIGY & CO.**  
BASLE, SWITZERLAND.

## 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

## 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**

Correspondence invited.

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

Works, **SHALLOW LAKE, Ont.** - Head Office, **OWEN SOUND, Ont.**

New Black for Cotton

## Colonial Black

**Double Strength. Unequaled for Depth of Shade.**

**Users of Black should investigate**

**Fastest Black on the Market.**

**F. E. ATTEAUX & CO.,**

BOSTON, MASS., U.S.A.

CANADIAN BRANCHES:—63 Colborne Street, TORONTO.  
13 Lemoine Street, MONTREAL.

## CANADA CHEMICAL MANUFACTURING CO.

— MANUFACTURERS OF —

Sulphuric, Nitric, and Muristic Acids—Commercial and  
Chemically Pure.

Mixed Acids for Explosives.

Liquid Ammonia, Glauber Salts, Copperas, Muriate Tin  
Tin Crystals, Acetic Acid, Nitrate Iron, Bisulphite  
Soda, Acid Phosphate for Baking Powders  
and General Chemicals, Fertilizers, etc.

LONDON, - ONTARIO.

## 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.**

## CANADA IRON FURNACE CO., LIMITED

Montreal, Radnor and Three Rivers

Manufacturers of the well-known

**"C.I.F." Three Rivers Chapeal 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...

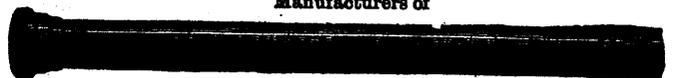
SUCCESSORS TO

(Limited)

**DRUMMOND-McCALL PIPE FOUNDRY CO.**

Manufacturers of

(Limited)



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

Offices: - - - **Canada Life Building,  
MONTREAL**

# The GOLDIE & McCULLOCH CO., Limited, Galt, Ont.

MANUFACTURERS OF

Wheelock Engines,  
 Ideal High Speed Engines,  
 Gas and Gasoline Engines,  
 Boilers, Pumps,  
 Water Wheels,  
 Flour Mill Machinery,  
 Oatmeal Mill Machinery,

Wolf Gyrotors,  
 Emery Choppers,  
 Wood-working Machinery,  
 Shingle Machinery,  
 Heading and Stave  
 Machinery,  
 Wood Rim Split Pulleys,

Iron Pulleys, Shafting,  
 Hangers, Gearing,  
 Friction Clutch Coupling,  
 Friction Clutch Pulleys,  
 Chain Tackle  
 Safes, Vaults & Vault Doors

Write for Catalogues, Dept. D.

# 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

# Canada Tool Works

DUNDAS, ONTARIO

## MACHINE TOOLS

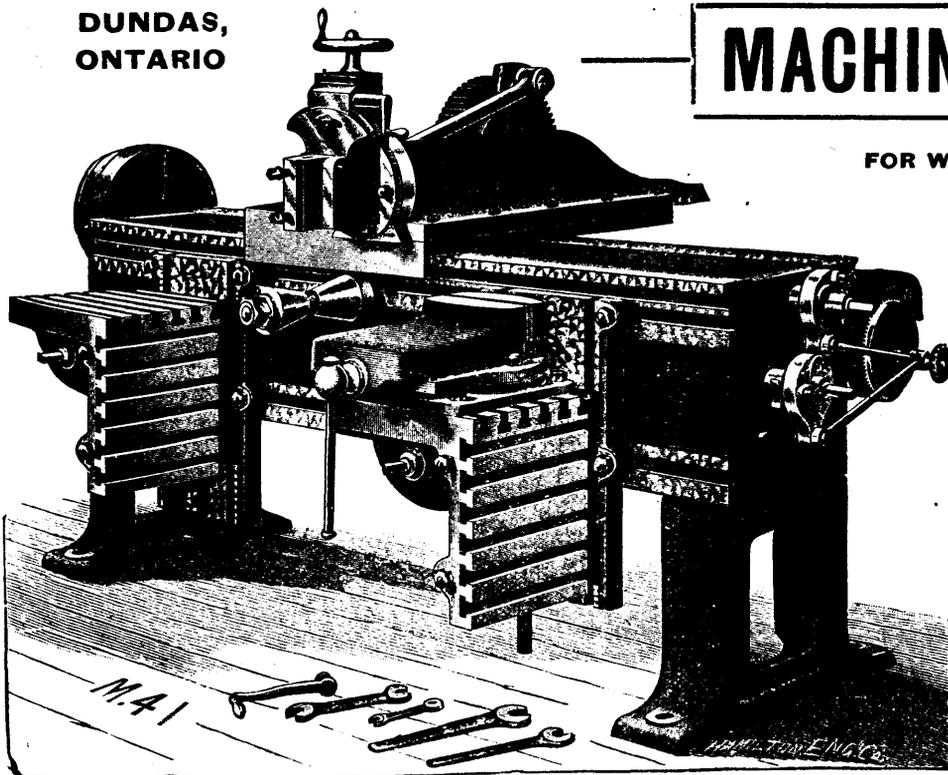
FOR WORKING

**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 CO., LIMITED

MANUFACTURERS OF

## BRIGHT COMPRESSED STEEL SHAFTING

FROM  $\frac{1}{2}$  TO 5 INCHES IN DIAMETER. GUARANTEED STRAIGHT AND TRUE TO WITHIN  $\frac{1}{100}$  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

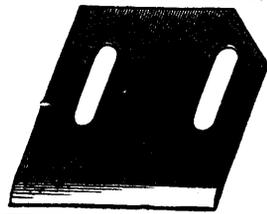
## GALT Machine Knife Works

PETER HAY,



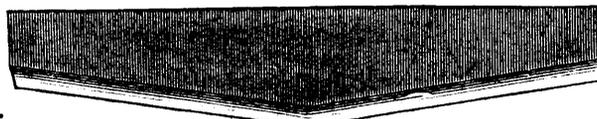
GALT, ONT.

Manufacturers of Every  
Description of.....

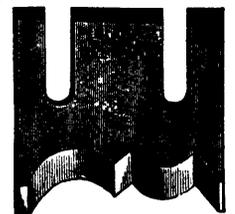


**KNIVES,** For Wood-Working, Paper  
Cutting and Leather-  
Splitting  
Machines

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%.



TRADE MARK.

Winn & Holland,  
MONTREAL,  
Sole Agents for Canada.

## SODA CRYSTALS

Lump and Crushed. Brls. and Bags.

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

DOUBLE STRENGTH

## BICARBONATE SODA

ABSOLUTELY PURE

Also for Mineral Water Manufacturers.

# Wm. J. MATHESON & CO., LIMITED

NEW YORK

BOSTON

PHILADELPHIA

PROVIDENCE

CHARLOTTE, N.C.

MONTREAL, CANADA

## DYE . . .

## STUFFS

# Royal Paper Mills Company, Limited

Mills —AND—  
Head  
Office:

East Angus,  
QUE.



WAREHOUSES :

763 Craig Street,  
MONTREAL, QUE.

52 and 54 Front St. W.  
TORONTO, ONT.

F. P. BUOK, - - - PRESIDENT AND GENERAL MANAGER.

Manufacturers  
OF



## Paper

Fine News, Book, Lithograph, Tub and Engine  
Sized Writing, and Colored Cover Papers.

## Pulp and

ROYAL CANADIAN BRAND  
Soda and Mechanical Pulp

## Lumber

SPRUCE, PINE and HARDWOOD (Dressed and  
in Rough.)  
CLAPBOARDS and SHINGLES.

CABLE ADDRESS—"OBBAPER," EAST ANGUS—A.B.C. and Lieber's Code.

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.

## KEMP MNFG. CO.

TORONTO.

### Galvanizing

DONE FOR THE TRADE.

GET OUR PRICES.



For IRON FENCING,  
BANK and OFFICE RAIL-  
INGS and all kinds  
of IRONWORK

Address:

Toronto Fence & Ornamental Iron Works  
99 Queen St. East, Toronto.

## BROWN & CO.

Manufacturers of

Square and Hexagon

HOT PRESSED NUTS.

PARIS, - ONT.

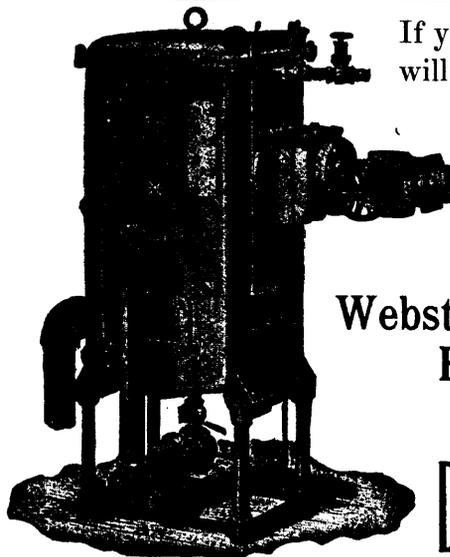


Send for Catalogue and Price  
List to

THE JOHN MORROW MACHINE SCREW CO.

INGERSOLL, ONT.

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



If you find your Fuel Account high it  
will pay you to send for our literature.

ASK ESPECIALLY ABOUT OUR

### WEBSTER SYSTEM OF STEAM HEATING

FOR HEATING BUILDINGS  
BY THE WASTE EXHAUST STEAM

—AND THE—

### Webster Vacuum Feed Water Heater and Purifier

And we will explain HOW  
you can reduce your COAL BILL.

## DARLING BROS.

RELIANCE WORKS,  
7 OTTAWA ST.

Montreal.

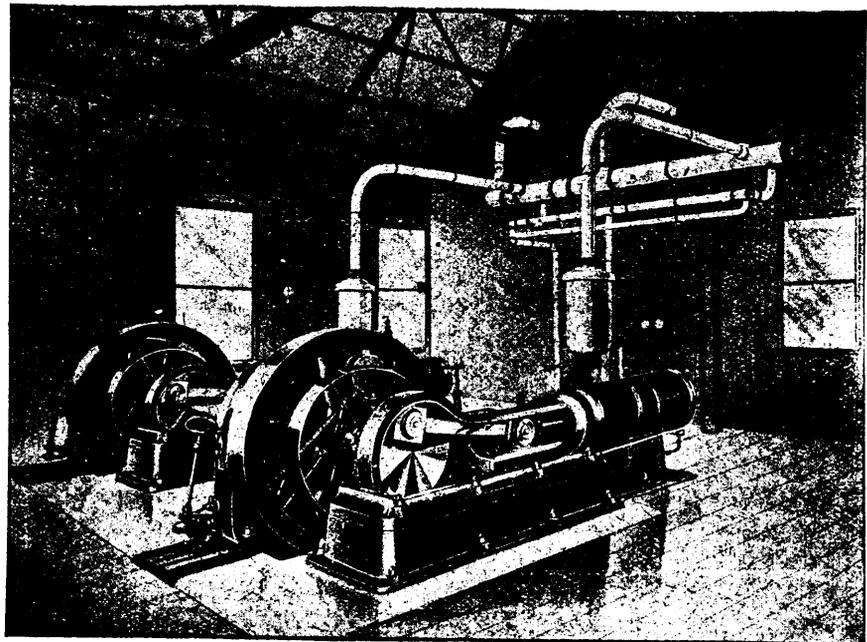
## A. KLIPSTEIN & CO. 122 Pearl St. New York

### Anilines, Dyestuffs & Chemicals

DELIVERY MADE AT NEW YORK, MONTREAL OR HAMILTON.

## WRIGHT & DALLYN, HAMILTON, ONT.

AGENTS,



### "Robb-Armstrong" Engines at Regla, Cuba

MANUFACTURED BY

## ROBB ENGINEERING CO., LIMITED, Amherst, N.S.

Agents { WILLIAM McKAY, 19 McKenzle Crescent, Toronto  
WATSON JACK & CO., 7 St. Helen Street, Montreal

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**Lighting, Heating and Motive Power**

**. . BY GAS . .**

**GAS FROM WOOD**—A rich permanent Gas almost equal to that of Coal Gas, can be made by using the

**RICHE' GAS GENERATOR**

at a mere nominal cost per thousand cubic feet.

The Generator is simple in construction, and does not require skilled labor to work it. **No Purifiers required. Products being a Rich Permanent Gas and Charcoal.**

These Generators are extensively used in Europe, and are on exhibit at the Paris Exposition. Particulars by applying to

**JULES DE CLERCY, Gas Expert,**

**ROOM 501 CARLAW BUILDING, 30 Wellington St. W., Toronto**

**GEORGE WARD**

**LASKAY, ONT.**

MANUFACTURER OF

**Acetylene GAS  
Generators**

WRITE FOR PARTICULARS

**RUBBER BELTING**

"The writer has personally handled your belting for between twenty-five and thirty years. We are glad to be able to say that we are both pleased with the quality of your goods and with the manner of treating your customers."

THE A. R. WILLIAMS MACHINERY CO.

**THE  
CANADIAN RUBBER CO.**

**MONTREAL TORONTO  
WINNIPEG**

**ROSSENDALE, M.A.Y. WOVEN BELTING**

*Twice the strength of Leather  
Used by all the large manufacturers  
Very much cheaper  
Lasts longer  
Every Belt Guaranteed*

*Specially suitable for Damp Work  
All sizes up to 20 inches in stock for  
immediate delivery*

*Write for our quotations before buying your belts*

CANADIAN  
AGENTS:

**R. H. BUCHANAN & Co., 692 Craig St., Montreal**

**Shafting-Hangers-Pulleys**

**THIS IS OUR SPECIALTY**

We also manufacture Friction Clutch Pulleys, Clutch Couplings, Belt Tighteners, Self-Oiling Bearings, Iron Rope Drive Wheels,

AND A FULL LINE OF

**Power Transmission Machinery**

SEND FOR OUR B 6 CATALOGUE

**DODGE MFG. CO. of Toronto, Limited**

**ENGINEERS, FOUNDERS, MACHINISTS**

**TORONTO, CANADA**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# Pumping Machinery

"For all Duties"

Air Pumps  
Acid Pumps  
Feed Pumps  
Mine Pumps  
Fire Pumps  
Tank Pumps  
Duplex Power  
& Stuff Pumps  
Sinking Pumps  
Suction Pumps  
Tannery Pumps  
Duplex and  
Triplex  
Power Pumps

Canadian Manufacturers and Engineers will find it to their interest to refer to us when in need of anything in the shape of Pumping Machinery.

CATALOGUES AND SPECIFICATIONS SENT ON REQUEST

THE  
NORTHEY  
GAS AND  
GASOLINE  
ENGINE

Supplies a cheap, simple, easily applicable form of power that is filling the necessity for such a motor very extensively and satisfactorily. The running expenses are very light. It requires no experience to handle, and runs for hour without attention. Well adapted for running independant electric lighting plants or pumping and elevator plants.

SEND FOR ILLUSTRATED BOOKLET

THE *Northey*  
Company  
Limited, Toronto

## THE MASON REGULATOR CO.

ESTABLISHED 1883

### Standard Steam Specialties

Reducing Valves, Damper Regulators, Pump Governors and Automatic Appliances of all Descriptions for the Regulation and Control of Steam, Water and Air Pressures.

158 Summer St., Boston, Mass.

Works at MILTON, MASS., U.S.A.

**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

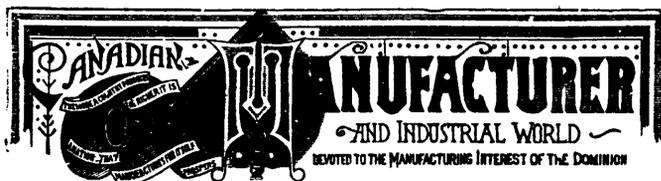
ALUMINUM, MIRROR, CELLULOID, PAPER, PORCELAIN,  
FOR FACTORY AND OFFICE.

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 & CO.,**  
164 Federal Street, - Boston, Mass.  
AGENTS FOR UNITED STATES.

Index to Advertisers ..... Page 42

I. J. CASSIDEY, - - - Editor and Manager

**INJUNCTIONS AND THE LABOR STRIKE.**

At this writing telegrams from industrial centres in the United States inform us that probably within the current week the contest between the Amalgamated Association of Iron and Steel Workers on the one side, and what is known as "The Steel Trust" on the other, would find an amicable solution. It is to be hoped that the prediction will eventuate. It is not to be supposed, however, that the result will be a victory for the Amalgamated Association. The strike ordered by President Shaffer, of the Association, was not for a certain rate of wages or for certain hours of labor, but for a principle; and it is resisted on that ground. Some of the steel mills in question employ union labor and make their bargains regarding labor with the Association, and some of them are non-union. The Association desire to bring all the mills into its union, the strike being to compel the employers to give employment to union labor only, or to permit the representatives of the Association to have free access into the non-union mills to organize the employes.

The employers, however, decline to enter into any such arrangement. They agree to the terms of the Association respecting the employes in what are already union mills, and they make their bargains directly with their men in the non-union mills. The Association has closed the union mills, and the strike is of men in the union mills, who have no grievance of their own, to compel the Steel Trust to operate all their mills under agreement with the Amalgamated Association. The Trust does not propose to reduce wages or increase the hours of labor, nor does it refuse to recognize the Association; but simply declines to assist in compelling those of its employes who do not belong to the Association to become members of any of its unions. The members of the Amalgamated Association are good fighters and can afford to remain idle for a long time—the Steel Trust cannot afford to lose its fight.

It is interesting and instructive to note some of the judicial decisions which have recently been rendered in cases growing out of labor disputes. We allude to a few of them:

Vice-Chancellor Pitney, at Paterson, N.J., at the suit of the owners of a silk mill in that city, granted an injunction to prevent striking workmen from annoying girls working in the mill. The Vice-Chancellor held that the mill owners had a right to protection from the interference involved in preventing non-union labor from working for them—the employes

**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.**

could not even be subjected to argument or persuasion against their will.

Judge Clark, of the United States District Court at Cincinnati, during the hearing of a motion to dissolve an injunction against striking machinists, said that for picketing an injunction would be granted—that it is unlawful, immoral and wrong—and that he would promptly make the power of his court felt against it; but violence is subject to the criminal jurisdiction of the State courts.

One of the most sweeping injunctions ever issued in a labor case was that granted a few days ago by a Milwaukee judge to the Vilter Mfg. Co. of that city. This injunction was directed against the International Association of Machinists, and prohibited the strikers "from in any way interfering with the men employed at the Vilter Works, from gathering about the plant, from posting pickets, from combining with tradesmen in order to boycott the Vilter Co., or to refuse to sell supplies to the men employed there, and who have refused to quit," and, in short, forbidding the strikers from doing anything that would "in any way operate to damage the Vilter Co. or its employes."

Seventy homes owned by striking machinists and others at Ansonia, Conn., are under attachment by an injunction issued July 16 by Judge Edwin B. Gager, of the Superior Court, at Derby, Conn. It was procured by the attorney of the Farrel Foundry & Machine Co., whose machinists and roll turners have been on strike. The attachment upon the property of the men enjoined is for \$20,000 each to insure their compliance with the Court's order.

The strikers are prohibited from interfering, intimidating, boycotting, molesting or threatening in any manner," from "all concerted action," and from making loud noises in the neighborhood of the works. The injunction reads:

To wholly and absolutely refrain from in any manner interfering with the employes of the plaintiff now in its employ. And from in any manner interfering with any persons who may desire to enter the employ of the plaintiff, by way of threats, persuasions, personal violence, intimidation, or other means calculated or intended to prevent such persons from entering or continuing in the employ of the plaintiff or calculated to induce such persons to leave the employ of the plaintiff. From boycotting the plaintiff and the plaintiff's workmen, either by threats, intimidations, persuasion or otherwise.

From interfering, intimidating, boycotting, molesting or threatening in any manner any person or persons for the purpose of inducing such person or persons not to deal with or do business with the plaintiff, or not to deal with or furnish

supplies to the plaintiff's workmen. From congregating or loitering about the neighborhood of the premises of the plaintiff or in other places with the intent to interfere with the employes of the plaintiff, or with the prosecution of their business, or to interfere or obstruct in any manner the business or trade of the plaintiff.

From picketing or patrolling the factory or other property of the plaintiff, or causing said premises to be picketed or patrolled, or from loitering about the factory of the plaintiff, or from making loud or boisterous noises, in the vicinity thereof, or from causing any of said acts to be done by others, or from persuading or assisting in or counseling or advising any such act. From interfering with the free access of the employes of the plaintiff to the plaintiff's premises and their places of work and the free return of said employes to their places of business or their homes.

From all concerted action, or otherwise doing any act or causing any act to be done, or causing noises which would interfere in any manner with the employes of the plaintiff or its business or cause injury or damage to its business or property.

From giving any instructions or orders to committees, associations or otherwise for the performance of any of the aforesaid acts or threats herein before enjoined.

From in any manner whatever impeding, disturbing or interfering with the regular operation and conduct of the business of the plaintiff or of employes now in the employ of the plaintiff, or that may hereafter be employed by it.

The labor unions involved—Ansonia and Alert lodges I. A. M., and the Carpenters and Joiners Union—not being incorporated, could not be reached through law. Therefore the members individually and sympathizers known to have taken part in the labor demonstrations were named, 149 in all.

CANADIAN TRADE.

The Customs Department has issued an unrevised statement of the foreign trade of Canada by which it is shown that during the last fiscal year such trade increased about \$13,000,000 over the year previous, which was by far the largest in the history of the country. On the basis of imports entered for consumption and exports of Canadian produce only, exclusive of the percentage usually added for exports to the United States not recorded, the total foreign trade of the last fiscal year was \$358,864,581. On the same basis for the previous year the trade was \$345,985,174. It is not possible at present to give the figures of the aggregate foreign trade, which includes the total imports and exports, but it is confidently expected that they will be in the neighborhood of \$394,000,000. For the fiscal year 1900 the aggregate foreign trade was \$381,517,236. The exports of domestic produce by classes for the fiscal years 1900 and 1901 were as follows:—

Produce.	1900.	1901.
Mine.....	\$24,580,266	\$39,982,573
Fisheries.....	11,169,083	10,720,352
Forest.....	29,663,668	30,003,857
Animals and their products.....	56,148,807	55,499,527
Agricultural products.....	27,516,609	24,977,662
Manufacturers.....	14,224,287	16,012,502
Miscellaneous articles.....	108,070	44,642
Coin and bullion.....	1,670,068	393,077
Totals.....	\$165,180,858	\$177,639,192

It will be noticed that there is an increase of about \$15,000,000, or sixty per cent., in exports of produce of the mine, and a satisfactory growth of \$2,000,000 in manufactures exported. The exports of produce of the farm, fisheries and forests have been practically stationary. The exports of foreign produce from Canada in 1901 amounted to \$20,379,212. In 1900 they were \$21,252,354. The figures show that last year foreign farm produce to the value of \$15,820,302 was exported by Canadian routes, while the year previous such

exports amounted to \$12,101,212. The total imports entered for consumption in 1901 were \$181,225,389. For the year previous they amounted to \$180,804,316. Exclusive of coin and bullion, the imports for consumption for the two years were as follows:—1901, \$177,688,075; 1900, \$172,506,878; increase, 1901, \$5,181,197; duty collected in 1901, \$29,128,548; duty collected in 1900, \$28,889,110; increase in 1901, \$239,438.

URGING PROTECTION.

Capt. Alexander McDougall, of whaleback fame, has been inclined to urge measures of protection for the Canadian ship building industry since he became interested in the Collingwood Ship Building Co., at Collingwood, Ont. He is thus quoted in a recent interview:

Steel ship building in Canada cannot be a success until some protection is given against the evils now existing. In the United States, where there is cheap steel, many ship building yards, encouraged by protection, are now selling ships that engage, through round about methods of evading the Dominion coasting laws, in the Canadian coasting trade, while congress has forbidden Canadian or any ships save those built in the United States to trade coastwise in United States waters. The only condition upon which a foreign vessel can come under the United States flag is by special act of congress, or when it is wrecked on the coast of the United States and is repaired in the United States at a cost of more than three-quarters of the value. If a United States vessel is repaired in Canada, she must pay fifty per cent. of the cost as customs duty at the first United States port she enters. Thus American ship yards have protection for both building and repairing ships, while Canadians have little or no ship protection. The Canadian coastwise trade is freely open to all British ships, and British ship registers are open to all foreign built ships so that when a ship is wanted in Canada it can be bought in the United States, with all its appurtenances, which belong to many branches of trade, and by a little red tape can be enrolled under British registry and hail from some British port by putting its name on her stern and buying a British flag. A Canadian vessel can get repairs in a United States port and pay but little customs charges for such repairs. The United States government further protect their Pacific coast ship yards by allowing a large percentage in favor of Pacific coast ship yards when tendering for government work, and at present there are United States government ships under contract at San Francisco and Seattle at prices from \$100,000 to \$200,000 more than they could be built for on the Atlantic coast. In Canada, when government ships are wanted, bids are asked for in Canada and also in Great Britain; the details of their specifications and fittings are of a class such as can only be got in Great Britain, and the Canadian ship builder would have to pay duty on these parts. Unless the Canadian is the lowest bidder the contract is let to an outsider, who can get the ship built in Great Britain, Germany, the United States or elsewhere. Thus an industry which, with its great quantity of raw material, Canada is peculiarly fitted for, is hampered, and heavy traffic along the frontier is carried by ships not made in the Dominion. If some restriction were laid upon British ships and foreign-built ships of English register engaging in Canadian coastwise trade; if the Canadian government would pay a small bounty on all steel ships built in Canada and if an increased custom duty was charged on repairs to Canadian ships in foreign parts, steel ship building in the Dominion would be so stimulated that in the near future steel ships might be sold with their cargoes in foreign countries as formerly wooden ships, built in Quebec, were sold all over the earth.

SICK OF CANT.

The reports in regard to the labor troubles in the National Cash Register works at Dayton, Ohio, have been at the same time so few and so varied that it is not easy to arrive at a comprehensive idea of the situation. A few points, however,

seem clear. The company has not only provided its employes with attractive surroundings in the factory and at home, and provided free lectures, entertainments, excursions, religious opportunities, etc., but has recognized the labor-unions, and treated with them as such on all occasions. The concessions to the unions, indeed, have sometimes gone so far as to be almost ridiculous. On one occasion, for instance, says the *Literary Digest*, it was made a matter of complaint that the women who washed the factory towels did not belong to any union, so the company allowed the men to supply the towels themselves; at another time it was discovered that the springs on a certain door were made by non-union labor, so the company took the springs off and let the men do the work of the springs; again, a union insisted that two men, whom the company did not want, be kept on the pay-roll, so they were supported in idleness three months, until the union permitted the company to drop them. The company officials say that twenty-five unions are represented in the factory, and that a large part of the time of the management is occupied in listening to their demands.

On the men's side the principal complaint seems to lie against one McTaggart, foreman of one of the departments, who is said to be a systematic "labor-crusher." His attempt to oust, on the plea of a reduction of the force, several men who had been active in labor matters, and the demand of the union that they be taken back, is said to be the immediate cause of the present strike.

The strike includes only the foundry and polishing room; the closing of the rest of the factory on May 3 was due to the fact, so the company announced, that the strike in the foundry and polishing room cut off the supply of material for the rest of the factory. The company announced its unwillingness to arbitrate the cause of the strike, but the men insisted that their mates be taken back unconditionally. This the company refused to grant. The factory opened again on June 19, but, according to the *New York Journal*, the strikes in the foundry and polishing room, the original cause of the trouble, have never been settled, and the company may find it necessary to shut down again for the same reason as before.

What makes the strike notable is the fact that the unparalleled efforts of the company to make its employes contented and happy seem to have been not wholly successful. One of the workmen is quoted as saying, in an opinion that may or may not be typical of the general feeling in the factory:

You know the allusion to the Dead Sea apples—fair to the eye, ashes to the tongue? Well, that's the model factory of the world situation summed up. We couldn't eat the beautiful flowers, we couldn't wear the fine books, we hated to have it understood we were so dirty we needed signs reading "this way to the bath-rooms," in front of our work-benches; we hated to be expected to go to religious service willy nilly. We are almost all of us born and bred Americans—sober, decent, and industrious, as our late employers will tell you, but we are not inmates of an institution, even if it is the model one of the sort in the world.

#### EDITORIAL NOTES.

Life is short and time is fleeting; waste them not in empty sighs—Let the world know that you're living, toot your horn and advertise in *THE CANADIAN MANUFACTURER*.

There has been a great deal of discussion from time to time about abrogating the Rush-Bagot treaty of 1817 by which Great Britain and the United States limited their naval power on the Great Lakes, but it has been always wisely concluded to let so useful an international obligation alone. In spite of

the letter of this treaty, though, our state naval reserves are permitted to have training ships on the lakes.—*Cleveland Marine Record*.

In the course of an investigation into the freight rates that prevail in Canada, it has been discovered that it costs more to ship paper from Toronto or Quebec to Vancouver than it does to ship it from Liverpool to the same point. It also costs the Ontario manufacturer more money to land paper in the Pacific coast ports of Canada than it costs the Holyoke manufacturer to ship his paper to the same point. The manufacturers are getting after the railroads in earnest in this matter, and they are endeavoring to enlist the Government on their side. High freights and insufficient transportation are two of the difficulties under which the Canadian manufacturers of pulp and paper have had to labor, and these difficulties have been understood in general, both in Canada and also in England, for some of the Englishmen who have been asked by Canadians to assist in developing a pulp and paper industry in the Dominion, have called attention to these very difficulties; but it has not been made public that the railroads have discriminated against the Canadian manufacturers so severely as the present investigation shows.—*The Paper Mill*.

An important judgment is reported as having recently been made by the British House of Lords. In this case the House has reversed the decision of the Appeal Court, dissolving the injunction rendered August 30, 1900, by Justice Farwell, in the High Court of Justice, which enjoined General Secretary Bell, of the Amalgamated Society of Railway Servants, and Organizing Secretary Holmes, from "watching and besetting" the Great Western Railroad stations and approaches, with a view of inducing non-unionists to refrain from taking the places of the Taff-Vale Railroad strikers. This action restores Justice Farwell's judgment. The House held that it was not the intention of the Legislature to prevent a trades union from being sued if, through its officers, it were guilty of illegalities.

There is a confident feeling among the managers of the Toronto Industrial Fair that the Pan-American will be more likely to bring increased patronage than to draw away the usual attendants. This belief is fully shared by the manufacturers and other exhibitors, and there is a general determination to make the industrial features more complete than at any previous Exhibitions. It is probable that many Americans visiting Buffalo during Exhibition week will improve the opportunity to cross into Canada and take in Toronto. The Buffalo Fair will thus increase the attendance of visiting Americans here. The manufacturers of Ontario are specially active in securing space and preparing exhibits, and the tendency to criticize and complain is happily absent. Healthy and sincere criticism is always advantageous, and the Exhibition has materially profited by the advice of candid friends in the past. To hold the balance evenly between the various features that go to make up a great Exhibition is a most difficult matter, and there is always certain to be dissatisfaction. But exhibitors have come to recognize the necessary limitations of space, and to realize that it is only as the Exhibition as a whole grows and develops that greater accommodation can be provided for its many departments. Although the defeat of the money by-law will delay needed improvements at least for a season, it is not looked upon as any expression of disapproval, but merely as an intimation that the property-owners regard the city as sufficiently deep in debt at the present time. With municipalities as with individuals there are times when the most tempting investments and opportunities must be allowed to pass, and the electors feel that Toronto has reached the limit at which it can be wise to go deeper into debt.—*The Globe*.

Considering the fact that The Canadian Manufacturers'

Association has made such strong but vain endeavors to induce the tax-payers of Toronto to give the Toronto Industrial Exhibition Association a very large sum of money to enable it to erect new buildings and repair old ones, it would have been a graceful act to have used the \$10,000 that it now proposes to expend upon the erection of a colonnade to commemorate the visit of the Duke of York to this city, by the erection of a new Manufacturers' building upon the fair grounds. It might have been named for the Royal visitor, and we are sure the Duke would have appreciated the compliment.

The Toronto Exhibition, to be held from August 26 to September 7, announces that its principal characteristics will be the adoption of New Century Ideas. The phrase might be considered a bit indefinite but for the fact that contemporaneously the statement is made that there will be daily and nightly displays of all the new weapons of war as well as recent developments in the arts of peace. The pom-pom will be on view, wireless telegraphy will be shown in practical use off the shore to passing vessels, magnificent displays of illuminating effects will be made, recently announced developments in electricity will be shown, demonstrations will be made in the cultivation of the sugar beet, modern methods of rescuing at sea will be illustrated, manoeuvres with latter-day artillery will take place, in fact the military will be very much in evidence in all its branches, while the handy-man and the marines will also be used largely in the off-shore operations and the brilliant nightly spectacle, the bombardment of the Taku forts by international forces. An international military tattoo will be the feature of the opening night, when a large body of troops will be utilized. A strong exhibit of French-Canadian cattle, as well as of Pan-American live stock, is to be made. In fact, in the live stock, dairy products and manufactures, Toronto Exhibition never promised so well as this year. Greatly reduced rates on the railways and steamboats have been arranged for, and no better time for visiting both Toronto and the Pan-American, or the former alone, could be desired than between August 26 and September 7. When it is stated that this year Toronto will distribute upwards of \$35,000 in premiums and spend \$30,000 in special attractions, all of which can be seen from the grand stand for twenty-five cents, the magnitude of Canada's greatest exhibition will be appreciated.

In a report received at the Department of Trade and Commerce, Mr. J. S. Larke, the Canadian Commissioner in Australia, tells some truths about trade with the Commonwealth which will not be very pleasant reading to Canadians. He says several complaints have been received that inferior goods have been sent from Canada. One wholesale house recently showed him three orders from the country in which it was specified that they must not be filled with goods of Canadian manufacture. In one case of complaint it appears the difficulty arose out of careless inspection of the goods before shipment; in another case there was a deliberate shipment of goods that were too bad for the Canadian market. Mr. Larke says the imports for West Australia last year increased 33½ per cent. There was a slight decrease in the exports, principally in timber and wood. Canada is credited with having sent goods to West Australia to the value of £4,370, principally agricultural implements and bicycles. The imports from the United States were valued at £226,035. The trade of New Zealand in 1899 was nearly £2,000,000 greater than in

any previous year. In 1900 it was nearly three millions greater than in 1899. New Zealand can be set down as one of the most prosperous countries in the world, and it is destined to become one of the wealthiest. Trade with Canada is not keeping pace with present development. Apparently it is falling behind. The imports in 1898 from Canada were valued at £71,510, and in 1900, £41,165. This falling off, Mr. Larke thinks, may be due to the fact that direct shipments have ceased consequent upon the Canadian-Australian steamship line not now calling at the New Zealand ports.

There are other things besides curses and chickens that come home to roost. The Toronto Assessment Commissioner has been raising the assessed value of real property on Yonge Street about twenty-five per cent., and the retail merchants and property owners are kicking. A few days ago, under the auspices of the Retail Merchants' Association, a meeting of the aggrieved ones was held to protest against the increases being made. The increases were shown to range from \$200 to \$600 a foot, which, it was claimed, is not at all justifiable. The tenants said that the present rent is all that they could afford to pay, while the owners assured them that any additional tax would destroy the earning powers of the properties. After considerable discussion a resolution was passed to the effect that an appeal be entered; and a committee was appointed to prepare a plan whereby the sufferers could take united action in the matter. The increases complained of is traceable to the action of the courts in the Eaton assessment appeal. The Eaton Co's 132 feet on Yonge street was assessed by the department at \$1,100 a foot. The Court of Revision, on appeal by the Retail Merchants' Association, raised it to \$1,400, and the County Judge again increased it to \$1,445. When that decision was reached the Assessment Commissioner said he would have to make a pro rata assessment of other Yonge street property.

The United States Postmaster-General has issued orders amending in important particular three postal regulations of that country affecting second-class mail matter which it would be well to imitate in Canada. The changes will effect sweeping and radical reforms in the department practices and methods of treating this class of matter. The first order amends section 276, which is the general definition, so as to exclude from the second-class publications which have the characteristics of books. This amendment is in these words: "Periodical publications, herein referred to, are held not to include those having the characteristics of books, but only such as consist of current news or miscellaneous literary matter, or both (not excluding advertising), and conform to the statutory characteristics of second-class matter." The second order amends section 281 in several particulars, the principal one being that publications, the subscriptions to which are not founded on their value as news or literary journals, and which by the general use of premiums or other considerations in the form of chances to win prizes, etc., to induce subscriptions, and which in effect circulate at apparently a nominal rate, will be excluded from the second-class. The third order amends section 301; so that unsold copies of second-class publications may not be returned to the news agents or to publishers. A statement in relation to the order given out at the department says: "It is believed that when the effect of the changes is thoroughly established, many postal improvements will follow, and one-cent letter postage will be made possible."

## 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, belting, 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 Canadian Electric Light Co., Quebec City, whose large power works at the Chaudiere are of recent construction, have decided to go into the pulp business, and for this purpose will build a mill alongside their electric works.

The Dominion General Engineering Co., Montreal, has applied for incorporation with a capital of \$500,000, to manufacture marine engines, locomotives, automobiles, etc. The provisional directors include G. H. Flint, W. H. Laurie and J. N. Greenshields.

The Canadian Cordage & Mfg. Co., Peterborough, Ont., will erect two buildings, one 300x90 feet, and the other 150x50 feet.

T. B. Caldwell has purchased new machinery for his woolen mills at Appleton and Lanark, Ont.

St. John & Black's foundry and machine shop, St. Catharines, Ont., were destroyed by fire July 21.

Messrs. Neilson Bros' saw mill, Proton Station, Ont., was destroyed by fire recently. Loss about \$4,000.

W. J. Webster, Newport, Ont., has been granted a bonus and exemption from taxation for ten years, by the town of Edmonton, N.W.T., where he will establish a woolen mill.

The grist mill of Gardner & Hilborn, Alymer, Ont., was destroyed by fire July 22. Loss about \$6,000.

The planing mill of Dyer & Howard, Exeter, Ont., was destroyed by fire. Loss about \$6,000.

THE CANADIAN MANUFACTURER was in due receipt of an invitation from Mr. W. C. Bullock, managing director, to attend the formal opening of the new works of The National Iron Works at Wingham, Ont., on July 30. This is a new concern brought into existence by the persistent efforts of Mr. Bullock, who has, for a number of years, been actively connected with other manufacturing enterprises in Toronto and elsewhere. He is a young man who knows his business and attends to it, and he is to be congratulated most warmly upon his management of the affairs of his company which have cumulated so successfully in the extensive works over which he presides.

The car ferry steamer built for the Intercolonial Railway, to run between Port Mulgrave and Point Tupper on the Strait of Canso, is of the following dimensions: Length, 282 feet; breadth, 48 feet; depth, 17 feet. There are three tracks on the deck of the vessel, and they are so arranged that the trains can enter at one end and leave it at the other. The swinging of the vessel at each end is obviated by this arrangement, and she is ready to receive the second train as soon as she has discharged the first.

The Ottawa Interior Finish & Show Case Co., Ottawa, have recently placed their order with Cowan & Co., Galt, Ont., for combination rip and cross cut saw table and Perfection buzz planer. Messrs. Cowan & Co., have also received an order from the Ham & Nott Mfg. Co., Brantford, Ont., for a large sand papering machine. Mart G. Kelly, Port Arthur,

Ont., will shortly install a heavy moulder manufactured for them by Cowan & Co., who are building a five spindle boring machine for the M. Campbell Tanning Mill Co., Chatham, Ont., and they have orders from the Tudhope Carriage Co., Orillia, Ont., for an Imperial three drum sander, and from Rueckwald & Schach, Ladysmith, Que., for a tenon machine.

The Imperial Dry Dock Co., St. John, N.B., will construct a dry dock, at the cost of \$750,000. The Government will aid the project to the extent of two per cent. yearly for twenty years, on the total cost.

The Canadian Spool Cotton Co., Montreal, has been incorporated with a capital of \$200,000, to manufacture all kinds of thread. The charter members include John Beattie, Walter Wilson and W. C. McLeish, all of Montreal.

The Northrop Iron Co., Valleyfield, Que., has increased its capital stock to \$200,000.

The Three Rivers Gas, Heating & Power Co., Three Rivers, Que., has applied for incorporation with a capital of \$250,000, to manufacture gas, gasoline and acetylene. The applicants include W. J. Poupore, Ottawa; J. C. Malone, Three Rivers, and J. H. Doody, St. John, N.B.

The Western Mfg. Co., Winnipeg, Man., has applied for incorporation with a capital of \$10,000, to manufacture chemical and other preparations. The applicants include E. D. Martin, and E. E. Lightcap, Winnipeg, and Joseph Martin, Vancouver, B.C.

The Hamilton Tool & Optical Co., Hamilton, Ont., has been incorporated with a capital of \$20,000, to manufacture optical instruments. The provisional directors include E. G. Willard, Amos Hutton and R. B. Baker, all of Hamilton, Ont.

The Oshawa Gas Co., Oshawa, Ont., has been incorporated with a capital of \$40,000. The provisional directors include J. A. Burgess, P. H. Sims and George Dunstan, all of Toronto.

The Harriston Shoe Co., Harriston, Ont., has been incorporated with a capital of \$50,000, to manufacture boots and shoes. The provisional directors include W. D. Hepburn, Guelph, Ont., J. W. Wilson, R. F. Dale, both of Harriston, Ont.

## INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

## PISTON INLET Air Compressors

STRAIGHT LINE  
 DUPLEX and  
 COMPOUND.

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

JAMES COOPER MANUF'G CO., Limited, - 299 St. James St., Montreal.

Other Offices - - - ROSSLAND, B.O. RAT PORTAGE, ONT. HALIFAX, N.S.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Ontario Milling & Mfg. Co., Deloraine, Man., has been incorporated with a capital of \$40,000, to carry on a general milling and manufacturing business. The charter members include Thomas Meyers, Bastard, Ont., J. N. Knowlton, Newboro, Ont.

The Western Elevator Co., Winnipeg, Man., has been incorporated with a capital of \$100,000. The charter members include T. B. Baker, F. M. Morse and W. G. MacMahon, all of Winnipeg.

The Tetrault Sewing Machine Co., Montreal, has been incorporated with a capital of \$25,000, to manufacture sewing machines, etc. The charter members include Amedee Tetrault, Georges Tetrault and Francois Tetrault, all of Montreal.

Baldwin's condensed milk factory, Baldwin's Mills, Que., was destroyed by fire July 17. Loss about \$30,000.

The National Portland Cement Co., Durham, Ont., has been granted a free site and exemption from taxation for ten years.

The James MacLaren Co., Buckingham, Que., will erect a large pulp and paper mill, which will be operated in addition to the present saw milling plant,

and will be 255x88 feet, equipped with the best modern machinery. The company will manufacture mechanical pulp.

James Morgan & Co's cement factory, Montreal, was destroyed by fire July 6. Loss about \$30,000.

The British Columbia Electric Railway Co., Vancouver, B.C., will expend \$100,000 for improvements to their system.

The Grant Hamilton Oil Co., Hamilton, Ont., have increased their capital stock from \$40,000 to \$200,000.

A broom and brush factory is being started by D. D. McDonald and Malcolm Cameron at Cornwall, Ont.

The Canada Radiator Co., Toronto, have purchased the factory building at Port Hope, Ont., of the Consumers Cordage Co., and have started a large foundry for manufacturing radiators.

A basket factory, which will employ about seventy hands, will be started at Penetang, Ont., by H. O. Little, Bridgewater, Mass.

The C.P. Co., Montreal, has applied for incorporation with a capital of \$50,000, to manufacture electrical apparatus and supplies. The applicants include Thomas Pringle, and E. E. Cary, both of Montreal.

The Richelieu Cordage Co., St. John's, Que., has applied for incorporation with a capital of \$75,000, to manufacture cordage and binder twine. The applicants include M. E. Agar, St. John, N.B., W. A. Campbell and F. C. Chubb, both of St. John's, Que.

The Natashqua Iron Co., Montreal, has applied for incorporation with a capital of \$100,000. The applicants include J. H. Burland, C. A. Barnard, both of Montreal, and J. G. Turriff, Ottawa, Ont.

The Ampere Electric Mfg. Co., Montreal, has applied for incorporation with a capital of \$50,000, to manufacture electrical apparatus, appliances, etc. The applicants include C. R. Whitehead, R. E. T. Pringle, and E. E. Cary, all of Montreal.

The American Silk Waist Mfg. Co., Montreal, has been incorporated with a capital of \$50,000, to manufacture garments of all kinds. The charter members include E. B. Greenshields, E. C. B. Fetherstonhaugh and G. L. Cains, all of Montreal.

The Canada Horse Nail Co., Montreal, has been incorporated with a capital stock of \$100,000, to manufacture horse-

# Transfer Ornaments, AMERICAN MADE.

TRADE MARKS, DECORATIONS, NAME PLATES, ETC.

## For HARDWARE, BICYCLES, VEHICLES, POTTERY, FURNITURE, etc.

Sketches and samples submitted free of charge. Being American manufacturers enables us to make prompt delivery. Write us.

# THE MEYERCORD CO., Inc., -MAIN OFFICE-

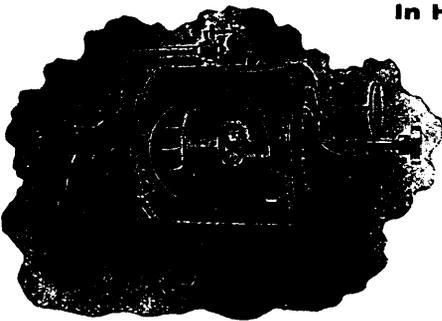
CHAMBER OF COMMERCE, - CHICAGO,

Canadian Travelling Representative,  
CHAS. H. JAGGER, Hamilton, Ont.

Largest Makers in the World of Guaranteed Decalcomania Transfers.

## THE **Crocker Patent Turbine**

In Horizontal Setting, with Quarter Turn Elbow.



Where the nature of the location will permit its use this type has many advantages. It is very suitable for direct connection to dynamos, and many are in operation in this class of service.

Notice how complete and compact this arrangement is, and how easily it may be installed. Can you use anything of this kind? Your inquiries will receive prompt attention.

WATER POWERS examined and  
Reports made. Estimates  
submitted for Complete Equip-  
ments. . . . .

## The JENCKES MACHINE CO.,

42 Lansdowne St., Sherbrooke, Que.

shoe and other nails. The incorporators include James Ferrier, R. F. McFarlane and Wm. Smail, all of Montreal.

The Ditzel Metal Co., will erect a brick structure at Swansea, near Toronto, 200x60 feet, with an iron roof, and will employ between 50 and 60 hands, and expect to manufacture 1,000 tons of refined metal annually. The business of this company is new to Canada. At present \$200,000 annually goes out of the country in the purchase of rolled copper, brass, silver, etc. This company proposes to make all rolled metals known to the trade, and will also make Ditzel silver, which is a comparatively new metal that can be put to many uses.

Many Michigan saw mills have moved across to Canada since the present Ontario saw log policy was adopted. The Detroit Tribune says:—Being no longer able to get American logs for its sawing plant, the Saginaw Lumber & Salt Co. is about to pull up stakes and transfer its activities from the Valley City to the

Canadian shore, in order to avoid the effects of retaliatory laws established across the border. From Cheboygan south, all along the Huron shore, there are silent mills, abandoned mill sites and empty lumber yards, to say nothing of vacant houses, and diminishing or stationary town populations. Now one of the largest of the remaining lumber firms has been compelled, by failing supply of raw material to follow the others across the lake, where it must employ Canadian labor, buy Canadian supplies and contribute to Canadian development.

The Otonabee Power Co., Peterborough, Ont., has been incorporated with a capital of \$125,000, to produce electricity for the purposes of light, heat and power. The provisional directors include W. G. Ferguson, F. J. Jameson and R. M. Glover, all of Peterborough.

The Ontario Powder Co., Kingston, Ont., has been incorporated with a capital of \$100,000, to manufacture explosives. The charter members include C. A. Mac-

pherson, Kingston, Ont.; Hugh Macpherson, Nelson, B.C., and F. H. Hooper, Brownsburg, Que.

The Montreal Chrome Iron Co., Montreal, has been incorporated with a capital of \$50,000. The charter members include G. E. Drummond and J. T. McCall, both of Montreal.

The Uwanta Mfg. Co., Ottawa, has been incorporated with a capital of \$40,000, to manufacture drugs, etc. The provisional directors J. C. Saunders, J. H. Allan and W. L. Blair, all of Ottawa.

Hungary, which has a flourishing milling industry, would now be a good market for flour bags and sacks, as the Austrian jute spinning and weaving trust has raised the price of these articles, so that, in spite of the import duty on the foreign bags, 1,200,000 sacks have come in from Germany. Agricultural associations exist in all districts in Hungary, and purchase sacks, implements, etc., for their members. These associations have a central representation at Budapest,

**W. A. FLEMING & CO.**

Montreal and St. John, N.B.

IMPORTERS OF

**MILL SUPPLIES**



**BALATA BELTING.**

AGENTS FOR

**GARFIELD OIL COMPANY**

CLEVELAND, OHIO

**LUBRICATING OILS, GREASES, ETC.**

**"ZANZIBAR"**

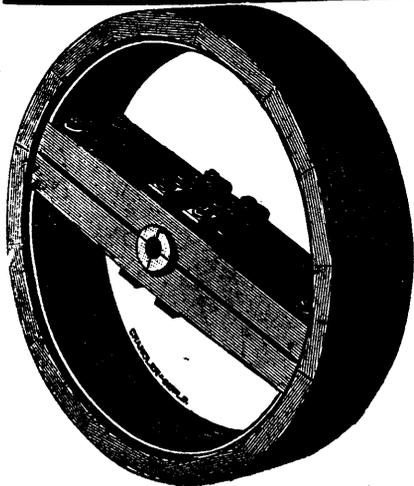
**ROOFING PAINT**



**The STANDARD COLD WATER PAINT**

WHITE and COLORS

FOR OUTSIDE and INSIDE USE



**"The Reeves"**

A HIGH GRADE

Wood-Split

**PULLEY**

BUILT HONESTLY

BUILT RIGHT

It Does the Work.

No Trouble.

No Worry.

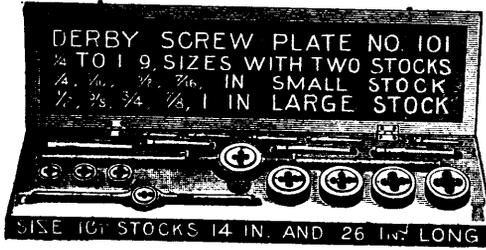
SEND FOR CATALOGUE

**REEVES PULLEY MANUFACTURING CO., Limited**

14 Pearl Street, - Toronto, Ont.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

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.

called the "Landesagricultur-Verein." Offers should also be made to the Ungarische Muhlenverband, Balvanyutcza 2, Budapest, and to the Hauptstadtische Muhlenverband, Ergyebetter 19, Budapest, Hungary. The two last named are millers' associations.

In a report recently presented to the American Railway Master Mechanics Association the following statement was made regarding the heating and ventilating of round houses, the most modern method of heating at present seems to be by hot air and forced blast. The air can be taken from the round house and warmed over and over again, thus reducing the cost of heating the air. While this air is generally carried in overhead ducts, your committee considers it should be investigated and determined in each case whether an underground duct would not be suitable. It is also suggested that air be taken from the boiler room, thus serving the double purpose of cooling this room and using the heat imparted to warm the roundhouse.

Rev. Father Veitch, of Conception Harbor, has undertaken to spread a knowledge of hand-loom weaving amongst his people, and he is succeeding admirably to date. Last year he sent one of his female teachers (Miss Rachel Gushue) away to the West Coast to learn weaving, and having got a thorough knowledge of it, she returned, and has since imparted it to twelve other young girls, who are preparing to take charge of schools later on. All these teachers will introduce weaving in the schools that will be placed

under their charge, and their pupils will be taught the art. The example being set by Father Veitch, ought to be followed by other clergymen of the island, so that the next generation of girls will have been instructed in a useful art. The desire for sheep-raising is becoming general throughout the island, and side by side with the sheep, should come the domestic loom, and the knitting machine. It is in the spread of these small industries that the future comfort of our people lie. Rev. Wm. Veitch is a Newfoundland in the truest sense, and since the very first days of his mission in this island he has labored unceasingly for the moral and material welfare of his people, and this last step is but another evidence of his continued desire in this direction.—St. John's, Newfoundland, Trade Review.

### TEXTILES IN SAXONY.

Within recent years textiles have taken a foremost place in the industries of Saxony, which, as is well known, is a kingdom of less than 4,000,000 souls. It is hundreds of miles from the sea, and was once famous for its wool, woods, and mines. To-day fully one-third of the people participating directly in the German Empire's textile trade are located within this little kingdom, and more than one-third of all the people in Saxony are employed in the textile industries.

One very interesting feature of industrial life in Saxony is the so-called house or home industry. Hundreds of dozens of gloves, hose, underwear, laces,

embroideries, etc., are made in the home. In recent years to movement towards the mills has been gaining strength. Whereas in 1885, 113,341 hands were in the mills, 1895 found 165,459 in the factories. There is scarcely an occupation of any kind, textile or otherwise, from plow making or bag weaving or watch making to silk weaving, that is not carried on within the confines of this busy little kingdom. There are, in round numbers, 3,000,000 spindles employed, about 1,000,000 on cotton, 700,000 on shoddies (cotton and wool mixture), 450,000 on carded and 850,000 on worsted woolens. One mill, the Leipzig Wool-combing Works, employs about 2,000 hands, producing annually upwards of £5,000,000 worth of worsted yarns, many of which are sent to England, other parts of the Empire, and foreign countries. Over £2,000,000 worth of shoddy yarns are spun. Women's worsted dress goods to the amount of £3,000,000 are run off the looms; woolens worth upwards of £4,000,000 are made. The Greiz-Gera region, often put down with Saxony, turns off woolens worth £5,000,000. The United States buy huge quantities. They took in 1893, of the Greiz-Gera goods for £599,650, of Glauchau-Meerane goods for £276,150; a total of £875,800. In 1896 the total was £1,249,800. Flannels worth £2,500,000 are made also, mostly for export to China, Japan, and South America. Quite large quantities are taken at home and by European countries. Cottons, linens, and half linens make up in value £4,000,000 per annum. Most of these, when exported,

## THE BEST PIPE THREADING and CUTTING-OFF MACHINES

Are Made by the **ARMSTRONG MFG. CO., BRIDGEPORT, CONN.**

Also Manufacturers of a FULL LINE of **ADJUSTABLE STOCKS and DIES** and Water, Gas and Steam Fitters' Tools.  
Send for Catalogue 27. Factory: BRIDGEPORT, CONN. New York Office: 139 CENTRE STREET.

## RICE LEWIS & SON, LIMITED, Hardware and Metal

**MACHINIST TOOLS, PIPE FITTINGS,**

**STILLSON AND TRIMO WRENCHES.**

**CORNER KING AND VICTORIA STREETS,**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**Bar Iron, Steel, Boiler Plate Tubes**  
**COMPLETE STOCK OF STOCKS AND DIES. PIPE VICES.**

**STEAM PIPE.**

**TORONTO.**

go to South America. Calicoes, linings, buckram, etc., keep 3,000 hands employed in and around Plauen. Besides these, over 2,100 hands are making laces for curtains, tuilles, and so-called English laces. Both these industries turn off goods worth upwards of £1,000,000. Upholstery goods worth £1,500,000 to £2,000,000 are made here. Over 100,000 weavers are helping day and night to keep this hive of human industry at the head of the textile procession.

Hosiery alone has nearly 50,000 hands, turning off an annual product worth more than £5,000,000. Uncle Sam, the biggest buyer of hosiery that comes here, took on an average £1,500,000 from 1893 to 1896. Since that time the falling off has been very heavy. Fancy woollen goods, embroideries, and tambour goods make up nearly another £1,000,000 per annum. Flat-stitch embroideries, not unlike Nottingham's or St. Gall's, go out in huge quantities from Plauen. There are more than 2,500 machines, worth £375,000, in the minerals hills, turning off goods worth £2,000,000. Then there are 3,000 hand embroidery machines. The total output of Saxony lace is more than £3,000,000. It takes fully 16,000 persons to do this; of these, 10,000 are in factories, and of these 10,000 fully 6,000 are on shuttle embroidery machines. The United States buy about £200,000 to £225,000 worth every twelve months. Berlin buys large lots of trimming, borders, etc. This branch employs upwards of 14,000 workmen. The total turn-off runs up to £1,250,000 every twelve months. Of these the United States take an annual average of £200,000. Ten thousand persons are employed in Saxony's dyeworks. Hermsdorf alone employs more than 1,100. His diamond black is as well if not better known in both Americas, Australia, India, and

Africa—aye, even in England, than in the empire. His success in securing not only a fast black but uniform results has helped to spread his fame. Bleaching, dyeing, and finishing employ about 20,000 persons.—Kuhlow's.

**ARTIFICIAL INDIGO.**

In a recent report to the Foreign Office, H.M. late Consul-General at Frankfort-on-Main wrote at length on the manufacture of artificial indigo and aniline dyes in Germany. After referring to the importance of indigo as evidenced by the fact that the production of natural vegetable indigo equals in value the entire world's production of artificial dye-stuffs, and noticing the history of the manufacture of artificial indigo, he said that the present artificial indigo of commerce represents almost pure indigotin. It is sold in the form of a 97 per cent. powder, whereas the indigotin contained in vegetable indigo fluctuates between 70 and 80 per cent. It contains no indigo red, no indigo brown, and no indigo blue. The lack of indigo red and indigo blue, which both seem to be of some importance in the relation of the dye-stuff to the fibre, are its special disadvantages. The indigo red seems to be of importance in the production of darker shades of color. There is no doubt that at some time not too far off it will be possible to produce this ingredient also. Artificial indigo is used by dyers in the same way as vegetable indigo. If it is possible to render the process of manufacture materially cheaper, and thereby to considerably reduce the price of artificial indigo the danger to natural indigo, will be greatly increased; it is, indeed, to be feared that with the increase of chemical knowledge the same fate awaits this dyeing plant, which is extensively culti-

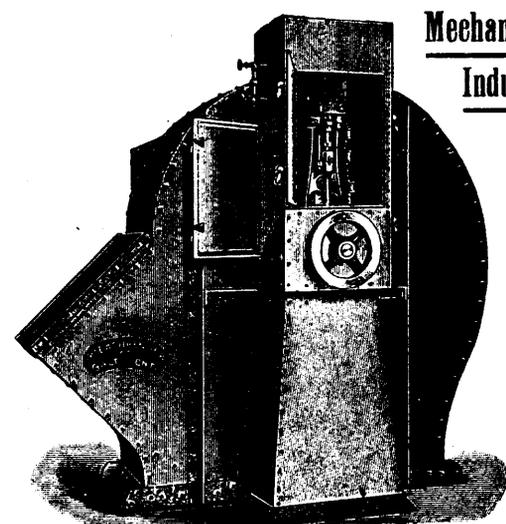
vated in British territories, as overtook the Krapp plant, the cultivation of which nowadays no longer pays.

**WOOL IN SOLUTION.**

When cellulose is treated with carbon disulphide in the presence of an excess of caustic soda, a reaction takes place, resulting in the formation of a xanthate, the now well-known body viscoso. A corresponding reaction takes place in the case of wool, and a body similar in appearance to viscoso is produced; on longer standing, however, it becomes quite fluid and can be poured from one vessel to another. In color it is dark reddish-brown, and, unlike viscoso, it appears to be quite stable under ordinary conditions. It is completely soluble in water, slightly so in alcohol, but in most other organic solvents it is quite insoluble. The solution, when treated with hydrochloric acid, forms a yellow precipitate with the evolution of hydrogen sulphide. On boiling, a further evolution takes place and the precipitate dissolves, leaving only a small residue of a brown, plastic body. On the addition of sulphuric and nitric acids, similar precipitates are produced, which dissolve on boiling; but in the case of nitric acid a reprecipitation occurs on continued boiling, due in all probability to some oxidizing action. Like lanuginic acid, the "wool xanthate" gives heavy precipitates with solutions of metallic salts. Oxidizing agents—e.g., hydrogen peroxide—gives a white precipitate containing manganese. In order to determine whether the substance precipitated by hydrochloric acid was merely reprecipitated wool or some sulphur compound, an estimation was made of the amounts of sulphur in that and in ordinary wool. The results were not, however, conclu-

**GEORGE W. CHAPIN,** COMMON, TWILLED and SUPERFINE Plain, on Spools.  
229 and 231 CHURCH ST., PHILADELPHIA Guaranteed 1,000 Yards, all Nos.

**TAPES**



Bottom Angular Up Discharge Right Hand Fan.

Mechanical Induced **DRAFT FANS**

Installed in connection with a Boiler Plant, will prevent smoke, will give greater fuel economy and increased boiler capacity, besides which the initial cost is far less than that of a chimney.

Mechanical Draft may be applied to old boilers to increase draft at a minimum initial outlay.

FOR PRICES and PLANS WRITE

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

**MARINE Engines**

FROM 1 TO 200 H.P.

**HYDRAULIC RAMS**

—AND—

**FORCE PUMPS**

**STEAM and HAND POWER CAPSTANS**  
AND STEERING GEARS.

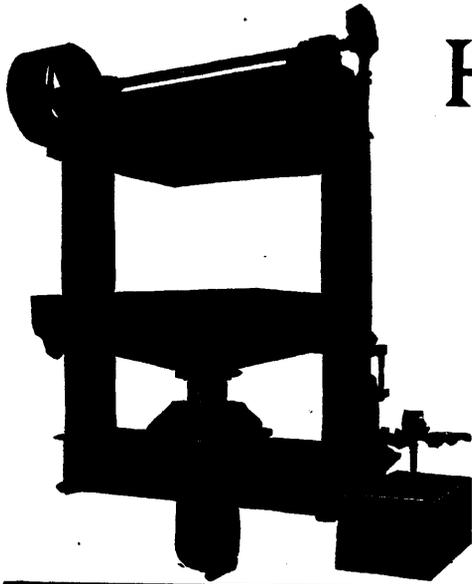
Sole Agents in Canada for the Hoffman Detachable Screen Door Hinge and Bronzyte Anti-Friction metal.

A TRIAL ORDER IS SOLICITED

**Raneys Specialty Mfg. Co.**

33 PRINCESS STREET

KINGSTON, ONT.



# Hydraulic PRESSES

We Build Presses  
for..

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

SEND FOR  
CATALOGUE  
AND PRICES

## William R. Perrin & Company

TORONTO, - CANADA

sive, but tended to show that the relative amounts of sulphur were approximately the same. Another portion of the precipitate was dissolved in acid and then neutralized as closely as possible, in order to see if it resembled lanuginic acid in its reactions. Unlike the latter, however, no reaction took place on addition of picric acid, Nile blue, or any of the acid colors.

### THE VANTAGE GROUND OF THE SMALL MANUFACTURER.

So much is said about the crushing out of the small merchant and manufacturer by the great trusts and combinations, that a conspicuous and rather extraordinary exception is worth noting. Great manufacturers of cloaks have literally been driven out of business by the small manufacturer, and the end is not yet. A majority of the large operators in New York have failed, reduced their capital,

or voluntarily retired from the manufacturing business, after having made little or no profit during the last few years. Their undoing dates from the time when some of the New York East Side foremen started small shops of their own and submitted to the larger manufacturers a few samples, from which they received orders. The newcomers had no selling expense, and small outlay of any sort, beyond the actual cost of the labor and materials which went into the garments. The manufacturers bought their product and sold it as their own at a substantial increase of price.

Soon, however, the East Side men began to submit their goods directly to the large retailers, and, their prices being much less than the retailers had been paying for the same goods, they found a prompt and growing market. This dealt a heavy blow to the staple business of the large manufacturers. A little later came the organization of a few makers to do a small business, limiting themselves to high-grade tailor-made goods, a move which quickly wrought havoc with the

higher-priced business of the big manufacturers. Meantime, a few East Side tailors had taken up the manufacture of medium-priced goods under East Side conditions, and this has been continued by other men, who has established the East Side conditions in other parts of New York. They have taken the cheaper lofts, and make very small sample lines. Thus the general houses have been slowly, but surely, driven out of business. For six years the trend has been toward constantly increasing subdivision, and that the business bids fair to be divided no more is due to the fact that subdivision can go no further.

Those familiar with the subject declare that there is a decided advantage in the smaller shop, well under the individual direction of its proprietor, the cost of organizing and superintending larger places more than offsetting the profits derived from greater operations. And this advantage of personal supervision has not only told against the large operator, but has also practically abolished the sweatshop.—World's Work.

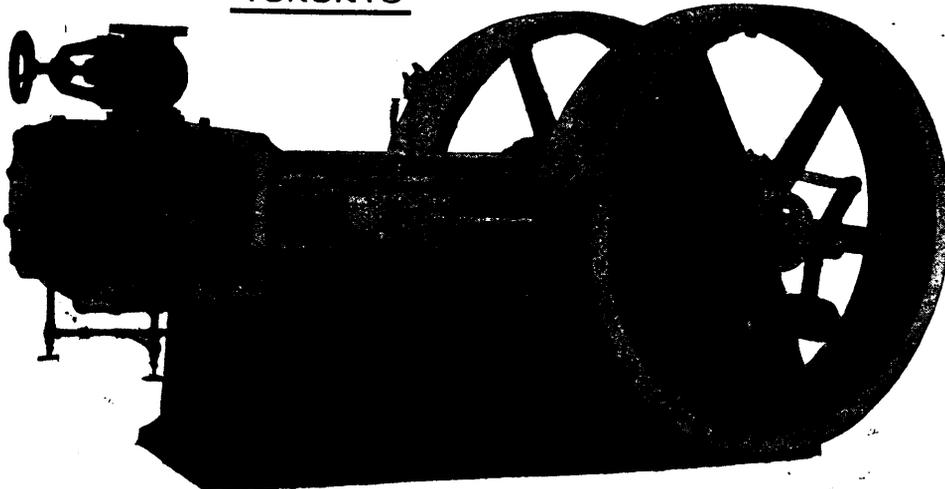
**The A. R. Williams Machinery Co., LIMITED, MANUFACTURERS**  
**TORONTO IMPORTERS AND DEALERS**

—IN—

**Engines, Boilers  
Iron Machinery  
Tools  
Wood-Working  
Machinery**

—AND—

**GENERAL MILL  
MACHINERY and  
SUPPLIES**

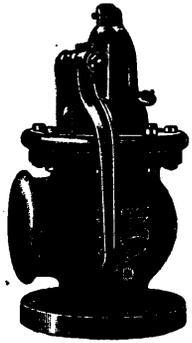


Write for.....

**CATALOGUE and  
QUOTATIONS**

**OUR NEW BELL PATENT HIGH SPEED AUTOMATIC ENGINE**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



A VALVE YOU CAN RELY ON  
—  
SEND FOR PRICES

## CROSBY STEAM APPLIANCES EXCEL

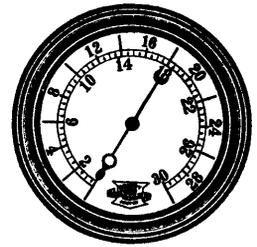
Steam Engine Indicators.  
Recording Gages.  
Revolution Counters.  
Pressure and Vacuum Gages.  
Lubricators, etc.



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



### NOVA SCOTIA AS A PIG IRON MAKER.

A notable event in the iron world, and of great interest otherwise, is the arrival in the Clyde this week of a cargo of 3,500 tons of pig iron from Canada. The quality corresponds with Cleveland iron, and is therefore suitable for foundry purposes. It comes across, we understand, at a freight of 10s. per ton, which is about the equivalent of half the bounty on export granted by the Dominion government; and it incurs landing and other charges amounting to 5s. per ton, which closely approximates the cost of taking Cleveland iron to Scotland by sea. This Canadian product then enters into direct competition with Cleveland iron, which, again, displaces Scotch ordinary iron—at a price. The price at

which the Canadian iron has been sold has not yet been disclosed, but Cleveland warrants are just now 8s. 6d. per ton under Scotch G. M. B., which is considerably more than the normal difference, so that the moment of arrival is not very opportune from the Cleveland point of view.

The shipment marks a strange reversal in the current of trade, for Canada has been in the habit of taking about 10,000 tons of pig iron per annum from us, notwithstanding the contiguity of the United States. But it marks more than that. This iron comes from Cape Breton, N.S., where have just been completed four large blast furnaces for the smelting of iron ore conveyed at a low rate of freight, and on a short sea run of twenty-four hours or so, from the iron mines of Newfoundland. These mines are near the

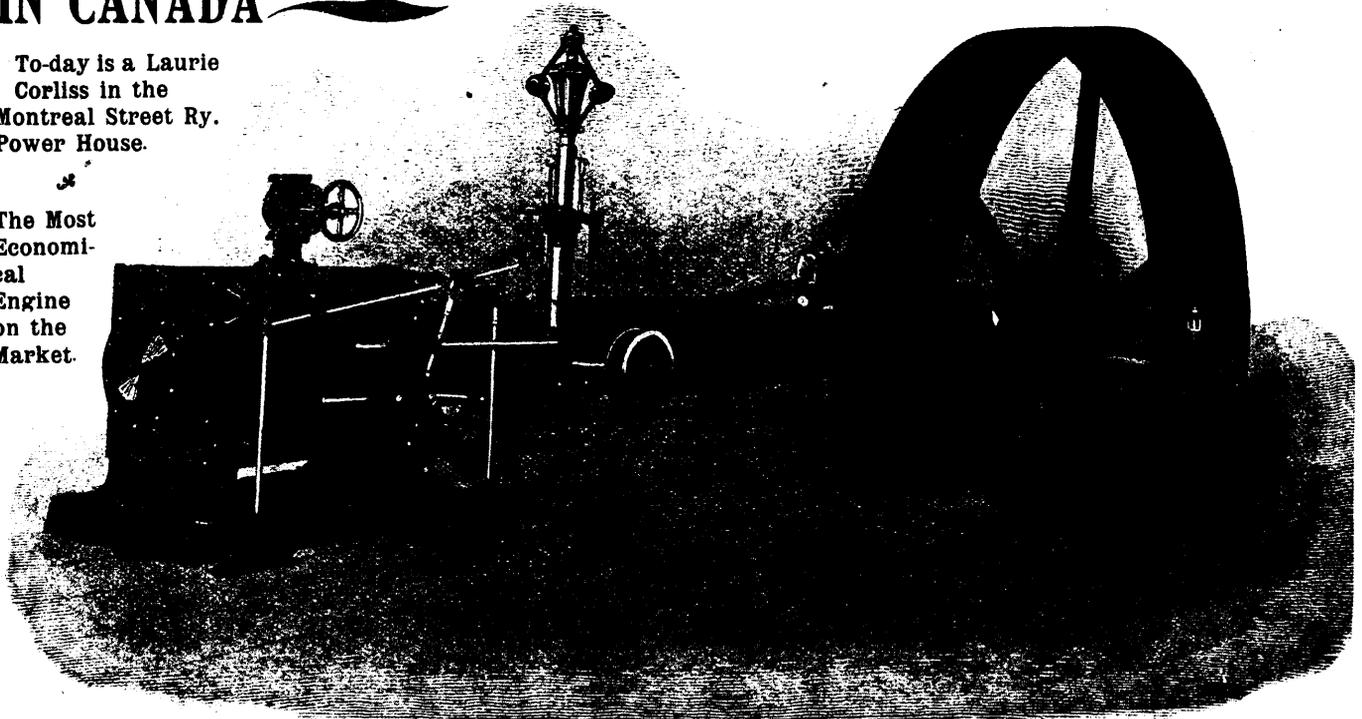
sea-board and are cheaply worked, so that the ore is one of the cheapest ironstones in the world. It is conveyed to Sydney, C.B., for a fraction of the cost of conveying ironstone from Lake Superior to Pittsburg, or from Bilbao to Middlesbro' or Glasgow, and the furnaces in which it is smelted are right on a rich and cheaply worked coal field on the seaboard. Here are being erected a plant of some 400 coke ovens, and works for the manufacture of steel on a great scale. At Cape Breton the cost of the materials for the manufacture of a ton of iron is said to be only 3s. 3d. per ton, as against 13s. per ton at Pittsburg. The peculiar advantages under which this new Nova Scotian enterprise is being started are well understood in the United States, and the knowing ones in the trade there have for some time been predicting that

## THE BIGGEST ENGINE IN CANADA

**Laurie Engines** are installed in the Power Houses of the Montreal, Toronto, Winnipeg and Vancouver Street Railways, the Dominion Iron & Steel Company, Sydney, etc.

To-day is a Laurie Corliss in the Montreal Street Ry. Power House.

The Most Economical Engine on the Market.

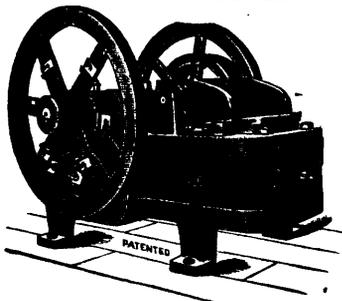


Any Size—Small or Large—Supplied  
Information gladly furnished  
upon writing to . . . . .

**LAURIE ENGINE CO.,** 1021 and 1014 St. Catherine St., Montreal,  
321 St. James Street,

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

ROLL JAW CRUSHER.



# Crushes

Large Rock

to

# 4 inch.

Send for Circular.

**STURTEVANT MILL CO.,**

**104 Clayton St.  
Boston, - Mass.**

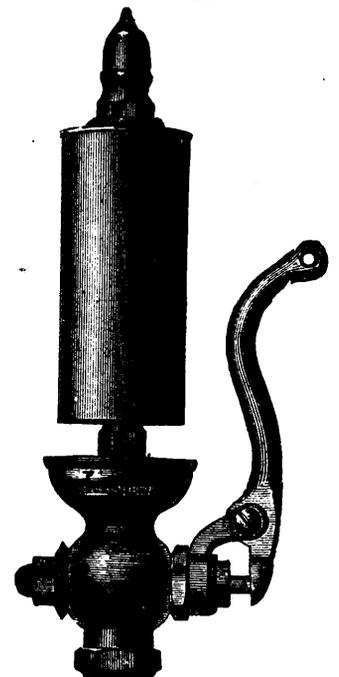
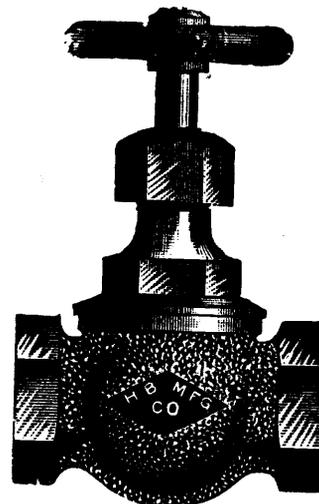
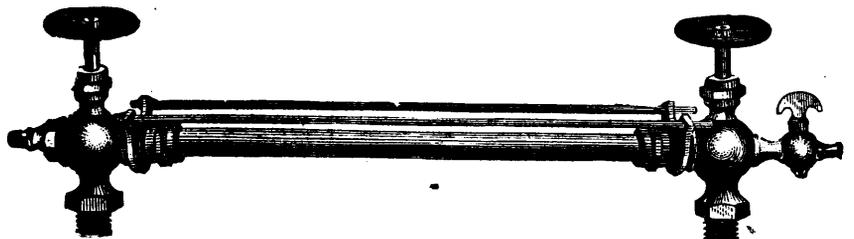
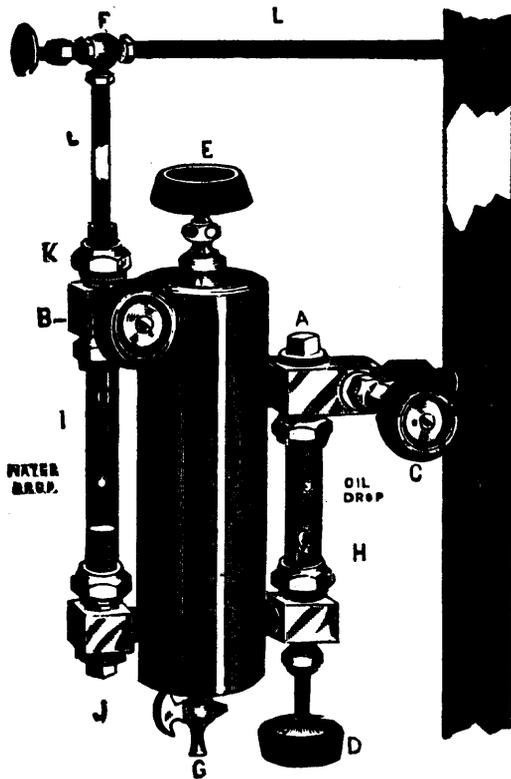
the cheapest iron and steel in the world will in the future be produced in Canada. As to this we know not, but it very evident that the first cost of iron smelted on the seaboard, with coal requiring no transport, must be much lower than anything the United States can show under present conditions of working. Whether it will pay Nova Scotia better to export pig iron than to turn it into steel is another question. The one disadvantage under which Cape Breton must suffer is in the matter of freight, for we do not know what cargoes large steamers can get to induce them to go there for return cargoes of iron, and to go there in ballast must be, of course, to enhance the outward freights. In the meanwhile, however, it must pay the smelters handsomely to export pigs, because of the bounty, which bounty has been extended to 1907. Sydney, C.B., in two years has increased its population nearly fourfold,

and is already called the Pittsburg of Canada. It promises, also, to be the rival of our Middlesbro' and Birmingham. From a provincial village it has been converted into a busy manufacturing town. Iron smelting is not quite a new thing there, but nothing has before been attempted on the present scale—favored in every way by the municipality, sanctioned and supported by the state legislature, and endowed by the Dominion parliament. Up till now Canada has not made more than about 90,000 tons of pig iron per annum. The new plant is equal to about 200,000 tons per annum. This, of course, is a small thing compared with the United States, or with Cleveland, and is not very large even compared with Scotland. But it is only the beginning of an industry of immeasurable possibilities. This pioneer cargo sent to the Clyde may mark the beginning of a new epoch. The difficulties attending

the supply of ore for our blast furnaces seem to become greater year by year. It is pleasanter to have to look to Canada for future supplies of crude iron than to the United States, even though the enterprise at Cape Breton is being developed at present by the United States capital.—London, Eng., Statist.

### PAPER.

In an interesting article on the subject, the American Catholic Quarterly Review notes that sufficient attention is not generally paid to the importance of paper as an agency in civilization. Within the memory of living men the utilization of this agency has increased so enormously as to defy all attempts at computation. With the improvements in printing machinery, enabling millions of copies to be thrown off where formerly there could only be thousands, and the spread of the printing press all over the known world,



WRITE FOR PRICES TO

**The HAMILTON BRASS MFG. CO. Limited**  
HAMILTON, - ONTARIO

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

the demand for paper has grown in incalculable ratio. One serious effect of this increased demand is the deterioration in quality of the materials used for the manufacture of the article. The paper made from straw and wood pulp becomes so brittle after a little use as to melt away after a very brief time. There are other compounds, including a sort of clay, which enter into the composition of paper to make the product more perishable still. So grave has the question of the durability of paper become that Pope Leo XIII has intrusted the question of the material of historical documents to a committee of experts at the Vatican. Public documents are presently being printed in many countries on paper which must certainly perish before many years are over. It was gravely stated not very long ago that the state archives in Washington are printed on such material that not one of them can be available for historical purposes a hundred years hence. It is impossible to exaggerate the seriousness of such a contingency as such a vista as this opens up. It cannot but lead to innumerable complications between individuals and communities, perhaps even between states and outside nations.

It is a curious fact that concurrently with the discovery of improved methods of paper manufacture we find deleterious effects resulting from these improvements upon human physiology. The glazed surfaces of newspapers are accountable, many oculists say, for a widespread deterioration of eyesight. The mischievous

effects of small type were in themselves an evil of sufficient magnitude without having the dangers of highly calendered paper added.

**TRADE WITH NATAL.**

Mr. James Cummings, Canadian Trade Commissioner at Durban, Natal, writes to the Department of Trade and Commerce, stating that he had visited all the business towns in the colony of Natal, and finds a general demand for goods that Canada could supply at a profit better than the present arrangements with Great Britain and the United States. At many towns he found Canadian lumber, doors, furniture, asbestos, canned fish and fruits, bacon, cheese, etc., for sale as American or British products. The wholesale merchants in South Africa, who handle all kinds of goods, seldom purchase direct from the manufacturers. Their orders for all classes of goods are sent to purchasing commission houses in London or New York. These houses purchase, group all the goods together, charge 2½ or 5 per cent. commission, and draw at sight.

The New York houses have travelling representatives in Natal and an agency in Durban, pushing the sale of Yankee goods, and only offering Canadian goods when they have nothing to offer quite as good or cheap. Owing to the efforts of agents, there have been large increases in the imports from the United States, Germany, France, and Belgium. The port of Durban is favorably situated in handling the Johannesburg trade.

"If," says Mr. Cummings, "one or two commission houses in Montreal or Quebec would open agencies in Durban and keep travellers in the interior, a profitable trade would be developed at once between Canada and Natal. The expenses of travelling and selling goods here are too heavy for ordinary exporters in single lines, but a shipping house in touch with Canadian manufacturers would soon open up a steady trade with the country in lumber, timber, furniture, agricultural implements, carriages, boots and shoes, canned meats, fish and fruits, and at certain seasons in butter, cheese, eggs, apples, and vegetables. The mercantile classes of Natal," he writes, "will give Canadian as they now do Australian goods the preference over any foreign country, and in my intercourse with many of their legislators I found a strong desire expressed that when a new Customs arrangement is made for South Africa the example of Canada would be followed, and that Great Britain and the sister colonies should have preferential trade advantages over the foreigners, and thus gradually bring about Imperial Federation."

**NEW RAILWAYS IN BRITISH COLUMBIA.**

The legislature of British Columbia has authorized a loan of \$5,000,000, half a million of which is to be used in building a bridge across the Fraser River at New Westminster, and the remainder to be granted as a bonus at the rate of \$4,000 a mile, for the following roads :

TRADE MARK  
J. M. T.

**Valves**

*The Standard for Valve Excellence.*

**TRY ONE ON YOUR WORST PLACE**

*Made in all the Standard Patterns.*

**The Jas. Morrison Brass Mfg. Co. LIMITED.**  
Steam Specialties, TORONTO

**BEST BY COMPARISON**

BURT MFG. Co.,  
Akron, Ohio.

GENTLEMEN.—Your favor of the 6th inst. relative to exhaust heads, at hand, contents noted. Replying, would say we are pleased to report the three Exhaust Heads are working very nicely and so far, give entire satisfaction. We have others in use, but think yours the best we have.

Truly yours,  
THE WESTERN AUTOMATIC MACHINE SCREW CO.,  
By R. B. PERRY, Supt.

Comparisons are sometimes odious but often profitable.

**THE BURT EXHAUST HEAD**

always ranks first by actual comparison.

It sets the exhaust head standard.

WRITE US FOR PARTICULARS.

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

LARGEST MFRS. OF OIL FILTERS IN THE WORLD

**PERSISTENCE IN ADVERTISING..**

In the expansion of business now bringing profit to so many manufacturers, advertisers who have made themselves regularly prominent in past years have been notable in reaping the rewards of persistent publicity by advertising in **The Canadian Manufacturer.**

From the coast near Point Roberts to Midway, Boundary Creek district, about 330 miles.

From the present terminus of the Esquimalt and Nanaimo Railway to the northern end of Vancouver Island, 240 miles.

From Rock Creek to Vernon, to connect with the Shuswap and Okanagan Railway, 125 miles.

From Kitimaat, on the coast to Hazelton, 100 miles.

From Port Steele to Golden, 150 miles.

Work must be begun before July, 1902.

The subsidy is not to be granted until the roads are wholly completed; the companies are to pay interest on the subsidy granted at the rate of two per cent. for the first five years and three per cent. afterwards. The Government is to control passenger and freight rates, and may acquire the roads in twenty years.

#### ONTARIO'S UNDEVELOPED RESOURCES.

Mr. F. H. Clergue in speaking of the undeveloped resources of New Ontario in conversation lately with a representative of an Ottawa paper, said:

I firmly believe that Canada will be a great country, and that before many years. Canada is full from end to end of natural wealth. The fact is only becoming known to the world. What will happen is this: Very soon the opportunities of Americans for profitable home investment will come to an end. A general turn of eyes toward Canada will take place. Capital will flow in and the capital will be followed by population. Just as Canadians went to the United States years ago to better themselves, so Americans will come to Canada. American capital will be followed by British capital and more or less British immigration. Once the country gets a start the rest will be easy. Mr. Clergue went on to say that Canadians have been accused of being

"slow," but in his opinion it was not true. Canadians were just as alive to opportunities as Americans. The trouble has been that Canadians had lacked capital. Canadians, Mr. Clergue believed, had the making of a magnificent nation; physique, hardiness, cleanliness of tone, energy, all the desirable qualities were there. When Canada becomes a nation, he said, it will be a great nation. A year ago, the population of the Canadian Soo was 4,000. It is now 7,000. Mr. Clergue says he expects it will be 50,000 within three years. It will be a great manufacturing centre. When in full operation the steel plant alone will employ over 10,000 men, and why, he asks, shouldn't it be a great centre? Within easy distance there are in sight vast quantities of iron, nickel, copper and pulpwood. The water power is unlimited. Lake Superior is our mill pond, and the St. Mary's river our flume. Our shipping facilities, both by rail and water, are unsurpassed anywhere.

#### REDUCTION OF COPPER ORES IN CANADA.

Consul Lang, of Sherbrooke, January 18, 1901, writes as follows:

The mines of the Eustis Mining Co., are located at Eustis, Quebec, ten miles south of Sherbrooke, on the line of the Boston and Maine Railroad, and the information herein contained has been obtained from the officers of that company, and applies only to the manner in which the mining business of that company is conducted.

The ore mined by this company consists of low-grade copper pyrites, or, speaking more accurately, iron pyrites carrying a little copper, silver and gold. Analysis of the valuable contents of the ore gives from 45 to 50 per cent of sulphur, 2 to 3 per cent of copper, from one to two ounces silver, and a trace of gold.

The first treatment is to extract the sulphur, making sulphuric acid; then the burnt product, or cinder, is smelted and refined. The last process consists of refining by electrolytic methods, which gives pure copper and saves the silver and gold.

The ore is broken to the proper size for acid manufacture (about two inches square) by hammers. Rock breakers driven by machinery make a large proportion of fine ore, which is of less value.

Ore from the mine is dumped onto apparatus with 2½-inch spaces; what goes over this is "rough ore," and has to be broken into small pieces. The ore then falls on a screen with one inch meshes. The larger pieces going over the screen are also broken by hand; the finer, going through the one inch mesh, are afterwards screened into three sizes, passing through a revolving circular screen, the sizes being from one inch to three-fourths of an inch, from three-fourths of an inch to one-fourth of an inch, and from one-fourth of an inch to dust. These different sizes are put through the ordinary plunger-jigs, by which method the rock is separated.

A very small proportion of valuable ore is lost in tailings. There is no leaching. The material, or sulphur in ore, is sold to acid makers. The resulting cinders are smelted by the company into mattes, and these are refined by smelters.

Commercial Agent Beutelspacher, of Moncton, N.B., says that copper mining enterprises are located at Point Wolfe and Dorchester, New Brunswick. The company at Dorchester is busily engaged in erecting concentrating machinery and smelters, but no process has developed, as the copper industry in the district has not yet passed beyond the crudest stage.

Consul Carter, of St. John's, Newfoundland, reports that no ores are smelted in the colony, the copper mined being shipped to the Cape Copper Co., Swansea, Wales, at which place it is treated. The

**GEORGE W. CHAPIN,** AMERICAN, EGYPTIAN, SEA ISLAND COTTON  
Plain, Combed, Mercerised, Knitting  
229 and 231 CHURCH ST., PHILADELPHIA. Weaving, Splicing

**YARN**

# HOLDSWORTH & CO.

Phone, Main 3754

## Cloth Finishers

### MEASURING, EXAMINING, SPONGEING and SHRINKING WORKS

Examinations of Woolen and Cotton Goods and Adjusting of Claims promptly attended to.

Refinishing a Specialty



Improved Cloth Shrinking

**73 Adelaide Street West, - TORONTO**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

shipments of the crude material amounted last year to about 80,000 tons of 3½ per cent.

**BUFFALO FORGE COMPANY.**

The Buffalo Forge Co., Buffalo, N. Y., have sent us a copy of their new illustrated catalogue having reference to the various styles of steam engines made by them, regarding which they say they are built in several types, each suited to a specific kind of work, and very naturally possesses the individual characteristics which adapt it thereto. Limitations of floor spaces and heights, together with different engineering practise in central power plants, aboard ship, etc., all call for appropriate engine forms. These sundry conditions are fully met in the style advised for a stated service. In many power plants, particularly those of large office buildings, space is of greater value than the most costly machinery occupying it; and it is here that the direct connected unit of engine and generator received its first impetus by reason of the minimum room required. The development of their apparatus has been so marked, both as regards generator and engine, that the direct connected set attracts the user from the additional stand-points of increased life and greater economy.

Speaking of the facilities of the company for building machinery, we are informed that their works, the engine department especially, are equipped with the latest improved tools of the very best makes obtainable, the special tools embracing many original features admirably adapted to engine building. Within the past year new buildings of large proportions have been erected especially for engine construction.

Some of the engines illustrated and described in the catalogue before us include; horizontal side crank, simple or compound; open frame horizontal side crank, simple or compound; enclosed self oiling horizontal centre crank, simple or compound; open frame horizontal centre crank, simple or compound; enclosed, self oiling, vertical, simple or compound; enclosed, self oiling, double vertical, single or double acting; enclosed, self oiling marine type, upright, simple or compound.

Copies of this catalogue can be obtained upon application to the company at Buffalo, or from their representative, Mr. E. A. Wallberg, Temple Building, Toronto and Merchants' Bank Building, Montreal.

**APPLIED CHEMISTRY.**

Dr. Geo. Archbold, A.M., Prescott, Ont., is offering his services to any who may be interested, as an analytical, consulting and technical chemist in any matters requiring investigations and advice relating to technological chemistry and technology—brewing, distillation, wood pulp, etc. Dr. Archbold has over thirty year's experience in the subject of applied chemistry in Great Britain, Europe and America, and was for some time Chief Chemist in the Ordnance Department of the United States Navy Yard at Washington, D.C.

**Toronto Elevator Co.**

**MILLWRIGHTS AND ELEVATOR SPECIALISTS**

Estimates Given and Losses Adjusted

OUT-OF-TOWN WORK PROMPTLY ATTENDED TO.

PHONE **JOHN H. SHALES,**  
1535 Manager

AGENTS FOR....  
Miller Bros. & Toms,  
Elevators  
Leitch & Turnbull Co.  
Limited, Elevators.  
Greening's Wire Ropes.

74 ADELAIDE ST. WEST  
TORONTO

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

**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.**

**PACKARD**

**ELECTRIC COMPANY LIMITED**

MAKERS OF

**LAMPS AND TRANSFORMERS**

SOLE AGENTS FOR CANADA

**SCHEEFFER RECORDING WATT METERS**

**ST. CATHARINES, - CANADA**

**DON'T BURN YOUR BOILER**

Save it by removing the incrustation. Give a long life to your steam boiler, valves, engine, steam pipes, etc., which is sure to be done by the use of

**SUTTON BOILER COMPOUND . . .**

Every up-to-date steam user is alive to its many good qualities. For everything in the mill supply line ask

**THE WM. SUTTON COMPOUND CO., OF TORONTO LIMITED.**

186 Queen Street East.

## The Wm. Hamilton Mfg. Co.

Peterboro, Ont., Can.

Acting as the Patentee's Licensee

Are prepared to manufacture and supply

### SAVERY'S PATENT SHAKE FRAMES

FOR

Fourdrinier Paper Machines,

AS DESCRIBED IN

Canadian Patent No. 57,819.

—ALSO—

### SAVERY'S PATENT COMBINED DRYER STEAM JOINT AND SAFETY VALVE

AS DESCRIBED IN

CANADIAN PATENT No. 68,093.

ABOUT 2,000 NOW IN USE.



### 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



### Auction Sale of Timber Berths.

PUBLIC NOTICE is hereby given that pursuant to authority of Orders in Council, the Red and White PINE TIMBER in the following townships in the DISTRICT OF ALGOMA, namely:—The Townships of GRAHAM (part), HART, CARTIER, LEVACK, JARVIS, ANDERSON, CHESLEY, GILLMOR, WHITMAN, CURTIS and RUTHERFORD (part), and certain areas between the PIGEON RIVER and the ARROW RIVER waters in the District of THUNDER BAY, will be offered for sale by Public Auction at the Parliament Buildings, in the City of Toronto, on TUESDAY, the SEVENTEENTH day of SEPTEMBER next, at the hour of ONE o'clock in the afternoon.

At the same time and place certain forfeited and abandoned Berths in the Townships of DIGBY, SHERBOURNE and LUTTERWORTH, in the District of HALIBURTON and County of VICTORIA, will be offered for sale, the purchasers of these latter Berths to have the right to cut all kinds of timber.

Sheets containing terms and conditions of Sale and information as to Areas and Lots and Concessions comprised in each Berth will be furnished on application, either personal or by letter, to the Department of Crown Lands, Toronto, or the Crown Timber Agencies at OTTAWA, SAULT STE. MARIE and PORT ARTHUR.

E. J. DAVIS,

Commissioner Crown Lands.

DEPARTMENT OF CROWN LANDS,  
TORONTO, June 1, 1901.

N.B.—No unauthorized publication of this advertisement will be paid for.

## 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.

533. A London firm desires to be placed in communication with Canadian shippers of beans and peas.

534. The manufacturers of brick-making machinery seek the services of an active Canadian resident agent to introduce their goods.

535. A north country house asks for names of Canadian shippers of scrap and old metals.

536. An old established manufacturer of carbonic papers and other stationery supplies would like to establish some trade in Canada.

537. Enquiry is made for names of manufacturers in Canada of iron and steel work, cast and wrought iron piping, steel plates, steel angles, etc.

538. A well-known firm of stationers in London are open to take up the agency for England for any Canadian specialty in their line of business.

539. The names of Canadian exporters of cheese-box wood and hoops for barrels are asked for.

540. A Manchester firm ask for the addresses of Canadian paper mills supplying news-print.

541. THE CANADIAN MANUFACTURER is in receipt of a request from an important hardware dealer in Canada for addresses of manufacturers of flat steel springs three inches long by  $\frac{1}{4}$  inch wide, of which he requires a considerable quantity. Who makes the article?

542. THE CANADIAN MANUFACTURER is in correspondence with a concern in London, England, who manufactures a high grade patent anti-friction metallic packing for steam and hydraulics, and who desires a responsible party to handle the same in Canada.

543. THE CANADIAN MANUFACTURER is in correspondence with a concern in London, England, who manufacture a composition for removing scale and incrustations from steam pipes and boilers, and who desire to introduce it in Canada. Responsible party can obtain further information by applying to this office. The article is used in large quantities in the British navy.

The plans of the B. F. Sturtevant Co., so far as perfected for its new plant at Hyde Park, Mass., contemplate an engine and electrical shop of gallery type 120 x 400 feet, two buildings each 400x80

feet and three storeys high for blowers, heaters, forges, galvanized iron work, exhaust heads, etc., and a foundry 400x120 feet. In addition independent office, power and pattern storage buildings are planned for. Fire proof or slow burning construction will be the rule throughout and the fire risk reduced to absolute minimum.



**TRIMO**  
This PIPE WRENCH is drop forged and built for hard usage. Does not crush, slip, or lock. All parts interchangeable. Send for catalog showing complete line.  
TRIMONT MFG. CO., Roxbury, Mass., U.S.A.

## HAVE YOU HEARD

ABOUT OUR

## STEEL POINTED CORE DRILL?

CUTS ANY ROCK. NO DIAMONDS.

Davis Galyx Drill Co.

Canadian Rand Drill Co.

Agents.

18 VICTORIA SQ.

## MONTREAL.

# COAL JAS. H. MILNES & CO. COKE

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

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

## MARKETS.

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 of 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, August 2, 1901.

Commercial Canada is interested in the outcome of the steel strike, and the latest advices received are to the effect that the difficulties between the employes' organization and the manufacturers will be satisfactorily adjusted at an early date. Toronto hardware merchants are already finding it more difficult to procure goods, and as a result prices in several lines have advanced slightly, but not sufficient to cause important changes in the general list arranged by wholesalers. A continuance of the strike, however, will materially affect the market, and prices are liable to advance sharply.

A recent press despatch from Pittsburg gives an interesting theory to the effect that the strike is not the outcome of a serious difficulty between the real steel manufacturers and their men, but is

brought about to meet the exigencies of the stock market. According to this ingenious view the strike was practically ordered by J. Pierpont Morgan, and will be terminated by that magnate as soon as his enemies in Wall street have had enough of what they wanted in only small doses. But it is not clear why a little strike should be bad for Morgan and good for his enemies, while a strike on a larger scale should be bad for them and good for him.

The differences between the men and the companies are also cleared up in the same despatch. The employes' organization does not demand unionization of the present non-union mills—it merely shows that they shall be open to union men. This, it is true, would lead to their unionization; and in another year the employing companies would be called upon to recognize them as such. It is not a case of a demand for compulsory unionization by the men, but the granting of their demand would lead inevitably to the unionization of the mills at present outside the Amalgamated Association.

Each side is true to what it holds to be its own best interests, and is acting to protect them, the employes to extend the organization to all the mills; the companies to keep some of the mills out of the hands of the unions.

The window glass and bituminous coal industries of Western Pennsylvania are enjoying extraordinary prosperity, and apparently the glass trust is sharing some

of its profit with its employes. The Window Glass Workers Association has \$350,000 worth of trust stock which pays six per cent. and also has \$51,000 in the bank. The men in the trade draw from \$170 to \$520 per month and the season lasts eight months. Wages of glass workers have advanced seventy per cent. since 1896. In Toronto the glass workers enjoy a season of between eight and nine months and, compared with wages in the east, are not behind their American brethren.

The holiday dullness continues in nearly every line, but prospects are bright for the coming season. Dry goods men especially anticipate a big trade and already orders have been booked. Ontario crops will be above the average although failures are reported in several localities. Farmers are busy with the harvest, and reports from distributing points are entirely satisfactory. In hardware and metals there is a fairly good movement, with prices generally firm. Tin plates show an advance, being now quoted at 9c. to 9½c. for 28-gauge.

In the local security market there was fairly good trading in railway properties. Transatlantic buying has had the effect of "boosting" C.P.R. a couple of points, and an unfavorable report on Rapid Transit, with regard to a rival line, caused a little depreciation of that property. Dominion Steel appears to be in good demand on all reactions. Crop news and steel strike reports continue to

### N.Y. & Boston Limited Knickerbocker Special South-Western Limited

Famous Trains between

BOSTON	CINCINNATI
NEW YORK	CHICAGO
WASHINGTON	ST. LOUIS

Via

### Big Four Route

AND

NEW YORK CENTRAL  
 BOSTON & ALBANY

Cafe, Library, Dining and Sleeping Cars

M. E. INGALLS, President.  
 W. J. LYNCH, Gen. Pass. and Ticket Agent.  
 W. P. DEPPE, Asst. Gen. Pass. and Tkt. Agt.  
 CINCINNATI.

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 St.,  
 London, E.C., England.

### The Electrical Construction Co. of London, Limited.



### MULTIPOLAR MOTORS & DYNAMOS

And Direct Connected Plants for Isolated Lighting.

Repair Work a Specialty.

HEAD OFFICE AND FACTORY:

90 YORK STREET, London, Canada.

760 Main St., Winnipeg.

24 York St., Toronto, 134 Granville St., Halifax.

**Schoellkopf, Hartford & Hanna Co.,**  
BUFFALO, N.Y.

**Aniline Colors, Dyestuffs, Chemicals**  
*Manufacturers of*

NEW YORK, BOSTON, PHILADELPHIA, PROVIDENCE, CHICAGO,  
MILWAUKEE, CINCINNATI, KANSAS CITY, NEENAH, WATERTOWN.



NOTHING  
EQUALS IT.

SAMPLE SENT FREE.  
SEND FOR ONE.

**Joseph Dixon Crucible Co., Jersey City, N. J.**  
U.S.A.

**DOES TWO THINGS**  
AND DOES THEM THOROUGHLY  
**STOPS THE BELT FROM SLIPPING.**  
**PLEASES THE MAN WHO USES IT.**

be the governing influences in the Wall street market, and as usual the local interest in American securities is decreasing.

The report that a new bank would make a bid for business in Canada has created a great deal of talk in financial circles. At the last session of Parliament a charter was obtained for an institution to be known as the Sovereign Bank of Canada. The street story is to the effect that the head office will be established in this city and that the stock will shortly be issued by the Trusts and Guarantee Co., Limited. It is also said that the stock will be offered at a premium of \$25 per \$100 share. Among those whom it is said will be appointed to the directorate are Hon. James Stratton, Provincial Secretary; Archibald Campbell, M.P., miller, West Toronto, and James Kendry, M.P., woolen manufacturer, Peterborough, Ont.

The collectors at the various customs port are notified of a new short form of power of attorney for entry of an importation. The following is the form which must be written, printed or stamped on the face or back of the invoice and subscribed by the importer:

.....of.....is authorized to enter for me this shipment of goods at.....custom house; and this is the true and complete invoice of all goods included in the shipment.

Dated at..... 190

(Signature of importer).....  
(Address).....

This form is applicable only for passing the particular importation or shipment referred to in the invoice upon which the form is subscribed by the importer.

By a recent regulation the following articles have been transferred to the free list:—Glass, caps, shells, containers and capillary tubes; rubber bulbs, boxes and corks, for use in the manufacture of vaccine points, and only when imported by manufacturers of vaccine points.

The regulations established by order of council July 19, 1897, respecting the payment of bounties on iron and steel, are repealed in respect of pig iron, puddled iron bars and steel ingots made in Canada subsequent to June 30, 1901. It is now ordered that the payments of bounties, which have hitherto been paid by the Department of Customs, and the amounts so paid charged in each fiscal year against the revenue arising from the payment of customs duties, be made out of the Consolidated Fund of Canada under the direction and control of the Minister of Trade and Commerce instead of being made from customs revenue under the direction of the Minister of Customs.

**BUFFALO PIG IRON MARKET.**—Office of Rogers, Brown & Co., Buffalo, N.Y., July 30, 1901.

The condition of the local pig iron market at the present time, as to the placing of new orders, has an expectant and waiting aspect. Buyers whose future requirements are not covered by existing contracts are holding off from further purchases and pursuing the policy of carry-

**“Zanzibar**  
**Anti-Rust**  
**.. Paint” ..**

For Roofs  
of all kinds,  
Bridges,  
Iron Work.

MADE TO ENDURE

**GARFIELD PAINT CO.**

WINDSOR, ONT., CANADA

**W. A. FLEMING & CO., - Montreal, Que.**

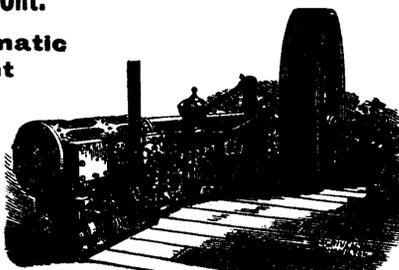
Eastern Agents

Write for  
Booklet  
“A STUDY  
IN BLACK.”

**THE SMART-EBY MACHINE CO. LIMITED,**

191 Barton Street East, Hamilton, Ont.

High Speed Engines, Brown Automatic  
Engines, Boilers, Rogers' Patent  
Shaking and Dumping Grate Bars,  
Pumping Machinery,  
Electric and Hand Power Travelling  
Cranes, Shafting, Pulleys,  
General Machinery, Etc.  
Western Office—419 Hasting St., Vancouver, B.C.



When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

ing as little stock on hand as possible. This is unquestionably due in part to the unsettled labor conditions throughout the country and probably also partially due to the natural tendency to quietude which generally exists in the market at this season of the year.

The outcome of the steel strike will doubtless have the effect of creating a more settled and firm condition in the pig iron field.

Local furnaces are heavily sold up and shipments on orders already booked continue at such a rapid rate that furnace stocks on hand are almost entirely exhausted.

We quote below on the cash basis f.o.b. cars Toronto, in bond :

No. 1, X. Tonawanda Scotch iron.	\$16 50
" 2, " " "	16 00
" 1, " Niagara iron.....	16 50
" 2, " " .....	16 00
5% Silicon Mannie Charcoal softener .....	17 00
3% Silicon Mannie Charcoal softener .....	16 50
Connellsville 72 hour Foundry coke .....	4 95

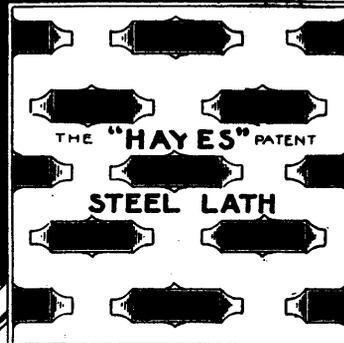
**THE DEMAND FOR COPPER.**—A letter from Cleveland, Ohio., speaking of the demand for copper, says that the increase in the demand for that article last year was fifty per cent. and that the increase in supply was only four per cent. When the demand increases more rapidly than the supply it of course sends up the price of copper. The price at present is about seventeen cents a pound. A few years ago copper was quoted at ten and eleven cents a pound and it was then believed that it had reached its highest price. When it went up to fifteen and sixteen cents a pound it was thought that the price would soon drop to the old figures, but now even in the event of a financial panic, the price will not drop below fifteen cents a pound. It is thought that the present labor troubles in the United States steel industry is likely, if long continued, to affect the machinery and tool market to a depressing extent, and to retard mining developments.

**EXPRESS BUSINESS IN MANITOBA.**—A telegram from Winnipeg says that the American Express Co., which has operated in Manitoba in connection with the

## THE "HAYES" PATENT STEEL LATH

**NO CRACKED WALLS**

**NO FALLING PLASTER**



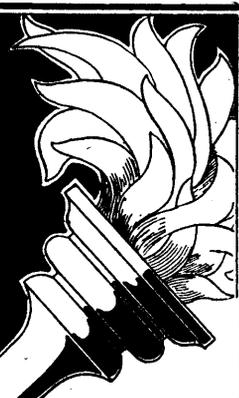
THE "HAYES" PATENT STEEL LATH

**Everybody knows that Metallic Lathing is better than wood**

Most people know—do you? That of all Metallic Lathing, "HAYES" PATENT gives best results. It requires less mortar, can be applied more quickly and easily, and has greater rigidity than others. It holds the mortar firmly, is fire, water and vermin-proof, and gives enduring satisfaction. These are some of the reasons why practical builders everywhere commend it. Let us give you further information. Actual tests and comparisons have proved all these claims.

The METALLIC ROOFING CO., Limited,

MANUFACTURERS, TORONTO, Canada.



CANADIAN OFFICE & SCHOOL FURNITURE CO. LIMITED

PRESTON ONT.





FINE BANK OFFICE, QUARTY HOUSE & DRINK STORE FITTINGS. OFFICE, SCHOOL, CHURCH & LODGE FURNITURE.

SEND FOR CATALOGUE

P

PATENTS

PROVISIONAL PATENTS, Caveats, Etc.

H. DIXON,

REGISTERED ATTORNEY,  
MECHANICAL EXPERT, ETC.

124 VICTORIA STREET, TORONTO, ONT.

## A VALUABLE PATENT FOR SALE

The Invention for which a Canadian Patent has been granted, and which is hereby offered for sale, relates to **AXLES** and **BEARINGS** for Vehicles generally, and is especially applicable to Automobiles and similar vehicles where **Sensitiveness and Economy in the Motive Power, and great Strength and Durability** are desirable.

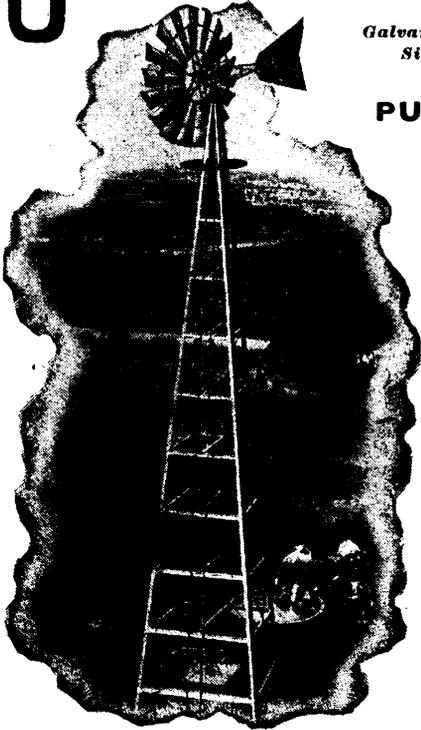
The principal object of this invention is to provide Bearings for vehicles which shall be practically Frictionless and Noiseless in Operation, yet Simple and Inexpensive in Construction, and Strong and Durable, and in which the parts may be readily assembled or replaced when worn without interference with the main portion. For further particulars apply to

**J. J. CASSIDEY, care The Canadian Manufacturer,**  
TORONTO, CANADA

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# STAR WIND MILLS

FOR PUMPING OR POWER PURPOSES



Galvanized Steel or Wood, all Sizes, 4 to 26 feet in Diameter.

## PUMPING MILLS

FURNISHED WITH OR WITHOUT TANK ELEVATED IN TOWER.

### GALVANIZED

## Steel Towers

Any height, either Three or four post, with substantial ladder.

### TANKS

Any Capacity, Any Purpose Made in Pine, Cypress, Fir or Galvanized Steel.

Our windmills are self-regulating and self-governing, and with our Hoosier Automatic Anti-Freezing Force Pump the windmill outfit takes care of itself, night or day, in calm or storm.

"Hoosier" **IRON**  
—AND—  
"Fast Mail" **PUMPS.**

Designs and Prices Furnished. Write for Catalogue.

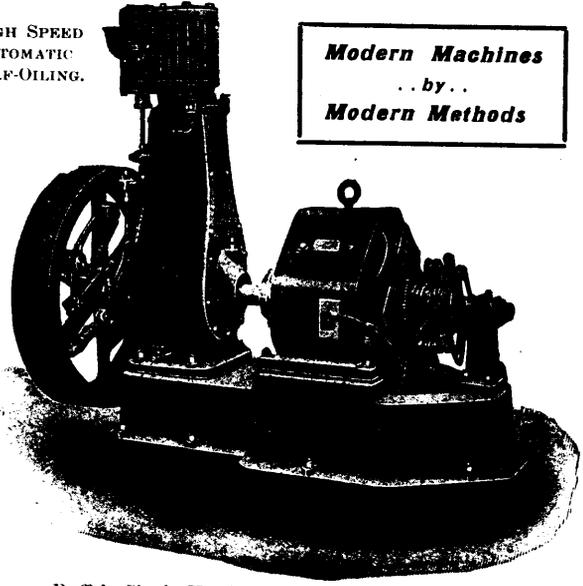
Address **FLINT & WALLING MFG. CO.**  
"STATION A" **KENDALLVILLE, IND.**

# Buffalo Forge Company

## ENGINES

HIGH SPEED  
AUTOMATIC  
SELF-OILING.

Modern Machines  
... by ...  
Modern Methods



Buffalo Single Vertical Direct Connected Engine.

**BUFFALO FORGE CO., BUFFALO, N.Y.**

E. A. WALLBERG, - CANADIAN REPRESENTATIVE  
410 Temple Bldg. TORONTO. Merchants Bank Bldg., MONTREAL.

**"Our Country's Welfare is Our First Concern."**

# MANUFACTURERS'

WILL MISS A

GRAND OPPORTUNITY

IF THEY FAIL TO EXHIBIT

This Year

AT.....

**CANADA'S GREAT**  
**EXPOSITION, TORONTO**  
August 26th to Sept. 7th, 1901

Increased  
Accommodation

VISITORS FROM ALL PARTS of the WORLD

APPLICATIONS FOR SPACE

SHOULD BE MADE

AT ONCE

**ENTRIES CLOSE AUGUST 3rd**

FOR PRIZE LISTS, ENTRY FORMS, AND ALL PARTICULARS, ADDRESS

**ANDREW SMITH, F.R.C.V.S.,**  
PRESIDENT.

**W. K. McNAUGHT,**  
Chairman Manufacturers' Committee.

**H. J. HILL,**  
MANAGER, TORONTO.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Northern Pacific lines, will withdraw from business there about September 1. This will leave the field to the Dominion Express Co., which operates along the lines of the Canadian Pacific, and will also work in connection with the Canadian Northern Railway. This will mean that the Dominion Express will have a monopoly of Manitoba and the West in the express business.

**MANITOBA CROPS.**—Warehouse Commissioner Casell estimates the wheat yield for Manitoba and the Northwest at 60,000,000 bushels. Reports received from all parts of the West indicate forty and forty-five bushels of wheat to the acre in many places. It has simply been a marvellous season for the West compared to 17,000,000 bushels, the total for last year. There are 40,000 farmers now in the West and if 30,000 laborers come West work will be found for all. In a word, the people of the West are face to face with the question of handling and harvesting the biggest wheat crop ever raised on the prairie lands of Western Canada. The yield is simply phenomenal. It will take at least 8,000,000 pounds of binder twine.

**MAILING LETTERS ON THE HIGH SEAS.**—The following official notice has been received by the Canadian Post-Office Department:—

All persons on board British ships on the high seas are entitled to send their letters prepaid by means of British stamps. Such letters should be handed to the master or any officer he may appoint to receive them, and should be prepaid at the following rates:—1d. the half-ounce, if addressed to the United Kingdom or any British colony or possession (except the Commonwealth of Australia, Rhodesia, and the Bechuanaland Protectorate); 2½d. the half-ounce if addressed to a foreign country or to one of the three British possessions mentioned above.

The officers dealing with the letters should tie them in a bundle, distinctly labelled—"Posted on board the British ship—on the high seas"—and on arrival at a foreign or colonial port this bundle should not be posted in the ordinary way, but should be handed over the counter of a post-office; if possible, the head office.

Letters written in foreign or colonial waters (as for instance, in Canadian waters) should be prepaid by means of local stamps at local rates, and should be posted in the ordinary manner.

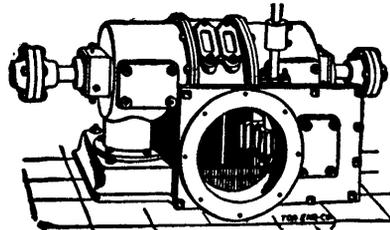
**THIS FITS SOME CANADIANS.**—United States Consul Halstead writes from Birmingham, Eng.: American manufacturers and merchants frequently open correspondence with United States consuls with the sentence, "Being desirous of taking advantage of the rapidly growing demand for American products, etc." There is for American goods no foreign demand of the shake-the-tree kind these inquirers have in mind. The sales of our goods of all kinds are based on the merits and low prices of the articles, after energetic salesmen have made active

demonstration of good points. I cannot understand the mental attitude of those American manufacturers who employ travelling salesmen to get trade in America, paying good salaries and allowing liberal sums for travelling expenses, yet wish to do business by correspondence in foreign countries. Why do they imagine they can trade successfully in Great Britain, Germany, or any other European

country without employing their own travellers, when the necessity of having them is the first principle of their home business?

**AMERICAN INDUSTRIES.**—Dun's Review observes the situation as follows:

It is most deplorable that so much interruption should be caused by labor discussions just now when the require-



Horizontal Type.

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.**

**"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.

**BELL PIANOS and ORGANS**

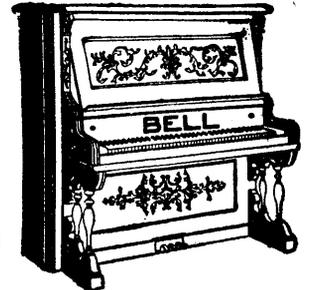
BUILT TO LAST A LIFETIME AND USED THE WORLD OVER

Send for Catalogue No. 47 to

**THE BELL ORGAN AND PIANO CO., LIMITED**

QUELPH, - - ONTARIO.

LARGEST MAKERS IN CANADA.



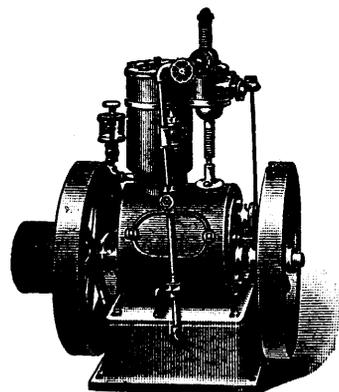
**THE WELLINGTON MILLS, London, Eng. GENUINE EMERY**

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 OAKEY & SONS, Limited,** Wellington Mills, Westminster Bridge Road, London, England.

ENQUIRIES SHOULD BE ADDRESSED TO **JOHN FORMAN, 850 CRAIG ST., MONTREAL**



**THE SYLVESTER GAS and GASOLINE ENGINES**

Are beyond doubt the most complete and economical engine in the market. They are compact and perfectly under control, easily managed, get up speed immediately, thoroughly reliable, and where intermittent power is required they are just the thing.

They are built in sizes from 1 to 20 h.p., upright and horizontal, for pleasure yachts, boats, shops, farm work and any purpose where light power is required. Tell us to what use you want to put the engine, and what power you require, and we will name you prices.

SEND FOR CATALOGUE

**SYLVESTER BROS. MFG. CO., Lindsay, Ont.**

CUPOLAS

FOUNDRY EQUIPMENT

CRANES

E. A. WALLBERG, C.E.

Temple Building, TORONTO

Merchants Bank Building, MONTREAL

ments of domestic trade are so large, and depression among foreign manufacturers puts them in a position to compete for business that Americans may be compelled to give up. The strike may cost the men all the advantages of active employment and high wages they have enjoyed. On the other hand, it is thought by leading officials on both sides that the dispute will soon terminate. The machinists' strike is passing into history, but the coal mines have developed new subjects for discussion, although it was supposed that there had been an agreement assuring no trouble until next spring. None of the controversies have yet been of sufficient duration to affect market conditions, and prices as a rule are fairly steady.

**Iron and Steel.**—The recent reduction in sheets was restored, but otherwise prices are unchanged and conditions are waiting. If the strikes are settled within a reasonable time there should be no effect in the industry, but any protracted interruption to work at this time would seriously inconvenience other lines dependent on supplies of structural and other material. A feature of the situation is the great acceleration of work at plants not disturbed by the strike, which

naturally find their business increased by purchasers who cannot wait for their goods. Premiums are asked and paid on some special deliveries, but it is impossible to make changes in regular prices.

**Minor Metals.**—Owing to the fact that the manufacture of tin plates is practically controlled by one concern and that is closed by the strike, the controversy is most keenly felt in this branch, and while quotations are nominally unchanged it is impossible to place contracts. It is on this account that pig tin suddenly cut loose from London, and is quoted considerably below a parity with the foreign market. Other minor metals are unchanged, although the statistical position of copper is less satisfactory.

**Coal and Coke.**—As yet the wholesale market is not affected by the interruption at collieries, and a settlement may be attained before prices are advanced. Supplies available are of good size, owing to the heavy output in recent months.

The Pittsburg coal market is still active, and is crowded both as regards consumption and shipments to the lake ports. Lake deliveries are still behind, but the shipments are large, although not quite equal to expectations. The mines are all working. The river ship-

pers are handling the usual current business, but the low water prevents large shipments south and west. The coke trade was again a record breaker. Every plant in the region was operated six days, and the tonnage aggregated 236,333 tons—the highest weekly production by more than 1,000 tons ever reported. The car supply was not equal to the demand for coke, but a large shipment was made and a comparatively small amount of coke was left in the yards. A summary of the Connellsville region shows 19,969 ovens in blast and 1,541 ovens idle.

**Leather.**—There is now a good demand for nearly every variety of sole and upper stock. The absence of any extra large sales indicates that there is no speculative buying. Shoe manufacturers and leather jobbers are taking only what they need, but their requirements are sufficient to keep stocks low. It is quite evident that hide prices have reached top, and on that account no material change is expected in leather values. The recent sales of light weight sole have taken most of the surplus holdings of it, and tanners have ceased to make concessions in that class of stock. The only variety that is dull is rough leather. Stocks of this have accumulated,

**GEORGE W. CHAPIN,** COTTON, MERCERISED WORSTED, SPUN SILK and TRAM SILK, ALL WIDTHS  
229 and 231 CHURCH ST., PHILADELPHIA.

**BRAID**

FOR SALE

**One LOCOMOTIVE BOILER**

Length over all, 25'  
Diameter of Shell, 5'  
Width across front, 5' 2"  
Height in front, 7' 6"

**SMOKE BOX**—Length, 2' 3"

**FURNACE**

(Inside) Length, 6'  
" Height, 5' 8 1/2"  
" Width, 4' 7"

**TUBES.**

Number of 112  
Length, 16' 3"  
Diameter, 3"  
Water Leg Space, 4 1/2"

**FURNACE DOOR,** 16" x 18"

**SMOKE STACK**

Height, 33'  
Diameter, 3'

FOR FURTHER PARTICULARS APPLY TO

**JOHN LUMSDEN, & CO., - 375 St. James St., Montreal, Que.**

**The B. GREENING WIRE CO., Limited**



MANUFACTURERS OF



Lang's Patent Wire Ropes  
For Colliery and Mining Use.

**WIRE ROPE** of every Description and for all purposes.

HAMILTON, ONT.  
and MONTREAL, QUE.

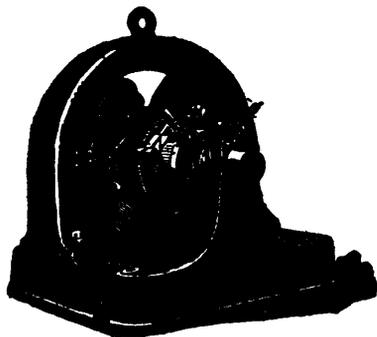
When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**SILICIA BRICKS**  
Highest Grade for all Purposes

**MAGNESIA BRICKS**  
FOR LINING  
*Smelting, Refining and Matte  
Furnaces, also Converters  
Rotary Cement Kilns*

**F. HYDE & CO.** 31 WELLINGTON ST.  
MONTREAL.

**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.

**E. B. THOMPSON,  
CUSTOM HOUSE BROKER**

GENERAL FORWARDING  
and TICKET AGENT,

Correspondence Solicited. **38 YONGE ST., TORONTO.**

**Thompson, Worth & Martin**

ELECTRIC  
SUPPLIES  
NITROUS OXIDE  
and OXYGEN GAS

**Electrical  
Contractors**

SWITCHES AND SWITCH BOARDS MANUFACTURED

**Dynamos and Motors**

Built and Repaired We have a well-equipped  
Machine Shop. Model and Experimental Work  
a specialty. Inventions perfected. All work  
perfectly confidential. Correspondence solicited.

35 to 39 ADELAIDE ST. W., TORONTO

PHONE 8494.

and prices are easy. Glazed kid and other kinds of upper are selling well, and the market has again been cleaned up on belting butts. Tanners of oak harness leather have made an advance of one cent per pound.

SOME NEW USES OF GLASS.—Glass, which is one of the most fragile of materials when thin, is in some respects one of the strongest and most resisting when made thick or cast into blocks. Among the many new uses of this substance a large number are based on this property, so that glass may cease to be a synonym for fragility. Our descendants may not be able to understand the proverb about "those who live in glass houses, for they themselves be living in houses of glass that are more substantial and lasting than our present stone dwellings. So at least we are told by M. F. Fardiau, who writes on the subject in *La Science Illustrée* a translation of which is given in the *Literary Digest*. He says:

About ten years ago, M. Vinterhoff, of Cologne, devised a method of replacing lithographic stones by plates of glass from which proofs of extraordinary fineness were obtained by a secret process. The method does not yet seem to have been very successful, however, notwithstanding its cheapness.

It has also been proposed to replace the copper sheathing of ships by glass plates. An Italian vessel thus protected put in at Marseilles several times in 1882. Here, too, the success of the plan does not seem to correspond with the advantages claimed for it, among which are freedom from oxidation and wear, and the absence of those incrustations which, accumulating in the course of long voyages, end by impeding the vessel.

We should also mention here the glass casks for the manufacture of which Hubert took out a patent in 1860. They have, aside from their fragility, which makes them unfit for transportation, incontestable advantages over wooden casks—neatness, ease of cleaning, and transparency, which last quality enables the owner to see exactly how much wine or beer they contain at any given time.

Among interesting minor uses we should note that of glass bearings for machinery of small power. These support a light, rapidly rotating axle very well; they heat little, do not wear, and need little lubrication. Notwithstanding all this, it would seem that they are not perfectly safe in all circumstances.

Complaint is made continually of brass weights when used in kitchens. These complaints have been met in Switzerland by the governmental authorization, in 1897, of weights made of a special kind of glass, almost unbreakable. They are conical and end in a knob on which the value is engraved.

It is well known that the developing fluids used in photography spoil very soon in contact with the air, and that they can therefore be preserved only in full bottles. It is thus necessary to decant them as fast as they are used into a series of smaller and smaller bottles. M. Gaumont, head of the well known firm, has devised a plan by which glass balls are put into the bottle, one by one, to keep it full.

**W. J. McGUIRE & CO.,**  
TORONTO and MONTREAL.

THIS COMPANY makes complete installa-

"International"  
Head.



The Best!

tions of either the  
WET or DRY  
SYSTEMS

OF  
**AUTOMATIC  
...FIRE...**

**EXTINGUISHING**

**APPARATUS**

Systems, Devices and Workmanship fully approved by Insurance Companies and Bodies.

Systems in extensive use, and have stood the test of time.

Write for full particulars and Catalogue.

**40 to 70 % OF INSURANCE SAVED**

**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 and Parthenais Sts.  
MONTREAL, Que.

**Protection  
Against Fire**

Apart from the protection it affords, it pays as an investment to use an

**AUTOMATIC SPRINKLER SYSTEM**

From 40 to 70 per cent.  
of cost of insurance  
saved by putting in an

**AUTOMATIC  
SPRINKLER  
EQUIPMENT**



No charge for estimating.

Endorsed by Insurance Companies'

**The General Fire Equipment Co.**  
72 Queen Street East,  
TORONTO.

**.. TO MANUFACTURERS ..**

**GORDON, DRUMMOND & CO.**

134 LONDON WALL

LONDON, E. C., ENG.

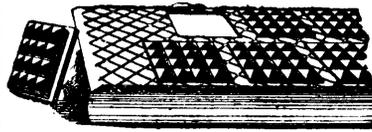
Desire the representation in Europe of a  
FIRST-CLASS MANUFACTURER.

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.

**THE PATENT INTERCHANGEABLE  
RUBBER TREAD**

14 Gold Medals &  
other Awards.



Slip-Resisting,  
Durable, Unwearable.

For Public Institutions, Warehouses, Offices, etc.  
The Treads consist of a metallic keeper, fitted with  
pieces of rubber (specially prepared), which form  
the wearing surface, and can be renewed when  
worn, by anyone in a few minutes.

**WILLIAM GOODING, Manufacturer,**  
North Road Works, Holloway, London, N. Eng.

In electricity, the uses of glass are of  
prime importance. It is commonly em-  
ployed as an insulator, and in spite of its  
faults has great advantages. Of it are  
made the plates of the electrostatic mach-  
ines of the laboratories, Leyden jars, jars  
for batteries, globes for arc-lamps, bulbs  
for incandescent lights, the plates of con-  
densers, electric rheostats, etc. In Lon-  
don blocks of glass have been used to  
insulate the third rail on electric railway  
systems.

In the United States glass ties have  
even been used on railroads to replace  
the ordinary wooden ties.

Glass-cotton, which consists of very  
flexible, fine fibers, obtained in the  
Bohemian glass-works, serves to make  
filters which are much used in labora-  
tories, for they are unalterable and may  
be used indefinitely if washed and dried  
after each operation. Glass-cotton can  
also be used to handle caustic liquids  
used in surgery, like nitrate of silver or  
tincture of iodine. But it is in our dwell-  
ings that the uses of glass have multiplied  
in recent years.

Glass window-panes, which represent  
the chief domestic uses of glass—also the  
oldest, since they are found in Pompeii—  
are being somewhat modified. We are  
beginning to use perforated glass, which  
ventilates the room without drafts. The  
holes, which are about fifteen cm. (six  
inches) apart, are conical; the little end  
of the whole is toward the outside; the  
air enters the room in diverging currents.

In shops and stores and for the roofs  
of glazed courts, protected glass is now  
often used that has a metal network em-  
bedded in it. This network is placed  
in position by pressing it between two  
plates of hot glass. Although nearly as  
transparent as ordinary glass, this pro-  
tected glass has an enormous resisting  
power to shock, pressure and fire; it can  
not be cut with a diamond and is not to  
be removed by ordinary means without  
making a noise, which makes it a valu-  
able protection against thieves.

Apartments on lower floors in nar-  
row streets receive only an insufficient  
amount of light through their windows.  
To obviate this inconvenience prismatic  
glass has been devised, which is placed  
in the windows or in inclined screens. The  
light ray that strikes it is deviated and  
instead of reaching the sidewalk it is  
diffused through the apartment.

As for the illumination of basements  
below the ground level, that is obtained  
by aid of prismatic cubes that project the  
light into the remotest corners of the  
room. The hygienic dwelling of the  
future will have its walls covered with  
malleable glass, in which nails may be  
embedded. A cloth impregnated with a  
solution will suffice for its disinfection.

The time is not far distant when the  
house may be built entirely of glass.  
Garchig's glass-stone or ceramo-crystal,  
made like Reaumur porcelain by devitri-  
fying glass debris and then agglomerating  
it by pressure and heat, has the first rank  
among materials of construction, includ-  
ing granite, for resistance to crushing,  
shock, usage, cold and chemical action.  
It can be readily colored and molded,  
and has already begun to play a great  
part in building-construction.

**KINLEITH PAPER COMPANY**

MANUFACTURERS OF

LIMITED

Book, Writing  
Envelope and Cover **PAPERS**



AND SPECIALTIES

MILLS AND HEAD OFFICE

St. Catharines, Ont.

**EDWARD FINLAY**

MANAGING DIRECTOR.

**McLachlan Electric & Gasoline Motor Co., LIMITED.**

94 ADELAIDE  
ST. WEST.  
TORONTO

**MAKE** Gas or Gasoline Engines from 1 h.p. to 6 h.p.  
Stationary or Marine and Electric Motors from 1/2 h.p. up.  
Motor Carriages for Pleasure or Business.

One cent spent for a postal  
will bring you any informa-  
tion you wish.

**"GENUINE OAK" BELTING**

More SOLID LEATHER to the Foot than any Belt made.

**"LANCASHIRE" HAIR BELTING**

FOR EXPOSED SITUATIONS

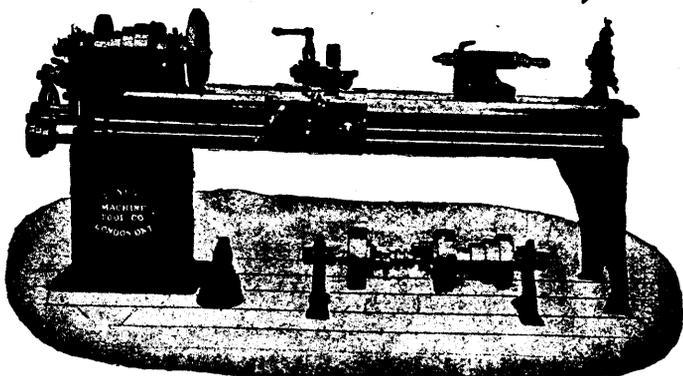
**ENGLISH CARD CLOTHING**

**D. K. McLAREN**

Head Office and Factory, - MONTREAL.

Western Trade, - TORONTO STOCK DEPOT, 88 Bay Street.

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



MANUFACTURERS  
OF

**General  
Machinery**

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

Mention should also be made of hollow glass bricks, hermetically sealed to prevent the access of dust to their interior. These bricks have already been tested in building with excellent results.

As for the glass house itself, it has already been seen in Japan and in the United States. Even at Paris, during the recent Exposition, we had a palace of glass which was a wonder.

**SIZES OF WIRE CLOTH.**—In referring to wire cloth for screening purposes the custom is to state the number of meshes per linear inch, but inasmuch as wire of various diameter is employed in making cloth of a certain number of meshes per linear inch, the character of the cloth cannot be determined unless the number of the wire from which it is woven be specified. It is important to specify the number of the wire because, for example, a 24-mesh screen woven with fine wire may have larger apertures than a 20-mesh screen woven with coarse wire. There used to be a good deal of confusion with respect to wire cloth, owing to the different wire gauges employed by different manufacturers. This difficulty has, however, been happily obviated during the last two years, the Wire Cloth Manufacturers' Association having adopted on March 7, 1899, the Washburn & Moen, or Worcester, gauge as the standard of all iron or steel wire cloth and the old English gauge as the standard for all brass or copper wire cloth. These gauges are to be found in almost any of the engineers' pocketbooks and from them the diameter of the apertures in a wire cloth of any mesh can be calculated readily if the number of the wire from which it is woven be specified. The

mesh in wire cloth is always the number of openings in a linear inch measuring from center to center of wire. A linear inch will comprise, therefore, the same number of apertures and wires. Multiplying the diameter of a single wire in decimals of an inch by the number of wires in a linear inch, subtracting the product from unity and dividing the remainder by the number of meshes per linear inch, will give the diameter of each aperture in decimals of an inch.

Steel wire cloth is made in great variety for all meshes except the finest. No. 1 mesh wire cloth is woven with wire from No. 3 to No. 15; No. 2 mesh from No. 4 to No. 16; No. 3 mesh from No. 5 to No. 17; No. 4 mesh from No. 6 to No. 18; No. 5 mesh from No. 7 to No. 19; No. 6 mesh from No. 8 to No. 20; No. 7 mesh from No. 9 to No. 21; No. 8 mesh from No. 10 to No. 22; No. 9 mesh from No. 11 to No. 23; No. 10 mesh from No. 12 to No. 24; No. 11 mesh from No. 13 to No. 25; No. 12 mesh from No. 14 to No. 26; No. 13 mesh from No. 15 to No. 27; No. 14 mesh from No. 16 to No. 28; No. 15 mesh from No. 17 to No. 29; No. 16 mesh from No. 18 to No. 30; No. 17 mesh from No. 19 to No. 31; No. 18 mesh from No. 20 to No. 32; No. 19 mesh from No. 21 to No. 33; No. 20 mesh from No. 22 to No. 34; No. 21 mesh from No. 23 to No. 35; No. 22 mesh from No. 24 to No. 36; No. 23 mesh from No. 25 to No. 37; No. 24 mesh from No. 26 to No. 38; No. 25 mesh from No. 27 to No. 39; No. 26 mesh from No. 28 to No. 40; No. 27 mesh from No. 29 to No. 41; No. 28 mesh from No. 30 to No. 42; No. 29 mesh from No. 31 to No. 43; No. 30 mesh from No. 32 to No. 44; No. 31 mesh from No. 33 to No. 45; No. 32 mesh from No. 34 to No. 46; No. 33 mesh from No. 35 to No. 47; No. 34 mesh from No. 36 to No. 48; No. 35 mesh from No. 37 to No. 49; No. 36 mesh from No. 38 to No. 50; No. 37 mesh from No. 39 to No. 51; No. 38 mesh from No. 40 to No. 52; No. 39 mesh from No. 41 to No. 53; No. 40 mesh from No. 42 to No. 54; No. 41 mesh from No. 43 to No. 55; No. 42 mesh from No. 44 to No. 56; No. 43 mesh from No. 45 to No. 57; No. 44 mesh from No. 46 to No. 58; No. 45 mesh from No. 47 to No. 59; No. 46 mesh from No. 48 to No. 60; No. 47 mesh from No. 49 to No. 61; No. 48 mesh from No. 50 to No. 62; No. 49 mesh from No. 51 to No. 63; No. 50 mesh from No. 52 to No. 64; No. 51 mesh from No. 53 to No. 65; No. 52 mesh from No. 54 to No. 66; No. 53 mesh from No. 55 to No. 67; No. 54 mesh from No. 56 to No. 68; No. 55 mesh from No. 57 to No. 69; No. 56 mesh from No. 58 to No. 70; No. 57 mesh from No. 59 to No. 71; No. 58 mesh from No. 60 to No. 72; No. 59 mesh from No. 61 to No. 73; No. 60 mesh from No. 62 to No. 74; No. 61 mesh from No. 63 to No. 75; No. 62 mesh from No. 64 to No. 76; No. 63 mesh from No. 65 to No. 77; No. 64 mesh from No. 66 to No. 78; No. 65 mesh from No. 67 to No. 79; No. 66 mesh from No. 68 to No. 80; No. 67 mesh from No. 69 to No. 81; No. 68 mesh from No. 70 to No. 82; No. 69 mesh from No. 71 to No. 83; No. 70 mesh from No. 72 to No. 84; No. 71 mesh from No. 73 to No. 85; No. 72 mesh from No. 74 to No. 86; No. 73 mesh from No. 75 to No. 87; No. 74 mesh from No. 76 to No. 88; No. 75 mesh from No. 77 to No. 89; No. 76 mesh from No. 78 to No. 90; No. 77 mesh from No. 79 to No. 91; No. 78 mesh from No. 80 to No. 92; No. 79 mesh from No. 81 to No. 93; No. 80 mesh from No. 82 to No. 94; No. 81 mesh from No. 83 to No. 95; No. 82 mesh from No. 84 to No. 96; No. 83 mesh from No. 85 to No. 97; No. 84 mesh from No. 86 to No. 98; No. 85 mesh from No. 87 to No. 99; No. 86 mesh from No. 88 to No. 100.

**REGULAR SIZES OF WIRE CLOTH.**  
(The mesh in wire cloth is the distance from the center to the center of wire.)

Mesh.	Wire No.	Diam. of Wire. Aperture Equiv't in		
		Inches.	Inches.	Millimeters.
1	3	.2437	.7363	19.81
2	4	.2253	.5247	13.33
3	5	.2070	.4180	10.62
4	6	.1820	.3380	8.59
5	7	.1483	.2517	6.39
6	8	.1350	.1983	5.04
7	9	.1205	.1652	4.20
8	10	.1055	.1445	3.67
9	11	.0915	.1307	3.32
10	12	.0815	.1085	2.76
11	13	.0800	.0867	2.20
12	14	.0720	.0709	1.80
13	15	.0625	.0625	1.59
14	16	.0540	.0571	1.45
15	17	.0475	.0525	1.33
16	18	.0410	.0423	1.07
17	19	.0348	.0366	.93
18	20	.0286	.0339	.86
19	21	.0228	.0298	.76
20	22	.0230	.0270	.69
21	23	.0204	.0251	.64
22	24	.0181	.0236	.60
23	25	.0162	.0171	.43
24	26	.0132	.0118	.30
25	27	.0104	.0096	.24
26	28	.0090	.0077	.20
27	29	.0085	.0071	.18
28	30	.0080	.0063	.16
29	31	.0075	.0060	.15
30	32	.0070	.0055	.14
31	33	.0062	.0041	.10

A roll of wire cloth is always under-

## ELECTRIC WORK WHICH LASTS

We do work which proves a lasting testimonial to us.

No matter what the job is, whether the installing of Electric Bells, or the equipping of a factory for Light or Power, the material used is right, and the important little details closely watched.

Let us quote you on your next job.

**R. A. L. GRAY & CO.**  
85 YORK ST., . TORONTO.



By Special Warrant

The Publishers announce the preparation of the Sixteenth Edition of the Directory of

### MERCHANTS, MANUFACTURERS & SHIPPERS OF GREAT BRITAIN & THE WORLD

Containing Classified Trade Lists of the Importers and Exporters, Merchants and Manufacturers of the United Kingdom and all principal trading centres of the World. The work contains nearly 4,000 pages, and includes in addition to the above the Customs Tariffs for every Country and all classes of Goods.

HIGHEST AWARD, GOLD MEDAL, PARIS, 1900.

Also in course of preparation, the ninth edition of

### THE BUILDING TRADES DIRECTORY OF GREAT BRITAIN

Comprising every trade and profession in any way connected with Architecture and Building. The only work of its kind published.

For further particulars, charges for advertisements, etc., apply,

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

(ESTABLISHED 1799).

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

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

Branches at Paris, Hamburg, New York, Bombay, Calcutta, Cape Town, Melbourne, Sydney, Dunedin, etc.



**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.

## 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.

## 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.

**W. G. McNEILL THOMPSON**  
CONSULTING ENGINEER

M. Inst. C. E.,  
M. Can. Soc. C. E., M. Am. Soc. C. E.  
59 JAMES ST., - ST. CATHARINES, ONT.

Manufacturing Concerns will find it to their interest to correspond with  
**ULRICH PETERS, M.E.**  
3527 N. 17th St.  
FOR PHILADELPHIA, PA.  
DESIGNS OF PULP and PAPER MACHINERY

stood to be 100 linear feet. Any width can be obtained to order. Prices are quoted per square foot.—Engineering and Mining Journal.

**THE THERMOMETER.**—It is probably not generally known, says Popular Science Monthly, that the thermometer was invented by Galileo. When we remember that we owe to this one man not only the foundations of physical science, but also in large measure the pendulum, the compass, the telescope, and the microscope, it may lead to a certain amount of modesty in our appreciation of modern inventions.

Galileo, probably in 1595, invented the open air thermoscope. Ferdinand II. of Tuscany, first sealed the glass, making the instrument independent of atmospheric pressure. Many improvements were gradually made, especially in the endeavor to fix points on a definite scale, the freezing point of water, being first used by Robert Hooke in 1664. Of the three thermometers still in use, Fahrenheit's thermometer was invented in 1709, Reaumur's instrument in 1730, and the scale of Celsius—the centigrade scale—in 1742. None of these thermometers, however, is now used in the form in which it was originally devised. It is a somewhat curious fact that the instrument constructed by the German, Fahrenheit, is used almost exclusively by the English-speaking peoples; that invented by the Frenchman, Reaumur, is used chiefly in the north of Europe, while that of the Swede, Celsius, is used in French-speaking countries. The centigrade scale, the zero point of which is the freezing point of water, is now used nearly universally in scientific investigations. The main objection to its common use is the length of the degree, the interval between the freezing and the boiling point of water being divided into 100 instead of 180 degrees, as on the Fahrenheit scale. This makes the length of a centigrade degree nearly twice—nine-fifths—that of the more familiar Fahrenheit degree.

The Ontario Commissioner of Crown Lands has received a copy of a pamphlet in French, which has been issued by M. Romanet du Gailland of Paris, France, on nickel deposits of the Sudbury region. M. Gailland speaks of the Sudbury nickel deposits in the highest terms and regards prospects of a great development of them as most encouraging to Canada. He also refers in terms of approbation to the energy with which the enterprises of Mr. Clergue in connection with development of the nickel and steel industries are being conducted. Mr. Clergue's railway enterprises, and especially the Manitoulin & North Shore line, are regarded by M. Gailland as factors of the utmost importance in opening up the rich natural resources of this section of Ontario. In view of the fact that the only other known nickel deposit of any extent in the world, at New Caledonia, is under French control, this testimony by an expert of standing in France of the value of our nickel deposits is accepted by the Crown Lands Department as especially gratifying.

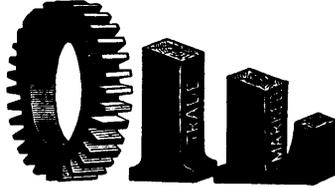
# "Capitol" Cylinder

"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.

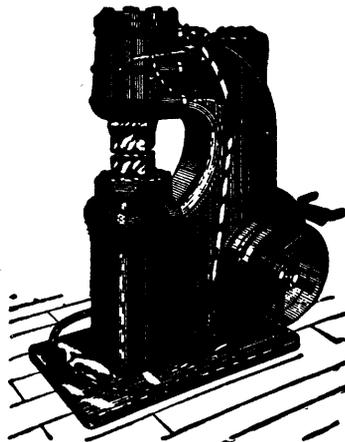
**CABLES FOR AERIAL and UNDERGROUND USE.**

## The Yeakley Vacuum Hammer.

Canadian Patent November 9, 1897.

Is now Manufactured and for Sale by  
the undersigned Sole Proprietors  
of the Canadian Patent:

**George Brush**  
EAGLE FOUNDRY,  
MONTREAL.



## What the Trade Wants

YOUR OWN PAPER  
MADE INTO

# ENVELOPES

ANY SIZE OR  
SHAPE.

WE SELL  
TO THE  
TRADE ONLY.

YOUR OWN PAPER—YOUR OWN LABEL—YOUR OWN BANDS.  
NO NEED TO BUY FOREIGN GOODS.  
OUR GOODS ARE MADE EQUAL TO THE BEST IN THE WORLD.

The Trade will find it to their advantage to get our prices.

**L. P. BOUVIER, Envelope Manufacturer, 31 Lombard St., TORONTO.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

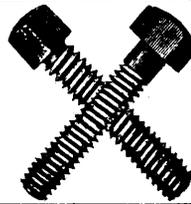
**The Diamond Machine and Screw Co., Limited**

MANUFACTURERS OF

**CAP AND SET SCREWS, STUDS, Etc.**

**Finished and Semi-Finished Nuts**

TORONTO. - CANADA



**The Rehder Plating & Mfg. Co.,**

THOROLD, - ONT.  
Manufacturers of

**Stove and Piano Trimmings and Novelties**

Fine Grey Iron Castings a Specialty.

Nickel, Copper and Brass Electro Plating.  
WRITE FOR PRICES.

JUST THINK IT OVER.—Experience has shown that permanent success in manufacturing, especially of the multitudinous articles of hardware, lies largely in adherence to quality. Those rare instances to the contrary only accentuate the general truth of this statement. Things cheap at once in price and in quality are apt to have a great run for a time, but they do not wear well, and users soon revert to articles that give satisfaction. The Nestor of the hardware trade has well said that "the remembrance of quality remains long after the price is forgotten." It takes faith to perceive this principle and courage to carry it out, but it is in the long run a wise policy. There must be on the part of the farsighted manufacturer a constant resistance to the incessant cry of some buyers for something cheaper. Those manufacturers who have been weak enough to yield to this demand have paid the penalty in loss of reputation and consequent loss of trade.

Another weakness, even less excusable, of which the hardware trade furnishes some examples, is that of a manufacturer trading on his reputation, and allowing the quality of his goods to deteriorate in hopes that their good name will gloss it

over. Of course the deception is found out sooner or later, and that is the end of the whole business. A reputation for quality once lost is almost impossible to regain.

The duty of the manufacturer does not end with the production of a good article nor that of the dealer with its purchase. Its merit has to be impressed upon the user, for the reputation of an article depends finally upon the ultimate consumer. Cheap things sell themselves; good things at first introduction require to be sold; after that they take care of themselves better than do the cheap things of inferior quality.

The education of the public to higher ideals of quality is apparently a slow and almost hopeless task when viewed from one day's progress to another, but if regarded from the vantage point of a few year's effort, and especially in view of the rapidly increasing wealth and intelligence in this country, it presents itself simply as a long headed business policy, and one that is essential to any permanent success. The ultimate user of the goods is the man to aim at. He must be reached, usually through the dealer, with an appeal as to the quality, that will

render him a permanent client.—The Iron Age.

CUSTOMERS AND HOW TO TREAT THEM.—Customers are an essential factor in the conduct of every business. They, indeed, comprise the one-half of the trading community, without which the other could not exist. It may be contended that merchants and even retail tradesmen are equally necessary, in order that the comforts and daily needs of consumers may be provided for. That is quite true, but it must always be remembered that customers, except in the case of monopolies, which are comparatively rare, are free agents and can carry their trade where they will. There are some notable exceptions, doubtless, but it may be taken that in a general way every tradesman has opposition in some form to contend with, and that he is entirely dependent upon the good will of his customer. Public opinion and popularity are somewhat fickle, and the treatment customers receive at the hands of those who wait upon their requirements is a most important factor in the establishment and building up of a business, as well as its retention. Employers are

**Northrop Iron Works**

**IRON and BRASS  
FOUNDERS**

**Heating and Ventilating Engineers,**

OFFICE and SHOWROOMS :

**296  
ST. JAMES STREET,  
MONTREAL**  
Phone Main 4180



WORKS and HEAD OFFICE :

**Valleyfield, P.Q.  
Canada**

Phone No. 2

MANUFACTURERS OF

- "HANDY" ELEVATORS  
STEAM, HOT WATER  
and GAS RADIATORS
- "HANDY" . . . . .  
DUMB WAITERS
- SECTIONAL HEATING  
BOILERS . . . . .
- PLAIN AND  
AUTOMATIC LOOMS
- SPOOLERS, WARPERS
- FIRE . . . . .  
DOOR FIXTURES

- SANITARY OUTFITS  
FOR MILLS AND  
FABRIQUES . . . . .
- VENTILATING and  
EXHAUST FANS . . . . .
- TOOL GRINDING  
MACHINERY . . . . .
- NICKEL AND BRONZE  
PLATING . . . . .
- PATENT HANGERS  
AND COUPLINGS . . . . .
- MODEL AND PATENT  
MACHINERY . . . . .

WRITE FOR QUOTATIONS

DON'T

BUILD A

CHIMNEY

USE

MECHANICAL DRAFT

IT COSTS FAR LESS

Is independent of weather. The fan is positive in action. Responds instantly to sudden demands for more steam. Burns cheap fuel. Costs practically nothing for operation when exhaust steam is utilized

142

B. F. STURTEYANT & BOSTON,  
MASS.

NEW YORK - PHILADELPHIA - CHICAGO - LONDON

**THE BOURNE-FULLER CO.**  
**IRON, STEEL**

AND  
**PIG IRON**

**CLEVELAND, OHIO, U.S.A.**

Shipping Tags.      Invoice Tags.

DUPLICATING BOOKS

HEAD OFFICE:

**THE MORTON COMPANY, Limited**

(Successors to Automatic Check Book Co.)

46 & 48 Richmond St. W., Toronto.

We are the largest manufacturers of shipping Tags in Canada. We make all the standard sizes and a great variety of special sizes.

Branch Office: 260 St. James St., MONTREAL.

**TALISMANIC BELT DRESSINGS**  
WILL INCREASE YOUR POWER



Prevents Belts Slipping.

Prolongs Life of Belts.

"What We're On We'll Cling To."

**TALISMANIC BELT CLING**—For Leather Belts  
**TALISMANIC RUBBER FACING**—For Rubber Belts  
**TALISMANIC ROPE PRESERVER**

**JOHN W. BOWDEN & CO.**

330 Clinton Street. Toronto, Ont.

**I BUY** all Minerals at Mines by contract or otherwise. Mineral Lands and Timber Properties bought and sold.

**H. FAWCETT HARTLAND,**

Room 309-310 Merchants Bank Chambers,  
205 St. James Street, Montreal.  
Correspondence Solicited.

**MILL TELEPHONES**

**F. O. PLUMMER**  
Boston, Mass., U.S.A.

**PATENTS**

Home and Foreign Patents Procured at Lowest Rates

Patent Rights Sold on Commission. Prompt Attention guaranteed to all business entrusted. Write for full particulars.

**THE TORONTO PATENT AGENCY, Limited,**  
Confederation Life Bldg., Toronto, Can.

**Advertise in Canadian Manufacturer.**  
Send for rates.

apt to lose sight of the importance of this subject, and do not pay the attention they might to it when engaging assistants and when assessing their abilities. Doubtless most of our readers consider themselves the best judges of the conduct of their employes, but they overlook the fact that their own treatment of customers may not be up to the standard of some of their competitors. If this is so, the sooner it is remedied the better, because the treatment of customers by the principal is scrutinized even more than that of his employes. The various inducements which ought to be held out in order to draw customers into the shop and to attract them to the counter have been considered and treated of under their several headings, and in this chapter we only wish to refer to the personal treatment of customers during their stay in the shop, and while they require the attendance of the employer or his assistant. In the ironmongery business we are rather fond of using the term assistant, but for the subject under discussion the term salesman is somewhat more correct. Although the employe of an ironmonger is undoubtedly his assistant, and should be his willing deputy in every department in which he has to take part, he is certainly required to be primarily a salesman. A successful salesman is one who contrives to please his customer, and at the same time make an advantageous sale for his employer. The secret of doing this is to hit the happy medium of push and go without overreaching the mark and leaving a bad impression in the mind of the buyer. A satisfactory sale is one which gives the buyer the article he wants without his feeling that he has paid above a fair price for it. The majority of sales are those where a buyer needs the article he buys, and it only remains for the salesman to judiciously advise him as to the right and best thing to select. This may be done in a friendly manner, and at the same time showing such a degree of interest in the selection from the buyer's standpoint as to show a spirit of fair dealing to be the ruling thought of the establishment. Naturally, without overdoing it, the ambition of a good salesman is to point out the advantages of an article of greater merit and to lead the buyer to select one on which there will be a greater profit. The salesman who is afraid of his trouble will never be successful. He should convince the buyer that for the time being his every effort and his time is at the disposal of the customer. That customers vary and are sometimes as "changeable as the wind" is a well-known fact. No two are alike in disposition, and to be a good reader of character is one of the most important traits a salesman should cultivate. To know when to speak and when to be silent is of vast importance, and a sunny temperament goes a long way in smoothing over the difficulties of a salesman's path. Be courteous, obliging and willing at all times to advise, and by a superior knowledge and perhaps ripe experience guide the buyer—not always in the most profitable way, but always in the way which will tend to secure a lasting client and one who will recommend others as well as buy

**KERR'S**  
**VALVES**

**ARE FOR SALE**  
**BY ALL**  
**FIRST-CLASS DEALERS**  
**IN**  
**STEAM**  
**SPECIALTIES**

**ASK FOR KERR'S**

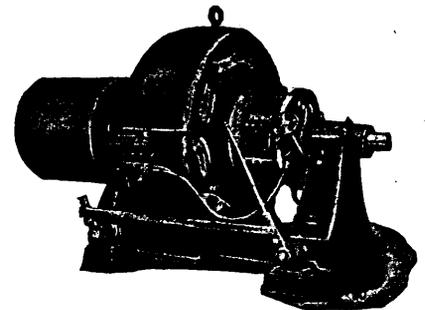
**THE KERR ENGINE CO.**

LIMITED

WALKERVILLE, ONTARIO

**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.**

**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:**

- Hallifax, N.S.
- London, Ont.
- Ottawa, Ont.
- St. John, N.S.
- Vancouver, B.C.
- Winnipeg, Man.
- Hamilton, Ont.
- Montreal, Que.
- Quebec, Que.
- Toronto, Ont.
- Victoria, B.C.

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

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

himself, is the way of success. There are some customers who enter a retail shop fully convinced that they will be asked to pay more than they ought to pay, and resolved in their own mind that whatever is charged they will bid less. Such require firm dealing, and it cannot be too clearly made known that a respectable tradesman buys at market price and adds a fair percentage, and that his price, except under special circumstances, must be strictly adhered to. To allow bargaining is to admit weakness and to encourage the love of wandering in search of so-called bargains. A retail ironmonger has to live out of his business, and it is no use trying to hide the fact or endeavoring to lead the buyer to believe that a business is run pro bono publico, or for his special benefit alone. The ironmonger's assistant of to-day is very far beyond the assistant of a generation ago, and the improved condition of things is obvious to all who recollect the untidy and somewhat gruff and surly hardwareman of that period.

The methods of trading do not stand still, and fresh attractions and brighter and pleasanter schemes of shopkeeping are constantly being evolved, each one necessitating an advance either in the qualification or habits of the salesman. We wish to see ironmongers and their assistants taking a front rank among tradesmen, and conspicuous for their happy handling of customers. — Ironmongers' Chronicle.

**BUSINESS CHANGES.**

FROM BRADSTREETS.

**ONTARIO.**

- BRANTFORD—Ontario Portland Cement Co., obtained charter.
- CREEMORE—James Galloway, foundry, etc., advertising business for sale.
- ELMVALE—Sneath & Co., general store, sold to Vair, Vickers & Co.
- HAMILTON—Electric Supply Co., obtained charter. Good Roads Machinery Co., obtained charter. Hamilton Tool & Optical Co., obtained charter.
- HAWKESBURY—Taillefer, Venance, general store, assigned.
- LINDSAY—Lindsay Gas Co., obtained charter.
- LONDON—Canadian Veneer Lumber Co., property and plant advertised to be sold.
- MILLBROOK—Estate of Albert Payne, stoves, etc., stock advertised for sale.
- OSHAWA—Oshawa Gas Co., obtained charter.

- OTTAWA—Consumers' Electric Co., applied for charter.
- PETERBORO—Otanabee Power Co., obtained charter.
- PRESTON—Mineral Springs Furniture Co. and The Preston Furniture Co., amalgamated under style The Preston Furniture Co.
- STREETSVILLE—Imperial Woolen Mills Co., assets advertised for sale.
- TEESWATER—J. & H. Field, hardware, etc., sold out to Mann & Ewing.
- TORONTO—Ballard Electric & Machine Co., sold out to The Map & School Supply Co. C. W. Thomson, manufacturer of paper boxes, stock, etc., advertised for sale.
- WALKERTON and SOUTHAMPTON—Estate of Seli, Black & Co., general store, stocks, etc., advertised for sale.

**QUEBEC.**

- HULL—Hector Leblanc, hardware, assets sold.
- MONTREAL—Aumond & Caty, sash and door mfrs., registered. Canadian Metric Bureau, J. H. Burland registered. Canadian Yukon Lumber Co., obtained charter. Dominion General Engineering Co., applied for charter. Ampere Electric Mfg. Co., applied for charter. Canadian Spool Cotton Co., obtained charter. Tetrault Sewing Machine Co., obtained charter. Steamless Boat & Canoe co., applied for charter. O. St. Jean, hardware, assets to be sold.
- ST. ANNE DE BEAUPRE—E. Forrest & Co., general store, compromised.
- THREE RIVERS—Three Rivers Gas Heating & Power Co., applied for charter.

QUEBEC—Noel & Dagneau, W. & R. hardware, dissolution registered.

**NORTH-WEST TERRITORIES.**

COCHRANE—C. W. Fisher, general store, succeeded by Fisher & Malone.

**NOVA SCOTIA.**

- KENTVILLE—T. L. Dodge & Co., hardware, etc., dissolved, E. L. Dodge continues hardware business.
- NEW GERMANY—Edw. Zwicker & Sons, saw mill, burned out.
- MIDDLETON—Middleton Woodworking Co., plant sold to A. W. Allan.

**NEW BRUNSWICK.**

- MONCTON—Moneton Harness Co., sold to Henry A. Chandler. Strathcona Coal Co., incorporated.
- CHATHAM—Miramichi Sulphite Fibre Lumbering Mfg. Co., applying for incorporation. Maritime Sulphite Fibre Co., pulp mfrs., mills closed.
- NEWCASTLE—Edward Sinclair Lumber Co., applying for incorporation.

**MANITOBA.**

- DELOURAIN—Ontario Milling & Mfg. Co., obtained charter.
- WELLWOOD—Murphy, Brown & Co., hardware, adding general stock.
- WINKLER—Winkler Farmers' Elevator Co., applying for incorporation.
- WINNIPEG—Western Elevator Co., incorporated. Western Mfg. Co., mfrs. chemicals, applied for charter.

ESTABLISHED 1823.

**WILSON BROS. BOBBIN CO., LIMITED** (1900)

LARGEST MAKERS IN THE WORLD

45 GOLD MEDALS AND DIPLOMAS



**BOBBIN AND SHUTTLE MANUFACTURERS**



Address, - CORNHOLME MILLS, TODMORDEN

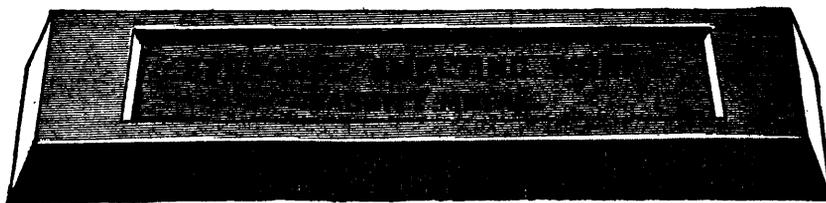
TELEGRAMS: "WILSON'S, CORNHOLME," ABC and A1 Codes.

BRANCH WORKS—LIVERPOOL AND ST. HELENS  
Office and Showrooms—14 Market Place, Manchester.

**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  
INLOT COPPER  
ALUMINUM  
NICKEL, BISMUTH  
IRON AND STEEL  
SCRAP**



**SYRACUSE**  
**BABBITT**  
**BEATS THEM ALL**

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.

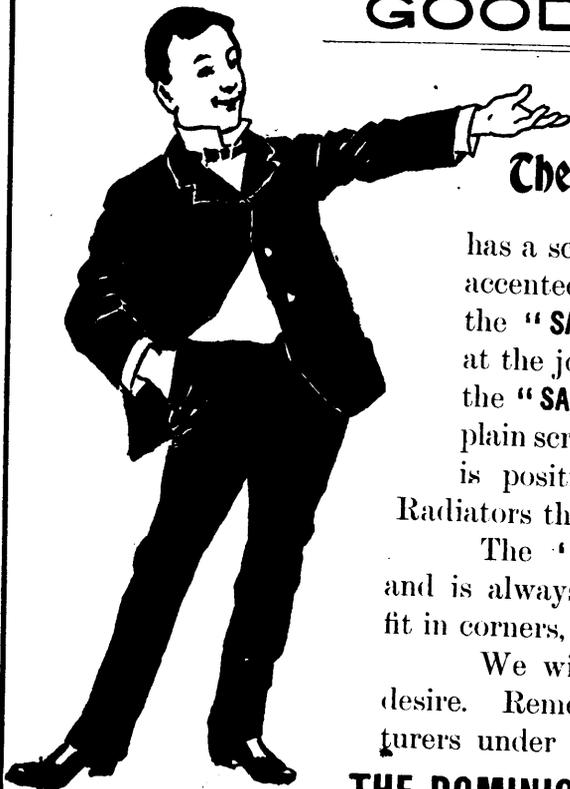
# HARDWARE, METALS, PAINTS and OILS

Current Prices, Revised August 2, 1901.

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.

<p><b>ADZES.</b>—Duty 30%. \$13 to \$20 per doz.</p> <p><b>AMMUNITION.</b>—Duty 30%. Caps, Gun, gross Cartridges, B.B. Cap, Dom., 50 &amp; 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 &amp; 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 &amp; 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.</p>	<p><b>AMMUNITION.</b>—Continued. Shot (duty 35%). Buck, Seal or Ball, \$6.62½ per 100 lb. net. " 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.</p> <p><b>ANCHORS.</b> Small, 30 to 50 lbs., \$7.00 per 100 lbs). 100 lbs. and larger, \$5.00 per 100 lbs).</p> <p><b>ANVILS.</b>—Duty 30%. Boker &amp; Co., 12 to 15 cents per lb. Brook's, 10 to 13 cents per lb. Peter Wright's, 12 to 15 cents per lb.</p> <p><b>AUGERS.</b>—Duty 30%. Eye Augers, 60% discount. Forstner's, 20 " " Gilmore's, 50 " " Irwin's, 30 " " Jenning's, 30 " " Nut Augers, 60 " " Ship Augers, 10 " "</p> <p><b>AXES.</b>—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.</p>	<p><b>AXLE GREASE.</b>—Duty 25%. Ordinary, box, \$5.75 to \$6 per gross.</p> <p><b>AXLES.</b>—Duty 20%. Half patent, short beds, 60% discount per set. " long " 60% " "</p> <p><b>BAGS.</b>—Duty 20%. Cotton, seamless, \$14 @ \$24.50 per 100. Jute, \$7.75 @ \$9 per 100.</p> <p><b>BANDS.</b>—Duty 30%. Carriage Hub, 2" x1½", \$13.00 per set. " " 2½" x1½", 14.00 " " " 2½" x1¾", 15.00 " " " 2½" x1¾", 16.00 " " " 2½" x1¾", 17.00 " " " 2½" x1¾", 18.00 " " " 2½" x1¾", 19.00 " " " 2½" x1¾", 20.00 " " " 3" x1¾", 21.00 " " " 3½" x1¾", 24.00 " " " 3½" x1¾", 25.00 " " " 3½" x1¾", 26.00 " " " 3½" x1¾", 27.00 " " " 3½" x1¾", 28.00 " " " 3½" x1¾", 29.00 " " " 3½" x1¾", 30.00 " " " 4" x1¾", 31.00 "</p> <p><b>BARROWS.</b>—Duty 30%. See Wheelbarrows.</p>
---	---	---

## GOOD POINTS



# The Safford Radiator

has a score of them, but there is one which success has accented—its simplicity. Like all other great inventions, the "SAFFORD" is ingeniously simple. It is connected at the joints by patent screw nipples. That's what made the "SAFFORD" successful—no bolts, no packing—just a plain screwed connection. This means that the "SAFFORD" is positively non-leakable—positively durable. Of all Radiators the "SAFFORD" alone possesses this simple device.

The "SAFFORD" is made in many designs and heights, and is always graceful in its lines and bulk. It is made to fit in corners, to circle pillars, and for bay windows.

We will be pleased to give you any information you desire. Remember, we are the Largest Radiator Manufacturers under the British flag.

**THE DOMINION RADIATOR COMPANY, Limited, TORONTO**

**BELLS.**—Duty 30%.  
Church, 35 cents per lb.  
Cow, 60% discount.  
Door, \$3.50 to \$12 per doz.  
Farm, \$1.75 to \$4.50 each.

**BELLOWS.**—Duty 25%.  
Blacksmiths', Canadian, 10% discount; Amer., 50% discount.  
Moulders', \$9.50 to \$15 per doz.

**BELTING (Leather).**—Duty 20%.  
Amer., Hoyt's, regular, 35% discount.  
Canadian, 55% discount.

**BELTING (Rubber).**—Duty 20%.  
50 to 60% discount.

**BITS.**—Duty 30%.  
Boker's Center, 75 cents to \$2.60 per doz.  
Countersink, \$1.50 per doz.  
Gimlet, U.S., \$1 per doz.  
Marple's Centre, \$1.30 to \$1.50 per doz.  
Reamer, \$1.50 per doz.

**BITS (Carpenter's Boring).**

**BITS, DRILL.**—Duty 30%.  
Morse, blacksmiths', 45% discount.  
Morse, straight shank, 45 " "  
Morse, taper shank, 45 " "  
Morse Bit Stock, 50 " "

**BLANKETS.**—Duty 35%.  
Horse, \$18 to \$36 per doz.

**BLOCKS.**—Duty 30%.  
Gin, \$3.50 to \$5 each.  
Hyper Acme, 15% discount.  
Weston Chain, 25 " "  
Wood Pulley, 60% discount.  
Wrought Iron, 25 " "

**BLUE STONE.**  
Cask lots, for spraying, 7 cents per lb.  
100-lb. lots, for spraying, 7½ cents per lb.

**BOLTS.**—Duty ½ cents lb. & 25%.  
Bolt Ends, 62½% discount.  
Carriage, 60 " "  
Coach Screws, 70 " "  
Elevator Bolts, 45% discount.  
Machine, 60 " "  
Plow, 60 " "  
Shaft, 45 " "  
Sink, 50 " "  
Sleigh Shoe, 72½ " "  
Stove, 60 " "  
Tire, 55 " "

**BOOT HEELS & TAPS (Leather).**—Duty 25%.

**BORAX.**  
Lump, 8 cents per lb.  
Powdered, 10 cents per lb.

**BRICK (Fire).**—Duty 20%.  
Circular, \$35 per M.  
Square, \$30 per M.

**BRUSHES.**—Duty 25%.  
Canadian list, 50% discount.

**BUCKLES.**—Duty 30%.  
Double Grip Trace, three loop, tinned and japanned, put up a dozen in a box, 1½", 55 cents per doz.; 1½", 65 cents per doz.  
Harness, japanned or tinned, 12 cents per lb.  
Shoe, japanned or tinned, 12 cents per lb.

**BUTTS.**—Duty 30%.  
Cast Butts, 60% discount.  
Loose Pin, Bronze, 60 cents to \$2 per pair.  
Loose Pin, B. Bronze, 30 cents to \$1 per pair.  
Loose Pin, wrought, 50% discount.  
Wrought Brass, 50 " "  
Wrought Iron, 60 " "

**CANT DOGS.**—Duty 30%.  
\$19 per doz.

**CARBIDE, Bicycle.**—Duty 25%.  
In Cases containing 2 doz. 1 lb. cans, \$1.75.  
" " " 2 " " 2.75.  
" " " 5 " " 3.00.  
In Cans " 100 lbs., \$3.25.

**CASTINGS.**—Duty 30%.  
Carriage, in 5 ton lots, 5 cents per lb.:  
" 3 " 54 " "  
" 2 " 51 " "  
" 1 " 53 " "  
" ½ " 54 " "  
" ¼ " 53 " "

**CASTORS.**—Duty 30%.  
Bed, 55% discount.  
Plate, 55 " "  
Truck, Payson's, 60% discount.

**CAULKS, BOOT.**—Duty 20%.  
Small or Medium, ball, \$1.25 per M.  
Heel, \$1.50 per M.

**CEMENT.**—Duty 12½ cents per 100 lbs.  
Belgian, Portland, \$2.50 to \$2.75.  
Canadian, hydraulic, \$1.25 to \$1.50.  
Canadian, Portland, \$2.50 to \$2.80.  
English, Portland, \$3.

**CHALK.**  
Carpenters', colored, 45 to 75 cents per gross.  
Crayon, 14 to 18 cents per gross.  
Red, 5 to 6 cents per lb.  
White Lump, 60 to 65 cents per 100 lbs.

**CHAIN.**—Duty 5%.  
Brass, Jack, 30% discount.  
Coil, 3-16, \$11.00 per 100 lb.; ½, \$8.75 per 100 lbs.; 5-16, \$5.50 per 100 lbs.; ¾, \$4.90 per 100 lbs.; 1, \$4.40 per 100 lbs.; 1½, \$3.90 per 100 lbs.; 2, \$3.90 per 100 lbs.  
Iron, Jack, 25% discount.  
Safety, 55 " "

**CHISELS.**—Duty 30%.  
Calking, Socket, Framing and Firmer.  
P.S. & W. Extra, 60, 10 & 5% discount.  
Warnock's, 70% discount.

**CLEAVISES.**—Duty 30%.  
Screw, \$2.50 per doz.

**COLORS.**—In oil, see Paints.  
—Dry, see Paints.

**CORD.**—Duty 25%.  
Sash, Silver Lake (A), 50 cents per lb.; (B), 40 cents per lb.  
Baltic, 25 cents per lb.  
Hercules, 30 cents per lb.

**COTTON DUCK.**—Duty 22½%.  
36 in. wide, 38 cents per yd.  
48 in. wide, 45 cents per yd.  
60 in. wide, 57 cents per yd.

**CROW BARS.**—Duty 30%.  
5 cents per lb.

**CRUCIBLES.**  
Dixon's, 7 cents per number.

**DRILLS.**—Duty 30%.  
Blacksmiths' bit, \$6 to \$15 each.

**DYES (Aniline).**

**DYNAMITE.**  
30 to 50 cents per lb.

**EMERY.**  
Coarse, 7 cents per lb.  
Fine, 5 cents per lb.

**EMERY CLOTH.**—Duty 25%.  
Beader & Adamson, 40% discount.

**EMERY HONES.**—Duty 25%.  
\$3 to \$5 per doz.

**EMERY STEELS.**—Duty 25%.  
\$2 per doz.

**EMERY WHEELS.**—Duty 25%.  
65% discount.

**EXPANDERS.**—Duty 30%.  
Tube, Dudgeon, 33½% discount.

**FAUCETS.**—Duty 30%.  
Brass, \$2.50 to \$5 per doz.  
Iron.  
Wood, 60c. to \$1.00 per doz.

**FENCING.**  
Barb Wire, \$3.05 per 100 lbs.

**FENCING (Wire).**—Duty 15%.  
Galvanized, barb, f. o. b. Toronto, \$3.05.  
Galvanized, plain twist, f. o. b. Toronto, \$3.05.  
Galvanized, barb, f. o. b. Cleveland, \$2.82½ in less than car lots, and \$2.70 in car lots.  
Mesh, 5½x10½, 20 rod rolls 55% discount, Can. list.  
" 1 x8, 20 " 50 & 5½ " "  
" 3 x6, 20 " 55 & 5½ " "

**FERRULES.**—Duty 30%.  
Tool handle, 5c. & 6c. per lb.

**FILES.**—Duty 30%.  
Black Diamond, 50 and 10% discount.  
Globe, 70% discount.  
Grobet, net.  
Jowitz's, 25% discount.  
Nicholson, 50 & 10% discount.  
Stubbs', 15% discount.

**FITTINGS (Pipe).**—Duty 30%.  
Bushings, 55% discount.  
Cast Iron, 55% discount.  
Cocks, 60 " "  
Elbows, tees, crosses, couplings, lock nuts, return bends, 50% discount.  
Flanges, 55% discount.  
Nipples, 55 " "  
Plugs, 55 " "  
Unions, 55 " "  
Wrought Iron, 50% discount.

**FLUE SCRAPERS.**—Duty 30%.  
Engineers' Favorite, 40% discount.  
Inglis, 20% discount.  
Wire, 50 " "

**FORKS, HOES AND RAKES.**—Duty 25%.  
50, 10 and 5% discount.

**FUSE.**  
Blasting, Single tape, \$3.75 per M ft.  
" Double tape, \$5 per M ft.

**GASKETS.**—Duty 35%.  
Rubber Insertion, 60 cents lb.

**GAUGE GLASSES.**—Duty 30%.  
Water, 25% discount.

**GAUGES.**—Duty 30%.  
Steam, 50% discount.

**GLASS.**—Duty 20%. (Window—Box Price).  
Star, under 26 in., \$2.15 per 50 ft., \$4.15 per 100 ft.; 26 to 40 in., \$2.30 per 50 ft., \$4.45 per 100 ft.; 41 to 50 in., \$1.85 per 100 ft.; 51 to 60 in., \$5.15 per 100 ft.; 61 to 70 in., \$5.50 per 100 ft.; 71 to 80 in., \$6 per 100 ft.; 81 to 85 in., \$6.50 per 100 ft.  
D. Diamond, under 26 in., \$6 per 100 ft.; 26 to 40 in., \$6.65 per 100 ft.; 41 to 50 in., \$7.50 per 100 ft.; 51 to 60 in., \$8.50 per 100 ft.; 61 to 70 in., \$9.50 per 100 ft.; 71 to 80 in., \$10.50 per 100 ft.; 81 to 85 in., \$11.70 per 100 ft.; 86 to 90 in., \$14 per 100 ft.; 91 to 95 in., \$15.50 per 100 ft.; 96 to 100 in., \$18 per 100 ft.

**GLUE.**—Duty 25%.  
Cabinet, sheet, 12 to 13 cents per lb.  
Common, 84 to 9 cents per lb.  
Coopers', 19 to 20 cents per lb.  
French Medal, 14 to 14½ cents per lb.  
Gelatine, 22 to 30 cents per lb.

**GLUE.**—Continued.  
Huttner, 18 cents per lb.  
Strip, 18 to 20 cents per lb.  
White, extra, 18 to 20 cents per lb.

**GLUE (Liquid).**—Duty 25%.  
LaPage's, 25% discount.  
Progressive, 25 " "

**GOVERNORS.**—Duty 25%.  
Gardners', 25% discount.

**GRANITEWARE.**—Duty 35%.  
Firsts, 50% discount.

**GRAIN CRADLES.**—Duty 25%.  
With Scythes complete \$33 per doz.  
Without scythes, \$18.50.

**GRINDSTONES.**—Duty 25%.  
Large, \$1.75 per 100 lbs.  
Mounted, \$3 to \$3.50 each.  
Small, \$1.50 per 100 lbs.

**HALTER MOUNTINGS.**—Duty 30%.  
1x1½ inch, 10c. per lb.  
(Evans), 1x1½ in., doz. set packages, \$8.00 per gross.

**HALTERS.**—Duty 30%.  
Leather, 1 in. strap, \$3.87½ to \$4 per doz.  
Leather, 1½ in. strap, \$5.15 to \$5.20 per doz.  
Rope, ½, \$9 per gross.  
Rope, ¾ to 1, \$14 per gross.  
Web, \$1.87 to \$2.45 per doz.

**HAMMERS.**—Duty 30%.  
Blacksmiths', 10 cents per lb.  
Carpenters', Madoles', \$6.40 to \$8.75 per doz.  
Carpenters', Warnock's, \$4 to \$7.50 per doz.  
Machinists', 22 cents per lb.  
Sledge, 10 cents per lb.  
Tack, 60 cents to \$1.20 per doz.  
Tinners', \$4 to \$6.50 per doz.

**HANDLES.**—Duty 25%.  
Axe, \$1.50 to \$2.50 per doz.  
Chisel, \$3.50 to \$5 per gross.  
Cross-cut saw, \$2 to \$3 per doz.  
File, \$2 to \$2.50 per gross.  
Hammer, 50 cents to \$2 per doz.  
Pick, \$1.50 to \$2.50 per doz.  
Plane, \$3.50 per gross.

**HANGERS.**—Duty 30%.  
Barn Door, round groove, \$4.50 to \$6.50 per doz.  
Lanes, \$6.75 to \$12 per doz.  
Parlor door, \$3 to \$6 per set.  
Stearns, \$5.50 to \$6.50 per doz.

**HARVEST TOOLS.**—Duty 25%.  
Forks, 50 & 10 " discount.  
Rakes, 50 & 10 " "  
Hoes, etc., 50 & 10 " "

**HATCHETS.**—Duty 30%.  
Canadian, 40 to 42½% discount.

**HAY KNIVES.**—Duty 25%.  
50, 10 and 5% discount.

**HINGES.**—Duty ½ cents per lb. & 25%.  
Blind, Parker's, 50 & 10 to 60% discount.  
Heavy T and strap, 4 in., 64 cents per lb.  
" " " 5 in., 64 " "  
" " " 6 in., 6 " "  
" " " 8 in., 53 " "  
" " " 10 in., 51 " "  
Light T and strap, 65 & 5 off.  
Screw hook and hinge, 6 to 12 in., \$4.50 per 100 lbs.; 14 in. up, \$3.50.  
Spring, \$12 per gross pairs.

**HOES.**—Duty 25%.  
Grab, \$5 to \$6.

**HOOKS.**—Duty 30%.  
Brush, \$7.50 to \$9.  
Heaping, 50, 10 and 5% discount.  
Chain, wrought, round or grab, \$3 & \$4.50 per doz.  
Lumber Piling, \$7 to \$19 per doz.  
Malleable, wardrobe, \$1.50 to \$2.50 per gross.  
Wire, \$1.25 to \$2

**HORSE NAILS.**—Duty 30%.—See Nails.

**HORSE SHOES.**—Duty 30%.  
Lt. Med. & H., \$3.70 per keg.  
Snow, \$3.95 per keg.  
Steel, \$3.80 to \$5.25 per keg.  
Toe weight steel, \$6.15 per keg.

**HOSE.**—Duty 35%.  
City Standard, 70% discount.  
Phoenix, 60% discount.

**INJECTORS.**—Duty 30%.  
Pemberthy, 65% discount.  
I. J. C., 65% discount.

**IRON.**—See Metals.

**JACKS.**—Duty 30%.  
Lifting, 40% discount.

**KEYS.**—Duty 30%.  
Carpenter, 50 cents to \$1.25 per doz.  
Desk, 25 to 35 cents per doz.  
Mortise Lock, 25 cents to \$1 per doz.  
Padlock, 25 to 35 cents per doz.  
Rim Lock, 25 cents to \$1 per doz.

**KNIVES.**—Duty 30%.  
Butcher, \$2 to \$5 per doz.  
Pocket, \$1 to \$5 per doz.

**KNOBS.**—Duty 30%.  
Door, Bronze, \$7 to \$12 per doz.  
" White Porcelain, 90 cents per doz.  
" Wood, \$4.50 per doz.

**LACING.**—Duty 15%.  
Belt cuts, \$1 per lb. Raw Hide.  
Sides, 75 cents per lb., Leather.

**LADDERS.**—Duty 25%.  
Step, 10 cents per foot.  
Rung, 10 cents per foot.

**LAND ROLLERS.**—Duty 20%.  
\$12 to \$15 each.

**LANTERNS.**—Duty 30%.  
Cold Blast, \$7 per doz.  
Dashboard, cold blast, \$9 per doz.  
Japanning, 50 cents per doz. extra.  
No. 0, \$5.75 per doz.  
No. 3 "Wright's," \$8.50 per doz.  
Ordinary, with O burner, \$4 per doz.

**LAWN MOWERS.**—Duty 35%.  
Pennsylvania, 50% discount.  
Stearns, 50  
Woodyatt, 40

**LEAD (Bar and Strip).**—Duty 25%.—See Metals.  
Lead, pig.—See Metals.

**LEAD.**—Duty 5%.  
Red and White, dry.—See Paints.

**LINES (Cotton).**—Duty 25%.  
Chalk, \$2 to \$3.50 per gross.  
Wire, clothes, \$2.50 to \$4.50 per M ft.

**LOCKS.**—Duty 30%.  
Cupboard, \$1.50 per doz. up.  
Desk, \$1.50 per doz. up.  
Drawer, \$1 per doz. up.  
Padlocks, 75 cents per doz. up.  
Rim and Mortise, Peterboro, \$1.50 per doz. up.  
Amer., \$1.50 per doz. up.

**MALLEABLES.**—Duty 30%. See Castings.

**MALLETS.**—Duty 30%.  
Carpenters', hickory, \$1.25 to \$3.75 per doz.  
Caulking, 60 cents to \$2 each.  
Lignum Vitae, \$3.85 to \$5 per doz.  
Tinsmiths', \$1.25 to \$1.50 per doz.

**MATTOCKS.**—Duty 30%.  
Canadian, \$5.50 to \$6.50 per doz.

**MEAT CUTTERS.**—Duty 30%.  
Amer., 25 to 30% discount.  
German, 15% discount.

**METALS.**  
Ingots.—Aluminium, 35 to 50 cents per lb.  
Antimony (Cookson's), 10½ to 11 cents per lb.  
Copper, "English," 18 cents per lb.  
"Bar, 25 cents per lb.  
Tin, "Lamb & Flag," 32 cents per lb.  
"Straits, 32 cents per lb.  
"Bar, 33 cents per lb.  
Zinc, 6 to 6½ cents per lb.; sheets, 7 cents per lb.  
Babbit Metal (duty 10%).—Lewis, 7 to 10 cents per lb.; Magnolia, 25 cents per lb.; Post's Zero, 25 cents per lb.; Spooner's Copperine No. 2, 12½ cents per lb.; No. 2, 16 cents per lb.; finest, 25 cents per lb. Syracuse Smelting Works, dynamo, 29 cents per lb.; special, 25 cents per lb.  
Sheets, Black (Steel), Duty \$7 per ton.  
" 10—\$2.75, 100 lbs.  
" 12—\$2.85, "  
" 14—\$3.20, "  
Sheets, Black, Duty 5%.  
" 17—\$3.20, 100 lbs.  
" 18—\$3.20, "  
" 20—\$3.50, "  
" 22—\$3.75, "  
" 26—\$4.00, "  
" 28—\$4.25, "  
Sheets, Tinned—7½ cents per lb., Base price.  
Sheets, Galvanized Iron.  
" 18—\$4.40 per 100 lb.  
" 18 to 24—\$4.50 per 100 lb.  
" 26—\$4.75 per 100 lb.  
" 28—\$5.00 "  
" 16—(Queen Head), \$3.90 per 100 lb.  
" 18-22-24—(Queen's Head), \$4.15 per 100 lb.  
" 26—\$4.40 per 100 lb.  
" 28—\$4.65 "  
Sheets, Corrugated—Galv., \$4.50 per 100 sq. ft. Iron (duty \$7 per ton).  
" Angle.—\$2.75 per 100 lb.  
" Bar (Common).—\$1.75 per 100 lb.  
" Bar, "Swedes."—\$4.50 per 100 lb.  
" Lowmoor.—\$6.50 per 100 lb.  
" Refined Bar.—\$2.60 per 100 lb.  
Iron, Planished Sheet (duty 5%).  
" A.—\$6.00 per 100.  
" B.—\$5.00 "  
" Russia.—\$10.00 per 100 lb.  
Iron, Galv. Sheet, see Sheets.  
and Corrugated, see Sheets.  
Pig Lead (duty 15%).—Domestic, \$3.75 per 100 lb.; pigs, imported, \$4.25 per 100 lb.; bars, \$5 per 100 lb.; sheets, \$5.50 per 100 lb.  
Solder bar (duty 25%).—1st, refined, 18 cents per lb.; half-and-half, 18 cents per lb.  
Iron, Pig (duty \$2.50 per net ton).—Ranges about \$16.50 per ton.  
Iron, English Horse Shoe.—\$2.85 per 100 lb.  
Iron, Band.—\$2.05 per 100 lb.  
Iron, Hoop.—\$2.90 per 100 lb.  
Channel, Steel.—\$3 to \$4 per 100 lb.  
Beams, Steel.—\$3 per 100 lb.  
Rods.—Brass, 24 cents per lb., base price; hard sheets, 20 to 30 cents per lb.; soft sheets, 20 to 30 cents per lb.  
Rails, Small Steel.—\$3 per 100 lb.  
Steel, Rough Machinery.—\$2.25 per 100 lb.  
Shafting, Bright Steel.—\$3.50 per 100 lb.

**METALS—Continued.**

Steel, Cultivator.—\$4.50 per 100 lb.  
" "Firths."—12 cents per lb.  
" "Crescent."—9 cents per lb.  
" Mushets.—55 cents per lb.  
" Cant Hook.—7½ cents per lb.  
" Machinery.—\$2.75 per 100 lb.  
" Sleigh Shoe.—\$1.90 per 100 lb.  
" Spring.—\$3.00 per 100.  
" Tire.—\$2.05 per lb.  
" Toe Caulk.—\$2.20 per 100 lb.  
" Mild.—\$1.90 per 100 lb.  
Steel, Cast.—Firth's, 12 cents per lb.; Jessop's, 14 cents per lb.; Black Diamond, 12 cents per lb.; Silver, 15 cents per lb.; Crescent, 9 cents per lb.; Mushet's, 55 cents per lb.  
Steel, Blister.—12½ cents per lb.  
Steel, Hammer.—7 cents per lb.  
Steel, Sheet Cast.—Firth's, 12 cents per lb., base.  
Steel, Decarbonized Sheet—7 cents per lb., base.  
Steel, Black Sheet (duty 5%).—10, \$2.75 per 100 lb.; 12, \$2.85 per 100 lb.; 14, \$3.20 per 100 lb.; 17, \$3.20 per 100 lb.; 18, \$2.85 per 100 lb.; 20, \$3.50 per 100 lb.; 22, \$3.25 per 100 lb.; 24, \$3.75 per 100 lb.; 26, \$4.00 per 100 lb.; 28, \$4.25 per 100 lb.  
Tank Steel Plate (duty 10%). 3-16, \$2.60 per 100 lb.  
Plates, Steel Boiler (duty 10%).—1 and larger, \$2.50 per 100 lb.  
Steel Boiler Heads (duty 10%).—\$2.60 per 100 lb.  
Canadian Plates.—All dull, 52 sheets, \$2.90 half polished, \$3.

**SHINGLES.**—Duty 25%.  
Galvanized, ordinary, \$4.90 per sq.; medium, \$5.45 per sq.; best, \$5.80 per sq.  
Steel, Painted, ordinary, \$3.15 per sq.; medium, \$3.35 per sq.; best, \$3.90 per sq.

**MOPS.**—\$1 per doz.

**NAIL PULLERS.**—Duty 30%.  
German and American, \$1.85 to \$3.50 each.

**NAILS.**—Duty, cut, 1 cent per lb.; wire, 3-5 cent per lb.  
C brand, 50 & 7½ discount.  
Chair nails, 35% discount.  
Clout nails, blued, 65 and 5% discount.  
Coopers', 25% discount.  
Copper nails, 50% discount.  
Cut, 2d \$3.35; 3d, \$3; 4 & 5d, \$2.75; 6 & 7d, \$2.65; 8 & 9d, \$2.50; 10 & 12d, \$2.45; 16 & 20d, \$2.40; 30, 40, 50 & 60d (base), \$2.35.  
Flour barrel nails, 25% discount.  
Galvanizing, 2 cents per lb. net, extra.  
M brand, 50 & 10% discount.  
Steel cut nails, 10 cents extra.  
Trunk nails, black, 65 and 5% discount.  
Trunk nails, tinned, 65 and 10% discount.  
Wire, 2d \$3.85; 3d, \$3.50; 4 & 5d, \$3.25; 6 & 7d, \$3.15; 8 & 9d, \$3; 10 & 12d, \$2.95; 16 & 20d, \$2.90; 30, 40, 50 & 60d (base), \$2.85; fine, 3d, \$3.85.  
Wire nails in car lots, \$2.74.  
Miscellaneous wire nails, 70 & 10% discount.

**NETTING.**—Wire.—Duty 30%.  
Galvanized, 50% discount.  
Green wire, \$1.50 per 100 sq. ft.  
Poultry, 2x2 mesh, 150 ft. roll, 55 off Canadian List.

**NOZZLES.**—Duty 30%.  
Hose Brass, \$3.50 to \$5 per doz.

**NUTS.**—Duty 4 cent per lb. & 25%.  
Finished, tapped, 25% discount.  
Rough, square head, 4 cents per lb. from list.  
Rough, hexagon head, 4 cents per lb. from list.  
Semi-finished, tapped, 25% discount.

**OAKUM.**  
Navy, \$7.80 per 100 lb.  
Spun, \$9.30 per 100 lb.

**OIL.**—Duty 25%.  
Boiled Linseed Oil, bbls., 86 cents per gal.  
Cylinder Oil, from 40 cents up.  
Lard Oil, bbls., 90 cents per gal.  
Machine.  
Prime White (Can.), 14 cents per gal.  
Prime White (U.S.), 15½ cents per gal.  
Raw Linseed Oil, bbls., 83 cents per gal.  
Sperm Oil, bbls., \$1.75 per gal.  
Water White (Can.), 15 cents per gal.  
Water White (U.S.), 16 cents per gal.

**OILERS.**—Duty 30%.  
\$1 per doz. up.

**PACKING.**—Duty 35%.  
Rubber Insertion, 60 cents per lb.  
Rubber Sheet, 22 cents per lb.

**PACKINGS.**—Duty 25%.  
Asbestos, 35 cents per lb.  
Flax, 35 cents per lb.  
Hemp, 12½ cents per lb.  
Jute, 8 cents per lb.

**PAIS.**—Duty 25%.  
Galvanized, \$2.50 to \$3.50 per doz.

**PAINT, WHITE ZINC.**—Duty 25%.  
Elephant Snow White, 8 to 9 cents per lb.  
Pure White Zinc, 8 to 9 cents per lb.  
No. 1, 6 to 7½ cents per lb.  
No. 2, 5 to 6½ cents per lb.

**PAINTS, PREPARED.**—Duty 25%.  
In 1, 4 and 1-gallon tins, \$1.25 per gal.  
Barn, in barrels, 75 to 85 cents per gal.  
Canada Paint Co's Pure, \$1.25 per gal.  
Second qualities, \$1.10 per gal.  
Sherwin-Williams Paints, \$1.45 per gal.  
Toronto Lead & Color Co's Pure, \$1.25 per gal.  
Zanzibar.

**PAINTS.**—Duty 30%.  
Copper, \$3.50 per gal.

**LEAD, DRY WHITE.**—Duty 5%.

Pure, in casks, \$5.75 per cwt.  
Pure, in kegs, \$6.25 per cwt.  
No. 1, in casks, \$5.50 per cwt.  
No. 1, in kegs, \$5 per cwt.

**LEAD, WHITE.**  
Pure, \$6.37 per 100 lb.  
No. 1, pure, \$6 per 100 lb.  
No. 2, pure, \$5.62½ per 100 lb.  
No. 3, pure, \$5.25 per 100 lb.  
No. 4, pure, \$4.87½ per 100 lb.  
Elephant and Decorators' Pure, \$7.12½ per 100 lb.  
Brandram's B. B. Genuine, \$9 per 100 lb.  
" Decorative, \$7.55 per 100 lb.  
" No. 1, \$6.85 per 100 lb.  
" No. 2, \$6 per 100 lb.

**LEAD, RED.**—Duty 5%.

Genuine, 500 lb. casks, \$5.50 per cwt.  
Genuine, 100 lb. kegs, \$5.75 per cwt.  
No. 1, 500 lb. casks, \$5.25 per cwt.  
No. 1, 100 lb. kegs, \$5 per cwt.

**COLORS (Dry).**—Duty 25%.

American Oxides, \$1.75 to \$2 per 100 lb.  
Brussels Ochre, \$2 per 100 lb.  
Burnt Sienna, pure, 10 cents per lb.  
" Umber, pure, 10 cents per lb.  
Raw, 9 cents per lb.  
Canadian Oxides, \$1.75 to \$2 per 100 lb.  
Chrome Greens, pure, 12 cents per lb.  
Chrome Yellows, pure, 18 cents per lb.  
Drop Black, pure, 9 cents per lb.  
English Oxides, \$3 to \$3.25 per 100 lb.  
English Vermilion, 80 cents.  
Fire Proof Mineral, \$1 per 100 lb.  
Genuine English Litharge, 7 cents per lb.  
Golden Ochre, 3½ cents per lb.  
Mortar Color, \$1.25 per 100 lb.  
Pure Indian Red, No. 45, 90 cents per lb.  
Super Magnetic Oxides, \$2 to \$2.25 per 100 lb.  
Ultramarine Blue, in 28-lb. boxes, 8 to 24 cents per lb.  
Venetian Red (best), \$1.80 to \$1.90 per 100 lb.  
Whiting, 12 cents.  
Yellow Ochre (J. C.), bbls., \$1.35 to \$1.40 per 100 lb.  
Yellow Ochre (J. F. L. S.), bbls., \$2.75 per 100 lb.  
Yellow Ochre (Royal), \$1.10 to \$1.15 per 100 lb.

**COLORS (In Oil).**—Duty 25%. 25 lb. tins, Standard Quality.

Chrome Green, 8 cents per lb.  
Chrome Yellow, 11 cents per lb.  
French Imperial Green, 10½ cents per lb.  
French Ochre, 5 cents per lb.  
Golden Ochre, 5 cents per lb.  
Marine Black, 9 cents per lb.  
Marine Green, 9 cents per lb.  
Venetian Red, 5 cents per lb.

**PAPER.**—Duty 25%.

Brown Wrapping, 2½ to 4 cents per lb.  
Manilla Wrapping, No. 1, 4 cents per lb.  
" No. 2, 5½ "

**PAPER, BUILDING.**—Duty 25%.

Carpet Felt, \$45 per ton.  
Plain building, 35 cents per roll.  
Tarred lining, 45 cents per roll.  
Tarred roofing, \$1.65 per 100 lbs.

**PEAVEYS.**—Duty 30%.

Round and Duck bill, \$2.50 and \$13 per doz.

**PIKE POLES.**—Duty 30%

\$10.50 per doz.

**PICKS.**—Duty 30%.

\$4.50 to \$7 per doz.

**PITCH.**

85 cents per 100 lbs.

**PIPE.**—Duty, \$8 per ton.

Cast Iron Soil, Medium and Heavy, 65% dia.

**PIPE.**

Brass, 25 to 35 cents per lb., base price.

Copper, 25 cents per lb., base price.

**PIPE.**—Duty 30%.

Galvanized Iron.

1, \$5.15 per 100 ft.; 1½, \$5.50 per 100 ft.; 2, \$7.95 per 100 ft.; 3, \$10.80 per 100 ft.; 4, \$12.95 per 100 ft.; 5, \$17.35 per 100 ft.

**PIPE, BLACK IRON.**—Duty 30%.

1, \$4.65 per 100 ft.; 1½, \$3.40 per 100 ft.; 2, \$3.45 per 100 ft.; 3, \$3.70 per 100 ft.; 4, \$3.85 per 100 ft.; 5, \$4.40 per 100 ft.; 6, \$4.70 per 100 ft.; 7, \$4.90 per 100 ft.; 8, \$5.00 per 100 ft.; 9, \$5.25 per 100 ft.; 10, \$5.50 per 100 ft.; 11, \$5.75 per 100 ft.; 12, \$6.00 per 100 ft.; 13, \$6.25 per 100 ft.; 14, \$6.50 per 100 ft.; 15, \$6.75 per 100 ft.; 16, \$7.00 per 100 ft.

**PIPE.**—Duty 30%.

Wrought Iron, 1 inch, per ft. 16½ 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, 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% "

**PUTTY.**—Duty 20%.  
Bladders, in bbls., \$2.10 per cwt.  
" in kegs, boxes or loose, \$2.25 per cwt.  
" in 25-lb. tins, \$2.35 per cwt.  
" in 12½-lb. tins, \$2.65 per cwt.  
" in bulk or tins less than 100 lb., \$2.90 per cwt.  
Bulk, in bbls., \$1.90 per cwt.  
" in less quantity, \$2.05 per cwt.

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

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

**RIVET SETS.**—Duty 30%.  
Canadian, 35 to 37½ 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, ¼ cent per lb.  
Extras on Iron Rivets in ½-lb. cartoons, 1 cent per lb.  
Extras on Tinned or Coppered Rivets, ½-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.  
" ¼ in., 22½ cents per lb.  
Crucible Steel Rope, 25% discount.  
Galvanized Wire Rope, 25% discount.  
Jute, 8 cents per lb.  
Lath Yarn, 9½ cents per lb.  
Manila, 7-16 in. and larger, 13½ cents per lb.  
" ¼ in., 14½ cents per lb.  
" ¼ and 5-16 in., 15½ cents per lb.  
New Zealand Rope, 10 cents per lb.  
Russia Deep Sea, 15½ cents per lb.  
Sisal, 7-16 in. and larger, 10 cents per lb.  
" ¼ in., 11 cents per lb.

**RUBBER.**  
Reclaimed.  
Rubber, Manufacture of, n.o.p., 25%.  
" Packing, Duty 35%.

**RULES.**—Duty 30%.  
Boxwood, 75 and 10% discount.  
Ivory, 37½ to 40% discount.  
Lumbermans'.

**SAD IRONS.**—Duty 30%.  
Mrs. Potts', No. 55, polished, 62½ cents per set.  
" No. 50, nickel-plated, 67½ 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.

**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, 12½ discount.  
S. & D., 40% discount.  
S. & D., 35 off on Nos. 2 and 3.

**SCALES.**—Duty 30%.  
Champion, 60% discount.  
Gurney's, 40% "  
Troemner's, 30% " Canadian list.

**SCREENS.**—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, 87½ & 10% discount.  
Hexagon Cap, 45% "  
Set, case-hardened, 60% "  
Square Cap, 50 & 5% "  
Wood, F. H., bright and steel, 87½ & 10% discount.  
" R. H., bright, 82½ & 10% discount.  
" F. H., brass, 80 & 10% "  
" R. H., brass, 75 & 10% "  
" F. H., bronze, 75% "  
" R. H., bronze, 70% "

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

**SCYTHES.**—Duty 25%.  
Grass, \$8 to \$10.  
Grain, \$12 to \$14.

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

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

**SHOT, See Amunition.**

**SHOVELS AND SPADES.**—Duty 35%.  
Burns', 40% discount.  
Ely's, 40% "  
Gray's, 40% "  
Jones', 40% "  
Steel, Snow.  
Wood, "

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

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

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

**SOLDER (Plumbers').**—See Metals.

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

**SPIKES.**—Duty ¼ cent per lb.  
Rail, 20% discount.  
Ship, \$5 per 100 lb.

**SPRINGS.**—Duty 30%.  
Bright Carriage, 6¼ 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.  
" Green River, 25% "  
" Reece, 30% discount.  
" Jardine, 25% "  
Pipe, Solid, 70 & 10% discount.  
" Duplex, 33½ discount.  
" Jarecki, 33½ " "  
" Oster, 30% " "  
" Armstrong, 35% " "  
Wiley & Russell's, 25% discount, Canadian list.

**STONES.**—Duty 30%.  
Arkansas, \$1.50 per lb.  
Hindustan, 6 to 7 cents per lb.  
" slip, 9 cents per lb.  
Labrador, 13 cents per lb.  
" axe, 15 cents per lb.  
Scythe, \$3.50 to \$5 per gross.  
Turkey, 50 cents per lb.  
Washita, 28 to 60 cents per lb.  
Water-of-Ayr, 10 cents per lb.

**TACKS, BRADS, ETC.**—Duty 35%.  
Carpet tacks, blued, 80 & 15% discount.  
" " tinned, 80 & 20% "  
" " in kegs, 40% discount.  
Cheese-box tacks, blued, 80 & 12½ discount.  
Copper tacks, 50% discount.  
Cut tacks, blued, in dozens only, 80% discount.  
" ½ 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, 124 & 124% dis.  
" brush, blued and tinned, bulk, 70% dis.  
" gimp, blued, tinned and japanned, 75 & 12½ 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.  
" " Brock's," 25% discount.  
" " Trimo," 25% "

**TRAPS.**—Duty 30%.  
" Hawley & Norton's," 65% discount.  
" Newhouse," 45% discount.  
" Victor," 75% discount.

**TRUCKS.**—Duty 30%.  
1, \$3.75; 2, \$5; 3, \$6.75 each.  
" Handy " Canadian, \$16 to \$18.

**TUBES.**  
Boiler, 14, 14, 13, 2, 2½, 3, 3½, 4 in.  
" 18, 11, 11, 11, 14, 15, 16, 25 ft.

**TURNBUCKLES.**—Duty, ¼ cent per lb., 25%; 33¼ 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, 12½ 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.

**TWINES**—Continued.  
Tarrd Lath, 11 cts.  
Wrapping, 22 to 27 cts.

**VARNISHES.**—Duty 20 cents per gal.  
20. off 5-gal. lots.  
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.  
Demar, \$2 to \$2.50 per gal.  
Elastic Oak, \$1.50 to \$2.50 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., 13½ cents per lb.  
Brooks', 13½ cents per lb.  
Peter Wright's, 15 cents per lb.

**WASHERS.**—Duty ¼ cent per lb., 25%.  
Buggy, 75% discount.  
Wrought iron, 40% discount.

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

**WIRE.**  
Barbed Wire, see Fencing.  
Brass Wire, (duty 10%), 50 to 50 & 2½ 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. The prices for Nos. 9 to 13 include the charge of 10 cents for oiling. Extras net per 100 lb.: coppered wire, 60 cents; tinned wire, \$2; oiling, 10 cents; special hay-baling wire, 30 cents; spring wire, \$1; best steel wire, 75 cents; bright soft drawn, 15 cents; in 50 and 100-lb. bundles net, 10 cents; in 25-lb. bundles net, 15 cents; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

Fine Steel Wire, 17½ off. List of extras, in 100 lb. lots, No. 17, \$5; No. 18, \$5.50; No. 19, \$6; No. 20, \$6.65; No. 21, \$7; No. 22, \$7.30; No. 23, \$7.65; No. 24, \$8; No. 25, \$8.9; No. 26, \$9.50; No. 27, \$10; No. 28, \$11; No. 29, \$12; No. 30, \$13; No. 31, \$14; No. 32, \$15; No. 33, \$16; No. 34, \$17. Extras net: tinned wire, Nos. 17-25, \$2; Nos. 26-31, \$4; Nos. 32-34, \$6; coppered, 5 cents; oiling, 10 cents; in 25-lb. bundles, 15 cents; in 5 and 10-lb. bundles, 25 cents; in 1-lb. hanks, 50 cents; in 4-lb. hanks, 75 cents; in 1-lb. hanks, \$1; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

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 \$3.50; 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, \$2.57½ 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, \$8 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% "  
Coes, 30% "  
P.S. & W., 30% "  
Stillson's, 25% "  
Trimo, pipe, 25% "

**WRINGERS (Clothes).**—Duty 35%.  
Ajax, \$66 per doz.  
Canadian, \$26 to \$30 per doz.  
Crescent, \$17.50 to \$20 per doz.  
Leader, \$30 per doz.  
Novelty, \$23 to \$27 per doz.  
Popular Brands, \$16.50 to \$22 per doz.  
Royal American, \$26 to \$30 per doz.  
Royal Canadian, \$26 to \$30 per doz.

**ZINC.**—See Metals.

# INDEX TO ADVERTISEMENTS.

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

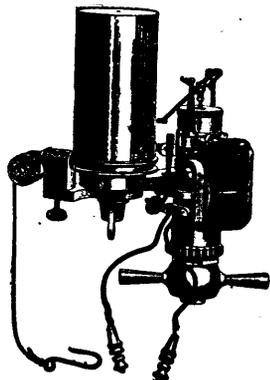
Adams, G. H. & Co., Melbourne, Australia.....	ibc	Garfield Oil Co., Cleveland, Ohio.....	26	Northrop Iron Works, Valleyfield, Que.....	35
Agriculture, Ontario Minister of Toronto.....	33	Gartshore, John J., Toronto.....	ibc	Nova Scotia Steel Co., New Glasgow, N.S.....	4
Albert Mfg. Co., Hillsborough, N.B.....	6	Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.....	23	Oakey, John & Sons, London, Eng.....	29
American Steam Gauge & Valve Mfg. Co., Boston, Mass.....	42	General Fire Equipment Co., Toronto.....	31	Ontario Malleable Iron Co., Oshawa, Ont.....	obc
American Steam Pump Co., Battle Creek, Mich.....	ibc	Goldie & McCulloch Co., Galt, Ont.....	3	Ontario Wind Engine & Pump Co., Toronto.....	33
Archbold, George, Prescott, Ont.....	ibc	Gooding William, London, Eng.....	32	Owen Sound Portland Cement Co., Owen Sound, Ont.....	ifc
Armstrong Mfg. Co., Bridgeport, Conn.....	16	Gordon, Drummond & Co., London, Eng.....	32	Packard Electric Co., St. Catharines, Ont.....	23
Atteaux, F. E. & Co., Boston, Mass. and Toronto.....	ife	Gray, R. A. L. & Co., Toronto.....	33	Parke, Roderick J., Toronto.....	8
Babeock & Wilcox, Montreal and Toronto.....	ofc	Greening B. Wire Co., Hamilton.....	30	Parker, Alfred S., New Toronto, Ont.....	ibc
Bale & Co., London, England.....	24	Gutta Percha & Rubber Mfg. Co., Toronto.....	ofc	Patent Clothboard Co., Parry Sound, Ont.....	obc
Barber, Wm. & Bro., Georgetown, Ont.....	ibc	Hamilton Brass Mfg. Co., Hamilton, Ont.....	20	Penman Mfg. Co., Paris, Ont.....	ibc
Bellhouse, Dillon & Co., Montreal.....	33	Hamilton Cotton Co., Hamilton, Ont.....	ife	Perrin, Wm. R. & Co., Toronto & Chicago, Ill.....	18
Bell Organ & Piano Co., Guelph, Ont.....	29	Hamilton Facing Mills Co., Hamilton, Ont.....	ofc	Peterborough Canoe Co., Peterborough, Ont.....	6
Benson, W. T. & Co., Montreal.....	ife	Hamilton, Wm. Mfg. Co., Peterborough, Ont.....	24	Peters, Ulrich, Philadelphia, Pa.....	34
Bertram, John & Son, Dundas, Ont.....	3	Harris, Geo. F. R., Toronto.....	36	Petrie, H. W., Toronto.....	ibc
Big Four Route, Boston, Mass.....	25	Hartland, H. Fawcett, Montreal.....	36	Phillips, Eugene F., Electrical Works, Montreal.....	34
Bourne-Fuller Co., Cleveland, Ohio.....	36	Hay, Peter, Galt, Ont.....	4	Plummer, F. O., Boston, Mass.....	36
Bouvier, L. P., Toronto.....	34	Holdsworth & Co., Toronto.....	22	Queen City Oil Co., Toronto.....	ofc-34
Bowden, J. W. & Co., Toronto.....	36	Hore, F. W. & Son, Hamilton, Ont.....	ibc	Raney's Specialty Co., Kingston, Ont.....	17
Bradstreets, Toronto and New York.....	36	Houghton, John, Toronto.....	31	Reeves Pulley Mfg. Co., Toronto.....	15
Bristol Co., Waterbury Conn.....	obc	Howard, E. Clock Co., Boston, Mass., and New York City.....	ibc	Rehder Plating & Mfg. Co., Thorold, Ont.....	35
Brown & Co., Paris, Ont.....	6	Hyde, F. & Co., Montreal.....	30	Rice Lewis & Son, Toronto.....	16
Brush, George, Montreal.....	31	Imperial Oil Co., Petrolia, Ont.....	3	Robb Engineering Co., Amherst, N.S.....	6
Brunner, Mond & Co., Northwich, Eng.....	5	Jenecks Machine Co., Sherbrooke, Que.....	14	Rosamond Woolen Co., Almonte, Ont.....	ibc
Buchanan, R. H. & Co., Montreal.....	7	Jones, J. L. Engraving Co., Toronto.....	ibc	Rosendale Belting Co., Manchester, Eng.....	7
Budden, Hanbury A., Montreal.....	ibc	Jones & Moore Electric Co., Toronto.....	36	Royal Paper Mills Co., East Angus, Que.....	5
Buffalo Forge Co., Buffalo, N.Y.....	28	Karch, H. W., Hesperia, Ont.....	ibc	Schoellkopf, Hartford & Hanna Co., Buffalo, N.Y.....	26
Burt Mfg. Co., Akron, Ohio.....	21	Keller, John J. & Co., New York, N.Y.....	ifc	Smart-Eby Machine Co., Hamilton, Ont.....	26
Butterfield & Co., Rock Island, Que.....	16	Kelly's Directories, Toronto and London, Eng.....	33	Smith & Cameron, Toronto.....	obc
Canada Chemical Mfg. Co., London, Ont.....	ifc	Kemp Mfg. Co., Toronto.....	6	Smith Woolstock Co., Toronto.....	ibc
Canada Iron Furnace Co., Montreal.....	ifc	Kerr Engine Co., Walkerville, Ont.....	36	South American Journal, London, Eng.....	25
Canada Switch & Spring Co., Montreal.....	obc	Kinleith Paper Co., St. Catharines, Ont.....	32	Storey, W. H. & Son, Acton, Ont.....	ibc
Canadian Colored Cotton Mills Co., Montreal.....	27	Klipstein, A. & Co., New York, N.Y.....	6	Sturtevant, B. F. Co., Boston, Mass.....	35
Canadian Heine Safety Boiler Co., Toronto.....	27	Laurie Engine Co., Montreal.....	19	Sturtevant Mill Co., Boston, Mass.....	20
Canadian Office & School Furniture Co., Preston, Ont.....	24	Leitch & Turnbull, Hamilton, Ont.....	ibc	Sutton, Wm., Compound Co., Toronto.....	23
Canadian Rand Drill Co., Montreal.....	7	Leslie, A. C. & Co., Montreal.....	ofc	Sylvester Bros. Mfg. Co., Lindsay, Ont.....	29
Canadian Rubber Co., Toronto and Montreal.....	obc	Lewis, Rice & Son, Toronto.....	16	Syracuse Smelting Co., Montreal.....	37
Carrier, Laine & Co., Levis, Que.....	ofc	London Machine Tool Co., London, Ont.....	32	Taft Dr. Bros. Medicine Co., New York City.....	obc
Case, Egerton R., Toronto.....	ofc	Lumsden, J. & Co., Montreal.....	30	Tallman, J. N. & Sons, Hamilton, Ont.....	31
Chapin, Geo. W., Philadelphia, Pa.....	17-22-30	Marion & Marion, Montreal.....	obc	Thompson, E. B., Toronto.....	34
Clery, Jules de, Toronto.....	7	Mason Regulator Co., Boston, Mass.....	8	Thompson, W. G. M., St. Catharines, Ont.....	31
Cooper, James Mfg. Co., Montreal.....	13	Matheson, Wm. J. & Co., New York, N.Y., and Montreal.....	5	Thompson, Worth & Martin, Toronto.....	31
Cowan & Co., Galt, Ont.....	19	Merrimac Chemical Co., Boston, Mass.....	ibc	Toronto & Hamilton Electric Co., Hamilton, Ont.....	31
Crosby Steam Gauge & Valve Co., Boston, Mass.....	24	Metallic Roofing Co., Toronto.....	27	Toronto Elevator Co., Toronto.....	23
Crown Lands Department, Toronto.....	6	Meyercood Co., Chicago, Ill.....	14	Toronto Fence & Ornamental Iron Works, Toronto.....	6
Darling Bros., Montreal.....	27	Milnes, J. H. & Co., Toronto.....	25	Toronto Industrial Exhibition, Toronto.....	28
Diamond Machine & Screw Co., Toronto.....	35	Montreal Pipe Foundry Co., Montreal.....	ifc	Toronto Paper Mfg. Co., Cornwall, Ont.....	ibc
Dixon, H., Toronto.....	26	Morrison James Brass Mfg. Co., Toronto.....	21	Toronto Patent Agency, Toronto.....	36
Dixon, Jos., Crucible Co., Jersey City, N.J.....	7	Morrow Machine Screw Co., Ingersoll, Ont.....	6	Trimont Mfg. Co., Roxbury, Mass.....	24
Dodge Mfg. Co., Toronto.....	1	Morton Co., Toronto.....	36	United Electric Co., Toronto.....	obc
Dominion Bridge Co., Montreal.....	31	McArthur, Cornelle & Co., Montreal.....	obc	Walkerville Malleable Iron Co., Walkerville, Ont.....	ofc
Dominion Dyewood & Chemical Co., Toronto.....	ibc	McEachren Heating & Ventilating Co., Galt, Ont.....	17	Wallberg, E. A., Toronto.....	28-30
Dominion Engraving Co., Toronto.....	38	McGuire, Wm. J. & Co., Toronto.....	31	Ward, George, Laskay, Ont.....	7
Dominion Oil Cloth Co., Montreal.....	ofc	McLachlan Electric & Gasolene Motor Co., Toronto.....	32	Whiting Foundry Equipment Co., Harvey, Ill.....	34
Dominion Radiator Co., Toronto.....	ibc	McLaren, D. K., Montreal and Toronto.....	32	Williams, A. R. Machinery Co., Toronto.....	18
Electric Construction Co., London, Ont.....	25	Neff, A. C., Toronto.....	ibc	Winn & Holland, Montreal.....	5
Fenson Elevator Works, Toronto.....	ofc	New Toronto Woolstock Co., New Toronto, Ont.....	ibc	Wilson Bros. Bobbin Co., Todmorden, Eng.....	29
Fetherstonhaugh & Co., Toronto.....	ofc	Northey Mfg. Co., Toronto.....	ibc	Wilson J. C. & Co., Glenora, Ont.....	29
Firstbrook Box Co., Toronto.....	ibc			Wire and Cable Co., Montreal.....	ofc
Fleming, W. A. & Co., Montreal.....	15			Wright & Dallyn, Hamilton, Ont.....	9
Flint & Walling Mfg. Co., Kendallville, Ind.....	28				
Forman John, Montreal.....	8-29				
Erick, H. C. Coke Co., Pittsburg, Pa.....	obc				
Frost, W. H., Smith's Falls, Ont.....	obc				

ofc ..... outside front cover.

ife ..... inside front cover.

ibc..... inside back cover.

obc.....outside back cover.



American Thompson Improved Indicator with Electrical Attachment.

## AMERICAN STEAM GAUGE AND VALVE MFG. COMPANY

BOSTON, MASS., U. S. A.

MANUFACTURERS OF

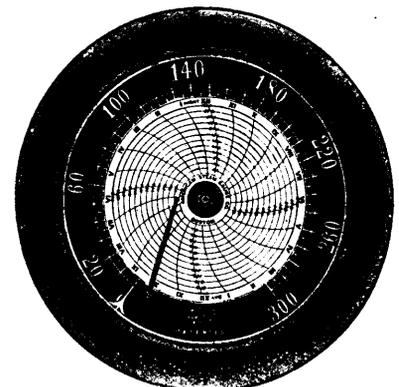
Standard Appliances for Measuring, Indicating, Recording and Governing Water, Steam, Gas, Ammonia, and all pressures.

Sole Manufacturers of The Thompson Improved Indicator.

The only American Indicator awarded a Medal at the Paris Exposition.

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.

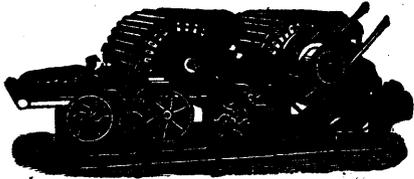
When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



American Patent Combined Pressure and Recording Gauge.

**Smith Wool-Stock Co.**  
219 FRONT ST. E., TORONTO,  
Makers of  
**WOOL STOCK,  
SHODDIES, Etc.**

W. H. PARKER J. H. PARKER  
**NEW TORONTO WOOL STOCK CO.**  
MANUFACTURERS OF  
**WOOL STOCK and SHODDIES**  
Write for Samples and Prices.  
**NEW TORONTO, - ONTARIO, CANADA.**  
**A. S. PARKER, NEW TORONTO**



Dealer in Woolen Waste. Carpeting a Specialty

**PENMAN MANUFACTURING CO.**  
PARIS, ONT. LIMITED.

Manufacturers of  
**Hosiery, Shirts, Drawers,  
Glove Linings and Yarns.**

Selling Agents—D. Morrice, Sons & Co.,  
Montreal and Toronto.

**ROSAMOND  
WOOLEN CO.**  
ALMONTE, ONT.

**Fine Tweeds, Cassimeres,  
and Fancy Worsted  
Suits and Trouserings.**

**LEITCH & TURNBULL,** Canada Elevator Works,  
Queen and Peter Sts.  
HAMILTON, ONT. Patent Safety Hydraulic,  
Hand and Power **ELEVATORS.**  
Telephone Connection.

**W. H. Storey & Son, ACTON, ONT.,**  
Manufacturers of..... **FINE GLOVES AND MITTS**  
In every variety and style. **Moccasins.**

**WM. BARBER & BROS.**  
Georgetown, Ont.

Manufacturers of.....  
**Book and Fine Papers.**

Reproductions Made for Eight  
Cents per Square Inch.



Half Tones Made Direct from  
Photos.



**F. W. HORE & SON, Limited,** HAMILTON, ONT.  
Manufacturers of  
**CARRIAGE, WAGGON, AND SLEIGH WOOD WORK.**

**G. H. Adams & Co.**  
**MANUFACTURERS'**  
**AGENTS AND  
COMMISSION  
MERCHANTS.**

Flinders Lane, MELBOURNE,  
Clarence Street, SYDNEY,  
and at FREMANTLE, ADELAIDE,  
BRISBANE and N.Z.

Will be pleased to correspond with Canadian  
Manufacturers and Exporters desirous of  
opening up direct relations with Aus-  
tralia.

**WOOD ENGRAVING  
PHOTO ENGRAVING.  
HALF TONES**  
OR ANY CLASS OF ENGRAVING FOR ADVERTISING  
PURPOSES. CATALOGUES MAGAZINES &c  
**J. L. JONES ENG. CO.**  
6-8-10  
Adelaide St. W. **TORONTO.**



**ASTHMALENE BRINGS INSTANT RELIEF AND PERMANENT CURE IN ALL CASES.**  
SENT ABSOLUTELY FREE ON RECEIPT OF POSTAL.

There is nothing like Asthmalene. It brings instant relief, even in the worst cases. It cures when all else fails.  
The Rev. C. F. Wells, of Villa Ridge, Ill., says: "Your trial bottle of Asthmalene received in good condition. I cannot tell you how thankful I feel for the good derived from it. I was a slave, chained with putrid sore throat and asthma for ten years. I despaired of ever being cured. I saw your advertisement for the cure of this dreadful and tormenting disease, asthma, and thought you had overspoken yourselves, but resolved to give it a trial. To my astonishment, the trial acted like a charm. Send me a full-size bottle.  
We want to send to every sufferer a trial treatment of Asthmalene, similar to the one that cured Mr. Wells. We'll send it by mail **POSTPAID, ABSOLUTELY FREE OF CHARGE,** to any sufferer who will write for it, even on a postal. Never mind, though you are despairing, however bad your case, Asthmalene will relieve and cure. The worse your case, the more glad we are to send it. Do not delay. Write at once, addressing **DR. TAFT BROS.' MEDICINE CO., 79 East 130th St., N.Y. City.** Sold by all Druggists.

**JOHN HOUGHTON**  
**Practical Machinist**  
106 CHURCH ST., TORONTO.  
**MODEL MAKING A SPECIALTY.**

**THE PATENT CLOTHBOARD CO. OF PARRY SOUND**  
Limited  
Clothboards, Lapping, Rolling and Bailing Boards  
Veneers of Ash, Birch, Bass and Elm, all thicknesses  
Cheese Box Bands and Rims  
Box Shooks (Small and Light) also Crating Material  
**PARRY SOUND, ONT., CANADA.**

**The Firstbrook Box Co. Limited**  
**PAKING CASES.  
DOVETAIL BOXES.  
Bottlers' SHIPPING CASES.  
BOX SHOOKS, Etc.**  
**TOP PINS, SIDE-BLOCKS & CROSS-ARMS**  
Write for prices. **TORONTO, Canada.**

**CARBONIZER** A neutral substance, harmless to animal fibre or tissue, while it destroys burrs, etc., as efficiently as acid. It leaves the wool in fine condition. Manufactured by the **Merrimac Chemical Co., 13 PEARL ST. BOSTON.**

**A. C. NEFF**  
**CHARTERED ACCOUNTANT**  
Room 500 McKinnon Bldg.,  
Tel. 1330. — TORONTO.  
Audits and Investigations a Specialty.

THE.....  
**Toronto Paper Manufacturing Co.,**  
Cornwall, Ont.

Manufacturers of Engine Sized Superfine Papers, White and Tinted Book Papers, Blue and Cream Laid and Wove Foolscaps, Account, Envelope and Lithographic Papers, etc.

Over 30 years Experience in Great Britain, Europe and America  
**APPLIED CHEMISTRY**

**Dr. GEO. ARCHBOLD, A.M.**  
**ANALYTICAL CONSULTING**

AND  
**TECHNICAL CHEMIST**  
(Formerly Chief Chemist, Ordnance Dept., U.S. Navy Yard, Washington, D.C.)  
Investigations made and advice given on matters relating to Technological Chemistry and Technology. Brewing, Distillation and Wood Pulp, etc., a specialty.  
**P.O. BOX 283, PRESCOTT, ONT.**

**JOHN J. GARTSHORE,**  
83 Front St. West, Toronto.  
**RAILWAY, TRAMWAY, and**  
**...Contractors' Supplies**  
**METALS and SCRAP IRON**  
Bought and Sold.

**PATENTS**  
TRADE MARKS, Etc.  
**HANBURY A. BUDDEN**  
NEW YORK LIFE BUILDING,  
MONTREAL.

# PATENTS PROMPTLY SECURED

Write for "Inventor's Help"—FREE. **Marion & Marion, MONTREAL and WASHINGTON**  
ENGINEERS AND EXPERTS.

By **SMITH & CAMERON, 51 CANADA LIFE BUILDING**  
Solicitors of Patents, Experts, Engineers, etc. 46 King St., West, Toronto.

Promptly Secured in all Countries

**TRADE MARKS, DESIGNS, PATENTS**  
Caveats, Copyrights, etc.

**McARTHUR, CORNEILLE & CO.,**

OFFICES:  
310 to 316 St. Paul Street.

WAREHOUSES:  
147 to 151 Commissioners Street.

...MONTREAL...

AGENTS FOR . . .  
Berlin Aniline Co.,  
Aniline Colors and other Coal Tar Products.  
Stamford Manufacturing Co.,  
Dyewoods and Extracts.  
Coez, Langlois & Co.,  
French Extracts.  
Miller Extract Co., Hemlock Extracts  
British Alizarine Co., Alizarine.  
J. H. Heald & Co., Extracts Oak, etc.



**The Ontario . . . Malleable Iron Co.**

(Limited)

...Manufacturers of...

**MALLEABLE IRON . . . . .** Castings to Order for all kinds of

**AGRICULTURAL IMPLEMENTS .**

....AND....

**Miscellaneous Purposes . . . .**

OSHAWA, - - ONT.

## THE UNITED ELECTRIC CO.

SUCCESSORS TO

Limited.

**W. A. JOHNSON ELECTRIC CO.**  
**THE TORONTO ELECTRIC MOTOR CO., Limited.**  
**THOMPSON ELECTRIC CO.**

We Manufacture a complete line of **Electric Light and Power Apparatus.**

ARE PREPARED TO CONTRACT FOR COMPLETE INSTALLATIONS.

Head Office, - **134 KING ST. W., TORONTO, ONT.**

**THE CANADA SWITCH & SPRING CO., LIMITED.**

Manufacturers of  
..... SPECIALTIES FOR.....

**Steam and Electric Railways,**

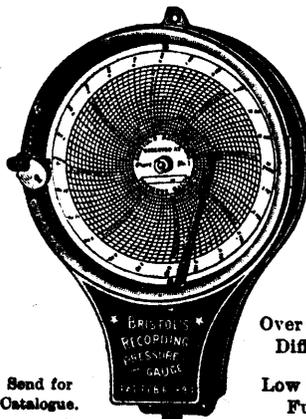
**SPRINGS, STEEL CASTINGS, FROGS, FORGINGS, TRUCKS FOR ELECTRIC RAILWAYS, ETC.**

**INTERLOCKING SWITCH and SIGNAL PLANTS,**

(Under patents of Messrs. Saxby & Farmer, Limited, of London, Eng.)

**CANAL BANK, POINT ST. CHARLES; MONTREAL**

**BRISTOL'S Recording Instruments**



Send for Catalogue.

For.....  
**Pressure, Temperature and Electricity.**

Over One Hundred Different Varieties.

Low Prices and Fully Guaranteed

Silver Medal, Paris Exposition

**THE BRISTOL CO.**  
WATERBURY, CONN., U.S.A.

**SMITH'S FALLS**

**Malleable Iron . . . . Works . .**

00000

CAPACITY 3,000 TONS.

00000

**WILLIAM H. FROST**

PROPRIETOR

**SMITH'S** Labor Gazette

ONTARIO, CANADA.

**CARRIER, LAINE & CO.** ENGINEERS, FOUNDERS, MACHINISTS, BOILER MAKERS AND Montreal Branch.... 147 St. James St.