

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. 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 filming, are checked below.

L'Institut a microfilmé 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 filmage sont indiqués ci-dessous.

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

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

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
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 filmées.

Additional comments:/
Commentaires supplémentaires:

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

Continuous pagination/
Pagination continue

Includes index(es)/
Comprend un (des) index

Title on header taken from:/
Le titre de l'en-tête provient:

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
									J		

CANADIAN MANUFACTURER

AND INDUSTRIAL WORLD

DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

Vol. 32.

TORONTO, MAY 1, 1896.

No. 9.

Canada Chemical Manufacturing Co.

Manufacturers of

Sulphuric, Nitric, and Muriatic Acids—Commercial and Chemically Pure. Mixed Acids for Explosives. Liquid Ammonia, Glauber Salts, Copperns, Muriate Tin, Tin Crystals, Acetic Acid, Nitrate Iron, Bisulphite Soda, Acid Phosphate for Baking Powders and General Chemicals. Fertilizers, etc.

LONDON
ONT.

ANILINE
DOMINION DYEWOOD & CHEMICALS
TORONTO
LIZARINES
PRODUCTS OF
The Farbenfabriken vorm. F. Bayer & Co.
DOMINION DYEWOOD & CHEMICAL CO.
SOLE AGENTS FOR CANADA TORONTO.

HENRY PORTER

Oak Leather Tanner and
Manufacturer of....

..PURE OAK TANNED..

Belting

Lace Leather, Goodyear Welting, Bag and Colored Shoe Leather, Carriage Furniture and Patent Leather, Oak, Sole and Harness Leather.

434 to 442 Visitation St., Montreal

HAVE YOU TRIED FLEXIFORT? THE BEST BACKING -- YET --

No Stretch. Polished, Hardened and Tempered Steel Wire. Requires no Re-drawing on. Never Grows Hard. Impervious to Oil. Out-wears Leather. Samples and Prices on application.

THE J. C. McLAREN BELTING COMPANY

Factory, Montreal

22 FRONT EAST, TORONTO

CHARLES CLARK, Pres. EDW. F. RANDOLPH, Treas.
ESTABLISHED 1819.

THE BRADSTREET MERCANTILE AGENCY

THE BRADSTREET COMPANY - Proprietors
NEW YORK

Offices in the principal cities of the United States, Canada, the European Continent, and in London, England.

The Bradstreet Company is the oldest, and strongest organization of its kind with one interest and under one management with wider ramifications, with more capital invested in the business, and it expends more money every year for the collection and dissemination of information than any similar institution in the world. Toronto Offices:—

36 Front St. E., and 27 Wellington St. E.
THOS. C. IRVING, Superintendent

THE GUTTA PERCHA & RUBBER CO.
HEAD OFFICE OF TORONTO LTD. CANADIAN
FRESH & TREATMENT
BELTING RACKING
GUTTA PERCHA
FACTORIES
PARKDALE
WAREHOUSE & OFFICE 61 & 63 FRONT ST. W. TORONTO.

THE....

Walkerville Malleable Iron Co., (Limited)

Manufacturers of..

REFINED AIR FURNACE

Malleable Castings

ALSO LIGHT GREY IRON CASTINGS

WALKERVILLE, ONTARIO

RIDOUT & MAYBEE

J. C. RIDOUT (Late C.E.) J. EDW. MAYBEE
Barrister, Solicitor, etc. Mch. Eng.

SOLICITORS of and EXPERTS in
PAMPHLET ON PATENTS SENT FREE

103 Bay Street, Toronto

Patents

PATENTS

Validity and Scope of Patents Investigated.

STANLEY H. RIDOUT
Canada Life Building, 46-52 King St. W., Toronto

and Counselor in Patent Cases, Hand-book on Patents and Trade Mark Law Free on Application.

Tallow's English... **CARD CLOTHING**
 Fancy, Worsted, and Mohair Yarns

WILL SUPPLY
 LARGEST STOCK IN CANADA | **Wools, Camel Hair, Nells, Peruvian**
ROBT. S. FRASER. 8 St. Helen Street MONTREAL

When we read
 or hear of

HULL

We naturally
 think of

**E. B. Eddy's
 Matches**

R. C. Jamieson. A. T. Higginson.
R. C. JAMIESON & CO.
 Manufacturers of

VARNISHES AND JAPANS

Importers of Oils, Patins, Colors, Turpentine,
 METHYLATED SPIRITS,
 Shellac, Resins, Glue, Gold Leaf, Driers, etc.

Office—13 ST. JOHN ST.
 Factory and Warehouse—
 25 to 27 ST. THOMAS ST., MONTREAL

THE PARIS ELECTRO-PLATING CO.
 Manufacturers of

Stove Trimmings, Organ and Piano
 Trimmings, also all kinds of
 Brass and Nickel Plating Done
 Paris Station, - - On'aris

Largest Manufacturers
 of STEEL AND BRASS
 STAMPS in Canada

**PRITCHARD
 & ANDREWS**
 OTTAWA, ONT.

Rubber Stamps
 Stencils, Seals, Etc.
 SEND FOR PRICES

BROWN & CO.

Manufacturers of
 Square and Hexagon

HOT PRESSED NUTS

PARIS, - ONT.

SMITH WOOL STOCK CO.

210 FRONT STREET EAST, TORONTO

Makers of **WOOL STOCK, SHODDES, Etc.**

All kinds of Grade... Woolen Rags, Cashmeres,
 and Neutralizing. 5 years of Wool Processing.
 All Hues of Hard and Soft Wools.

Advertiser in...
**The Canadian
 Manufacturer**

**McARTHUR,
 CORNELLIE & CO.**

Manufacturers

AND

Importers

210-216 St. Paul Street

AND

247-181 Commissioners Street

MONTREAL

OFFER AT LOWEST PRICES

PURE OLIVE OIL

WINTER PRESSED LARD OIL

EXTRA FINE SPINDLE OIL

And a full Assortment of Other
 Lubricating Oils

GREASES, MILL SOAPS, ETC.

AND

CHEMICALS, DYE STUFFS

DYE WOODS EXTRACTS, ETC.

AND

SOLE AGENTS IN CANADA FOR

St. Louis Synthetic & Chemical Co., Paris
 A. Peirrier, President.

Sanitas Colors, Archil Extract, Cocchar Co
 Lard, Etc.

British Alizarine Co., London
 Paste and Dry Alizarine.

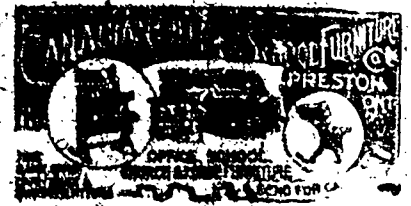
Stanford Manufacturing Co., New York
 Dyewoods and Extracts.

Coignet & Co., Paris
 Glass, Gemstones,
 Etc.

Waters, Walker & Spauld, Leeds
 Indigo Extracts.

Whitman, Tangle Extract Co.
 Mosilock Extract.

Maintain Large Stocks, fully assorted, and
 will always be pleased to furnish
 quotations and samples.



WM. BARBER & PROS.

GEORGETOWN, ONT.

Manufacturers of

BOOK AND FINE PAPERS

THE TORONTO PAPER MFG. CO.
 CORNWALL, ONT.

Manufacturers of...
 Engine Sired Superfine Paper
 White and Tinted Book Paper
 Blue and Green Laid and Wove Fo
 count, Envelopes and Lithogra
 Paper, Etc.

F. W. HORE'S SONS
 HAMILTON, ONT.

Manufacturers of

WHEELS, Wheel Materials, Shaft, etc.

W. H. STOREY & SON
 AGYON, - ONT.

Manufacturers of

Fine Gloves and Mitts

in Every Variety and Style

MOCCASINS



For IRON FENCING,
 BARK and OFFICE RAIL
 IRON and All kinds of
 IRONWORK

Address

Toronto Fence & Ornamental Iron Works
 75 Adelaide Street West, Toronto

**Steam
 Traps**

Pipe Machines

Drilling and Polishing Lathes

Strapping Machines

Shafting Hangers

G. T. Pendrith

MANUFACTURER

73 to 81 Adelaide Street West
TORONTO

**ROCK FACED
BRICK**
WRITE FOR PRICES AND
CATALOGUE
THE PEDLAR METAL ROOFING CO. OSWATAWICA, ONT.

**The Pulsometer
STEAM PUMP**

OFTEN IMITATED BUT
NEVER EQUALLED ...

...
The handiest sim-
plest and most efficient
steam pump for general
Mining, Quarrying
and Contractors' pur-
poses.

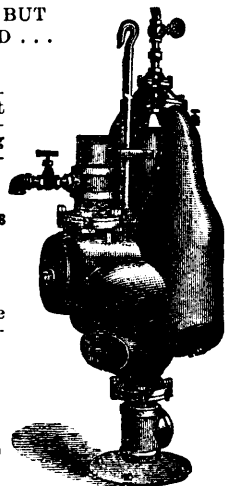
...
Muddy or Catty Liquids
Handled without
wear.

...
Descriptive Catalogue
with prices, furnish-
ed on application.

...
PULSOMETER
Steam Pump Co.
New York, U.S.A.

A. R. Williams Machinery Co.

Toronto and Montreal,
Selling Agent for Canada.



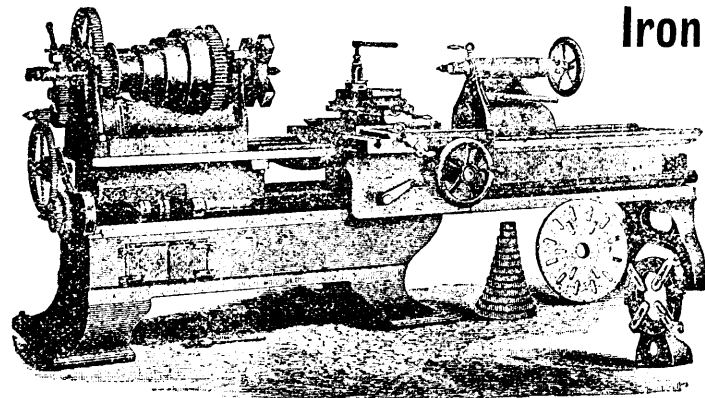
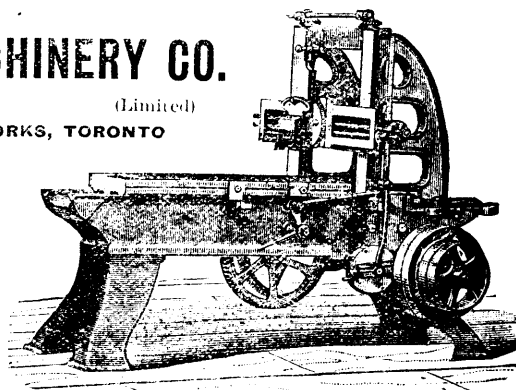
THE ...
A. R. WILLIAMS MACHINERY CO.

(Limited)

Head Office, SOHO MACHINE WORKS, TORONTO

Manufacturers of and Dealers in

High-Class Iron Tools,
Wood-working Machinery,
Engines, Boilers,
Motors, Water Wheels,
General Machinery
and Supplies.



Iron Tool Works

At London.

BRANCHES :

193 Colborne St.,
BRANTFORD

345 and 347
St. James St.,
MONTREAL

Send for Circulars,
Referring
to this Advt.

THE STURTEVANT SYSTEM

OF

Heating and Ventilating

APPLICABLE TO ALL CLASSES OF BUILDINGS

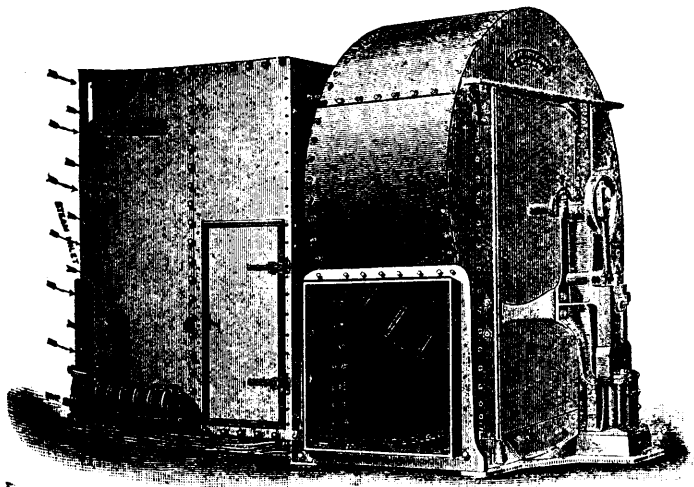
Has had a THOROUGH TEST in the Dominion
AND THE
Northern Portion of the United States.

Over 200 Plants in Successful Operation in
this Cold Climate.

Send for Catalogue No. 67, Describing this System
and No. 73, Showing 500 Representative
Buildings Heated and Ventilating.

B. F. STURTEVANT CO.
BOSTON, MASS., U.S.A.

A. R. WILLIAMS MACHINERY CO., Ltd.
General Canadian Agents
Toronto, Brantford, Montreal



The Sturtevant Steam Heating and Drying Apparatus

For . . .
Drying

This Apparatus is unexcelled for Lum-
ber, Cotton, Wool, Hair, Brick,
Pottery, Glue, Soap, Cloth and
all Textile Goods.

THE
CANADIAN MANUFACTURERS' ASSOCIATION

ALBERT E. KEMP, President.
J. J. CASSIDY, Secretary.
GEORGE BOOTH, Treasurer.

Secretary's Office, McKinnon Building

Cor. Jordan and Melinda Streets, Toronto
Tel. 1274.

THE OBJECTS OF THIS ASSOCIATION ARE:

- To secure by all legitimate means the aid of both Public Opinion and Governmental Policy in favor of the development of home industry and the promotion of Canadian manufacturing enterprises.
- To enable those in all branches of manufacturing enterprises to act in concert, as a united body, whenever action in behalf of any particular industry, or of the whole body, is necessary.
- To maintain Canada for Canadians.
- Any person directly interested in any Canadian manufacturing industry is eligible for membership.

Manufacturers desiring to hold meetings for the promotion of their business are invited to avail themselves of the Board Room of the Association for the purpose, which is offered to them free of charge.

J. J. CASSIDY, Secretary

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
Trusses, Girders, Beams, Columns,
for Buildings.

A Large Stock of....

**ROLLED STEEL BEAMS, JOISTS, GIRDERS
CHANNELS, ANGLES, TIES, Z BARS
AND PLATES ALWAYS ON HAND**

IN LENGTHS TO THIRTY-FIVE FEET

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

Post Office Address, - - MONTREAL.

J. H. MCGREGOR, Agent, Canada Life Building
TORONTO, ONT.

BENT RIM WOOD SPLIT PULLEYS

← REID'S PATENT →

*The Strongest, Lightest and Best Belt Surface
In the World*



No Glue, no Nails in Rim, like Segment Rim Pulleys, to be affected by Steam Dampness or Moist Temperature

Every Pulley Guaranteed

The Reid Bros. Mfg. Co., Ltd., TORONTO ONT.

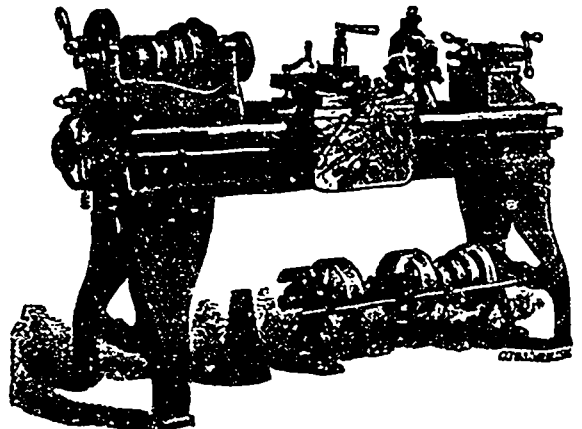
← ESTABLISHED 1850 →

Robert Gardner & Son

Manufacturers of

FINE TOOLS, LATHES, PLANERS

Shafting, Hangers, Pulleys, etc.



Nazareth, Brennan and Dalhousie Streets, MONTREAL

REDDAWAY'S PATENT



BREAKING STRAIN 6 IN. CAMEL HAIR BELT—14,811 lbs
6 IN. DOUBLE OAK LEATHER—7,522

W. A. FLEMING

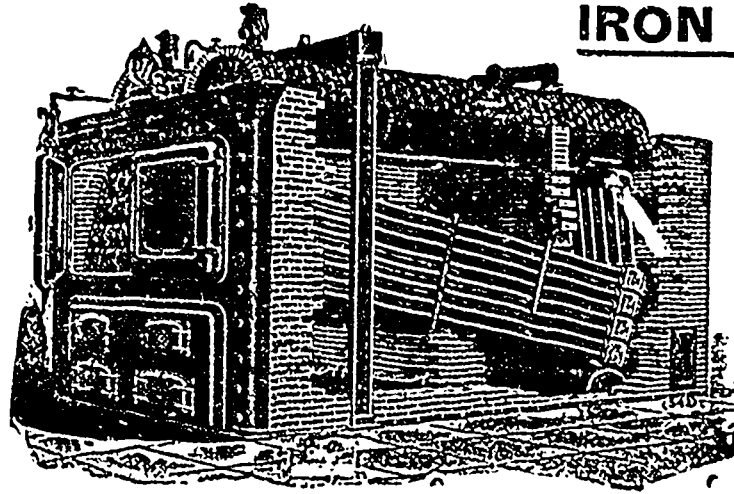
SOLE AGENT FOR CANADA

57, ST. FRAS. XAVIER ST. (24 FRONT ST. E.) VICTORIA CHAMBERS
MONTREAL. (TORONTO.) OTTAWA

An Advertiser may occupy this space at the rate of 75 cts. per issue.

The Caldwell Standard Water Tube Boiler

THE BEST WATER TUBE BOILER IN THE MARKET.



IRON FOUNDERS

BOILER MAKERS

MACHINISTS

ENGINEERS, Etc.

General and Manufacturing Agents in Canada for the famous Worthington Pumps, Hydraulic Machinery, Water Meters, Water Works' Supplies and Condensers.

Worthington Pumps are unequalled for Efficiency and Economy.

JOHN McDOUGALL

CALEDONIAN IRON WORKS, Office, Cor. William and Seigneurs Sts., Montreal

ANDREW ALLAN
President

J. O. GRAVEL
Secretary-Treasurer

F. SOHOLES
Man.-Director

J. J. MCGILL
General Manager

Canadian Rubber Company

(TORONTO)

OF MONTREAL

(WINNIPEG)

Capital, - - - - \$2,000,000.00

.....MANUFACTURE ALL KINDS OF.....

RUBBER HOSE

Made with our Patent Process Seamless Tube

Rubber Valves, Packings, Gaskets, Etc.

Superior Quality RUBBER BELTING the following Grades:

"Extra Star"

"Extra Heavy Star"

"Fine Para"

"C. R. Co. Stitched"

"Forsyth Patent" Seamless

First Quality RUBBER BOOTS and SHOES

Western Branch: Cor. Front & Yonge Sts., Toronto

J. H. WALKER, Manager

ALBERT MANUFACTURING CO.

Manufacturers of the well-known "HAMMER BRAND"

**CALCINED
PLASTER**

....AND....

Patent Rock Wall Plaster

HILLSBOROUGH, N.B., - CANADA

Law Bros. & Co.

Founders and Machinists

OTTAWA, - - ONTARIO



**HYDRANTS, VALVES,
WATERWORKS SUPPLIES
SPECIALS.**

Also CASTINGS of every description.



THE STANDARD DRAIN PIPE COMPANY, ST. JOHN'S, P.Q.

Manufacturers of Salt Glazed Vitrified Sewer Pipes, Double Strength Railway Culvert Pipes, Inverts, Vents, and all kinds of Fire Clay Goods.

The Standard Drain Pipe Co of St. John's, P.Q., Ltd. *W. C. TROTTER, President*

REGISTERED....

The Samson Brand IS A HIGH GRADE OF

Portland Cement.

...UNIFORM... ..FINELY GROUND... ..RELIABLE...
Quality equal to the best English and German Brands.
Manufactured by the

Owen Sound Portland Cement Co., Ltd.
SHALLOW LAKE, - ONTARIO.

Over 39,000 BARRELS Sold

During 1895, and not a single complaint as to quality.
For Prices and further information address the Manager at Works,
Shallow Lake, Ont., or

JOHN LUCAS, 377 Spadina Ave., Toronto, Ont.
Correspondence Solicited.

The Goldie & McCulloch Co., (Limited)

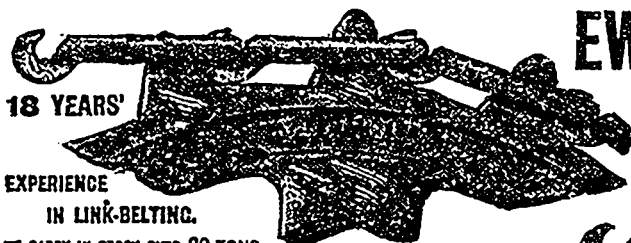
GALT, - - ONTARIO

MANUFACTURERS OF

Steam Engines, Boilers, Water Wheels

Flouring and Saw Mill Machinery, Wood Working Machinery, Wool Machinery. Fire and Burglar Proof Safes, Vault Doors. Wood Rim Split Pulleys, Friction Pulleys, Friction Clutch, Couplings, etc.

"Dumfries Foundry," Galt, Ontario, Canada



18 YEARS'

**EXPERIENCE
IN LINK-BELTING.**

WE CARRY IN STOCK OVER 20 TONS.

POWER TRANSMISSION MACHINERY.

BELTING, CABLE, ROPE OR LINK-BELTING.
CABLE CONVEYORS FOR LONG-DISTANCE CONVEYING,
STEEL SCREENS, McCULLY ROCK CRUSHERS, STEEL
PULLEYS, GRIP PULLEYS, SHAFTING UP TO 26 FEET LONG.

Send for New Link-Belt Catalogue—just out of press.

WATEROUS, BRANTFORD, CANADA.

EWART LINK-BELTING

STANDARD STEEL CHAINS AND SEVERAL
SPECIAL CHAINS FOR

ELEVATING AND CONVEYING MACHINERY

FOR HANDLING MATERIAL OF ALL KINDS



FOR.....
RAILWAY AND CONTRACTORS' SUPPLIES

..SEND TO..

G. & J. BROWN MFG. CO.

(LTD.)

BELLEVILLE, - ONT.

BRIDGE BUILDERS, ENGINEERS,
 BOILER MAKERS, MACHINISTS AND FOUNDRYMEN.

...Manufacturers of...

Frogs, Diamond Crossings, Switches, Hand Cars, Lorries, Velocipede Cars, Jim Crows, Track Drills, Semaphores, Rail Cars, Double and Single Drum Hoists, Etc.

NOTICE.

Manufacturers and Capitalists Patent Acts of 1872 and Amendments, Section 23.

NOTICE is hereby given to all persons desirous of practising the invention in the manufacture of Aluminum and Alloys thereof, for which certain letters patent of the Dominion of Canada were granted on June 7th, 1889, to Chas. Martin Hall, assignor to the Pittsburg Reduction Co., to wit, Nos. 31,512, 31,513, 31,514, 31,515, 31,516, 31,517; and also the invention in aluminum alloys and manufacture thereof, for which certain letters patent of the Dominion of Canada were granted on July 20th, 1892, to John W. Langley, assignor to the Pittsburg Reduction Company, to wit, No. 39,102, that the undersigned is prepared to grant licenses upon reasonable terms under each and all of same letters patent, and otherwise place the patent inventions in possession of the public in accordance with the provisions of the above recited act.

Communications to the undersigned may be addressed to 701 Ferguson Building, Pittsburg, Pa., U.S.A.

(Signed), The Pittsburg Reduction Co.

ASSIGNEE.

JAS. W. PYKE

35 St. Francois Xavier St.

MONTREAL

Sole Canadian Representative of .. **FRIED KRUPP**

Essen and Magdeburg, Germany.

Locomotive Tires

Axles, Crank-Pins

CAST STEEL DRIVING WHEEL CENTRES, STEEL-TIRED WHEELS,

Steel Forgings

UP TO SEVENTY TONS

Exhaust Steam UTILIZATION TO EFFORT Economy
 OR INCREASE OF POWER—AND HOW?

Before Buying any type of Feed-Water Heater and Purifier, or Separator for Steam and Oil,

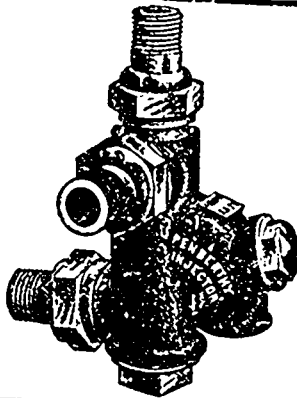
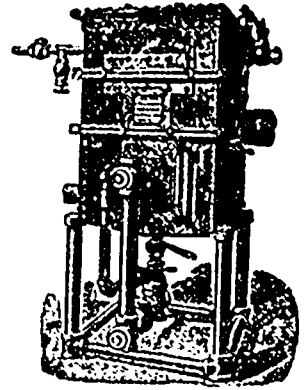
Consider the efficiency, simplicity, construction and prices, of those we manufacture.
Tests and complete information forwarded by request upon the
Webster "Vacuum" Feed-Water Heater and Purifier, and

Guarantees Separators for live and exhaust steam.
 and efficiency fully established by suitable trial, and hundreds in use throughout the United States and Canada.

Also the **WEBSTER System of Steam Heating**, without back pressure on engines—guaranteed. Can be attached to existing plants with great economy.

MANUFACTURED BY

DARLING BROTHERS, 112 Queen St., Montreal



The World-Renowned

PENBERTHY

Automatic Injector

90,000 IN USE IN THE UNITED STATES 25,000 IN USE IN CANADA

What Better Recommendation Do You Want?

Penberthy Injector Co.

WINDSOR, CANADA.

EAGLE FOUNDRY | Established ..1820..

GEORGE BRUSH

14 TO 34 KING AND QUEEN STREETS. - - MONTREAL

Maker of

STEAM ENGINES, STEAM BOILERS, HOISTING ENGINES, STEAM PUMPS

Circular Saw Mills, Bark Mills, Shingle Mills, Ore Crushers, Mill Gearing, Shafting Hangers and Pulleys.

SAFETY ELEVATORS AND HOISTS FOR WAREHOUSES, ETC.

HEINE SAFETY STEAM BOILERS.

BLAKE "CHALLENGE" STONE BREAKER

The Attention

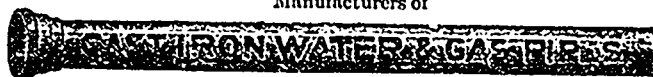
OF WOOLEN MANUFACTURERS IS CALLED TO

THE TORRANCE PATENT SELF-ACTING BALLING MACHINE

and positive Creel feed for Wool cards. The latest, best and only feed on the market that will make yarn positively even. These machines are built by The Torrance Mfg. Co., Harrison, (East Newark), N.J., U.S.A., for the States, and by The St. Hyacinthe Mfg. Co., St. Hyacinthe, Que., Canada for the Canadian market.

DRUMMOND-McCALL PIPE FOUNDRY CO. (Ltd.)

Manufacturers of



"Specials," Hydrants, Valves, Etc.

OFFICES:

New York

Life

Building, .

Montreal

WORKS.

Lachine,

Quebec..

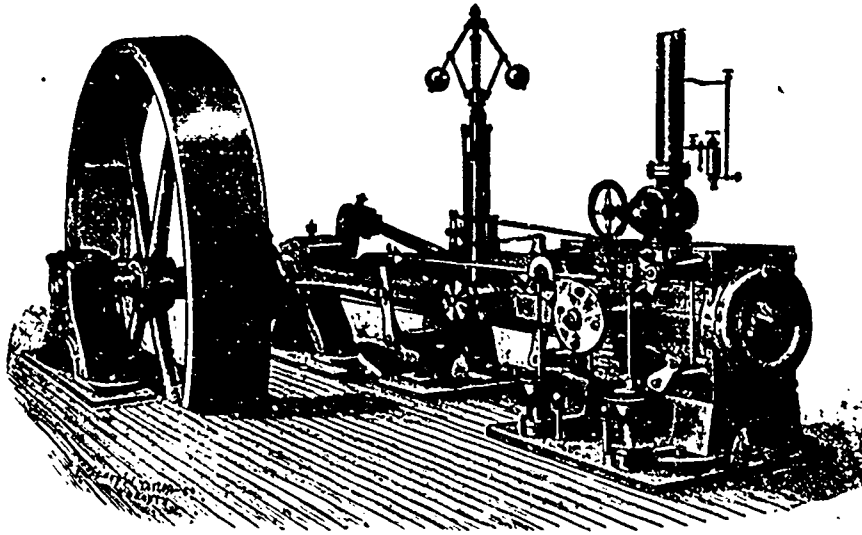
JOHN INGLIS & SONS

Marine
Engines

Corliss and
Armington
and Sims
Engines

Pumping
Engines and
Condensers

Flour Mill
Machinery



Marine,
Stationary
and Water
Tube Boilers

Tanks,
Shafting,
Pulleys.

All Kinds
Castings, in
Iron and
Brass.

ENGINEERS, BOILER-MAKERS AND MILL BUILDERS

14 STRACHAN AVE., TORONTO, ONT.

Pulleys! - Pulleys!

THE

Dodge Wood Split Pulley Co.

TORONTO, - ONTARIO

MANUFACTURERS

Wood Split Pulleys, Split Friction Clutch Pulleys

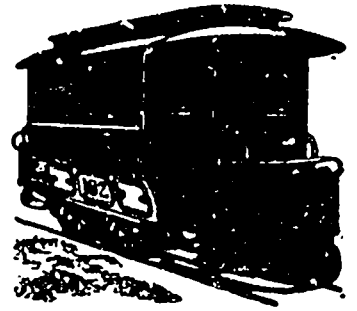
FRICION CUT-OFF COUPLINGS, ROPE DRIVING, Etc.

.....SEND FOR 1896 CATALOGUE.....

DODGE WOOD SPLIT PULLEY COMPANY

Office, 68 KING ST. WEST, TORONTO

PATTERSON & CORBIN Fine Electric Cars



.. OUR SPECIALTY ..

ST. CATHARINES, - ONTARIO

HORSE AND TRAIL CARS OF EVERY DESCRIPTION

THE IMPERIAL OIL COMPANY, LTD.

HIGHEST AWARDS AT THE WORLD'S FAIR, CHICAGO, UPON

Lubricating, W. W. 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, Etc.,

And Solicit opportunity to compete against any Oil on the Market.

Write for Prices and Samples.

THE IMPERIAL OIL COMPANY, (Ltd.), Head Office, - PETROLEA, CAN.

..BRANCHES..

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.



WHY
ARE

ROCK EMERY

TRADE
MARK.

MILLS
THE
BEST ?



Because

The Stones are made of the hardest materials known—**The Emery Face is Always Sharp**—and never needs dressing. They soon save their cost when compared with Buhrs in dressing alone. Can be bought (and worked too), for one-third the cost of Iron Mills.

Proof... More than **600** Manufacturers - -

Already use Rock Emery Millstones.—They are the **Fastest** and **Cheapest** Grinders known.—And the most **Economical** and **Durable** to run, and are made to **Fit any Mill Frame**.

SEND FOR CIRCULAR

Sturtevant Mill Co., BOSTON, Mass.

NORTHEY MFG. CO. LTD.

TORONTO, - ONTARIO
Steam and Power

Pumps

& HYDRAULIC
MACHINERY

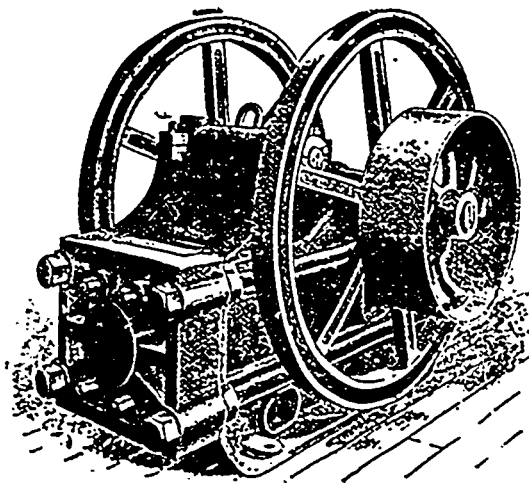
FOR
ALL
DUTIES

DODGE'S

GIANT

ROCK

CRUSHER



FOR

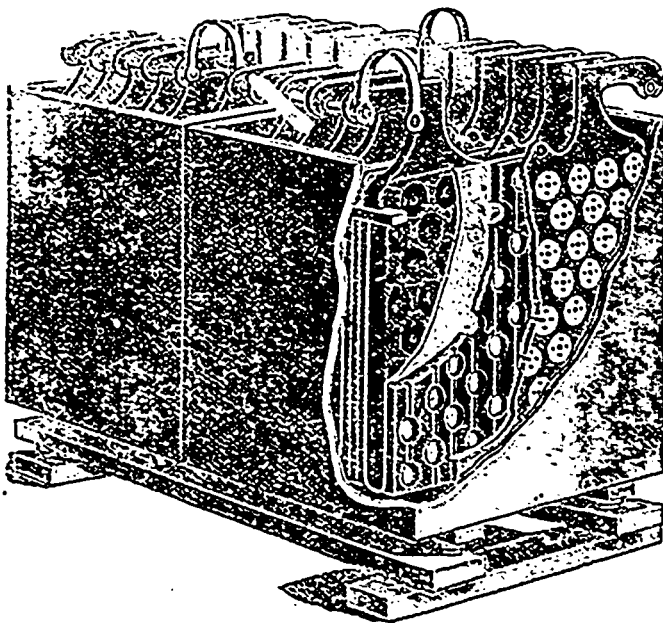
MINES

QUARRIES AND

CONTRACTORS

Manufactured
by . . .

Ingersoll-Sergeant Drill Dept., MONTREAL.



The Electric Storage Battery Company PHILADELPHIA, PA.

Solo Manufacturers of . . .

- The Chloride Accumulator -

— STORAGE BATTERIES —

Of any size for use in
connection with

- Central Lighting Stations
- Tramway Traction
- Train Lighting
- Yacht Lighting
- Electrotyping
- Telegraph
- Telephone } Systems
- Kinetoscopes

- Electrical Ry. Power Plants
- Carriage Traction
- Carriage Lighting
- Electric Launches
- Electroplating
- Police
- Fire Alarm } Systems
- Phonographs

— BRANCH OFFICES —

New York 66 Broadway.
Boston 333 Exchange Bldg.
Chicago 379 Dearborn St.

Baltimore 215 North Calvert St.
San Francisco . . . 15 First Street.
Elec. Launch Co., Morris Heights, N.Y.
Canadian Factory, W. A. Johnson Electric Co., 31 York Street, Toronto.



ESTABLISHED IN 1880.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

J. J. CASSIDY, - - - - - Editor

SUBSCRIPTION - - \$1.00 per year.
ADVERTISING RATES SENT ON APPLICATION.

The Canadian Manufacturer Publishing Company, Ltd.
McKinnon Building, Cor. Melinda and Jordan Sts., Toronto.

J. J. CASSIDY, - - President and Treasurer.
J. C. GARDNER, - - Manager and Secretary.

OFFICERS OF
THE CANADIAN MANUFACTURERS' ASSOCIATION

President,	ALBERT E. KEMP.
First Vice-President,	J. W. KARN.
Second Vice-President,	J. F. ELLIS.
Treasurer,	GEORGE BOOTH.
Chairman Executive Committee,	R. W. ELLIOT.
Chairman Tariff Committee,	W. K. McNAUGHT.
Secretary,	J. J. CASSIDY.

SECRETARY'S OFFICE: McKinnon Building, Cor. Melinda & Jordan Sts., Toronto.

WOOLEN MANUFACTURERS' ASSOCIATION

President,	H. ROSAMOND, M.P.
Vice-President,	JAS. KENDRY.
Secretary,	J. J. CASSIDY.

KNIT GOODS MANUFACTURERS' ASSOCIATION

President,	JOHN PENMAN.
Vice-President,	J. HEWTON.
Secretary,	J. J. CASSIDY.

CARPET MANUFACTURERS' ASSOCIATION

President,	JAMES P. MURRAY
Vice-President,	ROBERT DODDS.
Secretary,	J. J. CASSIDY.

GLOVE MANUFACTURERS' ASSOCIATION

President,	W. H. STOREY.
First Vice-President,	JOHN MACLAREN.
Second Vice-President,	A. R. CLARKE.
Secretary,	J. J. CASSIDY.

REPRESENTATIVES TO
TORONTO INDUSTRIAL EXHIBITION ASSOCIATION

R. W. ELLIOT.	GEORGE BOOTH.
W. K. McNAUGHT.	SAMUEL MAY.
J. J. CASSIDY.	

TWENTY-FIRST ANNUAL MEETING
OF THE

Canadian Manufacturers' Association.

REPORT OF PROCEEDINGS.

The twenty-first regular annual meeting of the Canadian Manufacturers' Association was held in their offices in Canada Life Building, Toronto, Wednesday, April 29, 1896.

Among those present were:—A. E. Kemp, of the Kemp Manufacturing Co., Toronto; James Kendry, Auburn Woolen

Co., Peterborough, Ont.; George Booth, Toronto Steel Clad Bath Co., Toronto; J. J. Cassidy, Secretary, Canadian Manufacturers' Association, Toronto; The Booth Copper Co., Toronto; Robert Kerr, Manager, Kerr Engine Works, Walkerville, Ont.; E. G. Swift, Manager, Park, Davis & Co., Walkerville, Ont.; R. H. Freese, Manager, Walkerville Malleable Iron Co., Walkerville, Ont.; Thomas Cowan, of Cowan & Co., Galt, Ont.; W. H. Storey, of W. H. Storey & Son, Acton, Ont.; W. K. McNaught, American Watch Case Co., Toronto; J. Hewton, Kingston Hosiery Co., Kingston, Ont.; John C. Gardner, Canadian Manufacturer Publishing Co., Toronto; John Ransford, Manager, Canada Salt Association, Clinton, Ont.; John F. Ellis, of The Barber & Ellis Co., Toronto; Brantford Box Co., Brantford, Ont.; C. G. Pease, Manager, American Rattan Co., Toronto; E. C. Stearns Co., Toronto; John Dick, of Dick, Ridout & Co., Toronto; F. A. Ritchie, of Ritchie & Ramsay, New Toronto; John Taylor, of Morse Soap Co., Toronto; Dominion Dyewood & Chemical Co., Toronto; Joseph Simpson, Toronto; D. W. Karn, Karn Piano & Organ Co., Woodstock, Ont.; R. W. Elliot, of Elliot & Co., Toronto; John Carnegie, Manager, Peterborough Lock Works, Peterborough, Ont.; F. H. Wright, Manager, August Newell & Co., Toronto; E. R. Thomas, Manager, H. A. Lozier & Co., Toronto Junction, Ont.; George Smith, Manager, Smith Woolstock Co., Toronto; James Goldie, Guelph, Ont.; Oliver Wilby, Weston, Ont.; C. A. Birge, Manager, Canada Screw Co., Hamilton, Ont.; Robert Crean, Manager, Ontario Straw Goods, Toronto; Crean & Hastings, Toronto; American Felt Hat Co., Toronto; W. H. Law, Manager, Central Bridge Works, Peterborough, Ont.; R. Heddle, Manager, Continental Twine & Cordage Co., Brantford, Ont.; W. A. Ferguson, Manager, Delhi Fruit, Vegetable & Canning Co., Delhi, Ont.; R. P. Butchart, Manager, Owen Sound Portland Cement Co., Shallow Lake, Ont.; Wm. Pender, of Elrick & Co., Toronto; Geo. F. Haworth, of Robin, Sadler & Haworth, Montreal and Toronto; J. H. McGregor, of Dominion Bridge Co., Montreal.

A. E. Kemp, President, occupied the chair. J. J. Cassidy, Secretary.

The minutes of the last regular meeting were read and approved.

PRESIDENT'S ADDRESS.

President Kemp delivered an address which appears in another place in these proceedings.

SECRETARY'S REPORT.

Secretary Cassidy made a verbal report showing the condition of the Association, and what had been done during the previous year.

TREASURER'S REPORT.

Treasurer Booth presented his annual financial statement which was read and adopted. It showed the Association to be in a sound financial condition, and that the roll of membership was well maintained.

ELECTION OF OFFICERS.

The following officers were elected for the ensuing year:—
President..... Albert E. Kemp
First Vice-President..... D. W. Karn

Second Vice-President.....J. F. Ellis
 Treasurer.....George Booth
 Secretary.....J. J. Cassidey

CHAIRMEN OF COMMITTEES.

The following chairmen of Committees were elected:—
 Executive Committee.....R. W. Elliot
 Tariff “.....W. K. McNaught

REPRESENTATIVES TO TORONTO INDUSTRIAL EXHIBITION ASSOCIATION.

George Booth, R. W. Elliot,
 W. K. McNaught, Samuel May,
 J. J. Cassidey.

RESOLUTIONS.

The following resolutions were read, discussed and adopted:—

THE NATIONAL POLICY.

Moved by Mr. W. H. Storey.

Seconded by Mr. J. F. Ellis.

Whereas, from its geographical position and commercial environments, the prosperity of the Dominion of Canada depends largely upon the maintenance of a fiscal policy which will foster agriculture, mining, manufactures and every other interest;

And whereas, the National Policy of protection to Canadian industries, inaugurated in 1879, has proved itself well suited to the requirements of this country, inasmuch as it has been of inestimable advantage to all classes of our people;

A policy which makes the interests of Canadians paramount to those of foreigners, by preventing this country from being made a slaughter market for the surplus products of foreign nations;

A policy which, while fully protecting Canadian industry and enterprise, loyally refuses to consent to trade arrangements with foreign countries which will, in any way, discriminate against Great Britain;

A policy which has enhanced our national credit in the money markets of the world, and placed Canadian securities at the head of all British colonies;

A policy which gives confidence and stability to capital, ensures prosperity to our manufacturing industries and enables our artisans to maintain a scale of wages far in excess of those which obtain in European countries;

A policy which, by retaining our skilled artisans at home at wages which enables them to live in comfort, has provided our farming population with a profitable home market for many lines of agricultural products which cannot be exported;

A policy which, since 1879 has increased our National payroll by over \$40,000,000, and the products of our factories by over \$165,000,000 per annum, has also increased our foreign trade by \$87,000,000 per annum and brought it up to the highest level it has ever reached;

A policy which, during the past seventeen years has done much to enhance the price of our farm products by preserving the home market for the Canadian farmer, also guarantees them additional advantages in the near future by inaugurating a system of direct marketing, cold storage facilities and fast steamship communication with that consumer of the world's surplus products, the Mother Country;

A policy which has encouraged and developed inter-provincial trade, and welded this vast Dominion into an homogeneous whole;

A policy which has produced amongst Canadians a feeling of security, of national pride and of commercial and industrial independence, without which no people can ever attain to the acme of national prosperity;

And whereas, by popular vote at four general parliamentary elections, the people of the Dominion of Canada have unmistakably declared themselves in favor of a policy which will afford adequate protection to Canadian manufacturing industries;

And whereas, in response to these popular verdicts over \$188,000,000 additional capital has been invested in manufacturing enterprises in Canada since the inauguration of the present protective policy in 1879;

And whereas, nothing imperils the security of capital, or paralyzes industrial or commercial enterprise more surely or quickly than uncertainty in regard to the trade policy of the country;

Therefore be it resolved:—That this Association places itself upon record as opposed to any changes in the present tariff system which will imperil the safety of our existing Canadian industries and subject them to unfair competition from foreign manufacturers;

Resolved:—That in the opinion of the Association, the prosperity of this country imperatively demands a fixed and definite policy of protection to Canadian industries of every kind from the general principles of which there shall be no deviation.

PREFERENTIAL TRADE.

Moved by Mr. W. K. McNaught.

Seconded by Mr. R. W. Elliott.

Resolved:—That this Association endorse the objects of the Third Congress of Chambers of Commerce of the British Empire, to convene in London in June of this year, in as far as they relate to bringing about a closer bond of unity between Great Britain and her colonies upon a basis of preferential trade within the Empire.

Resolved:—That this Association accepts with pleasure the invitation extended to it to be represented at the said Congress.

Resolved:—That the Executive Committee be instructed to make such arrangements as they may see proper with regard to such representation, giving all necessary instruction to such delegates as the Committee may select regarding the views they may present at said Congress.

PRO BONO PUBLICO.

Moved by Mr. Joseph Simpson.

Seconded by Mr. Thomas Cowan.

Resolved:—That the able and exhaustive address of our president, and the resolutions relating to the National Policy

and to Preferential Trade be published for public distribution, to be done under the direction of the Executive Committee.

PRESIDENT'S ADDRESS.

President Kemp made the following address:—

Gentlemen of the Canadian Manufacturers' Association:—

It affords me great pleasure to meet so many members of the Canadian Manufacturers' Association, on this our twenty-first anniversary. Your presence here indicates the continued interest in the objects and welfare of the Association.

The inception of this Association dates back as far as 1874, when a number of manufacturers, without regard for party distinction, gathered for the purpose of consulting with each other on the question of tariff protection, to save Canadian industries from unfair foreign competition. The outcome of their deliberations, after full discussion, was the conclusion that the success of their respective enterprises depended upon the adoption by the Government of a sound tariff system, and what we now know as the National Policy, was the result, in no small degree, of the stand then taken by these men. The Association was first known as the Ontario Industrial Association, and, as the name would indicate, its influence was confined chiefly to this province.

When the Government adopted the system of tariff protection, the Ontario Industrial Association widened its field of action by becoming more national in its objects and became the Canadian Manufacturers' Association, whose members to-day, may be found in all the Provinces of the Dominion, and whose influence has contributed largely in moulding and educating public opinion to the principles of tariff protection.

The objects of this Association are:—

To secure by all legitimate means the aid of both public opinion and governmental policy in favor of the development of home industry, and the promotion of Canadian manufacturing enterprise.

To enable those in all branches of manufacturing enterprise to act in concert as a united body, whenever action in behalf of any particular industry or of the whole body, is necessary.

To maintain Canada for Canadians.

We are all convinced of the great advantages of organization. Manufacturers found it necessary to organize before the National Policy became a fact. They found it necessary to continue that organization to maintain the policy for which their organization was first sought, and to-day more than at any other time we should be on our guard, ever watchful of the enemies of this cause, lest through party strife and the introduction of less important questions, those who opposed the National Policy at the outstart, and who have opposed it ever since, some of whom are still influential in Canadian politics, become the instruments whereby the present tariff system which is so admittedly favorable to Canadian industry, shall be abandoned. I make this assertion advisedly and on the strength of statements made by the enemies of protection on the hustings, in parliament, and through many other mediums, all voicing sentiments hostile to manufacturing industries in this country. American manufacturers have realized the importance of organizing, and a little more than a year ago there came into existence in the United States, the National Association of Manufacturers; the first conven-

tion of which was held in Chicago in January last, and it is probably the strongest and most influential Association of manufacturers which ever existed on this continent. Mr Thomas McDougall, of Cincinnati, a member of that Association, made this statement when referring to the recent tariff adjustments of the Cleveland administration:—

It is because the manufacturers of this country were not so organized, did not make themselves so felt, when that crusade was being carried on against their interests, that we stand where we do to-day, with hundreds of millions of balance against us in Europe, on things which we ought to make but which they make for us, and we pay with our gold. What need more be said after the great object lesson which we have had in the experience through which we have gone in 1893, 1894 and 1895.

We can profit by the experience of others. This Association which has done such good work in the past, may be on the eve of a period of greater activity and importance in influencing public opinion to the great truths of protection, especially in these days of industrial strife, labor-saving machinery, improved methods of manufacturing, cheap foreign labor and capital, bankrupt stocks, over-production, panics, etc. At no time in the past has production in other countries been so great; and at no time were other nations as active in seeking out new markets in order to relieve the pressure felt in their own, and at no time has transportation, either by sea or by land, been so cheap. We have men of respectability and influence in public life in Canada who never tire of propounding theories on these questions, whose practical business experience is limited, and whose ideas have become crystalized through research in reference to the questions in other countries, whose conditions are altogether different from ours.

There have been indications since the National Policy was inaugurated, that nearly all politicians were inclined to recognise the importance and necessity of a well-defined, moderate tariff protection policy for the welfare of the country. Peculiarly situated as we are, adjacent to the industrial centres of the United States, which country maintains a high wall against our manufactured products, over which only by the merest accident can we get access to their markets for any commodity whatever.

The membership of this Association is composed of men of both political parties, who in their respective provinces in provincial elections often vote in a way which might be considered directly opposite to the way they vote in federal politics, yet in federal elections cast their vote in favor of the party who maintain the principles of the National Policy. Therefore this Association has never specially interested itself in the legislation which usually occupies the attention of our local assemblies.

The policies which we most frequently hear discussed in regard to our fiscal question, are free trade; free trade as they have it in England; tariff for revenue only; unrestricted reciprocity; commercial union; the National Policy of a protective tariff.

The term "free trade as they have it in England" was invented not only to catch the unwary voter who takes but a superficial view of the question, but also to appeal to the loyalty of British subjects and to suggest England's commercial supremacy. England is a free trade country, and the suggestions to do away with all "vexatious tariffs," and to

have "freedom of trade," are mere catch phrases, but let us see how such conditions would effect us. England has a tariff for revenue only. She raises her revenue chiefly by direct taxation, inland revenue, death duties, stamps' taxation, income taxes, and duties on tobacco, tea, coffee, cocoa, etc. She taxes vinegar makers, medicine vendors, keepers of refreshment houses, every person carrying a gun, male servants, carriages, makers and dealers in sweets, etc. The income of men of all classes is reduced by this free trade tax by the enormous sum of \$75,000,000 annually. The free trade tax gatherer haunts every tea-table, every candy store, dog kennel, gun rack, servants' hall, hawkster's cottage, farm house, drug store, restaurant keeper, trader's desk and every bank office. A British citizen is not free to go in or about one of these places on his daily business without being tapped on the shoulder by an income tax gatherer; and yet by the enemies of protection "free trade as it is in England" is put forth to captivate our people. It is a system which keeps a spy on every business action. The phrase "free trade as it is in England" is a fraud, a delusion and a snare in so far as it may be applied to this country.

Unrestricted Reciprocity, or commercial union, is an old and exploded theory which was revived during the last session on the floor of the House of Commons. It is highly impracticable as has often been shown. Annexation is on the face of it. It means nothing less than adopting the tariff of the United States, with such amendments as may be made from time to time, against the rest of the world. It means discrimination against Great Britain which alone is sufficient to render it an improper subject for discussion, and of which the Hon. Edward Blake said,—“Unrestricted Reciprocity, without an agreed assimilation of duties, is an unsubstantial dream.” But leaving this feature out of the question for argument's sake, do men look so lightly upon the question as to think of the very serious matter involved of adjusting ourselves to the industrial and commercial conditions of the United States, and of changing our channels of commerce entirely to fit into those of another country, only to be subject possibly to a greater and more serious change after a few years, when the Government of that country may give notice to Canada that they desired to cancel such an arrangement. It was hoped that we had long ago heard the last of this scheme, but we find it brought to the front again in the House of Commons on January 28th last, when Sir Richard Cartwright reaffirmed his conviction that in this policy of continental free trade, or unrestricted reciprocity, the people of Canada looked for relief from the existing system of protection. Any Canadian to properly advocate this cause must be endowed with a pessimism and lack of faith in his country which should not be cultivated by the manhood of a young and vigorous nation. The idea that we have no future before us, only in so far as we become absorbed in American institutions, is repulsive to every right-thinking Canadian.

In discussing the history of the National Policy, we naturally revert to the condition of things which existed immediately after the United States, in 1866, cancelled the reciprocity treaty of 1854. We go back to Confederation, and to the reciprocity treaty which we tried in vain to make with the United States in 1874. We accept Confederation as it has been handed down to us by wise statesmen, and we mean to continue it. I have no sympathy with, or tolerance of

those who imagine they are doing either their party or their country a service, when they undermine Confederation by talking about the secession of any province. In adjusting the tariff question, a spirit of give and take must predominate. One province has to give way sometimes to meet the peculiar conditions of another province. It is the work of a demagogue to advocate in one province a tariff policy regarding that province, which he would not freely discuss in a sister province.

We recall the conditions that prevailed during the civil war in the United States, when our manufacturers were not troubled with American competition because of the industrial disarrangement which obtained there. We also remember that when, after the close of that war, that country gradually settled down to legitimate pursuits, and her workmen had returned from the army to the workshop and to the factory, she gradually regained what she had lost and progressed so remarkably in manufacturing that our own manufacturers were forced to cry for a policy of protection which would shield them from United States competition and secure to them their own home market, while they had no chance of gaining that of the United States against a virtually prohibitive tariff.

The petitions of our farmers, our artisans and our manufacturers were not heeded in Ottawa in the years from 1874 to 1878, when Sir Richard Cartwright was Finance Minister. To show what a state of things then existed I need only refer to what the Hon. Thomas Workman, the Liberal member for Montreal West, said in Feb. 1876 in the House of Commons:

I have just come to this House from the counting house, from the bankers, the merchants and the manufacturers, therefore I know how very great the depression is in these three most important branches of the industry of the Dominion. For the last eighteen months there has been a gradual shrinking of values and curtailment of trade, until we have now arrived at a condition which in forty years' commercial experience I have never seen equalled. I know this, that the manufacturers of the country are in a very depressed state, that this depression has been gradually going on and increasing until at present nearly one-half of the manufacturing establishments in and around the city of Montreal from which I come, are closed up, and the other half are working on one-half or perhaps two-thirds time. Any number of hands have been discharged and are idle to-day, while those who are employed are only earning wages from seventy-five to eighty per cent. of what they earned before. A vast amount of misery and distress prevails around Montreal in consequence.

These words will bear all the more weight when we remember that Mr. Workman's own party was then in power; that he was a man of business and connected with one of the largest wholesale concerns in the country, and also connected with financial institutions of importance. In the same year we find these words from Sir John A. Macdonald, addressed to the then Premier, Hon. Alexander Mackenzie, in the House of Commons:—

My hon. friend must have felt in his heart that he might have expected the strong support of this side to any reasonable proposition that could have been made for an incidental tariff to protect our manufactures, and give them some aid, some alleviation, comfort and assistance in this time of distress.

In the session of 1877 the growing discontent had culminated in a great dividing question between the two parties, and in March, 1878, Sir John A. Macdonald moved this resolution in the House of Commons:—

That this House is of the opinion that the welfare of Canada requires the adoption of a National policy which, by the judicious readjustment of the tariff, will benefit and foster the agricultural, the mining, the manufacturing and other interests of the Dominion; that such a policy will retain in Canada thousands of our fellow countrymen now obliged to expatriate themselves in search of the employment denied them at home; will restore prosperity to our struggling industries now so sadly depressed; will prevent Canada from being made a sacrifice market; will encourage and develop an active interprovincial trade; and move, as it ought to do, in the direction of a reciprocity of tariffs with our neighbors, and will, so far as the varied interests of Canada may demand, gradually tend to procure for this country eventually a reciprocity of trade."

This motion was defeated, as were many more on a like subject. Elections were held in Sept., 1878, and the National Policy party whose rallying cry was "National Policy and reciprocity of tariffs," was returned to power with a majority of sixty-eight, and the National Policy was put into effect in 1879. From 1879 to 1887 no hint was ever made by its opponents that they had any faith in it, but in 1887 the Hon. Edward Blake, then leader of the Liberal party, made the following statement:—

No man, I care not how convinced an advocate of free trade for Canada he may be, has yet suggested—no man I believe, can suggest—a practical plan whereby our great revenue needs can be met, otherwise than by the continued imposition of very high duties on goods similar to those we make or can make within our bounds, or on the raw materials. I invite the most ardent free trader in public life to present a plausible solution of this problem, and I contend that he is bound to do so before he talks of free trade as practicable in Canada. I have not believed it soluble in my day, and any chance of its solubility, if chance there were, has been destroyed by the vast increase of our yearly charges and by the other conditions which have been created. The thing is removed from the domain of practical politics.

Mr. Blake had evidently become convinced that free trade as it was then preached, and as it is still preached, was a myth; and that a tariff protection on "goods similar to those we make or can make within our bounds," was the proper policy for this country.

I have no hesitation in saying that party politics makes a football of the interests of this country. A large majority of the people of Canada are vitally interested in the maintenance of the principle of protection, yet never was a question of so much importance so dragged through the mire of party strife, and never was a question that means so much to so many, kicked about so persistently to gain party advantage.

It is not practicable for this country to adopt a Revenue tariff, or free trade, without depopulating the country, so long as the United States maintains a high tariff against us. Our home market is necessarily contracted, and we cannot afford to share it with nations whose tariffs make it impossible for our manufacturers to gain an entrance therein. If we arrange our tariff the way the opponents of the National Policy say it should be arranged, we invite the manufacturers of every nation to freely enter our market, while we cannot possibly reach theirs. We replace the products which we ourselves can make with those made by over-producing countries. We throw our work-people out of employment. We invite misery and distress. We vacate houses, reduce real estate values, contract the market for agricultural products and furnish extra work only to assignees. Under such a condition, there

would be such an exodus of population to the United States, as has never yet been witnessed. At our annual meeting, two years ago, a past President of this Association, Mr. Edward Gurney, made the statement that he regarded men who advocated such policies as being as dangerous as anarchists, meaning no doubt trade anarchists, who would, if allowed, undermine our commercial fabric.

While it has been the policy of a certain class to designate manufacturers as monopolists, and give them many other similar titles, there is no occupation where intelligence, stability of purpose and perseverance are more necessary to success, than in the manufacturing business in Canada. Many a tale of disappointment and defeat in struggling to launch new enterprises on a successful career, could be told by some present. We know how near to each other the paths of success and failure often approach; how in these days of commercial rivalry every effort has to be put forth to stem the tide, and we can truthfully say there is for us no royal road to fortune. We can heartily endorse the words of Mr. Hague, the veteran banker, who in one of his annual addresses said:—"Experience is showing that it is more and more difficult to carry on business successfully. There was a time when almost anybody could make money, either out of farming or any other pursuit; in these days it is impossible to succeed without a practical knowledge of business, close application, the adoption of new methods and appliances, and the exercise of sound judgment and self-restraint in giving credit."

Men who say that manufacturing enterprises in this country are removed from the region of competition and conflict, have moved in a very narrow circle. They have either intentionally blinded themselves to their surroundings or they are insincere. Manufacturers not only have competition amongst themselves, but they have worse. Their greatest enemies are those who at some time in the past have held this market; have enjoyed all the benefits of selling to us without assisting in developing our country; have enjoyed the privilege of supplying merchandise, the labor on which was expended by other than Canadians. It is the competition of these wealthy, long-established foreign concerns, who have time and again tried to destroy our new industries, for there is no competition a foreigner fights so hard and so persistently as the local manufacturer.

A result of the National Policy is that manufactured goods, as a general thing, are as cheap in Canada as in the United States, and yet it is considered the duty of opponents of that policy to canvass the country far and wide in search of some article which may possibly be dearer, and if such be found to raise a shout of exultation, and declare that in their opinion everything should be cheaper in a young country than elsewhere; that under free trade everything would be cheap. Yes, indeed, under free trade everything would be cheap and everyone would feel cheap. "Cheap" is not a word of hope or of comfort, or of cheer. It is the badge of poverty, and the signal of distress. Nothing can be cheap which would enforce idleness upon our people, or drive them to seek homes in another country. The opponents of protection have borrowed from England the cry of "reducing the cost of living," which chiefly refers there to the cost of food products. It is a safe assertion to make that in no city on this continent of the same size, can a man with a family live as economically as in Toronto. In

no place on this continent can the necessities of life be purchased to better advantage to the consumer.

Our tariff protects Canadian industries while it does not destroy foreign competition. It erects factories, mills, furnaces and machine shops. It provides a home market for farm produce. It brings the market to the farmers' door, and gives value to many things he produces, which under other circumstances would be of little value to him; products which it would not pay to ship to distant markets. It gives employment to our urban population, and to those who through choice flock to centres of population in order to earn a living. It affords subsistence to the poor. It gives protection to the farmer against cheap farm products from the United States, and it renders us more independent of the commercial disasters of other countries.

If the principle of protection, as it applies to beef, were abandoned, and the duty on that article removed, it would enable the mammoth dressed beef establishments of Chicago to capture our market, and enable concerns with immense capital to start branches in every town and city in Canada, besides our now fairly prosperous butchers. It would force the small butcher out of business and give us beef raised on ranches in the United States, instead of that raised by our own farmers. There are several extensive dead meat concerns in Chicago, which would participate in this trade, one of which kills over two million cattle annually, the total value of their sales in cattle, hogs and sheep, amounting to \$100,000,000 annually; they having in use 3,000 refrigerator cars and own 200 branch establishments.

These great concerns have pushed their business to such an extent that they control the meat markets of New England and other Eastern States. The effect they have had on the cattle industries in these States may be illustrated by a reply received from the commercial editor of the American Agriculturist published in New York City, in answer to an enquiry on the subject:—

You ask what effect the business has upon the meat markets in New England and other Eastern States. If by this you mean the effect of the dressed beef business on small butchers throughout the east, it can be answered that in a general way it has very largely destroyed the business of the latter. The big dressed beef concerns of Chicago have established branches in every city and town of considerable size throughout the east, ship their meats to these depots in their own refrigerator cars, and through their own agents, and sell all their meats direct to retail marketmen. Through the utilization of every part of the animal at the big packing centres, the dressed beef concerns are enabled to sell the sides of meat at such low prices as to practically crowd out the small butcher, who in former times would buy live cattle in his own neighborhood and prepare them for market at his own slaughter house.

What has been accomplished in the New England and other Eastern States by these big western dressed beef concerns would undoubtedly be accomplished in this country but for the protection afforded our farmers, and what applies to the beef industry applies with equal force to other farm products which are wisely guarded by a protective tariff. The duty on wheat and other grain has proved of great benefit to our farmers, as well as the duty on live animals, hogs, etc., yet we are constantly told that this protective principle must be abandoned. It is a settled fact that we must raise a revenue, and there are but two ways by which our politicians

propose to do this. One school proposes to select from a group of imported articles those which are necessary to the wants of our people and for which we must rely upon foreign countries for our supplies, and to put upon them a tax or duty, but allow the articles which come to us from abroad, in competition with those which we make or can make, to come in free of duty, or subject to a revenue tariff which is practically the same. This is the revenue tariff policy. The other school proposes that the articles which we cannot produce, and which we must import, except luxuries, shall be free of duty, while those articles which come in competition with home produce shall pay the duty. Our contention is that the tariff should be levied on competing and not on non-competing products. Put the duty on the products made by the foreign competitor, and charge him for the privilege of doing business in our market. Home competition together with foreign competition will regulate the price to the consumer.

In the face of all the evidences of the benefits of the National Policy to both the agricultural and mechanical classes in this country, we find that on every conceivable occasion a class of politicians who never tire in their condemnation of protection, and desire to see it destroyed, have for years bent all their energies in this direction. I have no fear of such a result coming from an honest, intelligent enquiry into the question, but we must look with apprehension upon the influences exercised by those who have never taken the pains to enquire into what has been actually going on around them within the last fifteen years.

Mr. Snyder, of Waterloo, a Liberal, claims to be a protectionist and in favor of the National Policy, but can he subscribe to all the planks of his party's platform, as adopted at the Liberal convention in Ottawa in June, 1893, and to which we are referred by such gentlemen as Mr. Patterson of Brantford. Here are a few extracts from this platform:—

The customs tariff of the Dominion should be based, not as it is now upon the protective principle, but upon the requirements of the public service.

It has decreased the value of farm and other landed property; oppressed the masses to the enrichment of the few; checked emigration; caused great loss of population; impeded commerce, and discriminated against Britain.

In this and in many other ways it has occasioned great public and private injury, all of which evils must continue to grow in intensity as long as the present tariff system remains in force.

The issue between the two political parties on this question is now clearly defined.

It is a fortunate thing for Canada that we have an electorate who are capable of exercising their franchise intelligently on this important question. It is our duty by every legitimate means to show the benefits of protection to this country, to place before the people correct facts and figures, and if we are true to our cause there need be no fear. But if business men fold their arms and leave this question entirely to the discussion of partisans, to be debated but too, largely from the standpoint of exploded theories, and having in view circumstances which existed when some of us were children, we should not expect to keep our cause in that prominent place that its importance demands.

I have referred to the great advantage of protection to the farmer in creating a home market for his products, and shielding him from foreign competition. I will refer to the benefit

the National Policy has been to the country at large in encouraging and sustaining in our own midst various industrial enterprises, and providing diversity of employment to our working classes, which cannot but be a great advantage to any country.

One of the most recent illustrations of the benefit of the National Policy is in the establishment in this country of bicycle factories. Without a protective tariff on bicycles it is doubtful if the industry would ever have gained a solid foothold here. Manufacturers in the United States who had formerly exported bicycles into Canada, have been induced to establish factories here. The theory that manufactured goods cost the consumer more in this country on account of the tariff, or that an equivalent of the duty levied on the foreign article went into the pockets of Canadian manufacturers when the article is produced here, is exploded. With regard to bicycles, the consumer not only benefits by having them manufactured in our midst, but the industry is of untold benefit to our work-people. Hundreds of hands are obtaining regular employment in these bicycle works who would otherwise be idle or forced to leave the country. Within the past year, in Toronto alone, no less than four large bicycle factories have been erected, and in many other places throughout the country this industry has developed with equal vigor. Of the several bicycle works that have been established in this country by Americans, perhaps one of the most important is that referred to in *The Toronto Globe* a few days ago, that of Messrs. H. A. Lozier & Co., who come amongst us from Toledo, Ohio. *The Globe's* article states that in this establishment are employed four hundred hands, and that the plant and machinery cost more than \$200,000. I am informed from another source, that these very Americans whom we so gladly welcome, have been more Canadian than many Canadians. In supplying themselves with machinery they kept several of our machinery manufacturers employed almost exclusively upon their work for quite a term. As they were to sell their product to Canadians, they adopted the principle of having every machine possible for their use, of Canadian make. Machine shops which were not in a position to supply, and had never before made such machines as were required, were supplied with all necessary drawings. Messrs. Lozier evidently adopted the true American principle in establishing their factory in Canada. I was glad to learn by the article in *The Globe*, that the representative of that journal saw with his own eyes that a bicycle was actually made in the factory referred to, from "start to finish," a fact of which the same paper was very skeptical about a year ago. The establishment of this factory, like that of all others in our midst, has been, and is, a great boon to the community, and I direct those who may desire to form an unprejudiced opinion on the workings of the National Policy, to visit the homes of the men to whom have been given steady employment in these factories and enquire of them if they desire such legislation as will in effect close them up and transfer the business elsewhere.

The bicycle industry is only one of the recent developments under our National Policy; there are many others which have come into existence within the last year or two, to which I am unable just now to refer; but we are told that the legislation which brings about these results must be abandoned, that this is a policy wrong in principle, which does harm to Canada; which causes great loss of population, which checks emigration, and which impedes commerce.

It cannot be demonstrated that the Canadian consumer pays more for manufactured goods, to the extent of the duty imposed, than the consumer in countries where like conditions prevail. Labored arguments have been advanced to prove that the manufacturer has profited to the disadvantage of the consumer, but this is not true. Since the National Policy was inaugurated, the profit on merchandise which could be imported, but which has been produced here, is represented in the labor bestowed upon such product, and in the various returns of our great financial institutions and the many evidences of prosperity surrounding us. The savings of our people have greatly increased since 1878. The deposits in our chartered banks in 1878 were \$70,856,253, and in January, 1896, they had increased to \$190,493,856. The great increase in the amount of life insurance in force is also an indication of thrift. In 1878 the total amount of life insurance was \$84,751,937, while in 1895 it had increased to the enormous sum of \$319,781,939.

The capital invested in industrial establishments in 1881 was \$164,957,423; in 1891, \$354,620,750. The number of employees also increased proportionately, while the wages paid out nearly doubled, being in 1891 \$100,663,650.

The total value of out-put of our industrial establishments in 1891 was \$476,258,886. There were then 776 establishments whose out-put was over \$100,000 annually. Omitting establishments whose annual out-put was under \$2,000, the out-put of all others was \$444,003,694 in 1891, while by far the greatest increase between 1881 and 1891 was by establishments whose out-put was valued at over \$50,000 annually.

Our foreign trade forms but a small proportion of our commerce. The best customers for both farmer and manufacturer are the Canadian people themselves who consume by far the greater portion of all the country produces. Notwithstanding our great inter-provincial trade, and the large quantity of goods we manufacture, which replaces the foreign product, our imports have increased from \$93,081,787 in 1878, to \$123,474,940 in 1894, and our exports have increased from \$79,323,667 to \$117,524,949 in the same period. In making these comparisons we must not lose sight of the fact of the great depreciation in values of all commodities within the periods named, so that all these figures relating to 1894 would really be greatly increased, if values were equal to those in effect in 1878. A matter in this connection which will be of interest to us, is the fact that according to recent reports, our exports for the first quarter of this year, to Great Britain increased ninety per cent.

The tonnage of sea-going and inland vessels arriving at and departing from Canadian ports, exclusive of coasting vessels, has increased in round numbers from twelve millions of tons in 1878 to twenty millions of tons in 1894. But the greatest indication of the importance of our inter-provincial trade is found in the traffic of our railways. In 1878 our railways carried nearly eight million tons of freight and earned \$20,500,000. In 1894 the tonnage was three times greater and the earnings nearly \$50,000,000, while the working expenses, number of passengers carried, and miles of roads in operation more than doubled in the same period.

The increase in our postal facilities also emphasizes the importance of the increase in our commerce since 1878. In that year the letters and postal cards mailed were 50,445,000 pieces, while in 1894 the number had increased to 132,097,200 pieces.

Fire insurance in force in 1878 was \$409,647.01, and in 1894, \$836,067,202. To the latter amount should be added the insurance carried by many large concerns in mutual companies which make no return to the Government.

In 1881 we imported and manufactured \$401,287,672 worth of merchandise, and in 1891 \$589,544,010 worth, showing an increased consumption in 1891 over 1881 of \$188,256,338. In 1891 our own manufactured products which we consumed exceeded our imports in the proportion of four to one.

It will be seen by these figures whether the protective principle has occasioned great public and private injury, etc., all of which evils must continue to grow in intensity as long as the present tariff system remains in force. The policy which has brought about the beneficial results which I have indicated, is to be changed, we are told, to free trade or a Revenue tariff or Commercial union as the case may be, but neither of these policies can be brought about without great disaster to the country.

In view of the efforts constantly being made by the enemies of protection, can Canadian manufacturers be reproached for believing statements of policy, put forth on the hustings, in parliament, at conventions, all aimed to destroy it? Are we to believe what we hear regarding the various policies which they declare to be best for this country, but which are directly opposed to that which we have been pursuing for years? I ask, have any of the men who have for years advocated these impractical policies indicated in any public way that they have changed their minds? Has not the effort by them been persistent and well directed to try to educate the people to believe that the manufacturers are the enemies of the country, and that they are leeches in the community? Have not individual industries been attacked, and their affairs paraded before the public in a most unjustifiable manner, the object being to set one class of the community against the other for party purposes? I regret that time will not permit me to refer in detail to instances of which I have knowledge, of this kind of treatment to which some of our industries have been subjected.

During the past year, this Association, through the medium of a circular, made enquiry of manufacturers throughout the country asking their views on our present system of protection, and also regarding a tariff for revenue only, or free trade, in substitution for the present arrangement. The circular was promptly and intelligently responded to, and the information gained was of a character which showed that the manufacturers were practically a unit in their advocacy of the National Policy. If the information thus obtained could be so condensed as to be available for publication and distribution, I am sure it would convince the most ardent advocate of a revenue tariff or free trade, of the utter folly of adopting any such policies for this country. In almost every part of the Dominion it was found that industries have sprung up of which but little was known; and the fact was developed that one industry stimulates another; and that the wants of one concern encourages others to make articles to supply them, thus creating a round of establishments, one dependent upon the other.

The amount of merchandise we consume, according to the most reliable statistics obtainable, shows that our wants are continually increasing, and that the purchasing power of our people has increased. Manufactured goods are much cheaper

than they were in 1878. Sugar is less than half the price. Cotton goods are 40 to 50 per cent. less. Woolen goods fully 40 per cent. less, and farm products are cheaper; yet the farmer can to-day have many more of the necessities and luxuries of life, in exchange for what he produces, than he could in 1878. The standard of living has certainly been advanced under the National Policy.

A good deal has been said about the United States being Canada's natural market, considering our geographical situation, and what a great advantage it would be if we could obtain larger access to it. By all means let us do all within reason to secure as great advantages in that market as is possible, but if we are ever to have a limited reciprocity with the United States, politicians must cease expatiating upon the erroneous ideas that we cannot get along without a more extended market in that country. Let them stop encouraging the United States Government to legislate against Canada, with a view to coercing us into abandoning our rights in our own market. The best results can never be gained by such tactics, and the sooner they are abandoned the better it will be for us.

We should within reasonable bounds cultivate the market of the United States, but in doing this we should not forget the importance of the market of Great Britain for our food products, in respect of which we occupy a unique position, situated as we are in this favorable climate with but a short ocean voyage to separate us. The United States, like Canada, produces more food products than is required for home consumption. Great Britain, on the other hand, is yearly demanding increasing supplies, of just such products as we are most favorably situated to supply. We are able to supply to Great Britain the more refined products of the farm, those better paying products, which, by Government aid, we should get well established in that market. We have been spoiled by depending too much on the American market. From time to time the American tariff has been adjusted so as to almost prohibit our exports of products which they had formerly taken from us in large quantities. The reason their tariff has been adjusted so as to shut out our products, was that they were not in need of them, being able to get along without them, because they could produce them in their own country. Not so the case with Great Britain; and were our products once well established in that market there is no reason to fear that they would adopt the same policy towards us as the United States has. The Australian colonies had no market like that of the United States for their farm products, yet what have they done? We find Australian butter in England in great quantities. This butter is made in a country subject to drouth and excessive heat, such as we know nothing of here. It is carried in cold storage to Great Britain, crossing the equator, on an ocean voyage of 12,000 miles. So aggressive have the Australians been in regard to this product, that many will be surprised to learn that the steamships which ply between Montreal and Liverpool, carrying Canadian passengers, use Australian butter purchased in Liverpool for the round trip, in preference to buying Canadian butter in Montreal. This is remarkable when we consider the disadvantages of the Australian climate and how much better adapted this country is than that to supply butter to Great Britain; and it proves how little attention we have really given to such an important matter. The Government have

recently been encouraging the butter industry, which, before long, it is hoped, will out do even the cheese industry in importance. The enterprise shown by the Australian colonies in sending butter to England is on a par with or may be exceeded by the enterprise shown by New Zealand in sending dressed mutton to England in cold storage.

What applies to butter applies also to dead meats and many other articles. The fact is we have an unlimited market in Great Britain, far more advantageous to our farmers when once we get our products established there, than that of the United States. It is to be hoped that something will be done to give our dead meat industry a start, so as to share to some important extent in the British market. Of all the British possessions which send food supplies to the United Kingdom, Canada is undoubtedly the most favorably situated, owing largely to the short ocean voyage.

The British market is an ever increasing one. It is estimated that in 1891, 55 per cent of the food consumed in the British Isles came from abroad, therefore every inhabitant is dependent upon outside supplies of food for 189 days in the year. If development there is as great in the next as in the last twenty years, Great Britain will require to obtain three-quarters of their food supply from abroad.

It may be interesting to know the value of the British market for all foodstuffs, and for what Canada supplies at the present time. In 1894 the United Kingdom imported foodstuffs, which we assisted in supplying, as follows:—

Animals, living, for food.....	\$14,237,455
Wheat, barley, oats, peas, beans, flour and corn.....	232,297,429
Dressed meats.....	110,594,951
Butter.....	65,489,268
Margarine.....	14,818,075
Cheese.....	29,644,708
Eggs.....	18,426,801
Lard.....	13,424,292

In 1894 we supplied of these articles to the British Empire, including not only the United Kingdom, but all the colonies, as follows:—

Animals, living, for food.....	\$6,608,000
Butter.....	1,059,855
Cheese.....	15,475,716
Eggs.....	510,360
Dressed meats.....	3,905,498
Wheat, and other grain, fruit, flour, hay, etc.	13,879,725

It will be seen, therefore, how little we really supply of these products.

Give us as large and extended markets as possible for both manufactured and agricultural products, for experience has taught us we must not be dependent solely upon the United States.

Some people are dazzled by the splendor and greatness of American enterprise, while they can see no good in their own country. We admire all that is good and noble, and we admire the pluck and progress of our neighbors. They have built up their country on the principle of America for Americans. Let us imitate their national pride and self-reliance, but let us discountenance any sentiment which seeks to belittle our own country and its institutions. Let us put a premium on enterprise, and pursue a policy which will bring our young men to appreciate the greatness of our resources. We may admire the American Republic, but we admire our own country more, and we admire the great Empire of which we form so important a part. We will

never consent to become political nonentities, with our national life extinct. The name of Canada will never go into oblivion by its people being swallowed up in the excitement and sympathies of the great Republic. Canada has already risen to the dignity of a nation. We are no longer a mere colony. We have an abiding faith in the great resources of our country, and in the intelligence, thrift and perseverance of its people.

EDITORIAL NOTES.

There is some reason for asserting that the tax law which will operate most justly and profitably is that which confines itself chiefly to real estate and corporate franchises. Every extension beyond these limits is a movement away from safety and sound principles.

Looking over the landscape last night, Wilfrid Laurier got his eye on the bright glow of the smelting works at Huckleberry Point. "Ah!" said he unto himself, "you may shine a little while longer, my bright friend, but when I get into power I'll throw the iron duty off, and you will close your bright eyes forever, my beloved child of the accursed National Policy!"—Hamilton Spectator.

In tariff legislation the blunders are seen only in their results. Were it otherwise the poor old policy would have been ousted long ago.—The Globe.

The reason why the National Policy has not been ousted is because it was anything but a blunder to adopt it. The visible results of the policy are the thousands of industrial establishments that have sprung into existence all over Canada since its adoption, giving employment to millions of capital, and to thousands and thousands of Canadian workers, and the general enrichment and advancement of the country. The blunders that are not seen, if any such have been made, are consequently not felt, and being neither seen nor felt are not taken into account as against the benefits that are tangible and apparent. The Globe political schoolboy has evidently been taking lessons from Principal Grant.

An important announcement has been made in The Globe. It comes somewhat late, but is nevertheless interesting, being to the following effect:—"The Liberal trade policy is not a policy for a class nor for sections of the country. It is for all classes and all sections. It suits their opponents to represent Liberals as the enemies of industry, as desirous of destroying the manufacturers. The charge is almost too absurd to be noticed. The picture of the Liberal leaders filled with a demoniac desire to desolate the country by destroying its manufacturing industries may do for private consumption in certain quarters, but it will hardly be accepted by the business men of the country." It is a great pity that the business men of the country were not assured on this point long ago, for the impression now undoubtedly prevails that Mr. Laurier and his followers have a trade policy for each class and each section. To disillusionize the community at this late hour will be difficult, and it will be good policy for The Globe to repeat each day the statement that "no industry need fear the advent of the Liberal party to power." Or, perhaps, it would be more convincing to say "no one need fear the election of the Liberal party to power."—The Mail and Empire.

There is scarcely a page of our tariff from which illustrations could not be drawn to show that our tariff discourages industry, or that it is constructed not so much in the general interest as in that of some particular person or company that has managed to get the ear of the Finance Minister.—Principal Grant.

This is simply insulting to the common sense of every man who is possessed of common sense. The boss schoolteacher tells us that the tariff discourages industry while the country is teeming with industries that never would have come into existence had it not been for the tariff. The boss schoolteacher declares in unmistakable terms that those who have invested their capital in industries fostered into activity by the tariff are enemies of the public, and, as such, ought to be punished by the withdrawal of protection; and he insults the country and outrages decency by intimating that the Finance Minister is venal, corrupt and false to his obligation as a protector and defender of the public interests committed to his keeping. Principal Grant may be sincere in the expression of his opinions, but there are thousands of school boys in Canada who could instruct him in both elegance of language and in political economy.

Some few years ago an exorbitant duty was placed by the American Government on tin plates coming into that country. There was naturally a loud outcry on the part of the free traders, who argued that America could never hope to contend with Great Britain in this industry. It was pointed out that the Welsh manufacturers by their cheap labor and rich tin mines virtually possessed a monopoly of the business. The ingenuity of American capitalists, aided by a vigorous McKinley tariff, has at last succeeded in almost completely driving Welsh tin plates out of the markets of the United States. The success of this industry in the United States is a notable triumph for protection. The London Iron and Steel Journal admits the victory of the protective principle as applied to America, and laments that "our trade in tin plates with the United States continues to dwindle away. With regard to our trade with the United States, if we have to lose the market, the sooner our makers recognize the fact the better. The tin plate industry in the United States has come to stay."—Toronto World.

What the United States has done in the way of establishing a tin plate industry Canada could also do, if the same method was adopted. So, too, with the steel rail industry. There is no reason why Canada should not fill all its requirements, not only for steel rails, but also for all other forms of mild steel. But never a steel rail, or girder, or structural form was ever rolled in Canada, nor will be until we adopt the United States' method for creating the industry.

There is one phase of the good roads question that has been but little discussed. That is the effect it will have on the home life of the farmer. Nothing tends to make farmers and farmers' children so dissatisfied with the farm as that period of the year when the roads are so bad that they cannot go anywhere. There is nothing to do at home, so they sit around in the grey days and mope and mope until they unconsciously absorb narrow ideas of their own lives and of the world in general and become morbidly anxious to get as far from the farm as possible. The bright summer sunshine drives these thoughts away, but the stain is left just as sure as the sticky mud of the horrid roads stains anything it may touch. Build good roads so that farmers can come and go as they please, and we will not hear so frequently the query: "Why do the young folks leave the farm?"—Simcoe Reformer.

Not only the farmer but the whole community are interested in the question of good country roads. They should be made. Why are they not made? Our prisons are filled with men whose time could be used to the greatest advantage in the

building of good roads, and if the convicts were thus employed good roads would be the rule and not the exception. Why not build barracks at quarries in different sections, where the convicts during the winter might be profitably employed in breaking stone for macadamizing the roads, and in the summer employed in building them. This would be doing the farmers and the whole community a real service, while at the same time it would withdraw an element that has a most depressing effect upon the market value of Canadian skilled labor.

Mr. Strauss, an old Belgian consul at Japan, has recently delivered a lecture on what he calls the "Yellow Peril." He says that the people of the Far East are undercutting the products of Europe. Mr. Strauss has made one mistake: he has confounded the Sino with the Japanese race, when in point of industrial intelligence they are different as day is from night. The Japs are very much up-to-date with respect to everything European, but the Chinese lie still in Sleepy Hollow. Some of the handsomest shops in Paris are controlled and managed by Japanese, and they are constantly enlarging the area of their productions, which are ever increasing in nature and variety. It is impossible any longer to accept the statement that Orientals cannot found or direct large factories and commercial enterprises. Ask Lancashire what it thinks of Bombay and Japanese cottons; demand of shippers their opinion of the mercantile marine of Japan. We all know the excellence of her navy. The question for Canadian and English manufacturers to bear in mind is that not only is labor cheap in the Far East, but raw materials are cheap also. The latest and most improved kinds of machinery is imported for all kinds of industrial undertakings, and the home market is cheaply and abundantly provided for—the market that has hitherto been supplied largely by the enterprise of English manufacturers. The best and cheapest goods will win. It is necessary for the Anglo-Saxon to keep a sharp eye on the yellow man.—The Week.

The way to keep a sharp eye on the yellow man is to impose such import duties upon his products as to effectually keep them out of the country—that is, such as we ourselves produce.

We commend to The Globe the following editorial opinion of The British Trade Journal. The Globe may ridicule the idea that there is any agitation in Great Britain looking to tariff protection, but the truth is the sentiment is fast gaining ground there.

Another correspondent, whose letter we publish, discusses the question whether it is advisable or not to institute an inquiry into the imports of foreign products and manufactures into this country. The letter arises out of the comments on Mr. Chamberlain's circular dealing with the same subject as regards the Colonies and other British possessions. It was the contention of a correspondent, whose letter we published in our February issue, that assuming it to be necessary to institute such an enquiry as regards the Colonies, it is much more requisite to establish a similar investigation as regards the home market; and if we examine the figures on this subject, it cannot be denied that there is *prima facie* much to be said for this view. From the merchant's point of view, doubtless, it is immaterial whether the goods he handles originate abroad or at home, but from the manufacturer's standpoint the question assumes quite a different aspect. Would it not, for instance, be well to know whether the £76,000,000 worth of manufactured articles, imported by this country in 1895, showing an increase of £7,000,000 for the twelve months, might not in a large measure have been produced at home, to say nothing of numerous articles of food and drink, of chemicals and of raw materials? From the apathy shown by the Board of Trade, however, we conclude that its President is less zealous on behalf of our home trade than Mr. Chamberlain as regards our export trade with the Colonies.

In the last report of the United States Commissioner of Labor, some very valuable information is supplied concerning labor-strikes. It is shown that, during the past seven and a half years, the persons deprived of employment in that country, by such disturbances, numbered 2,391,203. This is about one-seventh of the males engaged in what may be called productive industry. The larger part of the strikes occurred in five states, containing fifty-one per cent. of all the manufacturing establishments, and employing fifty-six per cent. of the capital invested in mechanical industry. These states are, Pennsylvania, New York, Ohio, Massachusetts, and Illinois. Fifty-six per cent. of 10,488 strikes occurred in twenty-six cities. The loss of wages in these cities was in round numbers thirty-five million dollars; the loss to employers nearly twenty-nine million dollars. The purposes of the strikes were these: twenty-five per cent. for more wages; thirteen per cent. for a shorter labor-day; eight per cent. against wage-reductions; seven per cent. were "sympathetic;" six per cent. were for more wages and reduction of hours; four per cent. were against employment of non-union men; and three per cent. for recognition of unions. The Manufacturer says that there is, of course, no hope that differences, often wide and large, between employers and employed, will ever cease to exist; but if any lesson is taught by these statistics, prepared in cold blood, without passion or prejudice, plainly it is that resort to more or less violent methods for the adjustment of inevitable differences is both wasteful and futile. It hurts the master and it hurts the man. There is no other recourse but arbitration, and the hope may be expressed that, in the time to come, wage disputes and hour disputes and all other

disputes between the man who sell his labor and the man who buys it will be settled by such amicable and reasonable means.

The heaven of protection is working vigorously in Great Britain. There is an association of ladies in Manchester, England, called the Ladies' National Silk Association, the object of which more fully appears by the following item taken from the Textile Mercury, of that city which says:—

We are glad to be able to chronicle further important progress in the work of the Ladies' National Silk Association. Since its formation it has been the intention of H.R.T. the Duchess of Teck, with the lady county secretaries, to form local committees throughout the country, and it belongs to Burton to have the credit of the formation of the first district committee.

The first meeting of the Burton branch of the Association was held on the 20th, at the Dove Cliff. Mrs. Hugh Charrington, in welcoming the ladies, said the meeting had been called to maintain the interest of those who were already members, and to enlist the sympathy of others in this truly national and patriotic movement, i.e., the encouragement of the manufacture of English silk, so as to give a new opening of employment to thousands of our fellow-countrymen and women. After the formal election of Mrs. Charrington, as president of the Burton branch, the following resolution was put to the meeting, and carried unanimously:—"That this meeting pledges itself always to ask for English silks, and when possible to purchase them."

Several interesting papers were read, and it is gratifying to note that, especially during the last six months, the silk industry is gradually increasing in prosperity. The last returns need, however, to be reversed—imports of foreign silks, £11,000,000, exports of home manufacture, £2,000,000. Patterns of exquisite design and moderate prices, and of English manufacture, were shown to prove it is not necessary to go out of our own country for textures of ordinary wear.

ROBIN, SADLER & HAWORTH

Manufacturers of

OAK TANNED LEATHER BELTING
MONTREAL AND TORONTO.

Orders addressed either to our Toronto or Montreal factory will have prompt care. Goods will be forwarded same day that order is received.

Attention has of late been directed to a line of industry in which British capital and enterprise may find a profitable outlet in Ontario and other parts of Canada—an industry wherein the manufacture of the raw material could be done in Canada for shipment to the United Kingdom, and there made into useful and necessary goods, so as not only to be profitable to the firms or corporations engaged in the enterprise, but to build up a large and important trade. The industry relates to veneer and cut stock. There are in Ontario considerable areas of suitable timber for both "slicing" and "rotary-cut" veneering—such as maple (four varieties), birch (three varieties), oak (three varieties) elm (three varieties), beech, sycamore, basswood, ash, balm and whitewood—adjacent to a line of railway, so as to be convenient for shipping. The most improved machinery for this class of work can be obtained in Canada; and the veneering or cut-stock, properly dried, cut to size and carefully bundled, can be shipped to great Britain and made into furniture, house decoration, packing boxes, nail kegs, barrels, butter tubs, and an almost infinite number of lesser although by no means small or unimportant lines of goods. A great deal of attention and study has been given to this veneer industry, and its development and its extension from one line of manufactured goods to another—such as pianos, organs, sewing machines, etc.—have been such that at this present time large lines that were formerly manufactured of solid material are now "built up," so as to be cheaper, more durable and substantial, and much lighter, and many other lines of industry are moving into the using of veneer for constructive material. A trade could, it is believed, be built up reaching into millions

per annum; and as the industries provided for are increasing daily necessities, so the business would increase from year to year. The capital for the industry on a large scale, however, would have to come from England. The few large lumbering and timber firms that are in Canada are all concerned with pine, and so special provision for capital would have to be made.—London, Eng., Canadian Gazette.

Scribner's Magazine for May opens with the most intimate account of Robert Louis Stevenson in his homo-life that has ever been published. The issue contains the first of two papers by Hamilton Busbey, of Turf, Field, and Farm, who from his wide acquaintance with the men prominent in the racing world, has been able to write a vivid history which he calls "The Evolution of the Trotting Horse." A most amusing paper is "The Comedies of a Consulate," by Hon. H. Ridgely, U.S. Consul at Geneva. It puts on record the actual encounters of an amusing character which a consul has with Americans abroad.

An attractively seasonable flavor pervades The Ladies' Home Journal for May. Among the more conspicuous features aside from the dainty cover, is a drawing by W. Hamilton Gibson, illustrating Frank Dempster Sherman's poem, "God's Miracle of May." Kate Greenaway also contributes a page of her winsome little people to illustrate a poem, "In Springtime," by Laura E. Richards. Drawings and details for the construction of "A Livable \$2,000 House," are given. The Journal, both in a literary and pictorial way, is an admirable magazine. The Curtis Publishing Company, Philadelphia. One dollar per year.

A Practical Handbook on the Care and Management of Gas Engines is the title of a handsomely bound volume of over a hundred pages, published by Spon & Chamberlain, 12 Cortlandt street, New York. The book gives full information with regard to the selection and installation of gas and oil engines, precautions to be observed in their handling and care, and much other useful information that will be greatly appreciated by users of these engines. The book can be had from the publishers for \$1.

The Royal Electric Co'y

MONTREAL, QUE.

Western Office.... TORONTO, ONT.

S.K.C. Two-Phase Alternators

Incandescent Light, Arc Light and Power from same Dynamo and Circuit.

Highest Efficiency

Best Regulation

Slow Speed

Least Attention



No Collector

No Moving Wire

No Exposed Parts

No Compounding

S.K.C. 50 Kilowatt Two-Phase Generator

CANADIAN INDUSTRIES AND FINANCES.

BY GEO. D. GRIFFIN.

(Concluded from last issue.)

THE OVER IMPORTATIONS IN 45 YEARS.

The Government returns show that for the seventeen years from 1850 to 1867 the over-importations were \$340,507,775. And the excess from that time to the end of 1895 was \$671,258,552. The two amounts make a total of \$1,011,766,330 in the forty-five years. The annual average for that period is \$22,483,691. And at \$1 per day for 300 days in the year means an army averaging 72,278 producers in other countries paid with gold borrowed in Britain at the expense of Canada to produce over-productions for a similar army of Canadians thus by the importers deprived of 1,011,766,330 day's work. That army of 72,278, at the low average of six to each as previously shown, means a home market of 433,368 souls for forty-five years given by Canadian importers to the farmers and gardeners of other countries, and of which thereby Canadian farmers and gardeners were deprived, and its business men of all the business contingent thereon. And yet these importers, many members of Parliament, very many editors and others who have no doubt but they are wise statesmen, who, for want of this class of information, exhibit their industrial and financial ignorance in attributing the slow progress of Canada to over-production in place of the over-importations of our importers.

SHODDY AND OTHER FRAUDULENT GOODS.

Factor No. 2. The total imports from 1850 to 1895 inclusive were \$3,969,654,143. There is no well informed business man with a range of experience covering this forty-five years period, which that of the writer does, who is not well aware that 20 per cent. of these imports were shoddy and fraudulent goods that to the purchasers would have been dear as a gift. For example, it was stated by a Montreal paper, the year of the "cotton glut" that sufficient in amount was imported in two months to have paid all the wages of all the cotton operatives in Canada for a year and stated that they were imported because the importers could only make seven per cent. on good Canadian cottons, while on the shoddy ones imported they had a margin of 15 per cent. And thus every shade of margin of robbery from 10 up to 100 per cent. All starched

cottons may more or less be classed as shoddy and some of them so scandalously shoddy that the Boards of Trade in Shanghai and Calcutta notified British manufacturers to send no more of them. And cottons have been as little if not less shoddy than many other classes of goods imported. The average of 20 per cent. on the total imports for the forty-five years is \$794,051,828. But to estimate the cost to the purchaser to show of how much he thereby has been robbed, we must at the very lowest add 30 per cent. to that sum for cost of importing, for duties, carriage, insurance, and wholesale and retail margins. That 30 per cent. added to the invoice price gives a total sum of \$1,032,267,376 of which Canadian consumers have been robbed in forty-five years through fraudulent importations from foreign countries. And that would average \$1,000 per family to our present population. And to-day, with but rare exceptions, wholesale and retail stores all over Canada are astonishingly cursed with such imports. In most cases the retailer's business is being more or less withered up thereby. He is the victim of the importer and other well known contingent circumstances from which he perceiveth no way of escape. The importer is often the victim of the foreign manufacturer, and the Canadian manufacturer the victim of them both, for he has to compete against such imports. These fraudulent goods gradually impoverish the customers of the retail merchant, the consequent bad debts like a fire consumes the merchants' capital and hard earned savings, and in his declining years casts him out of business, and, like his defrauded customers, beggared and bankrupted by the importers of such goods, and therewith deprived of his reputation as a capable business man. The Year Book reports that sixty-two per cent. of the business men fail for want of capital. The above exhibit amply proves that shoddy and other fraudulent goods imperceptibly consumed their capital, and the previous exhibit of failures makes it clear that for every two producers by our importers employed in other countries a Canadian business man was ruined.

The foundation of Britain's manufacturing prosperity was laid in the guarantee of their manufacturing "Guilds," which are well represented in the present idea of stamping the date of manufacture and the maker's name on every cheese manufactured in Canada, and in the effort to, in like manner, prohibit the production of sugar—that is, shoddy honey—that neither Canadian nor foreigner may be defrauded thereby.

If the Canadian members of parliament had during all these

JOHN FORMAN

DEALER IN

Electrical Supplies

650 CRAIG STREET, MONTREAL

Correspondence Solicited Low Prices on everything in the Electrical Line

Agent, EDISON & SWAN UNITED ELECTRIC LIGHT CO., of London, Eng.

LARGEST MAKERS OF INCANDESCENT LAMPS, Etc.

Agent for THOMPSON Electric Co.'s Advanced Types of ARC LAMPS

FOR DIRECT CURRENT INCANDESCENT CIRCUITS,
STREET RAILWAY AND POWER CIRCUITS,
CONSTANT CURRENT AND ARC CIRCUITS,
ALTERNATING CURRENT CIRCUITSNEW CONSTANT CURRENT AUTOMATIC DYNAMO FOR SERIES ARC LIGHTING
INCANDESCENT DYNAMOS AND MOTORS

forty-five years protected the farmers and other consumers against not only the importers, but likewise the producers of shoddy and other fraudulent goods in Canada, the average wealth of each family in Canada would have been \$1,000 more per family than it is to-day, and there would have been twenty-five per cent. more population. Is there any way in this matter to get parliament to absolutely prohibit both the import and manufacture and sale of all shoddy or other fraudulent goods; any way to get them to protect Canadians as it is moving in relation to cheese and honey to protect foreigners.

INTEREST ON EXCESS IMPORTS.

Factor No. 3.—Excess imports is the amount of our imports in excess of our exports to pay for them. It is assumed by some writers, and even has been by finance ministers, that such excess has been balanced in some mythical way, and as stated in the Year Book, page 532, that "Canada has no adverse balance of trade against her which requires gold to square the account." If that statement is correct, what are we now paying Britain about \$35,000,000 annual interest for on the from \$800 to \$1,000 million debt the London Economist states "Canada owes abroad," and which statement has largely been verified by the Economist from the British income tax received from loans to Canada. Those teachers of mythical finance are asked to explain what this interest is paid for, and why for forty-five years it has increased annually in proportion as the Canadian importers over-import, and on the average increased \$1 per family annually.

To prove their contention some of these uninformed lights, whose light is darkness, cite Britain as a nation which immensely over-imports, and yet rapidly increases in wealth. They should state apparently increases, for it is abundantly evident that what she has gained commercially and financially she has lost in the depreciation of her agricultural interests, besides official data shows that \$18,000 million of her increase in commerce since 1860 is due to the necessity of importing food which her own farmers previously produced.

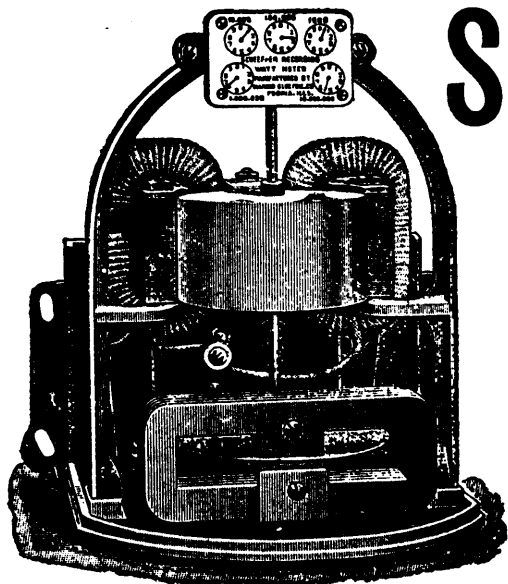
Let us examine that we may rightly understand. In 1843, when free trade was adopted, the exports exceeded the imports \$300,000,000, and her interest from loans to foreign nations was \$275,000,000. Thus Britain was increasing in wealth at the rate of \$575,000,000 annually. At that rate of increase, without increase of population and without any increase of annual interest from

loans, she should have, by to-day, increased \$30,000,000,000 in wealth, whereas since 1860 there has been no increase from earnings, only from interest. Since 1860 Britain has over-imported, that is, in excess of exports, \$18,387,711,206, but her interest income from foreign nations totals up to about \$20,000,000,000, leaving a balance in her favor of about \$1,600,000,000 to be added to what she gained from surplus exports, and interest from 1843 to 1860. How much of that gain has been lost in the decrease of farm values and village property dependent upon the farmers is yet undetermined, but other data indicates that the loss in land values is greater than the total of gains, by commerce and interest.

Canada has no corresponding fund accruing from foreign countries whereby to pay the annual balance of trade against her. In the Year Book, page 532, it is claimed that the five per cent. profit of the exporters stands against the adverse balance. This, in round numbers, would, in the forty-five years, be \$150,000,000, which is a long way short of balancing over \$1,000,000,000. But against the exporters' profits there stands the incidental expenses not embraced in the invoices on goods imported, and which in the U.S. have, by the census commissioners, been estimated at six per cent., and which, as cartage, freight, insurance, etc., etc., principally accrues to Britain on all imports therefrom, and similar on those from other countries. These charges, it is plain, will fully balance all the profits of our exporters, and quite possibly leave Canada on the debtor side of the account.

As a matter of fact there are various items on both sides of international accounts which experience has amply shown in the main balance each other, leaving the "balance of trade" as the actual profit or debit, as the case may be, on the year's transaction that is without any reference to accruing interest.

The data furnished makes it clear that Canada is under interest for the full excess of her over importations since 1850, which as previously shown is \$1,011,766,330. This is all adverse balance of trade against Canada, and it has not been "squared with gold" for it has been "squared" with the latter day substitute for gold, that is, with all kinds of government, railroad, provincial, municipal, loaning society, and other securities, and on which we are paying interest at the average rate of about 5 per cent. This 5 per cent now amounts to about \$45,000,000 annually, or about \$45 per family that must be earned for the money lords before Canadians can call a cent of the year's earnings their own.

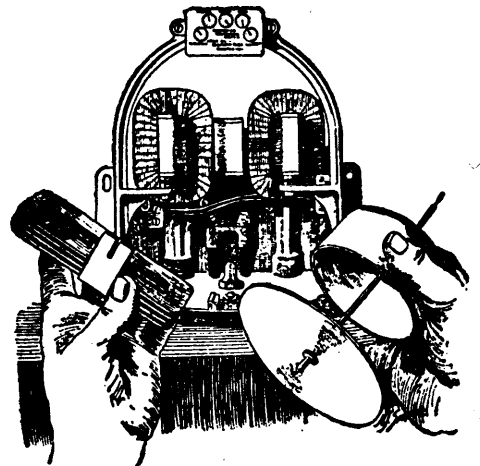


SCHEEFER METERS

Accurate on 5%
and 10% Loads

**NO
BRUSHES**

MANUFACTURED BY....



DIAMOND ELECTRIC CO., Chicago and Peoria, Ill.

A Competitive Test with any other Meter on the Market will assure
us of your patronage. Sole Agents for Canada,

**The PACKARD ELECTRIC CO., Ltd. St. Catharines
ONTARIO**

CANADA'S TOILING INTEREST ARMY.

The Canadian who divides that \$45,000,000 interest by 300 the full working days in a year by \$1.50 per day, of which 50 cents is for food, raiment, shelter, and implements for production, will find it takes a toiling army of 150,000 producers constantly working to pay the interest on the debt for fraudulent imports for which Canada got no value. This army has no regular barracks, it is quartered in a million homes, and out of each home in sums from a few cents to \$100 and more, that vast sum is leached annually, and it is the cream of the earnings of the Canadian producers.

The southern slave owner fed and clothed his slaves, they were sure of food and shelter and raiment, they lived on the cream and their master on the leavings. The Canadian slave owner takes the cream and leaves the leavings as the share of the Canadian producers. It is similar in the United States only much worse. The Political Science Quarterly for December 1893, which is more than confirmed by the Scientific American for December 27th, 1895, shows that the amount of annual interest on their debts is \$900,000,000, requiring a similar army to that of Canada, but numbering 3,000,000 toilers for 300 days in the year to earn their "interest tax," and of which a large proportion goes to France, Germany and Britain, principally to the latter. In proportion to population their interest army is nearly one half larger than that of Canada. That is the reason "times" are so much worse there than in Canada, and that there can be no return there to healthy industrial prosperity until remedial measures are adopted to secure relief. There debt, however, did not as the Canadian originate in over importations, for since 1860 the exports have exceeded the imports over \$3,000,000,000, all of which and more too has by way of interest been consumed by Europe, and but for that interest the United States to-day would be in possession, as the returns show, of all the gold in Europe.

THE CANADIAN GOVERNMENT TAXATION.

The Canadian government returns in hand, not quite full, but amply so for this exhibit, show that the taxes collected in all the provinces from 1850 to Confederation were about \$136,000,000. The Year Book, page 820 shows that the total taxes collected from Confederation with \$24,846,216 for 1895 not included in the report amount to \$635,866,307, which added to the amount previous to

Confederation makes almost \$772,000,000 or \$772 per family for our present population in forty-five years paid for parliamentary expenditure. The above interest exhibit shows that for the same period Canadians have paid \$1,011,766,330 or over \$1,011 per family of interest on our debt for shoddy and other fraudulent imports for which Canada received no value, and on which the interest is now rolling up at the rate of \$45,000,000 annually.

The taxes of our Dominion Government as above shown were not quite \$25 per family in 1895. For the previous ten years they averaged \$28 per family or \$17 less per family than the present interest tax now annually indirectly levied upon Canadian toilers for fraudulent imports. And of which about \$35,000,000 goes to Britain. This drains Canada of its money, the life current of business, so that producers and business men cannot collect to pay their debts. This explains, as before mentioned, why in twenty-one years there has been 32,000 business failures and nearly half a million souls beggared, and through which vast numbers have been driven to the United States to, in that vast financial abyss, try to find a resting place for the soles of their feet. The failures from these causes in the forty-five years cannot rightly be estimated at less than 60,000, those who remember the failures of 1857-8 will not consider the estimate too large.

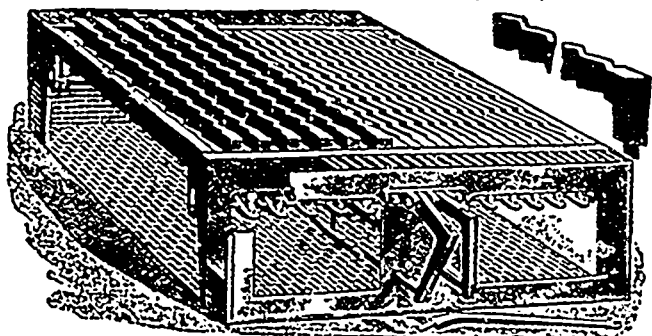
It has previously been proved that the importers' army of producers in foreign countries over-producing for Canada has during the forty-five years averaged 72,728 annually. Set this number against the above failures, and it is seen that for every foreign producer thus employed by the importers at least one business man in Canada was ruined. The average would be about 1,650 annually. The Year Book returns only go back ten years, during which the average has been 1,590 each year. For 1894 they were 1,551, which returns only include the reported failures, which would largely be increased if the unreported were added.

TARIFF TAX AND INTEREST TAX.

The financial logic, that dear government retards national development and impoverishes the people, is a logic absolutely true. But how much more retarding the "interest tax" for the "tariff tax," there is returned to the people the whole amount in meeting necessary government expenditure what return do we get for the "interest tax?" Not one cent of advantage, either by way of protection or profit to the million of families who pay it.

THE VOLCANIC PATENT SHAKING GRATE

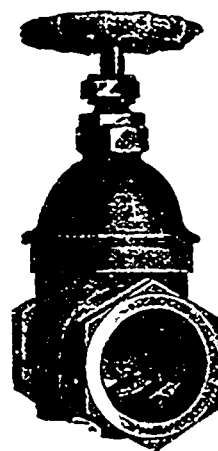
MANUFACTURED BY THE GURNEY FOUNDRY CO., Ltd., Toronto.



TORONTO SOAP COMPANY.

Gentlemen, We have had a set of the Improved Volcanic Shaking Grate for three weeks under one boiler and is working splendid. With my practical experience of over twenty years, it is as follows:
1st. Its small fire place. It takes less fuel to cover furnace and the large amount of heat derived from it. The economy which its large area admits. The air is taken in from one end to the other of the grate without any breaking in the air space, which, I find, adds greatly to the fire keeping even over the entire surface. The grate works splendid when shaking and no coal goes in the ash pit. There is another saving. I see there is very little smoke comes out of the stack. Over 75 per cent. of smoke is consumed in the furnace. This is due to plenty of air passing through the grates, which forms a combustion. This also is a big saving on fuel. Our old furnace was 14x22. Yours is 3x23. I find that I have over three feet more air space in yours than in the old. I could only boil one kettle and keep my water feeding in boiler with the old furnace and I had to fire heavy then. I now boil the kettle, run re-melter and engine, and keep my feed water going at the same time, with half labor in firing. I am satisfied that we are saving over twenty-five to thirty per cent. There is no grate in the market to-day to equal it for economy. I have run four days without cleaning tubes and find there is no more soot in tubes than in one day's run with old furnace.
I remain, yours respectfully,
W. A. BRADSHAW & Co., Proprietors. J. McCLEAY, Mech. Engineer.

THE GURNEY FOUNDRY CO., Ltd., TORONTO.



THE WEBBER PATENT -STRAITWAY VALVE-

For Steam, Water or Gas.

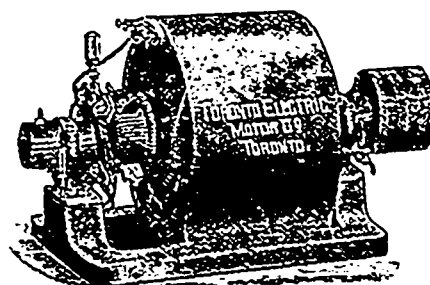
EVERY VALVE TESTED.

The Kerr Engine Co. Ltd.

WALKERVILLE, ONT.

SOLE MANUFACTURERS FOR CANADA.

SEND FOR PRICE LIST



OUR NEW 4-Pole Motor

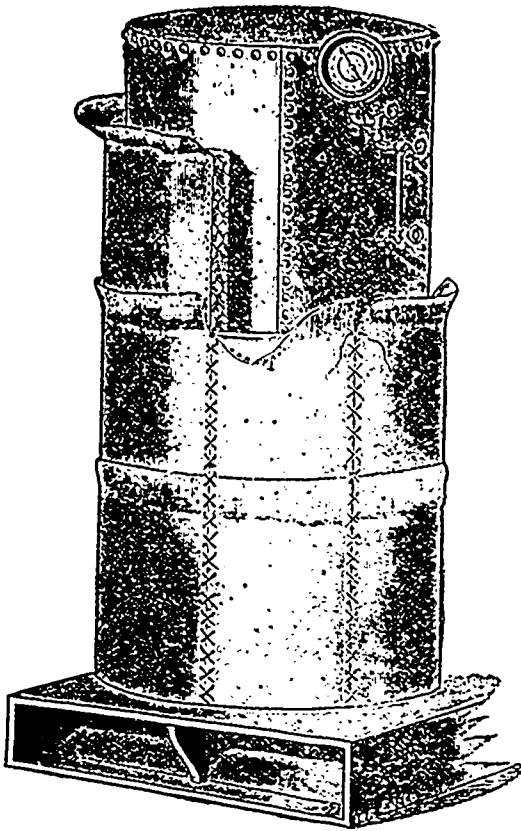
In sizes down to 6 h.p. and speed down to 125 revolutions per minute.

At this speed it is especially adapted for direct connection. We have over 300 motors running in Toronto.

Our Sales in Toronto for the past three years exceed the combined sales of all others.

TORONTO ELECTRIC MOTOR CO.

105, 107, 109 Adelaide Street West, Toronto, Ont.



1895.

The Latest Invention in Coal Saving Appliances

“MICA”

The well-known Electrical Insulator successfully adapted as an insulator of Steam heat. Enormous Saving of Fuel Guaranteed by the use of Mica boiler and steam pipe covering.

Patented

1894

and

1895



Now being used with great success by the Toronto Street Railway Co., Niagara Navigation Co., Toronto Ferry Co., etc., etc. Has been tested and thoroughly examined by the highest authorities and pronounced the most effective in the market. Impervious to the extremes of heat or cold, damp or vibration. Made in any size mats in any shape. Can be applied and removed as often as desired without injury.

SOLE MANUFACTURERS

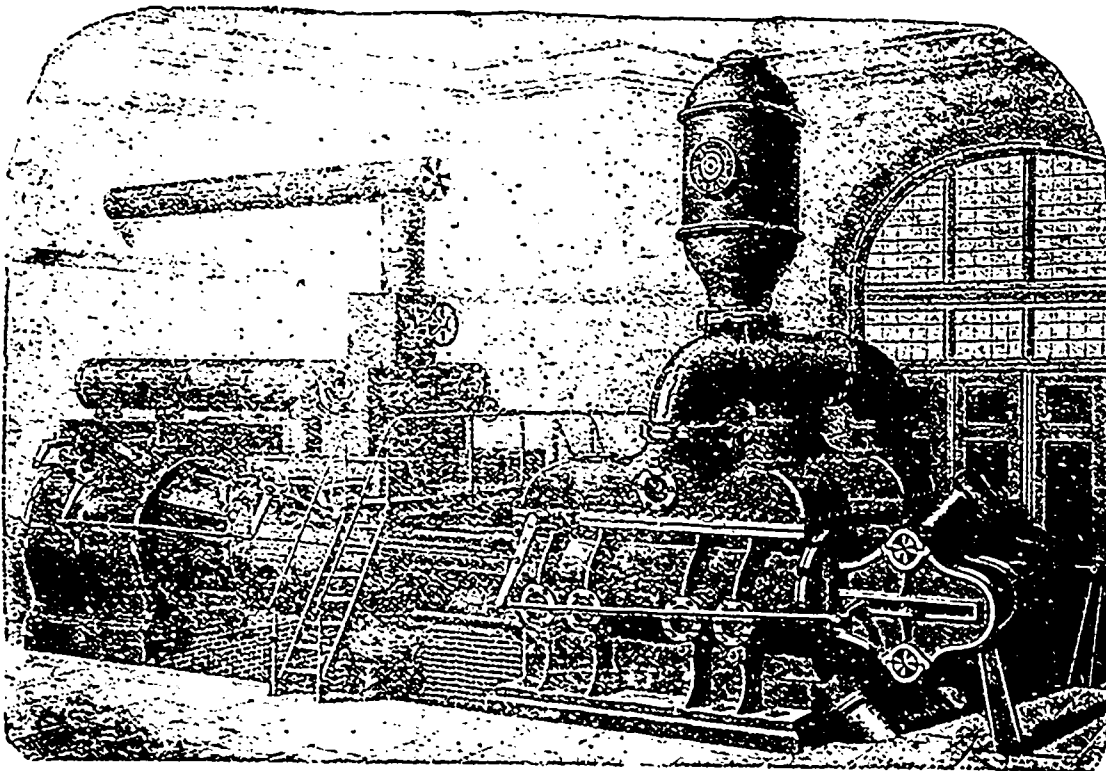
The Mica Boiler Covering Company (Ltd)

9 JORDAN STREET, TORONTO.

JOHN McDOUGALL

CALEDONIAN IRON WORKS,

MONTREAL, QUEBEC



General Agents
in Canada for

THE FAMOUS

Worthington
Pumps

Hydraulic
Machinery

Condensers

AND

Water Works
Supplies

WORTHINGTON PUMPS ARE UNEQUALLED FOR EFFICIENCY AND ECONOMY

THE UNDERMINED PROTECTION TARIFF.

Factor No. 4.—The tariff on imports for 1879, prior to the N. P., amounted to \$15.55 per family. The interest tax on the fraudulent imports for that year was about \$35 per family. The difference, or \$19.45, was indirect protection to the British and other foreign manufacturers. Industrially to that extent it undermined the Canadian manufacturer. The effect upon Canadian producers of every name was the same as if Britain, in place of the Canadian importers, had levied a tax upon Canada at the rate of \$19.45 per family, as Britain in a former time levied a "tea tax" upon the thirteen colonies. If she had, what a howl there would have been in Canada. The oppression of the old Family Compact was unbearable. The weight of its hand was but a straw in comparison with that of the iron hand of the importer, who in the innocence of his ignorance looks upon himself as a beneficence to Canada, and upon the Canadian producer as a monstrous oppressor. The N. P. added \$5 per family to the tariff. This still gave Britain and other countries \$14.45 protective advantage over the Canadian farmer and manufacturer whose industrial interests are inseparable. By the reduction in the tariff in 1894 of \$2 per family it increased the unrighteous advantage to Britain and other countries to \$16.45 per family, as in the Year Book shown. But to that we must add the annual increase of \$1 a year per family of "interest tax" for the fifteen years from 1879 to 1896. This \$15 added to the \$16.45 makes \$31.45 per family more profit to the foreigner than to the Canadian producer, the Canadian farmer, manufacturer and miner. It is clear to see that the importer through his "interest tax" on over-importations helps the foreign producer \$31.45 per family more than the Canadian Government by its N. P. helps the Canadian producer. And yet the importer denounces his own customers, the Canadian producers, as grasping monopolists made rich by tariff. The logic of the Canadian importer is that while it is blessed for the foreign monopolistic manufacturer protected by the importers' "interest tax" to get rich through the ruin of Canadian manufacturers, it is a sin to permit the Canadian producer to prosper.

The industrial result of increasing the tariff as shown in the Year Book page 140, \$5 per family was that in the ten years from 1881, to 1891 it increased the employees 115,363 and increased their earnings \$41,261,844, and for the ten years it increased their earnings about \$350,000,000, and increased the production \$830,-

000,000. And therewith increased the home market at least 500,000 souls, or equal to four cities of the population of Toronto and Hamilton with all the business pertaining to such a city population.

If in place of \$5 per family the tariff had been raised \$15 per family it is safe to estimate that the advantage to Canada would have been doubled. That conclusion is in part confirmed in the fact that during the past three years alone, as before related, the importers by keeping a 44,000 army of producers employed in the United States they there created a home market of 264,000 souls for the farmers and business men in the United States and at the expense of Canadian producers.

With that \$15 increase of tariff per family in place of the \$5, the foreigner with the present "interest tax" would still have \$4.45 per family, more protection than the Canadian in his own market.

The data presented proves that it has alone been through the almost superhuman energy, enterprise, intelligence and stamina of the Canadian, that Canada under this interest curse has been able to make such wonderful progress and that while it would not for reasons that can be given, be wise to remove all tariff on imports, yet if with it, all this load of interest was removed no nation could approach to the prosperity that Canada would enjoy.

INDUSTRIAL AND FINANCIAL LEGISLATION.

There are other factors relating to this important industrial and financial problem that deserve attention. Want of space alone prevents their being included in this exhibit.

It will pay the reader to read and re-read this information. I have collated until the data and its teaching is clearly understood. It certainly teaches that there must be effective remedial legislation adopted before there can be permanent industrial and financial prosperity in Canada.

In 1881 in Hamilton the manager of one of our principal banks asked me into his office to get my view of the financial outlook. I answered him that so long as we annually borrowed sufficient to balance our annual over-importations we would, financially, continue to float as then we were doing, and that in proportion as we ceased to borrow to balance the excess import there would be financial stringency. The answer was no guesswork, it was the logical teaching of the previous financial history of Canada, in regard to which I had, and yet have, full information. I repeat

**BREWERS
COPPER WORK**

Brewing Kettles, Boiling Coils,
Beer Coolers, Attempartors,
Spargers, etc., etc.

THE BOOTH COPPER CO.,

TORONTO, ONT. Ltd.

Established 1854

AUSTRALIA.

Boswell, Son & Gilbert

CANADIAN MANUFACTURERS' AGENTS

Wynyard Square, Sydney, New South Wales.

All Communications promptly attended to.

References : { Menzie, Turner & Company, Toronto.
Dominion Suspender Co., Niagara Falls, Ont.

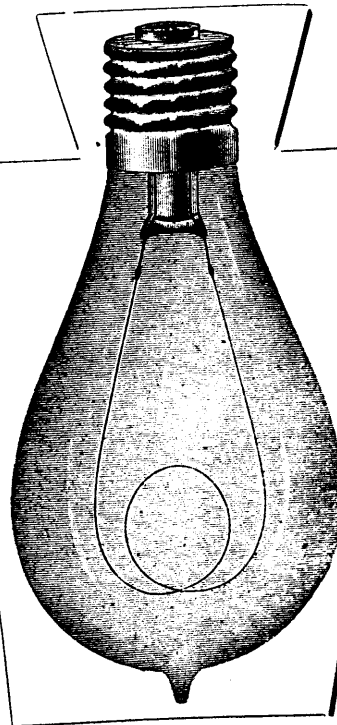
KEYSTONE INCANDESCENT LAMP

FOR MULTIPLE OR SERIES CIRCUITS

Standard
Bases
and Sizes in
Stock.

Not Exceeded
by
Any Lamp

ARC
LAMPS
○
MOTORS
Dynamos
○
Wagner
Trans-
formers
○
SUPPLIES



Walker
Steel
Railroad
Motors
and
Direct
Connected
Generators

Alternators

W. A. JOHNSON ELECTRIC CO.'Y
34 YORK STREET, TORONTO, ONT.



WHY NOT MAKE

A LEADER

...OF...

“Blue Seal”

Cherry Phosphate

It's Great Strength, Superb Flavor, and Absolute Solubility make it a very profitable drink for you, while your customers will be delighted with it. It's sure to be one of the greatest sellers of the season.

Price, \$5.00 a gallon (3 ozs. to the gallon).

DON'T WAIT—ORDER SAMPLE GALLON TO-DAY.

McKEY & CO.

36 Hamilton Street, - - - BOSTON.

Send for Bottlers' Price-List.



that answer to-day with this addenda, that the interest on over-importation is now \$15 per family in excess of what it then was, and that if that excess is not balanced by increased exports we must cover the deficiency with borrowed money, as they are now doing in the United States; if we do not there will be a corresponding increase of financial and industrial depression.

The data furnished shows that we need prompt remedial legislation that shall prohibit both the import and the manufacture of all shoddy and other fraudulent goods—that the name of the maker or producer, with the quality, shall be stamped thereon, under penalty of confiscation, as Britain does with shoddy tea, and in relation to cheese and some other imports, is about to require shall in future be stamped thereon, and as Canada is also taking steps to require her producers to do to protect the Canadian from learning to defraud, let parliament require that all imports shall be guaranteed by the name of the manufacturer or producer, with the date thereof. It was through the stamps of their respective "Guilds" guaranteeing the goods that Britain laid

the foundation of its manufacturing prosperity. The adoption of such a measure would relieve Canada of from fifteen to twenty millions of unreliable imports annually, and vastly stimulate home manufacturing. This is one; there are other evils to remove. The candidates for the next parliament should be required to tell what they know about this matter, and what they will endeavor to do to secure deliverance. Those who do not are not entitled to a seat in parliament, nor to the suffrage of a single voter.

PARKDALE, April, 1896.

GEO. D. GRIFFIN.

[NOTE.—Though oversight in previous letter the failures from 1885 to 1895 stated in subsection—Business Failures—were added to those for the twenty-one years from 1873 which, deducted as they should be, reduces the number from 48,000 to 32,000 in that period, and the business population deprived of a living from 480,000 to 300,000 but still sufficient for a city more than one half larger than Toronto. The exhibit shorn of the error is sad enough.—G. D. G.]

THOMAS PINK
PEMBROKE, ONT.
MAKER OF THE FAMOUS
Pink Peaveys, Handles, Cant Hooks

Split Maple Handles
Duck Bill Cant Hooks
Cast Steel Skidding Tongs
Duck and Round Bill Peaveys.
Car Load or Dozen Lots

...MANUFACTURERS...

Seeking Locations
Communicate with

JAMES MORE, Town Clerk
DUNDAS, ONT.

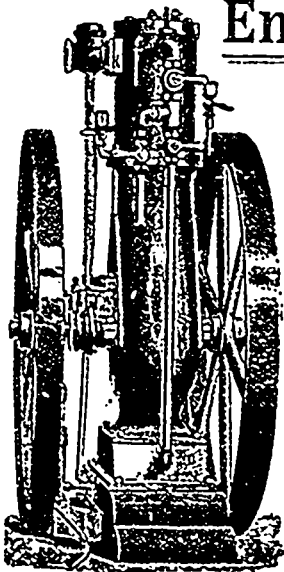
Liberal Inducements—Good Location
Desirable Buildings

METAL STAMPS

BRASS SIGN MNFRS, ETC.
PATTERSON & HEWARD
40 WELLINGTON ST. WEST, TORONTO

THE ELECTRICAL GAS OR GASOLINE...

Engine



WRITE FOR PRICES AND TESTIMONIALS

J. R. BAIRD

WOODSTOCK, - - - ONTARIO

FOR SALE

Two Shaker Willow Dusters

SIZE NO. 2.

Forty-three inch working surface
Made in 1892, but in use less than one month. Address,

Canada Colored Cotton Mills Co.,
Cornwall, Ont.

Leitch & Turnbull

Canada Elevator Works,
Queen and Peter Streets, Hamilton, Ont.
Patent Safety Hydraulic Hand and
POWER ELEVATORS
Telephone Connection.

H. W. KARCH

HESPELER, ONT.

IRON FOUNDER and MACHINIST

MANUFACTURER OF

WOOLEN . . . MACHINERY

FULLING MILLS;
CLOTH WASHERS,
WOOL & WASTE DUSTERS
DRUM SPOOL WINDERS,
REELS,
Spooling & Doubling Machines,
Ring Twisters, Card Creels,
Rag Dusters,
Dead Spindle Spooler
(For Warp or Dresser Spools).
Patent Double-Acting Gigs,
Dyeing Machines.

WRITE TO THE

PATON MANUFACTURING COMPANY

of SHERBROOKE, QUE.,

— FOR —

WORSTED KNITTING

— AND —

FINGERING YARN.

Montreal Office:—409 Board of Trade Building.

Toronto Office:—33 Melinda Street.

Firstbrook Bros.

Dovetail and Packing Boxes
Pop-Pins, Side Blocks and Cross Arms. Wood Printers, Etc.
Cigar Boxes. Shipping Cases.
TORONTO, ONTARIO.
Write for Prices

ALGOMA IRON WORKS

SAUL'S STE. MARIE, ONT.

Engineers

Founders

AND

Machinists

PULP AND PAPER MILL

AND

MINING MACHINERY

DESIGNED, CONSTRUCTED and REPAIRED

This space is one inch high. It may be used for advertising purposes at the rate of 50 cents per issue.

Inquiries among importers of wood pulp suggest that in the development of this trade Canadians will do well to pay greater attention to methods of shipment. The quality of the Canadian mechanical wood pulp is spoken of as, generally speaking, superior to Scandinavian makes, and consumers are not unwilling to pay higher prices for it than for other grades, but the condition in which it arrives here is distinctly bad. Ground pulp, with fifty per cent. of moisture, instead of being packed in canvas, as is Scandinavian pulp, comes in loose bundles without any covering at all, and so arrives in a thoroughly dirty state. It gathers all the coal-dust and dirt that comes near it on rail, steamship and wag-gons. The chemical pulp should also come in bales, and not in awkward rolls as now. This is probably one reason why Canadian pulp is handicapped by higher steamship freights. The industry has a great future before it if care be only taken in such matters as these. Canada certainly should have no difficulty, seeing her lumber wealth and water-power, in standing well in British markets.—London, Eng., Canadian Gazette.

John Perkins, Toronto, is very busy manufacturing tees, elbows, and other steam fittings.

MACHINERY AND SUPPLIES WANTED.

If any subscriber to THE CANADIAN MANUFACTURER who may desire to purchase any machinery or supplies whatever, and so informs us, we will publish the fact in a conspicuous manner, and will make no charge therefor. These wants will be stated similar to the following:—

WANTED.

AN Experienced Machinery Moulder desires partner, who must be a first-class Machinist with \$700 or \$800 capital, to conduct a prosperous foundry. Address R. J. BLACKWELL, Prop. Wingham, Ont.

The Metallic Roofing Company, Toronto, have just completed their contract with the city for roofing and siding the extensive new buildings on the Yonge Street wharf with their Eastlake galvanized steel shingles and Manitoba steel siding.

LAURIE ENGINE CO.,

ST. CATHERINE STREET EAST, MONTREAL
ENGINEERS AND CONTRACTORS

COMPLETE MOTIVE PLANTS, ETC.

IMPROVED **Corliss Engines**

High Pressure, Condensing and Compound
FEED-WATER HEATERS and PURIFIERS

Heavy Fly Wheels a Specialty.

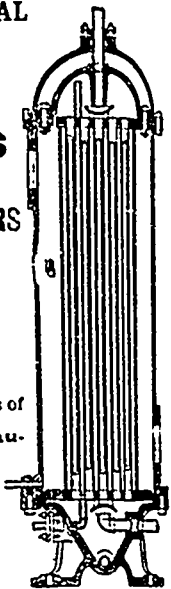
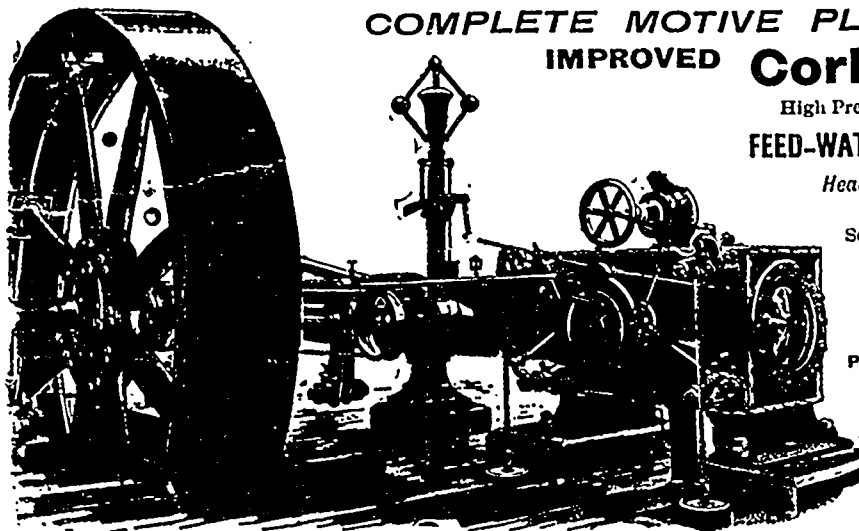
Sole Agents in Prov. of Quebec for

NORTHEY CO. Ltd.

Manufacturers of all kinds of
Pumps, Condensers and Hydraulic Machinery

Sole Agents in Canada for the

**HOLLY GRAVITY
RETURN SYSTEM**



**ECO MAGNETO
Watchman's
Electric
Clock**

WITHOUT BATTERIES.

Write for descriptive circular to

**ECO
MAGNETO CLOCK CO.**

Room 71, 620 Atlantic Avenue,
BOSTON, MASS.

MONTREAL ELECTRIC CO.'Y.

Agents for Province of Quebec

302 ST. JAMES STREET.

John Starr, Son & Co., (Ltd.)

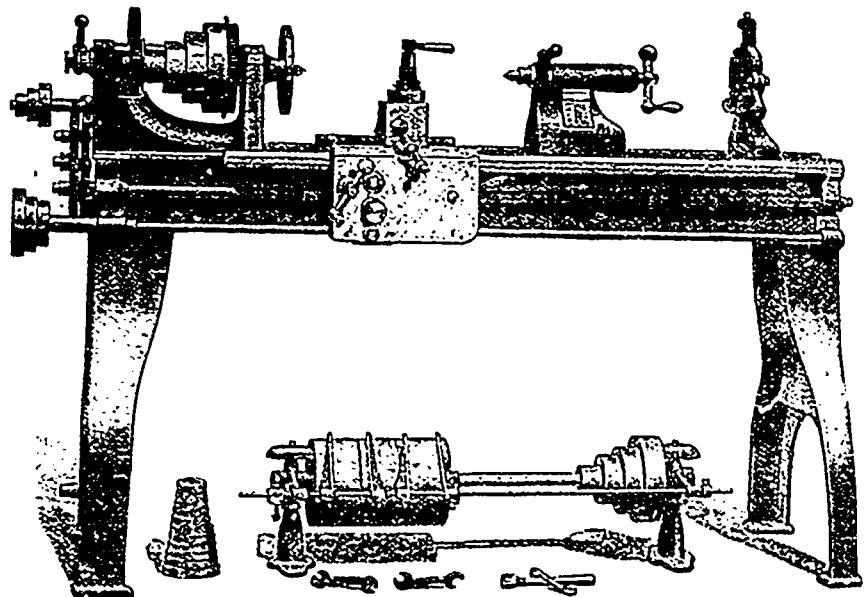
HALIFAX, N.S.

Agents for the Maritime Provinces.

....TORONTO MACHINERY SUPPLY COMPANY....

164 KING STREET WEST, TORONTO, ONT.

Dealers in Wood and Iron-Working Machinery, Engines, Boilers, Etc., Etc.



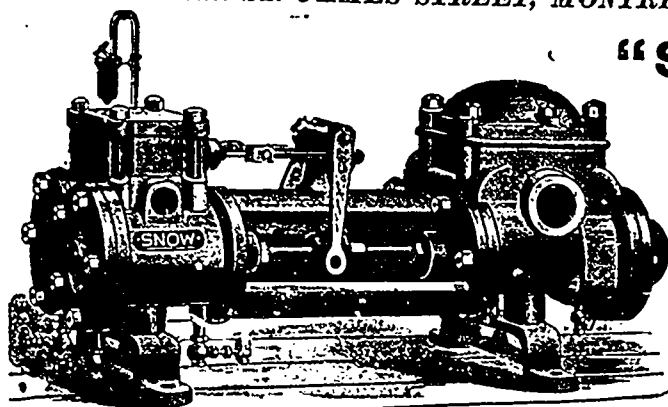
Continental prisons have for some time had the character of producing and exporting to this country goods, greatly to the detriment of British workmen. Convict labor at home also adds to this quota. A recent Government report says that at Wandsworth the 1,000 prisoners make in the course of a year, goods estimated at about £12,000. Step mills turn machines that grind quantities of corn and pump water, and amongst the various objects made from raw materials, we find brushes, bags, mattresses, clothing of various sorts, including leggings and shoes, carpentering, blacksmithing, tinsmithing and bricklaying are also practised. At Pentonville the work of 1,000 prisoners brings in about £6,300. Wormwood Scrubbs with 1,130 prisoners produces £21,500 worth, and nearly all the bags and boxes used in the General Post Office and the Admiralty are made in British prisons.—Invention.

As no admirer of the Wilson tariff can find at home much to brag of in the results produced by that instrument, some of the free traders are endeavoring to persuade the people that the act has given remarkable stimulation to our export trade. The New York Herald, for example, claims that American manufacturers are finding astonishing new markets for their products, because of Mr. Wilson's far-seeing sagacity and judicious legislation. The matter is worth looking into. Taking the exports of all domestic merchandise for the first seven months of the last fiscal year and of this, we find that the exports for 1896 were \$19,500,000 more than for the preceding year. These include both raw and manufactured products. The statistics show that the exports of refined petroleum and paraffin increased by \$11,000,000, thus accounting for all but \$8,000,000 of the increase. Much more than one-half of

the total gain, therefore, was in a product of which this country has practically a monopoly. In the same period the imports of dutiable goods, chiefly manufactured articles such as are made in our own mills, increased by \$36,000,000 or nearly twice the increase of the exports referred to. That is to say, we brought in two additional dollars' worth for every additional dollars' worth we sent out. This will strike most persons as a lively method of expanding our general business. While we gain one inch in a foreign market we lose two inches at home. The Herald, viewing the situation from its own standpoint, observes that:—"Nothing in the past has done more to deprive wage-earners of remunerative and steady employment than the strangulation of our export trade by high tariff restrictions and prohibitory duties laid upon imports." With American woolen mills and cotton mills and all other kinds of mills

CANADA MACHINERY AGENCY

321 ST. JAMES STREET, MONTREAL



**"SNOW"
 DUPLEX
 STEAM
 PUMPS**

FOR...
 EVERY SERVICE

Iron Tools, Wood-Working Machinery

STEAM ENGINES, BOILERS OF EVERY TYPE, SAW MILL MACHINERY, ETC.

CANADA MACHINERY AGENCY, W. H. NOLAN, Manager
 321 St. James Street, Montreal

George White Fraser

C.E., D.T.S., A.Am. Inst. Elec., Eng.

**CONSULTING
 ELECTRICAL ENGINEER**

Electric Railways and Electric Light Construction Superintended.

**18 IMPERIAL LOAN BUILDING
 TORONTO**

F. H. MASON, F.C.S., Consulting Chemist and Metallurgist
 Analytical Chemist and Assayer, may be consulted on all matters pertaining to Chemical Technology and Metallurgy. Analyses of Alloys, Metals and Pigments. Mineral Water, Waters for economic and boiler purposes, and all kinds of chemical products and by products. Assays of all kinds of ores. The treatment of refractory gold ores and concentrates a specialty. Laboratory, Queen's Building, HOLLIS STREET, HALIFAX, N.S.



The UNITED ALKALI COMPANY, Ltd.

OF
ENGLAND

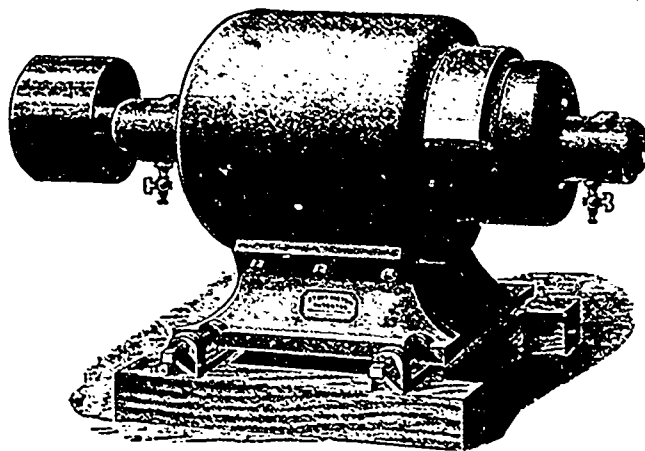
WILSON, PATERSON & CO.
 MONTREAL, Sole Agents

CAUSTIC SODA, 60°, 70°, 74°, 76°, 77°; SODA ASH, all strengths
 SAL. SODA; PURE ALKALI, 58°.

Sulphate of Alumina, Borax, Caustic Potash, Hyposulphite of Soda, Bichromate of Soda, Silicate of Soda, Crystal Carbonate, Coconut Oil, Palm Oil, Castor Oil, Cottonseed Oil, Rosin Oil.

ROSIN OF ALL GRADES. SOAP MAKERS' SUPPLIES
 New York Office, - 134 Front St.

The STOREY MOTOR and DYNAMO



MANUFACTURED BY

The STOREY MOTOR and TOOL CO.
 John St. North, Hamilton, Can., and Philadelphia.
 Send for Catalogue.

THE PLANSIFTER

HAS COME TO CANADA TO STAY!

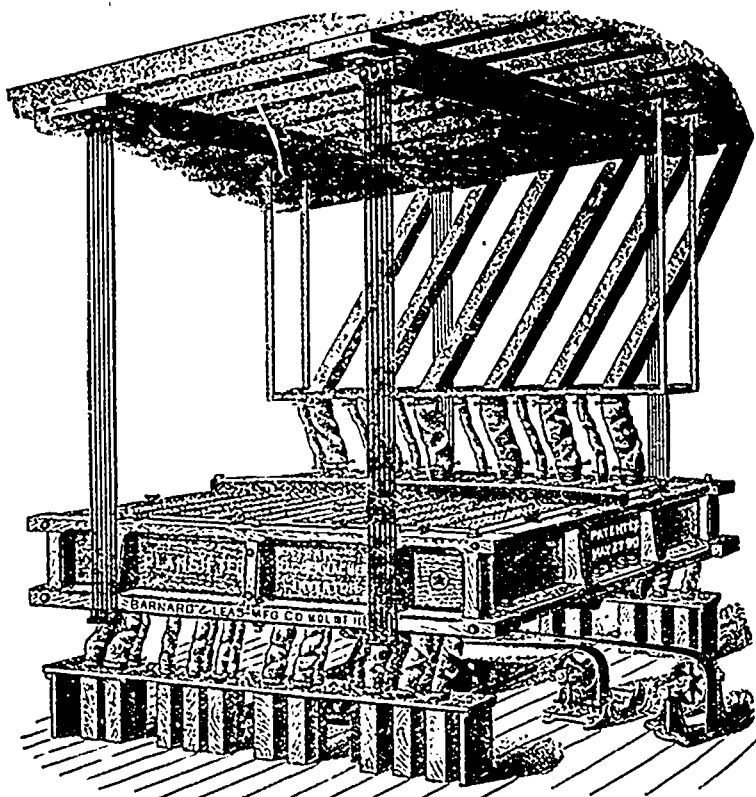
This wonderful Machine will Scalp, Grade off Coarse Middlings, Grade off Fine Middlings, and Bolt the Flour from each Reduction, whether on Wheat or Middlings.

Millers of Canada should awake to the fact that after four years testing in the United States, THE PLANSIFTER is the most popular Scalping, Grading and Bolting Machine, and is being more extensively adopted by Millers than any other. It is still the leading machine in Hungary, where first introduced, and is being rapidly adopted by other foreign countries, with unusual favor.

The Flour made on this system leads all others, and is sought for by bakers and users in preference to that made on other systems. We have secured the sole right to manufacture THE PLANSIFTER for Canada from Carl Haggemacher, of Buda Pesth, under his patents.

NO EXPERIMENTING

We have arranged with the BARNARD & LEAS MFG. CO. of MOLINE, ILL., U.S.A., who introduced THE PLANSIFTER successfully in the United States, to have the benefit of all their improvements in manufacturing THE PLANSIFTER, and also the benefit of their experience in the arranging and programming of mills of all capacities on the latest and most improved PLANSIFTER System.



One PLANSIFTER and two Little Wonder Reels will do all the Scalping and Bolting in any mill from 25 to 100 barrels' capacity.

Two PLANSIFTERS and two Little Wonder Reels will do all the Scalping and Bolting in any mill from 125 to 200 barrels' capacity.

The size of these machines varying according to capacity required

We invite Millers to thoroughly investigate the results of THE PLANSIFTER System and be convinced of its superiority, and that it is bound to supersede all others. A careful enquiry will convince the most skeptical.

Big mills can't afford to do without them, and they do charming work in the smallest mills.

CORRESPONDENCE INVITED, AND WILL RECEIVE PROMPT ATTENTION

WM. & J. G. GREY, 2 Church St., Toronto, Ont.

SOLE LICENSEES AND MANUFACTURERS FOR CANADA

shutting down because the foreigner holds our market, such talk as this would be ludicrous were not the conditions, as far as the wage-earners are concerned, wholly tragical.—The Manufacturer.

Our liberties, our laws, our literature, our learning, our enterprising spirit and the land we stand upon was won for us by England. Wolfe won for us, on the Heights of Abraham, every foot of land between the Alleghenies and the Mississippi. But for that decisive victory this would now be an appanage of France—and we would not be here at all. Mexico with its peculiar Spanish and Indian population, would now extend up to Alaska. Do we hate England on account of Blackstone's commentaries, Shakespeare, Walter Scott, Bobby Burns, Tennyson, or because she stuck to Napoleon, the butcher of Europe, sparing neither blood nor money till she stopped him? By the way, where would Germany be, but for England? What made the difference between Jena and Waterloo? Emperor William hates England. Where would he be but for Wellington?—Chicago Interior.

It is now suggested that medicine may be introduced into the system by electricity. The following is an account of an experiment of this character in the treatment of headache: Suppose the pain has its seat in the left side of the head. The foot on the opposite side of the body is bared and placed on a zinc plate, which is connected to the negative electrode of the source of the current. A wet sponge and a layer of starch are applied to the sole of the foot. The positive electrode is placed on the left temple, and on the plate connected thereto is placed

the amount of morphia, or whatever drug it is desired to administer, and a direct current is sent through the body. When a drop of iodine is placed on starch it changes the color of the starch to a deep blue or purple. Within a minute after the electrode is applied to the temple, the same change takes place on the starch under the foot as is produced by direct contact with iodine. The intensity of the color depends on the time the current is applied. There are none of the sensations usually accompanying the application of electricity to the head. A slight stinging sensation soon changes to numbness. The pain in the head disappears.

AMERICAN BEET-SUGAR PROSPECTS.

Although struggling experiments were carried on and one or two factories were regularly operated prior to that date, the year 1890, with the McKinley tariff law and its sugar bounty clause, really marked the birth of the American beet sugar industry. With the reversal of the national policy, the progress of the industry, so far as its enlargement in new fields was concerned, was brought to a standstill. No new factories were built; very little new money was invested in the business.

The scientific and technical progress of the industry, however, has never been retarded—in fact, the withdrawal of the bounty spurred the manufacturers and growers to a more careful study of advanced and improved methods and the economics of sugar production. Every step in improved methods or processes is added capital to the sugar-producing industry, and will enhance the prospects of profitable production in the future,

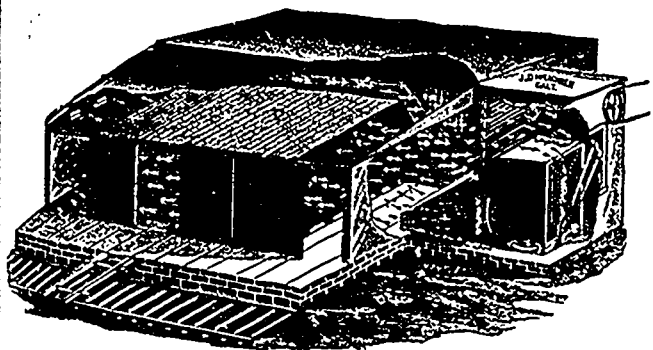
since any decrease in the cost of production must inure to the profits realized for all time.

Within the past year such a widespread interest in beet sugar production has been aroused as this country has never before seen. The prosperity which has attended the agricultural interests where this industry has been established has induced localities all through the West to make experiments and take steps to secure the introduction of the industry. A successful campaign of education has been going on, and as a result there are at least a score of localities in California alone to-day willing to offer inducements for the erection of a sugar factory. As an agricultural crop this offers the farmers of the West something salable and more profitable than the general farm crops they have for years been producing. In this is seen a factor in the proper diversification of American agriculture that puts the American farmer on a new plane; and this fact is becoming more widely recognized every day.

But while this is the case, the important step is to secure the erection of factories which will make the agricultural department of the industry possible. Since Democratic dominations of national policy, capital has not cared to venture into this field. Now, however, it is considered morally certain that another year will see the reins of the Government again wholly in the hands of Republicans; and already the effect is seen in sugar circles, just as it was in the autumn of 1890. From one place after another we learn that capitalists and sugar manufacturers are already commencing negotiations looking to the erection of factories in these localities.

McEachren's System of Drying, Heating and Ventilating

Under Recent Patents.



In construction and process of drying this Kiln differs widely from all others in use. They have given entire satisfaction where all others Dry Kilns have failed. They will season More Lumber in a Given Time, with a given heating surface and a given quantity of steam than any other Kiln now in the market. Their construction and mode of operating is such as to season lumber without Case Hardening, Checking or Warping. They work equally well on Lumber Right from the Saw and on Air Seasoned Lumber, the only difference being that one takes a little more time than the other. By a Peculiar Arrangement Found Only in Our Dry Kilns we extract the moisture from the heated air, return it through the heater again and thus preserve the heat passing from the Kiln instead of wasting it as is the rule with all other Blast Kilns.

Ventilating Fans, Shaving Fans, Pressure Fans, all sizes.

BLAST HEATING SYSTEM FOR LARGE BUILDINGS

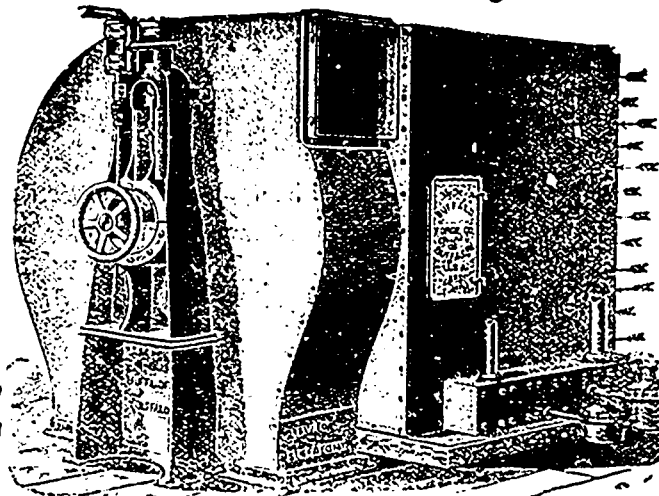
Little Wonder Boiler and new Hot Water Heating System, half price of usual hot water system. STEAM BOILER CLEANERS, Feed Water Heaters covered by Patents of recent date in Canada and United States.

Second-hand Heaters and Fans made by the best American Manufacturers, only in use a short time, for sale at great reduction. Send for Illustrated Catalogue and Prices to

McEACHREN HEATING & VENTILATING CO.

GALT, ONT.

Buffalo Lumber Dry Kilns



THE LARGEST DRIER IN AMERICA IS EQUIPPED WITH A "BUFFALO" HOT BLAST APPARATUS. THE OWNERS ARE ENTHUSIASTIC.

All users of Buffalo Kilns write letters similar to this one:

"The Kiln answers every purpose to perfection; the Dry Rooms are run with exhaust steam at mere nothing in the way of cost, compared with the old way. Your arrangement is very simple and easily managed, besides being a money saver in operation. We are able, with the Kiln you sent us, to dry soft woods in three days, and hardwoods in five days. That's good enough for anyone."—SMITH BROS., Sayre, Penn.

Send for Catalogue.

Buffalo Forge Co., Buffalo, N.Y., U.S.A.

SOLD IN

Toronto, Ont., by H. W. Patric.

Brantford, Ont., by Canadian Machinery and Supply Co.

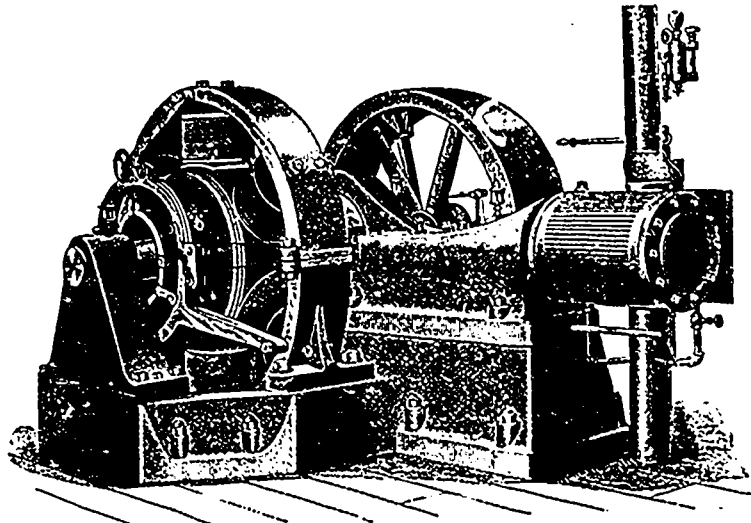
Montreal, Que., by Canada Machinery Agency.

Chicago Store, 22 and 24 West Randolph Street

ROBB-ARMSTRONG ENGINES.

Simple, Tandem and Cross Compound.

Correct Design



Superior Workmanship

We highly recommend the Robb-Armstrong Engine for direct connection to Dynamo.

Robb Engineering Company (Ltd.)
AMHERST, N.S.

AGENTS-- Canada Machinery Agency, 321 St. James Street, Montreal
 William McKay, Seaforth, Ont., Traveller.

WM. T. BONNER

415 Board of Trade Building, Montreal, Quebec

GENERAL AGENTS FOR CANADA FOR

Couber's Feed Water Heaters

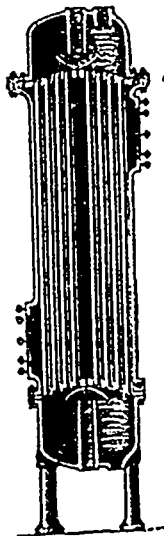
Heats Feedwater to nearly the boiling point by exhaust steam.

ECONOMICAL, EFFICIENT, DURABLE AND SIMPLE.

All Sizes—50 to 5,000 h.p.

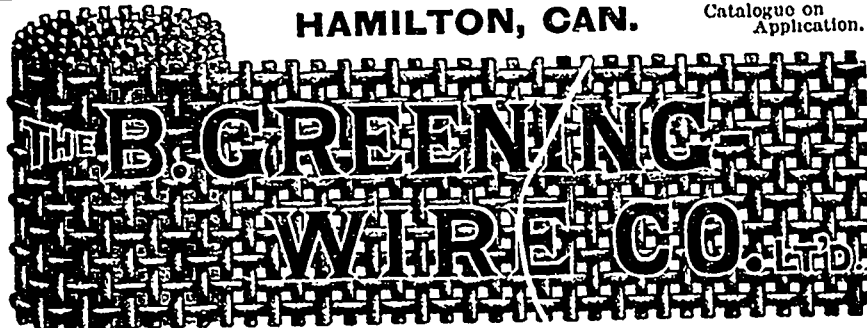
Stratton Separators

Separates entrained water from steam and ensures delivery of DRY STEAM to Engine. Doing away with that fruitful cause of accidents—WATER IN THE CYLINDER.

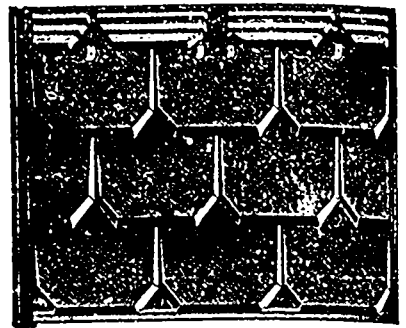


HAMILTON, CAN.

Catalogue on Application.



Eastlake Steel Shingles



Beware of Worthless Imitations.

METALLIC ROOFING CO., Ltd.
 TORONTO
 SOLE MANUFACTURERS.

McLAUGHLIN BROS.
TEASELS
Shanateles Falls
 NE'Y YORK
 BUSINESS ESTABLISHED IN 1832

Welland Vale Manufacturing Co.
 LOCK No. 2, ST. CATHARINES, ONT.
 Manufacturers of.....

AXES, SCYTHES, FORKS, HOES
RAKES and EDGED TOOLS

The COAST LINE to MACKINAC
 TAKE THE



TO MACKINAC
DETROIT
PETOSKEY
CHICAGO

2 New Steel Passenger Steamers

The Greatest Perfection yet attained in Boat Construction—Luxurious Equipment, Artistic Furnishing, Decoration and Efficient Service, insuring the highest degree of COMFORT, SPEED AND SAFETY.

FOUR TRIPS PER WEEK BETWEEN

Toledo, Detroit & Mackinac
 PETOSKEY, "THE SOO," MARQUETTE, AND DULUTH.

LOW RATES to Picturesque Mackinac and Return, including Meals and Berths. From Cleveland, \$18; from Toledo, \$15; from Detroit, \$13.50.

EVERY EVENING

Between Detroit and Cleveland

Connecting at Cleveland with Earliest Trains for all points East, South and Southwest and at Detroit for all points North and Northwest. Sunday Trips June, July, August and September only.

EVERY DAY BETWEEN

Cleveland, Put-in-Bay & Toledo

Send for Illustrated Pamphlet. Address
 A. A. SCHANTZ, O. P. A., DETROIT, MICH.
 The Detroit and Cleveland Steam Nav. Co.

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 in 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, bolting, 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, alkalies, 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 Ottawa Specialty Manufacturing Company, Ottawa, is seeking incorporation with a capital of \$45,000 to manufacture wooden and metalware furniture, interior fittings, etc.

The Manitou Wood Manufacturing Company of Toronto asks for incorporation with a capital of \$95,000 to manufacture lumber, woodenware, furniture, pulp, paper, etc.

The Parmenter & Bulloch Company, Ganouque, Ont., are seeking incorporation with a capital stock of \$100,000 to manufacture all kinds of iron, steel, brass, copper or other metal goods, wire nails, rivets, etc.

The Canadian Pacific have prepared plans for a new 1,200,000 bushel elevator at Fort William.

Hogan Bros., of Fort William, Ont., will erect a planing mill.

Halloran Bros., Lucan, Ont., will rebuild the Vulcan Foundry.

Petrolia, Ont. will construct waterworks to cost \$172,000.

Mr. Corry, of Ottawa, has the contract for the completion of the Peterboro' and Lakeside section of the Trent Canal.

The Quadra Mining and Milling Company of Victoria, B.C., seeks incorporation with a capital stock of \$500,000.

The North American Paper and Lumber Co., with headquarters at Halifax, N.S., are seeking incorporation with a capital stock of \$2,500,000. They propose to manufacture lumber, pulp, paper, wooden goods, etc.

The Helen Gold Mining Company and the Rochester Gold Mining Company, both of Spokane, Washington, U.S.A., have been registered in British Columbia, the former with a capital stock of \$600,000, and the latter with a capital stock of \$500,000.

The city engineer of St. Thomas, Ont., has been instructed to prepare an estimate of the cost of constructing an electric light plant to supply light, heat and power to the city, and to operate an electric railway.

The Metallic Roofing Company, have lately supplied the ornamental embossed steel coating for the offices of the Canadian Typograph Company of Windsor, Ont.

The Annapolis Manufacturing Co., of Lequille, N.S., asks for incorporation with a capital of \$16,000. They propose to do a general lumbering business.

The Roche Perceé Coal Company, Winnipeg, Man., is seeking incorporation with a capital of \$50,000. The company propose to carry on the business of colliery proprietors, to manufacture coke, brick tiles, etc.

The Toronto Machinery Supply Company furnished the full equipment of machinery for Wigley Bros., Toronto, who have just started the manufacture of bamboo furniture.

Morris, Feild, Rogers Company, piano manufacturers, Listowel, Ont., April 22nd, 1896:—We have pleasure in announcing the engagement of Mr. R. B. Andrew as general manager of their entire business. Mr. Andrew has for several years superintended the agencies of the company, and has become favorably known to the business community in connection with that business.

Halifax, N.S. purposes spending \$213,000 in various civic improvements.

BRUNNER, MOND & CO., (LTD.), Northwich, Eng.

MANUFACTURERS OF

PURE ALKALI

GUARANTEED 53 DEGREES

The Strongest and Cheapest Form of SODA ASH for the Manufacture of . . .

SOAP, GLASS, PAPER, WOOD PULP AND COLORS

Also for Printers and Bleachers

BLEACHING POWDER AND

CAUSTIC SODA, 70%, 74%, & 76%

Winn & Holland, Montreal

SOLE AGENTS FOR THE DOMINION OF CANADA.

HEMOLIN

PATENTED



THE Cheapest Black-producing Dye for Wool on the Market. Has all the advantages of Logwood with none of its inconveniences. Can be Dyed in one Dip, or may be employed in Wool Dyeing as a self-color, or in combinations, wherever Logwood is used, by following the same recipes.

This is not a mixture, but a new product for which patents have been granted in U.S.A., Great Britain, Canada, Germany, France and Austria, and use in these countries has increased constantly since its introduction.

MANUFACTURED BY—

WM. J. MATHESON & CO., Limited, New York, U.S.A.

BRANCH HOUSES—BOSTON, PROVIDENCE, PHILADELPHIA, MONTREAL.

Fire at Kingston, King's Co., N.S., burned several of the buildings belonging to the Forest Canning Company. About \$12,000 worth of stock was also destroyed.

Mr. W. C. Caldwell's dam at Lanark, Ont., was carried away by the floods on the 17th ultum, entailing a heavy loss, and probably the stoppage of his mills for a time.

The Derbyshire Company of Brockville, Ont., have secured the contract for the machinery for the factory of the Regina, N.W.T., Creamery Company.

The Co-operative Creamery Association at Langley, B.C., is calling for tenders for the erection of a creamery.

The New Egerton Gold Mining Co., New Glasgow, N.S., have applied for incorporation to do a general mining business, capital, \$200,000.

The Modstock Mining Co., Antigonish, N.S., are seeking incorporation, with a capital of \$300,000, to do a general mining business.

The flood caused by the overflow of the St. Francis River at Sherbrooke, Que., caused considerable damage in the lower part of the factories. At Jencko's Machine Works the water rose at one time to a height of 4 1/2 feet in the machine room. The most valuable machinery was saved by being hoisted out of danger.

Merrickville, Ont., is to have a factory for the manufacture of a machine for drying clothes.

The ratepayers of Winchester, Ont., have petitioned the village council for a grant of \$1,500 for fire appliances.

The Oland Brewery at Dartmouth, N.S., belonging to the Halifax Breweries, an English corporation, was destroyed by fire April 26th, with warehouses and a large quantity of stock. Loss about \$90,000 or \$100,000.

The Ontario Wheel Company of Gananoque hopes to resume business in two months.

W. H. Perrin of Merrickville, Ont., has taken out a patent for a new riding plow.

The Pittsburg and Cariboo Gold Dredging Company of Pittsburg, Pa., have been registered in British Columbia with a capital of \$50,000 with power to increase it to \$200,000. The Company propose to dredge gold, silver and other minerals in the Fraser River.

Toronto Box and Packing Case Co., have started business on Richmond St. West, Toronto. They purchased all their machinery through the Toronto Machinery Supply Co.

London, Ont., city council proposes to spend about \$20,000 to enlarge the present water supply.

Messrs. Hughes & Co., lumber merchants, at Brandon, Man., are adding a planing mill to their business.

Simon Sinclair's carriage works at Gushen, N.S., were destroyed by fire, April 14th.

Messrs. Binot & Martin have started a flour mill at Halifax South, Que.

The effects of the Victoria Electric Railway and Lighting Co., Victoria, B.C., have been sold to the Consolidated Railway Co., of that city.

Chas. C. Hearle, Montreal, has commenced the manufacture of boiler cleaners, etc.

Smith's Crossing, Ont.—Mill burned.—The saw mill of J. J. McNeil, of Gravenhurst, Ont., was destroyed by fire, April 9th. Loss about \$11,000.

J. R. Booth, of Ottawa, is cutting some 40,000 railway ties for shipment to England upon the opening of navigation.

The corporation of Three Rivers City, Que., have acquired at sheriff's sale the plant of the city gas works. Should any purchaser buy the electric plant, which is also for sale, he could get control of the gas plant also, and thus have a monopoly of lighting the city.—Montreal Star.

The Ontario Graphite Company of Ottawa, has been incorporated with a capital of \$200,000.

FETHERSTONHAUGH & CO.

PATENT BARRISTERS AND SOLICITORS

ELECTRICAL AND MECHANICAL EXPERTS AND DRAUGHTSMEN

Cable Address "Invention Toronto." TELEPHONE 2539

Patents Procured in Canada and all Foreign Countries.

Head Office: Canadian Bank of Commerce Bldg, Toronto

A. HARVEY, C.E.

PATENT ATTORNEY

OTTAWA

CANADA.

Established 1831, with Twenty years Professional Experience in Canada, England and Germany.

OFFICES—Rooms 33 and 34 Central Chambers

Address: Postal Box 1071.

TELEPHONE

Send for Circular 48a "How to Obtain a Patent."

ALEX. GARTSHORE, PRESIDENT.

J. G. ALLAN, SECY & TREAS.

JAS. THOMSON, VICE-PRES'T & GEN. MGR.

ESTABLISHED 1870

INCORPORATED 1896

GARTSHORE & THOMSON
PIPE & FOUNDRY CO. LTD.
 MANUFACTURERS OF
 CAST IRON WATER, GAS, CULVERT & SEWER PIPE
 SPECIAL CASTINGS AND ALL KINDS OF WATER WORKS SUPPLIES.

Hamilton, Ont.

JORDAN CHAMBERS
W. J. Kramer
 DESIGNER & ENGRAVER
 ON WOOD
 17 JORDAN ST.
 TORONTO ONT.

Babbitt Metal.



BRASS, BRONZE, PHOSPHOR BRONZE, ALUMINUM BRONZE, COPPER, ZINC and ALUMINUM CASTINGS TO ORDER. Large or Small.

Write for Prices... **DEAN BROS., 184 Richmond St. West, Toronto**

Kay Electric Manufacturing Co.

255 James St. N., Hamilton, Ont.

Makers of.....

ELECTRIC MOTORS

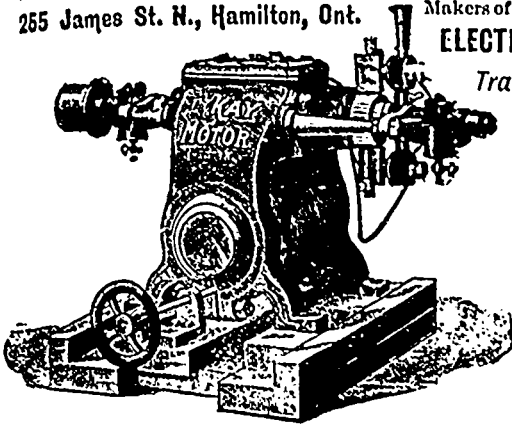
Transformers

DYNAMOS

PLATING
MACHINES

ETC.

Please let us
know your re-
quirements.
Write for lat-
est prices and
testimonials.



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.**

FRICION BOARD FRICION BOARD FRICION BOARD

Manufactured by **DOMINION LEATHER BOARD CO., MONTREAL**

Proprietors Sault Au Recollet Paper Mills.

ROOFING, SHEATHING AND FLOORING FELT.

AUBURN WOOLEN COMPANY

PETERBOROUGH, ONT.

Manufacturers of Fancy Tweeds, Etc.

Selling Agents, D. MORRICE, SONS & CO., Montreal and Toronto.

Penman Manufacturing Co., Ltd.

PARIS, ONTARIO.

Manufacturers of
**HOSIERY, SHIRTS, DRAWERS,
GLOVE LININGS AND YARNS**

Selling Agents: D. MORRICE, SONS & CO., Montreal and Toronto.

VALVES AND PIPE FITTINGS

WRITE FOR LATEST PRICES

RICE LEWIS & SON

(LIMITED)

Corner King and Victoria Streets,
TORONTO

ESTABLISHED 20 YEARS.

A. KLIPSTIEN & CO.

122 PEARL ST., - NEW YORK.

**ANILINES, DYESTUFFS, AND
CHEMICALS**

Of every variety, of the best quality and at the lowest prices.
Delivery made at New York, Montreal or Hamilton

**WRIGHT & DALLYN, Agents,
HAMILTON, ONTARIO.**

ROSAMOND WOOLEN COMPANY

ALMONTE, ONT.

**FINE TWEEDS, CASSIMERES, AND FANCY
WORSTED SUITINGS AND TROUSERINGS.**

FERGUSON & PATTINSON

PRESTON, - - ONTARIO.

MANUFACTURERS OF

FINE AND MEDIUM TWEEDS

Guelph Woolen Mill Co., Ltd.

GUELPH, - - - ONTARIO

Manufacturers of

Underwear, Hosiery, Wheeling, Fingering and Worsted Yarns

FEIDERDOWN FLANNEL, ETC.

Selling Agents: Donald Fraser, Montreal E. H. Walsh & Co., Toronto



ELEVATORS

**FENSOM ELEVATOR
WORKS
52-54-56 DUKE ST.
TORONTO**

**ELECTRIC HYDRAULIC
STEAM & HAND-POWER
PASSENGER & GOODS
ELEVATORS. DUMBWAITERS**

Water for Country Use

THE DOMESTIC PUMP

A Wonderful Invention for Raising Water. The Windmill's Greatest Rival.



Used with our New Water Supply System for Country Homes, Hotels, Summer Resorts, also for Irrigation, Railroad Tanks, Stock Yards and Factories. THIS SYSTEM Supplies the Conveniences, Comforts and Luxuries of the City for every Country Home.

General Agents wanted for every State. Send for Descriptive Circular.

THE ERWIN HYDRAULIC MACHINERY CO.

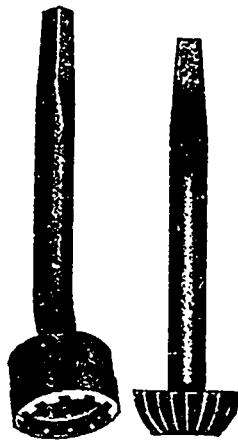
58-59 Loan & Trust Bldg. MILWAUKEE, WIS.

BALL, CHECK VALVES.
BALL GLOBE VALVES.
BLOW-OFF VALVES FOR BOILERS A SPECIALTY
OIL AND SALT WELL SUPPLIES.

T. Draper

Manufacturer of

Refacers for Globe Valves



Jenkins' Valves and Water Taps

Perfectly True Brass Balls
For all purposes—Hollow or Solid.
PETROLEA, ONT.

Haekney Power Hammers

No superior in many respects to most in the market. Made by

STEVENS, HAMILTON & CO.
Manufacturers of Iron Working Machinery
GALT, - ONTARIO.

Hodgson & Holt Mfg. Co.

(Successors to the ADEL MACHINERY Co.)

.... LACONIA, N.H.

Builders of Winders, Steam Presses, Fulling Mills, Seamers & Loopers; Also Latch Needle Flat and Circular Knitting Machines of all kinds for Hosiery and Underwear. Send for complete Catalogue.

Geo. Wilson, St. Catharines, Ont., will start a box factory at Merritton.

Mr. Barnet of Almonte, Ont., will establish a sash and door factory in Arnprior.

The city council of Nanaimo, B.C., invite tenders for a bridge to connect that town with Newcastle.

W. R. Richardson, Hartland, N.B. is erecting a wood-working factory.

The Ontario Wheel Company's works, Gananoque, Ont., were destroyed by fire April 15th. Loss about \$50,000. They will rebuild at once.

The Chicoutimi, Que., Electric Co. will construct an electric railway between that place and St. Alphonse.

The Midway Co., Montreal, are being incorporated with a capital stock of \$60,000, to do a general mining business.

The MacGregor-Gourlay Company, Galt, Ont., are applying for incorporation for the purpose of carrying on in all its branches the manufacture of woodworking, ironworking and other machinery, castings, etc.

Last week the Peter Hamilton Manufacturing Company shipped three carloads of agricultural implements to Palmerston, Ontario. The shipment was of a mixed character, including binders, seeders, mowers, plows, land rollers, spring tooth harrows, etc. It is a fact worthy of note that this company find an increasing demand for their agricultural implements west of Toronto. They have made several large shipments to the west and more will follow. The introduction which their implements received by the display made at the Toronto Industrial Exhibition, and the excellence and satisfactory character of every machine turned out, combined with the firm's reputation for keeping up-to-date in all modern and labor-saving improvements, have brought business to the company from the west, and it is safe to say this will increase in the face of all competition.—Peterborough Review.

Chestnut & Hipwell's carriage and furniture factory at Upper Woodstock, N.E., was destroyed by fire a few days ago.

The machinery in Pollow's tannery, Walkerton was badly damaged by fire a few days ago.

St. Mary's, Ont., is agitating for a water-works system.

J. H. Still, handle manufacturer, St. Thomas, Ont., is running his factory night and day to keep up with orders.

Thamesville, Ont., is to build an iron bridge to span Cornwall creek.

Wm. Snowball, formerly owner of the Snowball Wagon Works, St. George, Ont., is seeking a favorable opening for a location elsewhere.

The Goldie & McCulloch Co., Galt, Ont., have been awarded the contract for supplying the motive power for the Hamilton (Ont.) Radial Electric Railway Co.

B. B. Osler, Q. C., Toronto, owner of the Hamilton & Dundas Street Railway, is making arrangements to have the road converted from a steam to a trolley line.

W. A. Kromer of Baltimore, Md., has written to the Mayor of Hamilton, Ont., that he contemplates the establishment of a branch factory in Canada for the manufacture of padlocks.

Messrs. R. A. Sproule and D. O'Connor, Ottawa, are erecting a factory for the manufacture of interior wood decorations, mantels, etc.

Charlottetown, P.E.I., is agitating for an electric street railway.

Work will be begun at once on the Monton, N.B., street railway.

New Germany, N.S., has shipped ten cargoes of wood pulp to the United States during the past four months. Most of it went to Boston.

J. Y. Griffin & Company, Winnipeg, Man., are building an addition to their cold storage warehouse.

.. Engineers' Favorite Ring Packing ..



Rainbow Sheet and Gasket, Plumbago, Sheet Rubber, Square Flax, Hard Hydraulic, Soapstone, Asbestos and Metallic Packings.

Magnabestos Pipe Covering, Asbestos Cement, Sheet and Millboard, Finest Lubricating Oils and Grease in the market.

STEAMBOAT, RAILROAD AND MILL SUPPLIES

WILLIAM C. WILSON

24 FRONT ST. EAST, - - TORONTO

C. G. ELRICK & CO.

MANUFACTURERS OF

HORN and RUBBER COMBS, Etc.

FACTORY—Sheppard Street, Toronto.
MONTREAL OFFICE—Fraser Building.

CIRCULAR RIB

KNITTING MACHINERY

Superior Quality Reasonable Prices

STAFFORD & BABCOCK

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

CONSUMERS GAS METERS Any Size

We make an O. K. METER. You should own one, it will pay you.

JOHN S. MOORE, Dominion Gas Meter Works
1 to 11 Garfield Ave., LONDON, Ont.
Meters of every description Repaired.
Established in Canada in 1873.

SPECIALTIES.

Machinery Brushes for woolen and floor mills, Jewellers, shoes, breweries, dairies, printers, foundries, and all machinery work; old rollers refilled.

Frank Wehrle & Co.,

Brush Manufacturers,
485 King St. W., Toronto.

As Thomas A. Edison watched the pumping of the air from a glass tube in his laboratory a day or two ago a man said to him. "You patent every little thing you discover, don't you, Mr. Edison?" "I do," said Mr. Edison. "And do you know why I do it?" "I suppose you do it so you will reap the benefit of your discovery," was the reply. "I thought you'd say that," said Mr. Edison, "and I don't suppose you will believe me when I tell you it isn't so. But it isn't so, nevertheless. I discover a great many things that I would be very glad to give to the public for nothing, but I don't dare. I patent these things to save myself from defending law suits. There are a lot of sharks in this world who are continually on the lookout for new things, and when one of them hears of something new he hustles to the Patent Office to see if it is patented. If it isn't he claims it as an original discovery and files his claim. Then he will turn right

around and, like as not, begin a suit with the man who invented the things for making or using it. The inventor will say. 'But I discovered this thing first, I am the inventor.' He is referred to the Patent Office, where he finds the official claim of original invention. The fact that the papers are filed long after he made his discovery does not help him, for all the other man does is to hire a fellow to swear that he made the discovery a month or two prior to the date the inventor claims. It sounds ridiculous, probably, but it is a fact, that there are often races between the inventors and these sharks to reach the Patent Office, the sharks having had early information about the inventor's discovery. There are many such races, and thousands of dollars depend on each one. What I say is literally true. I patent things, and no doubt many other inventors patent things, just to save defending law suits."—N.Y. Sun.

United States Patents to Canadian Inventors.

Since our last issue, United States patents to Canadian inventors were issued as follows:

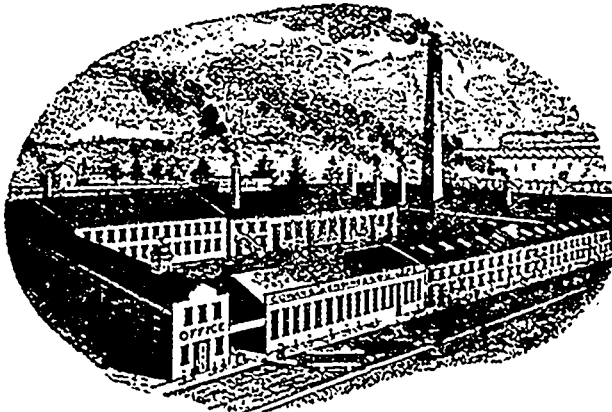
- 558,602 Electrical signal for railway trains, E. J. Devine, Schreiber, Ont.
- 558,608 Combined return water trap and boiler feed, W. Norris, Toronto.
- 558,617 Telegraph key, W. E. Simons, Dublin, Ont.
- 558,698 Steam boiler, J. A. Mumford, Hantsport, N.S.
- 558,708 Rail-bending machine, G. E. Smith, Sherbrooke, Ont.
- 558,706 Rail-bending machine, G. E. Smith, Ont.
- 558,712 Manifold memorandum book, E. W. Blackhall, Toronto.

COWAN & CO., GALT, ONTARIO

Manufacturers of

Woodworking Machinery

- Corliss and
- Slide Valve
- ENGINES.
- BOILERS.



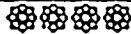
- MOFFAT'S
- Patent
- Heaters.
- Saw Mills.

Old Wood Tools, Engines and Boilers, taken as part pay on now. We have on hand a number of . . .

**Rebuilt Wood Tools
Engines and Boilers**

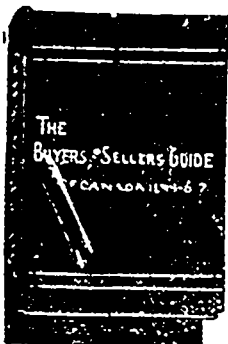
which we offer at low prices and most favorable terms. . .
WRITE FOR
Terms, Prices and Catalogue.

IT IS UP-TO-DATE



360 PAGES

CLOTH BOUND



It gives you the address of reputable manufacturers of any article you may want in any line.

If you want Farm Products it gives you the address of reliable merchants in Ontario and Manitoba who handle such products for shipment.

The list of Flour and Feed merchants in the Province of Quebec and Maritime Provinces (who buy in car lots) is carefully compiled and reliable.

The Hardware merchants of the Dominion are in alphabetical order and by Provinces.

It has the best classified list of Lumber Manufacturers ever published for Canada.

Also a General List, alphabetically arranged, for addressing purposes only.

Address: **THE MANUFACTURERS' LIST CO.**
MONTREAL, - CANADA

A close observation of all the signs of the times leads us to believe that we are now on the eve of a boom in the beet sugar industry. With the knowledge and interest the general public now feels in it, and the probable favorable legislation next year, this business is almost sure to take gigantic strides. Within ten years the valleys of California will resound with the whistles of a score of sugar factories, and the farmers of the state will reap richer harvests than have been yielded by the gold bearing hills. Not only the farmers but every avenue of trade, of commerce, and of finances will feel the quickening touch of the industry; and California will send her cargoes of sugar away, instead of importing any part of her saccharine needs. —Chino (Cal.) Champion.

RICH DISCOVERIES OF GOLD

At Cripple Creek, Colo., and elsewhere, are being made daily, and the production for 1896 will be the largest ever known, estimated at Two Hundred Million Dollars. Cripple Creek alone is producing over One Million Dollars a month, and steadily increasing. Mining Stocks are advancing in price more rapidly than any other Stocks, and many pay dividends of 35 to 50 per cent. They offer the best opportunity to make a large profit on a small investment.

J. E. MORGAN & CO., 45 Broadway, New York, are financial agents for the Prudential Gold Mining Co., and others in the famous Cripple Creek district. They will send you free, interesting particulars of the Mining Companies they represent, also their book on speculation in Stocks, Grain and Cotton, containing many new and important features.

Send for these books at once if you are interested in any form of speculation or investments. They may prove profitable to you.

Reproductions Made for Eight Cents per Square Inch



Half Tones Made Direct from Photos

CANADIAN PATENTS.

The following patents have been issued from the Canadian Patent Office, from February 14th to February 28th, 1896.

Information regarding any of these patents may be had on application as follows:—

Fotherstonlaugh & Co., Bank of Commerce Building, Toronto.

Ridout & Maybee, 103 Bay Street, Toronto.

C. H. Riches, Canada Life Building, Toronto.

A. Harvey, Central Chambers, Ottawa.

Copies of any American patents can be procured from either of these attorneys for the sum of twenty-five cents each.

51,326 Portable sprayer, James H. Werry, Blyth, Ont.

51,327 Boring tool, Hiram G. Fowler and Wm. H. Hill, Blue Rapids, Kan.

51,328 Mould for paper machinery and method of producing the same, Samuel Crump, Spokane, Wash.

51,329 Vertical grand piano, Fridolin Schimmel and Searick F. Nelson, Fari-bault, Minn.

51,330 Furnace for the smokeless combustion of fuel, Meylert M. Armstrong, Philadelphia, Pa.

51,331 Fermentation of worts which have been rendered antiseptic, Jean Effont, Brussels, Belgium.

51,332 Means for producing photographs resembling engravings, Herman E. Mendelsohn, New York, N.Y.

51,333 Turning lathe, Ralph R. Spears, Wheeling, W. Va.

51,334 Ferrule and bushing, Chas. H. Adams, Grand Haven, Mich.

51,335 Picking rod and gas lighting device, Chas. A. Gregory, Montreal.

51,336 Game apparatus, Frederick R. James, Toronto.

51,337 Furnace fire bar, Andrew Pillatt, Nottingham, Eng.

51,338 Paper box machine, Leroy Brown, Wm. P. Birnie, Alfred Birnie and Donald Birnie, Springfield, Mass., assignees of Chauncey W. Gay, West Springfield, Mass.

51,339 Halter shank and line holder, Robert C. Stewart, Grey, Ont., and Peter M. Stewart, Township No. 15, Man.

51,340 Machine for selling newspapers, Michael A. Kennedy, Montreal.

51,341 Bird bread holder, Bartholomew Cottam, London, Ont.

51,342 Apparatus for printing tickets, etc., Leon P. Monier and Guillaume Glockler, Paris, France.

51,343 Jar closure, Franz Guillaume and Ewald Golestein, Bonn, Prussia, Germany.

51,344 Hook and eye, Jos. F. Schoeppel, Pittsburg, Pa.

51,345 Device for heating and ventilating rooms and houses, John Cinnamon, New Brighton, N.Y.

51,346 Reed for musical instruments, Jos. Wojciechowski, Kowns, Russia.

51,347 Draft equalizer for ploughs, Geo. R. Gamble, assignee of Jos. W. Gamble, Des Moines, Ia.

51,348 Shuffle hoe, Henry A. Parcells and Thos. Fowles, Delta, Col.

51,349 Musical game device, Abbie T. Hays, Henry Muntz and Norman B. Hagin, Wichita, Kan.

51,350 Filter, Emoline Graves, assignee of John Graves, Milwaukee, Wis.

51,351 Envelope, John J. Lussier, New York, N.Y.

51,352 Device for suspending lamps, Frank E. Nichol, Portobello, Scotland, and Thos. Redman, Bradford, Eng.

51,353 Sign, Abraham B. Gelman, New York, N.Y.

51,354 Non-refillable bottle, Chas. P. Landquiste, Frithiof Karlson and Frederick J. O'Brien, Brooklyn, N.Y.

51,355 Method of and apparatus for hardening cast steel, Warren T. Reaser, Lincoln, Neb.

51,356 Damper for musical instruments, Dr. Adold Richter, Rudolstadt, Schwarzburg, Rudolstadt, Germany.

51,357 Vending machine, John A. Williams, Brooklyn, N.Y.

51,358 Waste picker, Edward R. Coverdill, Clifton Heights, Pa.

51,359 Sign letter, Frederick H. Colborne, Chicago, Ill.

51,360 Safety gas burner, Benjamin Smith, Utica, N.Y.

51,361 Band cutter and feeder, Geo. D. Lamm and Wm. Sicard, Ackley, Ia.

51,362 Drive chain, Ellory A. Baldwin, Upton, Mass.

51,363 Chain pipe wrench, John H. Newell, Hurley, Wis.

51,364 Art of and apparatus for transmitting speech, Alexander W. Hall, Ph.D. and LL.D., assignee of John Absterdam, New York, N.Y.

51,365 Propeller, Orestes Pagan, Josiah R. Bougler and Horace Evans, Philadelphia, Pa.

51,366 Tap, Herbert Credgington, Pall Mall Bendigo, Victoria, assignee of Geo. Barnes, Albert Park, near Melbourne, Victoria, Australia

51,367 Means for burning fuel, Lester and Wm. M. Enst, New York, N.Y.

TURBINE AND CASCADE WATER WHEEL

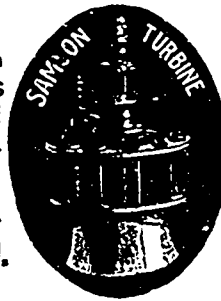
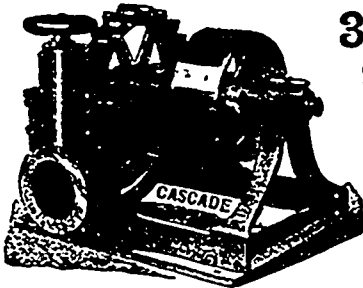
Adapted to all Heads from

3 Feet to 2000 Feet.

Our experience of 33 YEARS building Water Wheels enables us to suit every requirement of Water Power Plants. We guarantee satisfaction.

Send for a Pamphlet of either Wheel and write full particulars.

JAMES LEFFEL & CO.
SPRINGFIELD, OHIO, U. S. A.

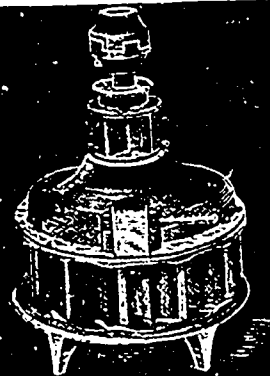


Burnham's Percentage Full Capacity

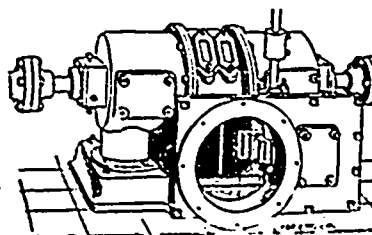
NEW IMPROVED STANDARD TURBINE

It is the most efficient Vertical or Horizontal shaft more power can be developed a greater percentage for water power than any other with full capacity design, and is the simplest, most durable and best lined wheel made. Send for illustrated catalogue and state head of water and power required.

BURNHAM BROS., York, Pa.



"LITTLE GIANT" TURBINE



Built in 17 Standard Sizes and 27 Special Sizes, making a range of 44 different wheels in vertical and horizontal cases.

We solicit correspondence from those interested in developing or improving water power.

One Type of Horizontal.

.....ADDRESS.....

J. C. WILSON & CO., Glenora, Ont.

- 51,368 Fountain shading pen, Frank A. Price, Newark, N.J.
- 51,369 Liquid dispensing apparatus, Wm. M. Fowler, Stamford, Conn.
- 51,370 Device for cutting channels in the ice, Jos. O. B. Latour, Ottawa.
- 51,371 Hair clipper, Geo. F. Stevens and Fred. E. Stevens, Haverhill, Mass.
- 51,372 Combination tool, Henry C. Caldwell, Lancaster, N.Y.
- 51,373 Packaging machine, Wm. H. Butler, assignee of John S. Voitek, New York, N.Y.
- 51,374 Pipe or flue for utilizing waste heat, John R. Terey and Wm. E. Cowle, Carlisle, Ind.
- 51,375 Automatic cut-off for gas systems, Francis L. Cook and Edmund A. Belden, assignees of Jas. F. Cranstun, Springfield, Mass.
- 51,376 Bicycle saddle, Henry A. Christy, Chicago, Ill.
- 51,377 Display device for corsets, Thos. F. Somers, New York, N.Y.
- 51,378 Anvil, Malree W. McInturf, Prosperity, Mo.
- 51,379 Stamp holder and ink pad, John H. Kleime, Dubuque, Ia.
- 51,380 Communion cup, Paul G. Klingler, Calasauqua, Pa., Henry W. Elson, Philadelphia, Pa., and the firm of H. J. Klingler & Co., Butler, Pa.
- 51,381 Telephone index, Chas. A. Orth, Trenton, N.J., and the Times Printing Co., Hamilton, Ont.
- 51,382 Drill, Richard Huffman and Edwin J. Baldwin, Cardiff, Tenn.

- 51,383 Lantern, Wm. G. Holden, Cheston L. Heath and Henry E. Luter, Corpus Christie, Tex.
- 51,384 Capsule, Wm. A. Hinchman, Tarentum, Pa.
- 51,385 Pneumatic tool, Julius Keller, Philadelphia, Pa.
- 51,386 Automatic gun, Henry S. Maxim, London, Eng.
- 51,387 In and out indicator, John P. Melbourne, Lancaster, Eng.
- 51,388 Buckle, Lewis H. Bennet, Worcester, Eng.
- 51,389 Fyle, Arthur J. Wells, Syracuse, N.Y.

- 51,390 Forced draft lamp, Robert Hitchcock, Watertown, N.Y.
- 51,391 Lamp shade, etc., Geo. H. Schafor, Fort Madison, Ia.
- 51,392 Hydraulic giant, John H. Heady, San Francisco, Cal.
- 51,393 Weighing truck, Orlando W. Parsell, Flushing, Mich.
- 51,394 Iron pipe pattern, Jas. Thompson, Hamilton, Ont., and George Thomson, Dundas, Ont.
- 51,395 Ship type, Otto Hartwich, Swmunde, Prussia, Germany.
- 51,396 Marine velocipede, Luther V. Moulton, Grand Rapids, Mich.

Wm. KENNEDY & SONS, OWEN SOUND, ONT.

MANUFACTURERS OF

HIGH-CLASS

WATER WHEELS,

Electric Water Wheel Regulators,

Machine-dressed Heavy Gearing,
Shafting, Etc.

PROPELLER WHEELS AND MARINE REPAIRS A SPECIALTY.....

ROBERT GRAHAM

Water Wheels
Engines, and Mill
Machinery

Iron Founder and Machinist

OTTAWA
ONT.

A SPECIALTY

THE...

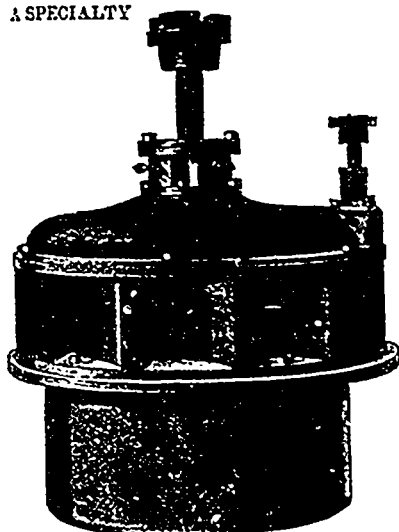
Standard Water Wheel

MADE IN SIZES, FROM 6 INCHES TO
84 INCHES DIAMETER.

WHEEL ONE SOLID CASTING.



Cut Showing Wheel Removed from Case.



84 per cent. of power guaranteed in five pieces. Includes whole of case, either register or cylinder gate. Water put on full gate or shut completely off with half turn of hand wheel, and as easily governed as any engine.

Write for Estimates, References and Catalogues of the STANDARD WATER WHEEL, also Milled and Rough Gearing of every size and description, Engines, Mill Machinery, and Electric Power Plants, Latest Improved Band Saw Brazing Tables, Shears and Gummors, also Surface Grinder for Single Saws.

- 51,397 Sewing machine, Earle H. Smith, New York, N.Y.
- 51,398 Fish cutting machine, Wm. Munn, San Francisco, Cal.
- 51,399 Hydrant, Wm. W. Corey, Jr., St. Louis, Mo.
- 51,400 Drill chuck, Ross M. Russell, Binghampton, N.Y.
- 51,401 Locking device for wagon bodies, Jos. T. Duncan, Delphos, Kan.
- 51,402 Cover for locks, Parazetto Hopkins, Williamsport, Pa.
- 51,403 Insect destroyer, Edward T. Burrows, Portland, Me.
- 51,404 Trunk, Perley E. Rich, Malden, Mass.
- 51,405 Window frame, etc., John W. McDougall, Napier, Hawkes Bay, New Zealand.
- 51,406 Stone planer, Michael J. Campbell, Boston, Mass.
- 51,407 Medicinal compound, Giovanni B. Deferari, Toronto.
- 51,408 Tire for vehicles, etc., Andrew Graff, Brooklyn, N.Y.
- 51,409 Photographic plate holder, Edward G. Cone and Dorr R. Close, Chicago, Ill.

- 51,410 Attachment for hot air register, Francis C. Carroll, Peoria, Ill.
- 51,411 Sash balance, etc., Alonzo T. Martin, Queenstown, Ont.
- 51,412 Production of prints by photography and an apparatus for the purpose, Wm. Friese-Greene, London, Eng.
- 51,413 Vehicle hub Hiram L. Stuart, Boston, Pa.
- 51,414 Torpedo-placers, Thos. Regan, New York, N.Y.
- 51,415 Indexed file, Chas. W. Northrop, Newark, N.J.
- 51,416 Fish hook, Elliott H. Crane and Chas. E. Smith, Niles, Mich.
- 51,417 Machine for forming tubes, etc., John C. Stevens, Hartford, Conn.
- 51,418 Fare box, John M. Smith, Toronto.
- 51,419 Travelling bag, Esther M. Barrett, Atlanta, Ga.
- 51,420 Machine for pointing skewers, Thos. W. Hamlin, Sarawak, Ont.
- 51,421 Ellipsograph, John Hottinger, St. Louis, Mo.
- 51,422 Tent, Spencer F. B. Biddle, Graham, Montana.
- 51,423 Post auger, August H. Meier, Marble Rock, Ia., and Lucius H. Langworthy, Dubuque, Ia.
- 51,424 Carrier for match coils, the Continental Match Co., assignee of Wm. F. Hutchinson, New York, N.Y.
- 51,425 Frame for safety bicycles, the Trengrove Improved Bicycle Frame Co., assignee of W. H. Trengrove, Canterbury, New Zealand.
- 51,426 Automatic belt shifting mechanism, the Cohoko Wooden Ware Mfg. Co., assignee of Geo. A. Smith, Cohoko, Va.
- 51,427 Gate spring, John J. Larimer, Crab Tree, Pa.
- 51,428 Credit sales book, Frederick W. Jeffery, Midland, Ont.
- 51,429 Saucer, Charles Koster, Lubeck, Germany.
- 51,430 Letter box, Isaac E. Shaw, Cloverdale, Cal., John D. Sullivan, Chas. A. Sullivan, and Frank J. Peddie, Detroit, Mich.
- 51,431 Pump, Albert M. Putnam, Woburn, Mass., Geo. F. Atwood, and Geo. M. French, Malden, Mass.
- 51,432 Pneumatic roller for typewriters, David Orson, Nushawaka, Ind.
- 51,433 Sewing machine, Daniel James, Birmingham, Eng.
- 50,434 Truss, Joseph Fandroy, Santa Barbara, Cal.
- 51,435 Top for maulage bottle, Maria S. Burrage, Montreal.
- 51,436 Gas lamp, Walter J. Thomas, Lurey, Eng.
- 51,437 Book and binding, Eugene Gregory, Ann Arbor, Mich.
- 51,438 Book-holder, Wm. T. J. Parkes, London, Eng.
- 51,439 Method of floating heavy timber, Alexander McEwen, Calumet, Que.
- 51,440 Apparatus for filling bottles, etc., Wm. A. Bowic, Surrey, Eng., and Ernest J. Dodd, Middlesex, Eng.
- 51,441 Match machine, Davenant Rodger, New York, N.Y.
- 51,442 Auxiliary tire, Zobulon Foster, Chicago, Ill.

JOHN ABELL ENG. & MACH. WORKS CO.

**Saw Mills, Roller Mills, Engines, Boilers
Tanks, Electrical Machinery**

~~~~~

**DAVIS' CREAM SEPARATORS**

~~~~~

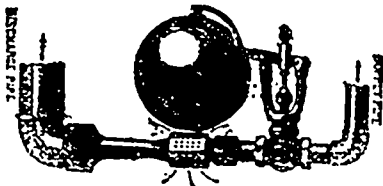
"DUPLEX" FEED MILLS
(GRINDING CORN ON THE COB).

is A Fine Second-Hand Gas Engine for Sale.

TORONTO, ONTARIO

THE BRAENDER

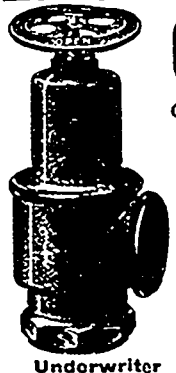
**JET PUMP, WATER-ELEVATOR
AND CELLAR DRAINER**



Patented May 8, 1891.

This automatic device for removing water from Cellars, Excavations, Trenches, Wheelpits, or any depression where water accumulates, either from Springs, Surface Water, Leakages, or Tide Water, is so constructed as to be not only reliable at all times, but will, with a very small amount of water under moderate pressure, remove a large body of water and discharge it to a higher level. It will prevent the accumulation of water, and its construction is Strong, Durable, Uncorrosive, and is so simple, that it will last for years without attention. *Send for Catalogues and Price Lists.*

GARTH & CO., AGENTS AND MANUFACTURERS
536 to 542 Craig Street, MONTREAL.



**CROSBY STEAM GAGE
AND VALVE CO.**

Sole Proprietors and Manufacturers of
Crosby Pop Safety Valves, for all kinds of Boilers, Water Relief Valves including the Underwriter, which is fully approved by the Associated Factory Mutual Insurance Companies, Crosby Steam Engine Indicators, with Sargent's Electrical Attachment, Crosby Improved Steam Gages, Recording Gages and Patent Gage Testers.
Original Single Bell Chimie Whistles.

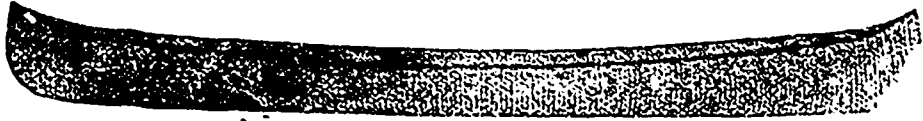
BRANDEN PATENT PUMP VALVES
CLARK'S LINEN FIRE HOSE AND ADJUSTABLE COUPLINGS
All Kinds of Pressure and Vacuum Gages used in the Various Arts

Gold Medal Paris Exposition, 1889
Ten Highest Awards Columbian Exposition, 1893

Main Office and Works **BOSTON, MASS., U.S.A.**
Branch Offices at New York, Chicago, and London, Eng.

Underwriter

DO YOU WANT A Canoe or Row-Boat?



WE HAVE THEM in all sizes, and at prices which should INDUCE YOU TO BUY

The Canadian Canoe Co., Ltd.

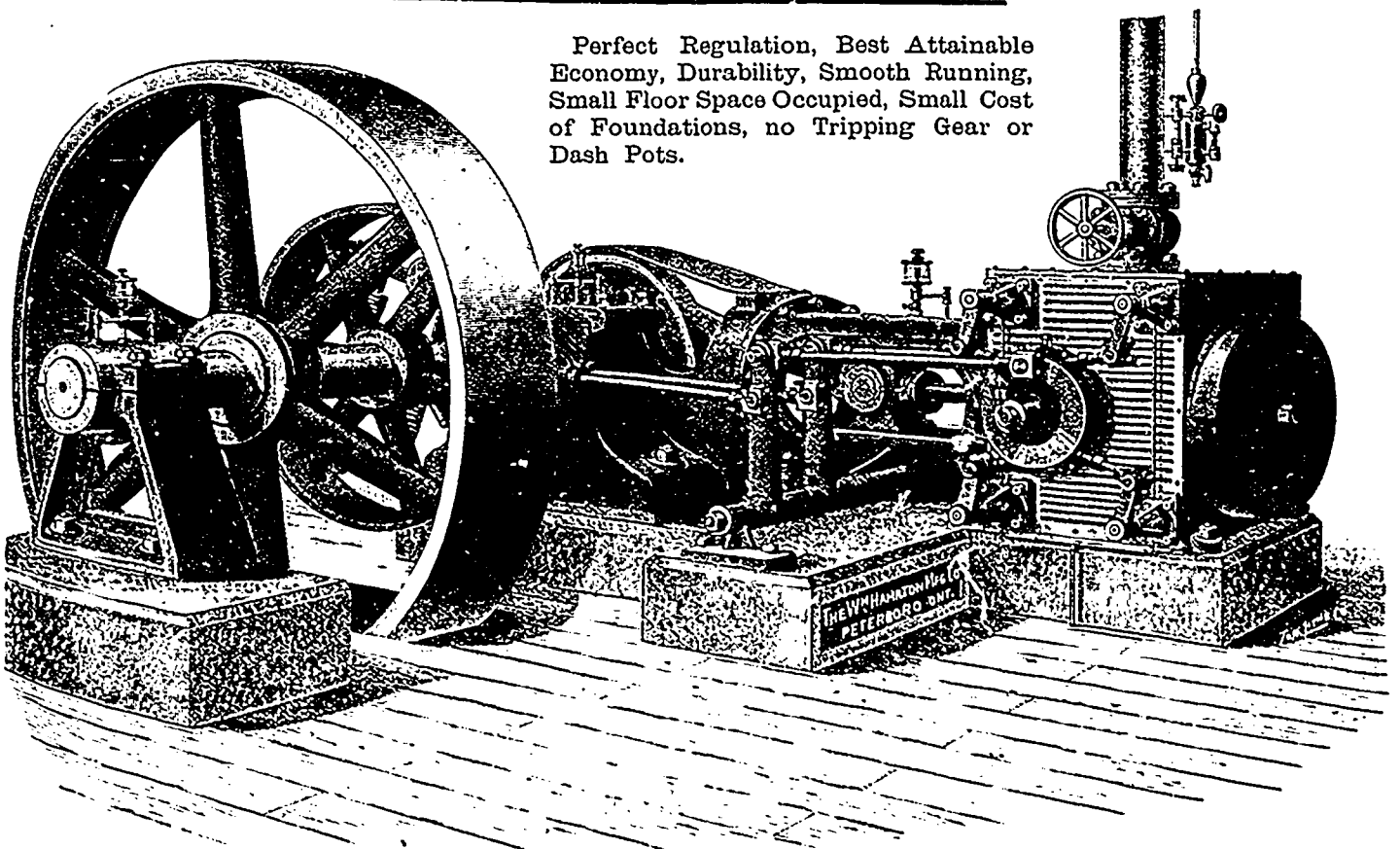
BOX 107, ... PETERBORO, ONT.
Send stamp for catalogue and mention this paper.

- | | | |
|--|---|---|
| 51,443 Hose reel, David C. Lundon, Du buquo, Ia. | 51,455 Bung, Gottlieb F. Bokel, South Easton, Pa. | 51,469 Water heater for troughs, Robt. M. Oliver and Carter B. Keene, Freedom, Mo. |
| 51,444 Disc plough, Deere & Co., assignee of S. D. Poole, Moline, Ill. | 51,456 Blind slot journal, Edwim F. Nowell, Middletown, Conn. | 51,470 Car seal, Louis G. Gonett, Marquette, Mich. |
| 51,445 Velocipede wagon, Jas. M. Spangler and Jacob M. Schneider, Canton, O. | 51,457 Box for shipping animals, Geo. Bell, Toronto. | 51,471 Radiator, Josiah B. Fox, Slatington, Pa. |
| 51,446 Burners for gasifying and burning fluid fuels, specially paraffine oils, Oscar E. Wollert, Sweden. | 51,458 Fluo thimble, David F. Tylor, Wichita, Kan. | 51,472 Sash lock, etc., Walter Bernhart, Cornwall, Ont. |
| 51,447 Water heater attachment for stoves, Thos. H. Lennox, Woodstock, Ont. | 51,459 Sectional vehicle hub, Robt. F. A. MacKinnon, Centralea, Wis. | 51,473 Apparatus for use in making cheese, Jan Helder, Dokkum, Netherlands. |
| 51,448 Waist for children, Thos B. Fitzpatrick, Newton, Mass. | 51,460 Car coupling, Wm. S. Tamworth, New South Wales, Australia. | 51,474 Metallic packing, Edward Eathrop, Lusigneanna, Pa. |
| 51,449 Bicycle canopy, Denis J. Reaume and John S. Barnes, assignees of Alfred B. Venton, Detroit, Mich. | 51,461 Bicycle stand holder, Harry C. Phillips, Rochester, N.Y. | 51,475 Sleigh, Chas. W. Schultz, Detroit, Mich. |
| 51,450 Sickle grinding machine, Perry H. Cazier, Nashville, Mich., Horace Palmer and Isaac Sponabel, Hastings, Mich. | 51,462 Clip William Chivers, Bristol, Eng. | 51,476 Tire, Conard H. Hoff. |
| 51,451 Apparatus for flushing water closets, The Hitchcock Lamp Co., assignee of John W. Bragger, Watertown, N.Y. | 51,463 Railroad cattle guard, Edwin G. Emmert, Sherdahl, Kan. | 51,477 Windmill, Frederick A. Mathews and Geo. Stevenson, La Harpo, Kan. |
| 51,452 Home trainer for bicyclists, Wm. F. Mitchell, Guelph, Ont. | 51,464 Fire extinguisher, Walter R. Johnston, New York, N.Y. | 51,478 Wagon brake, Deloss Rhoades, Randolph, N.Y. |
| 51,453 Tripod, Robt. Aucock, Utica, N.Y. | 51,465 Car coupler, Isaac Fetters, Attica, Kan. | 51,479 Mechanism for propelling railway velocipedes and hand cars, Jas. Jos. Thompson, Jacksonville, Fla. |
| 51,454 Sectional steam boiler, Geo. Fillion, Lake Linnen, Mich. | 51,466 Corset, The Michigan Corset Co., Jackson, Mich., assignee of Fred. C. Wright, Springfield, Mass. | 51,480 Tilting spring seat, Chas. F. Davy, Starkville, N.Y. |
| | 51,467 Wagon and tongue stadier, Edward Brinck, Hicksville, O. | 51,481 Centrifugal separator for cream, etc., Thos. Collins and Ernest L. Hartmann, Bainbridge, N.Y. |
| | 51,468 Machine for cutting corn, Samuel E. Morral and Wm. W. Morral, Morral, O. | |

Payne's Improved Corliss Engine

SIMPLE AND COMPOUND

Perfect Regulation, Best Attainable Economy, Durability, Smooth Running, Small Floor Space Occupied, Small Cost of Foundations, no Tripping Gear or Dash Pots.



The Wm. Hamilton Manufacturing Co., Limited

PETERBORO', ONTARIO.

Branch Office, Vancouver, B.C.

THE LONDONDERRY IRON CO., Ltd.

A. T. PATERSON,
President and Managing Director.

JAMES PHYMISTER,
Secretary.

....Manufacturers of.....

PIG IRON PUDDLLED BARS
BAR IRON NAIL PLATES
WATER PIPES, ETC.

Office . **MONTREAL**

Works . . **LONDONDERRY, NOVA SCOTIA**

CANADA IRON FURNACE CO., Ltd.

Montreal, Radnor and Three Rivers

Manufacturers of the well-known

"C.I.F." Three Rivers Charcoal Pig Iron

Suitable for Car Wheels, Cylinders and Fine Castings,
where the utmost strength is required.

UNSURPASSED IN STRENGTH BY SWEDISH, RUSSIAN
OR AMERICAN CHARCOAL IRON.

Offices: *New York Life Insurance Bldg., Montreal*

Nova Scotia Steel and Forge Co.'y

OFFER

BRIGHT COMPRESSED STEEL SHAFTING

AS PER FOLLOWING LIST:

PRICE LIST BRIGHT COMPRESSED STEEL SHAFTING

EVERY BAR GUARANTEED STRAIGHT AND TRUE TO SIZE WITHIN $\frac{1}{32}$ OF AN INCH.

Nominal Size of Shaft.	Actual Size of Shaft.	Weight, Per Foot.	Price, Per Pound.	Nominal Size of Shaft.	Actual Size of Shaft.	Weight, per Foot.	Price, Per Pound.
1½	1½	4.13	\$0 4½	2½	2½	18.91	\$0 04
1¾	1¾	5.01	"	3	2¾	22.50	"
1½	1½	5.94	"	3½	3¼	26.00	"
1¾	1½	7.46	"	4	3¾	30.04	"
2	1¾	9.83	0 04	4½	4	42.33	0 05
2½	2½	12.53	"	5	4½	53.57	"
2¾	2¾	15.55	"	5	5	66.13	"

NOTE.—Shafting as per actual size column, up to 3 inches diameter, always kept in stock.

Stock Lengths, 12, 14, 16 and 18 feet.

On orders from stock cut to other lengths, we charge for length from which we cut.

Prices for Special Sizes, varying from list of actual sizes, given above, will be furnished upon application.

All orders filled as per Actual Size column, unless otherwise specified.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

BOXING EXTRA, AT COST.

This is not Hot Polished or Cold Rolled Steel, and will not spring when keyseated.
If your Wholesale Hardware firm cannot supply you write direct to the Works -

NEW GLASGOW, NOVA SCOTIA

PICTOU CHARCOAL IRON CO., LTD.

BRIDGEVILLE, NOVA SCOTIA

Works
BRIDGEVILLE, N.S.

Head Office:
NEW GLASGOW, N.S.

Manufacturers of all Grades of

CHARCOAL PIG IRON

SUITABLE FOR

Car Wheels, Cylinders, Etc.

SUSPENDER BUCKLES

..AND..

WIRE SHAPES OF ALL KINDS

We have put in a complete plant of Automatic Machinery for making above articles.

WRITE FOR QUOTATIONS

McKINNON DASH AND HARDWARE CO.'Y

ST. CATHARINES, ONT.

MACHINE TOOLS

SECOND-HAND LIST OFFERED BY

DUNDAS, **JOHN BERTRAM & SONS** ONTARIO

These Machines have been replaced by New and **Improved Tools**

Are in good Repair and will be Sold Cheap.

—
Write for Prices
—

Montreal Office, 321 St. James St.

- 1, 20 in. x 10 ft. Engine Lathe.
- 2, 12 in. Hand Speed Lathe.
- 1, 26 in. x 16 ft. Engine Lathe.
- 1, 14 in. Sq. Arbor Fox Lathe
- 1, 5 ft. 2 in. Break Lathe.
- 1, 30 in. x 8 ft. Iron Planer.
- 1, 20 in. Drilling Machine.
- 1, No. 3 Combined Punch and Shear, 5-8 in. Plate.
- 1, 2,000 lbs. Steam Hammer.

The Central Bridge and Engineering Co., Ltd.

Capital Stock - - **PETERBOROUGH, ONT.** - - \$200,000.00

Capacity, 5,000 Tons Per Annum



Capacity, 5,000 Tons Per Annum

- - MANUFACTURERS OF - -

BRIDGES, ROOFS, VIADUCTS, PIERS, GIRDERS, TURNABLES, ARCHITECTURAL WORK, FORGINGS, AND ALL KINDS OF GENERAL ENGINEERING WORK.

Also Law's Patent Surface CATTLE GUARDS and Law's Patent "OPTIMATES" POWER HAMMERS

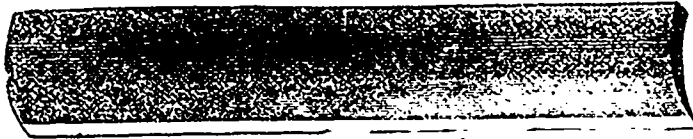
W. H. LAW - ENGINEER AND MANAGING DIRECTOR.

Galt Machine Knife Works

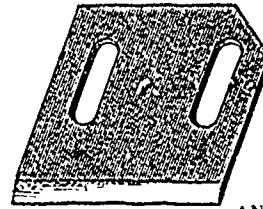


Stave Cutter Knives

PLANING
MACHINE
KNIVES



Stave Jointer Knives



Moulding,
Tenoning,
Mitreing

SHINGLE . . .
JOINTER . . .

AND OTHER IRREGULAR SHAPES.

Cheese Box and Veneer, Paper Cutting, Leather Splitting, and any Special Knife made to order.

SEND FOR PRICE LIST.....
ALL WORK WARRANTED

PETER HAY, - GALT, ONT.

WOOD WORKING MACHINERY

FOR CABINET, CARRIAGE, SASH, BLIND AND DOOR MAKERS

Defiance Planer and Matcher,
Three-Cylinder Sandpaperer,
Automatic Hollow Square Chisel
Mortiser, for Mortising in Hard Woods.

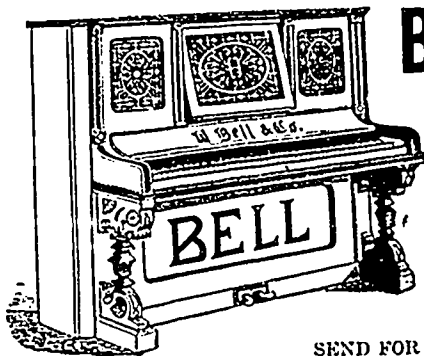
Carving Machine, for Duplicating Carvings.
Multiple Spindle Borer,
Unsurpassed for Extension Table Work.
Independent Dovetailer,
Can be attached to any Shaper.

Power Feed Band Resaw,
Lightning Planer.
Exhaust Fans, Single and Double.

Our Patented Solid Web WOOD SPLIT PULLEYS are A 1.

We also Manufacture HOT WATER HEATERS....

THE GALT BROS. CO. OF GALT, (Ltd)., - - - GALT, ONT.



BELL -

HIGH-CLASS
INSTRUMENTS

Used and Recommended by

Leading . . .
. . . Musicians

SEND FOR CATALOGUE.

THE BELL ORGAN AND PIANO CO., Ltd.

GUELPH, - - - ONTARIO

THE WELLINGTON MILLS, LONDON, ENGLAND

- 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, Skillful Manufacture, Sharpness, Durability, and Uniformity of Grain

....MANUFACTURERS....

JOHN OAKEY & SONS, Ltd., Wellington Mills, Westminster Bridge Road, London, England.

Inquiries should be addressed to

JOHN FORMAN, 650 Craig St., MONTREAL



Galvanized Steel FIRE PAILS

NO HOOPS TO FALL OFF

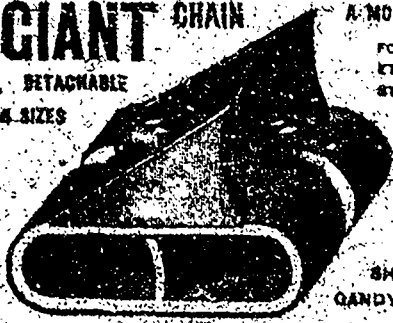
A Pail that will withstand the action of salt and water.
More fires are extinguished by pails of water than by all other means combined
They are always ready, simple and effective.
The Official Returns of the New York Fire Commissioners, show that 64 per cent of the whole number of fires were extinguished by pails of water.
Galvanized, Painted Red and Stencilled, or Plain Galvanized and Stencilled

PRICES ON APPLICATION

Kemp Manufacturing Co., - Toronto, Can.

GIANT CHAIN

DETACHABLE
4 SIZES



100 TOOTH,
ON 600, 1200 AND 1075.

A MOST SATISFACTORY AND DURABLE CHAIN
FOR LOG JACKS, REFUSE CONVEYORS, ETC.,
LARGE QUANTITY OF THIS AND OTHER
STYLES IN STOCK FOR

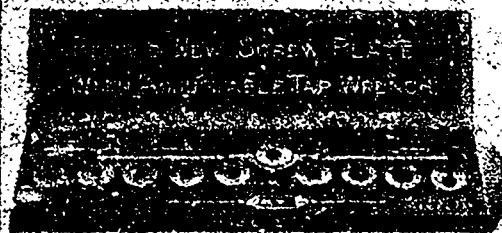
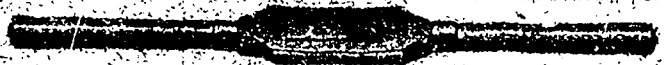
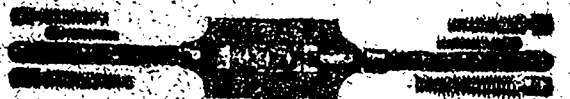
ELEVATING AND CONVEYING

ALL KINDS OF MATERIAL.

POWER TRANSMISSION MACHINERY,
SHAFTING, PULLEYS, GRIP PULLEYS,
GANDY WATERPOOF BELTING.

SEE OUR QUOTATIONS AND
NEW LINE-CATALOGUE

L. WATEROUS, BRANTFORD, CANADA.



BUTTERFIELD & CO.

600K ISLAND, P.O.

REPAIR SCREW PLATES
BLACKSMITH STOCKS AND
DIES. All kinds of Taps

Pipe Stocks, Pipe Cutters,
Tap and Dies, Pipe Vises
All kinds of Tools for Steam
Water and Gas Pipe

IT LEADS THEM ALL

THE OLDEST THE LARGEST
THE SAFEST THE CHEAPEST

Canadian Life Insurance Company, is

The CANADA LIFE ASSURANCE CO.

CAPITAL AND FUNDS OVER \$13,000,000

WRITE FOR PROSPECTUS

A. G. RAMSAY,
President

GEO. A. & E. W. COX,
Managers for Toronto
and Eastern Ontario.

JAMES A. CANTLIE & CO.

MONTREAL AND TORONTO.

General Merchants and
Manufacturers' Agents

CANADIAN TWEEDS, FLANNELS, DRESS GOODS
KNITTED UNDERWEAR, BLANKETS, Etc.

Representing in Canada

F. R. SAVERY & CO.
Huddersfield, Bradford, England.

ALON KNOPS, I. CUPPER SOHN.
Aachen, Germany. Bielefeld, Germany.

WHOLESALE TRADE ONLY SUPPLIED.

- PHENIX -

Assurance Company

OF LONDON, ENGLAND

EST. 1782. Agency Established in Canada, 1804

PATERSON & SON

General Agents for the Dominion.

35 St. Francis Xavier Street, Montreal

LEWIS MOEFATE & CO., Agent at Toronto

The Canadian Colored Cotton Mills Co.

1896 - SPRING - 1896

GINGHAMS, ZEPHYRS, CHEVIOT SUITINGS, FLANNEL-
ETTES, DRESS GOODS, SKIRTINGS, OXFORDS,
SHIRTINGS, COTTONADES, AWFINGS,
TICKINGS, ETC.

SEE SAMPLES IN WHOLESALE HOUSES

NOW READY

D. MORRICE, SONS & CO., AGENTS.

MONTREAL AND TORONTO

USE THE McCASKILL STANDARD VARNISHES

SATISFACTION GUARANTEED

Manufactured by.....
McCASKILL, DOUGALL &
 Montreal, C. C.

MADE BY **FARR** IN THE CANADA LIFE BUILDING, TORONTO

ALIZARINES
 —AND—
ANILINES

FAST COLORS A SPECIALTY

CHEMICALS, DYESTUFFS AND ACIDS
 "Logwood Extracts"

**BELLHOUSE,
 DILLON & CO.**

Wellington Street, Toronto
 30 St. Francois Xavier Street, Montreal



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

(Limited)

....Manufacturers of....

MALLEABLE IRON

**AGRICULTURAL
 IMPLEMENTS**

Miscellaneous
 Purposes

OSHAWA - - ONT.

*Sault Ste. Marie
 Pulp and Paper Co.*

SAULT, STE. MARIE, ONT.

**GROUND
 WOOD
 PULP**

FOR DOMESTIC AND
 EXPORT TRADE

BRISTOL'S PATENT
STEEL BELT LACING

—ONE HUNDRED SIZES—



GREATLY REDUCED PRICES

Is a grand success.
 Try it and see for yourself.

Saves Time, Saves Belts, Saves Money
 SAMPLES SENT FREE

THE **BRISTOL CO.**
 WATERBURY, CONN.

**SMITH'S FALLS
 Malleable
 Iron
 Works**

00000

CAPACITY 2,000 TONS

00000

WILLIAM H. FROST
 PROPRIETOR,
 SMITH'S FALLS
 ONTARIO, CANADA.

Manufacturers of
FINE VARNISHES
Japans—Asphalts—Shellacs

Maple Leaf Brand Coach Varnishes

J. H. FARR & CO.

Armature Insulating Compound
 Insulating Compound for Weather-Proof Wire, Tube
 Compound, Mica Paste, etc., etc.
 8 to 16 MORSE STREET
 TORONTO

CARRIER, LAINE & CO.
 LEVIS, P.Q.

Dredges,

**SAW MILL
 MACHINERY**
 ETC.

Montreal Branch
 147 St. J.
 Quebec Branch
 264 St.