

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

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

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

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

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

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.

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

Additional comments:/
Commentaires supplémentaires:

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

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

CANADIAN MANUFACTURER

AND INDUSTRIAL WORLD
DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

VOL. 34. TORONTO, APRIL 2, 1897. No. 7.

THE BARBER & ELLIS CO.
(LIMITED)
MANUFACTURERS OF
Envelopes,
Papetries
- AND -
Note Papers.
NOS. 43, 45, 47, 49 BAY STREET
Toronto, Ont.

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

HAMILTON ENGINE PACKING CO.
Sole Manufacturers of

Sectional Piston Ring Sectional Pipe Covering
CLAPPISON'S
IMPROVED RING AND COIL PACKINGS
ALSO CLAPPISON'S
STANDARD ASBESTOS, MAGNESIA, SECTIONAL PIPE AND BOILER COVERINGS
Asbestos Cement, Packing, Paper, and Sheet.
Special Covering for Hot Air and Hot Water Pipes - cheaper and better than hair felt.
Rainbow and other sheet packings. Eclipses and Smith's Adjustable Gaskets, etc., etc.
56 ALANSON STREET, HAMILTON, ONT.

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 and Head Office, MONTREAL Toronto Office, 69 Bay Street

CHARLES F. 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, Australia, and in London, England.
The Bradstreet Company is the oldest, and, financially, the strongest organization of its kind—working in 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:—
McKINNON BUILDING, TORONTO
THOS. C. IRVING, Superintendent

THE GUTTA PERCHA & RUBBER CO.
10 WARREN ST. TORONTO LTD. CH. CANOE SECT.
PREST & TREAT
BELTING PACKING CLOTHING HOSE
FACTORIES
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

Core Compound and Foundry Supplies | Sand, suitable for all classes of Work

THE LUNN & LUNN LUNN & LUNN, (LTD.) TORONTO JUNCTION, ONTARIO. manufacturers of BICYCLE STEEL CASTINGS A SPECIALTY.

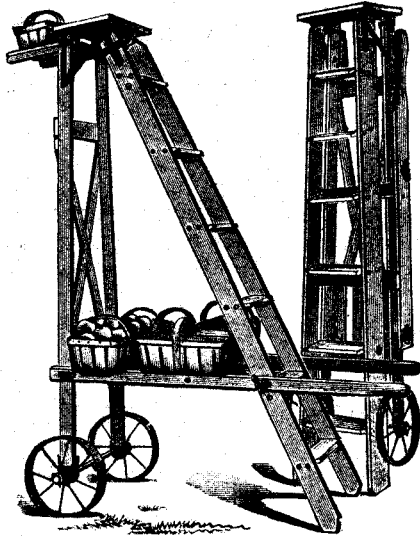
BRIDOUT & MAYBEE
Foreign members of the.... CHARTERED INSTITUTE OF

SOLICITORS of and EXPERTS in
PAMPHLET ON PATENTS SENT FREE
103 Bay Street, Toronto

Patents

PATENT FOR SALE
Orchard Step Ladder

Patented in Canada and U.S.
TO MANUFACTURERS



An excellent business opportunity is offered in the manufacture and sale of the Orchard Step Ladder, as above shown, for the Dominion of Canada or the United States, excepting Pacific Coast. Address

EZRA F. LANDIS
MODEL CITY, NIAGARA COUNTY, N.Y.
Bids will be received for the Canadian Patent.

Reproductions Made for Eight Cents per Square Inch



Half Tones Made Direct from Photos

WM. BARBER & BROS.
GEORGETOWN, ONT.

Manufacturers of
BOOK AND FINE PAPERS

THE TORONTO PAPER MFG. CO.
CORNWALL, ONT.

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

C. G. ELRICK & CO.
MANUFACTURERS OF

HORN and RUBBER COMBS, Etc.
FACTORY—Sheppard Street, Toronto.
MONTREAL OFFICE—Fraser Building.



THE
E. B. EDDY
CO'S
TOILET PAPER

FOR OFFICES, HOTELS
AND HOMES

Scientifically Made. Silky Finish

HULL, MONTREAL, TORONTO.

HARVEY HUBBELL
Machinery and Tool Mfr.
Improved Tapping Machines
SCREWS

Machine Screws for electrical purposes.
Sample box free.
BRIDGEPORT, CONN., U.S.A.

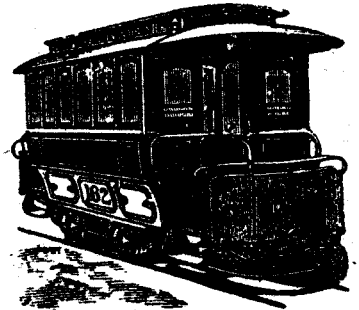
METAL
STAMPS
SOAP DIES, AND BRASS SIGN
MANUFACTURERS
PATTERSON & HEWARD
40 WELLINGTON ST. WEST, TORONTO

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

Send for Catalogue and Price List to
THE JOHN MORROW MACHINE SCREW CO.
INGERSOLL, ONT.
Mfrs. of Set, Cap and Special Screws, Studs, Finished Nuts, &c.

BROWN & CO.
Manufacturers of
Square and Hexagon
HOT PRESSED NUTS
PARIS, - ONT.

PATTERSON & CORBIN
FINE ELECTRIC CARS OUR SPECIALTY
ST. CATHARINES, - ONTARIO
Horse and Trail Cars of Every Description.

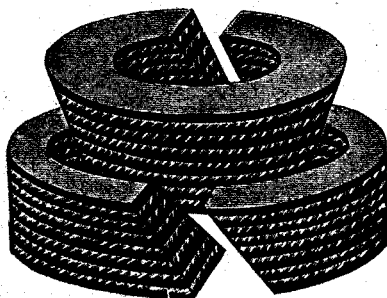


CROSBY STEAM GAGE AND VALVE CO.
Sole Proprietors and Manufacturers of
Crosby Pop Safety Valves, for all kinds of Boilers, Water Relief Valves including the Underwriter, which is fully approved by the Associated Factory Mutual Insurance Companies; Crosby Steam Engine Indicators, with Sargent's Electrical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



ENGINEERS' FAVORITE RING PACKING



Rainbow Sheet Packing, Eclipse Gasket Packing
Sheet Rubber and Plumbago,
Square Flax, Hemp and Soapstone,
Asbestos Cement and Pipe Covering,
Sutton's Boiler Compound,
Albany Grease.

WILLIAM C. WILSON & CO.
LUBRICATING OILS AND GREASES
24 FRONT STREET EAST, TORONTO

STEEL SHINGLES
 for BARN
 CHEAP AS WOODEN
 SHINGLES.
 GUARANTEED FOR 25 YEARS.
 SEND FOR CATALOGUE AND PRICES.
PEDLAR ROOFING CO.
 METAL OSHAWA, ONT.

The Pulsometer

STEAM PUMP

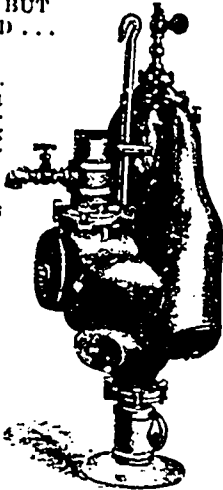
OFTEN IMITATED BUT NEVER EQUALLED . . .

•••
 The handiest, simplest and most efficient steam pump for general Mining, Quarrying and Contractors' purposes.

•••
 Muddy or Critty Liquids Handled without wear.

•••
 Descriptive Catalogue with prices, furnished on application.

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



A. R. Williams Machinery Co.

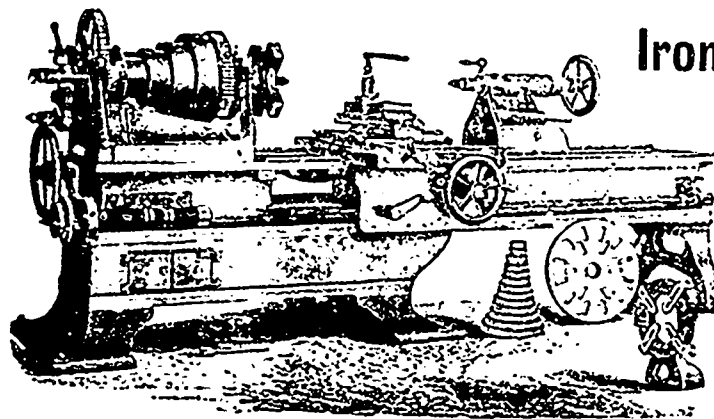
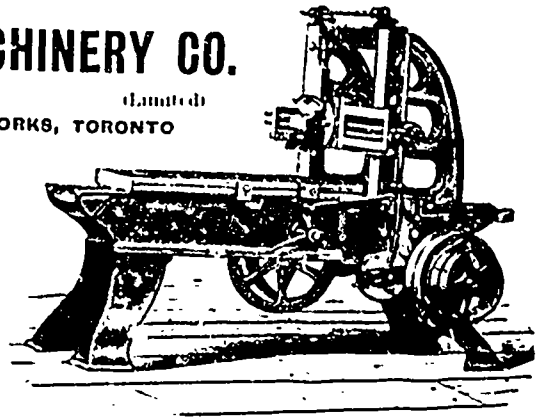
Toronto and Montreal,
 Selling Agent for Canada.

THE
A. R. WILLIAMS MACHINERY CO.

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

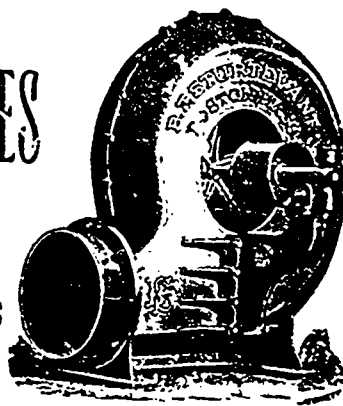
Send for Circulars,
 Referring
 to this Advt.

The Sturtevant
IMPROVED PORTABLE FORGES

TWENTY-FIVE SIZES AND STYLES

HAND POWER
 AND
 BELT POWER **Hand Blowers**

FOR FORGES



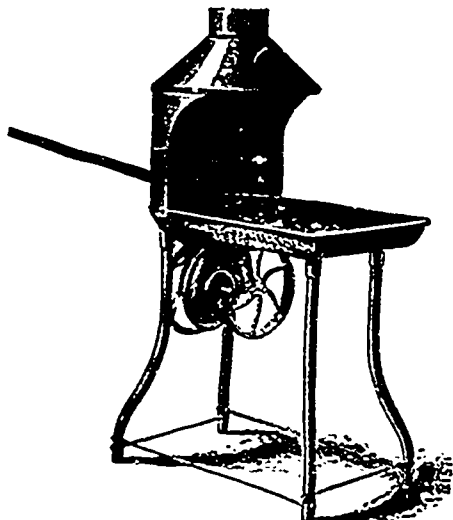
The Sturtevant
STEAM : FANS

For BOILER FIRES

FORCED OR INDUCED DRAUGHT

MANUFACTURED BY

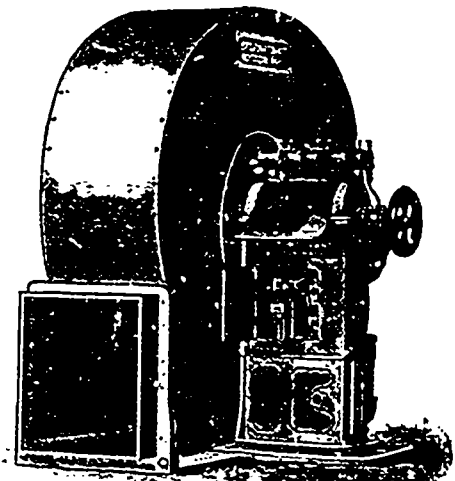
B. F. STURTEVANT CO.
 Boston, Mass., U.S.A.



The STURTEVANT
 Blowers
 and Exhausting
FANS

Known as the Monogram Pattern,
 For Blowing Boilers and Fires, Ex-
 hausting Dust and Gases.

SEND FOR CATALOGUES



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

DOMINION BRIDGE CO.

(LIMITED).

MONTREAL AND LACHINE LOCKS, P.Q.

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

A. Largo 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.

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

LAW BROS. & CO....



**Caledonia Foundry
and Machine Shops.**

HYDRANTS, VALVES, WATER WORKS
SUPPLIES, SPECIALS, SHAFTING
and MILL MACHINERY.

▲ ▼ ▲

Also Castings of Every Description.

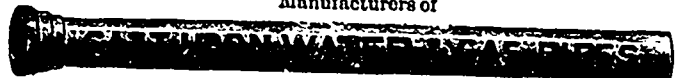
OTTAWA ONT.

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: Canada Life Building, MONTREAL

WORKS: LACHINE, QUEBEC.

R. C. Jamieson.

A. T. Higginson.

R. C. JAMIESON & CO.

Manufacturers of

VARNISHES AND JAPANS | Importers of Oils, Paints, Colors,
SPIRITS, Shellacs, Rosins, Glues, Gold Leaf, Bronze, etc.

Office—13 ST. JOHN STREET

Factory and Warehouse—23 to 29 ST. THOMAS ST., MONTREAL

REDDAWAY'S PATENT



BREAKING STRAIN 6IN. CAMEL HAIR BELT—14,181 lbs
6IN. 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

The Royal Electric Co'y

MONTREAL, QUE.

Western Office.... TORONTO, ONT.

S.K.C. Two-Phase Alternators

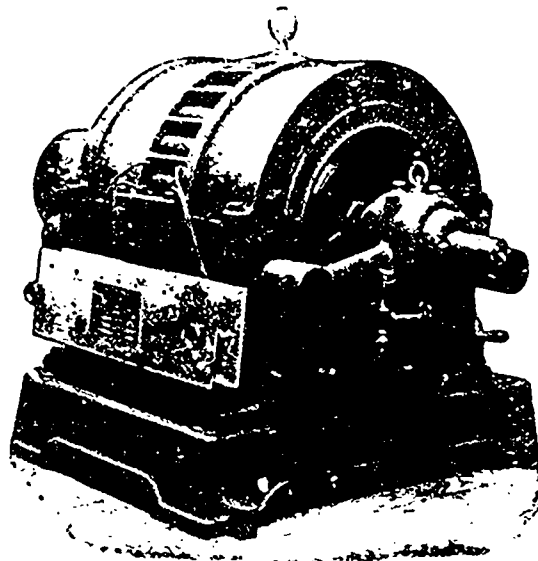
Incandescent Light, Arc Light and Power from same Dynamo and Circuit.

Highest Efficiency

Best Regulation

Slow Speed

Least Attention



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

No Collector

No Moving Wire

No Exposed Parts

No Compounding

The Polson Iron Works, TORONTO CANADA.

THE BEST EQUIPPED BOILER AND ENGINE WORKS IN CANADA.

We Manufacture—

STEEL BOILERS

The BROWN AUTOMATIC ENGINE, MARINE ENGINES (SINGLE, COMPOUND AND TRIPLE), Hoisting and Mining Engines

STEAM YACHTS AND LAUNCHES

OF EVERY DESCRIPTION.

GET OUR PRICES BEFORE ORDERING.

ESPLANADE EAST, Foot of Sherbourne St., - - Toronto, Canada

KAY Electric Manufacturing Co.

255 James St.N., Hamilton, Ont.

Makers of.

ELECTRIC MOTORS

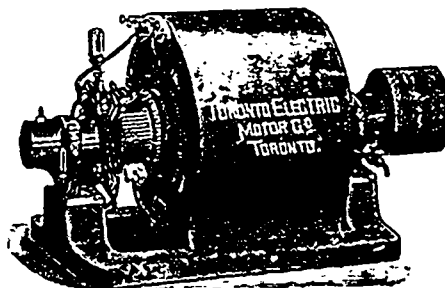
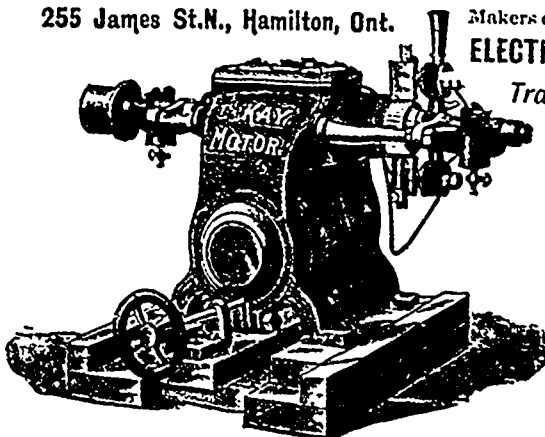
Transformers

DYNAMOS

PLATING MACHINES

ETC.

Please let us know your requirements. Write for interest prices and testimonials.



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.

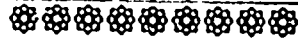
Apply to

TORONTO ELECTRIC MOTOR CO.

103 105, 107, 109 Adelaide Street West, Toronto, or to

R. E. T. PRINGLE, Room 57, Imperial Building, Montreal, Que.

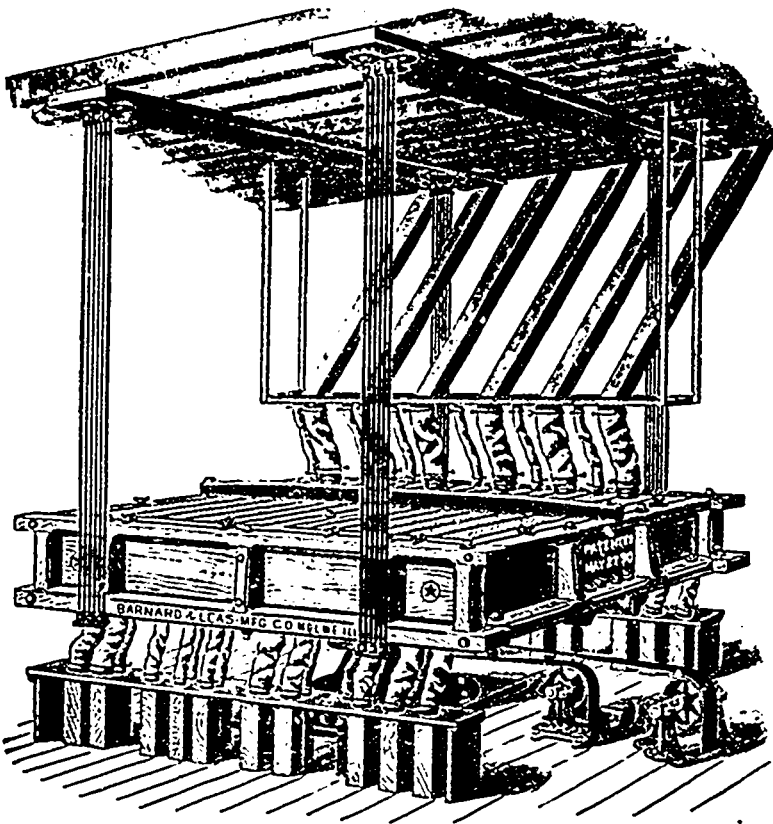
"WHEN YOU GET A GOOD THING PUSH IT ALONG."



THE PLANSIFTER

This Machine Leads; Others try to Follow!

Read Users' Experience of the PLANSIFTER
 Opposite THEN HAD YOU BETTER NOT ACT AND TRY THE MACHINE YOURSELF?



The "Plansifter" in a 30-Bbl. Mill.

Holt, February 28, 1897.
 MESSRS. WM. & J. G. GREY, Toronto, Ont.
 GENTLEMEN:—As I have now quite a little opportunity for observing the work of the "Plansifter" which you supplied to me, it being now nearly three months since it was started, I have pleasure in saying that it is everything that you represented it to be, and it comes fully up to my expectations. I find that the machine is very light on power, that is, compared to other Roller Mills using steel systems, which I have seen before deciding to adopt the "Plansifter." The machine is easily controlled and regulated in its operation, produces very satisfactory results in regard to the quality of flour made and the cleanness of the separations of the different stocks. The machine does not cause any vibration or oscillation to the building that is appreciable. So far as I have been able to observe, I believe it is the best bolting system, more especially for small mills. I am only using in connection with it one Centrifugal and one Bran Duster.
 In conclusion, I am thoroughly satisfied with the machine and its operations in all respects, and have no cause to regret having adopted it when remodelling my mill. Yours sincerely,
 ROBT. SUDEN.

The "Plansifter" in a 250-Bbl. Mill.

Three No. 2 Plansifters and 2 No. 5 Little Wonders did all the bolting.
 PATERBORO, February 20, 1897.
 MESSRS. WM. & J. G. GREY, Toronto, Ont.
 GENTLEMEN:—In reply to your enquiry as to how we liked the work of "Plansifters," would say that after running three of them between one and two months continuously, we are very much pleased with their work.
 They run with little power, make perfect separations, and give no trouble whatever in their operations.
 The different separations can be seen very readily, and a miller is not at any loss to tell just what the machines are doing, while the separations are under perfect control.
 We had no difficulty whatever in making 250 bbls. per 24 hours, the flour being A 1, and our yield running below 4 bushels, 15 pounds.
 The sieves can be readily changed and repaired if necessary. They run very steadily, causing no undue vibration in the building, and were we now purchasing new scalping and bolting machinery, the "Plansifter" would be again our choice.
 Yours very truly,
 THE CONSOLIDATED MILLING CO.
 P. M. Clark, Manager.

The three Plansifters in the above mill were placed side by side in the fifth (top) storey of a not overly strong frame building. The top storey was formed with a mansard roof built in the usual light style with 2 x 6 joist. The machines were suspended from light timbers run along under the roof. When standing on the floor beside the Plansifters when in motion, at full capacity, one could not detect any vibration to the building. It was considered a severe test and proved conclusively how steadily the Plansifters run, and how accurately and easily they are kept in perfect balance.

ITS ADVANTAGES ARE

It Saves Space
 It Saves Power
 It Saves Cloth
 Makes Better Separations
 Makes Purer Stock
 Makes Better Flour

Makes Better Clean-up
 Makes Closer Finish
 Makes Larger Yield
 Makes Milling Easier
 No Vibration
 No Noise

No Dust
 Easily Controlled
 Insures Uniform High Grade
 Increases Capacity
 Must Come into General Use

Big Mills Cannot Afford to do Without them, and they do Charming Work in the Smallest Mills

SOLE LICENSEES AND MANUFACTURERS FOR CANADA

WM. & J. G. GREY, 2 Church St., TORONTO

**ALBERT
MANUFACTURING CO.**

Manufacturers of the
well known

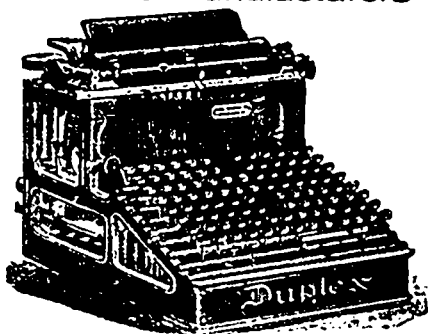
"HAMMER BRAND"
**Calcined
PLASTER**

—AND—

Patent Rock Wall Plaster

HILLSBOROUGH, N.B.,
CANADA.

We Are Manufacturers



Of the Fastest Typewriter in the World.

Direct Dictation Made Possible
Will not Double Print in Rapid Work
Both Hands Always at Work
Two Sets of Wearing Parts - Double
Durability
Lightest Running Carriage
Your Time is Your Money - Save It

The "1897" TYPEWRITER

Enables an Operator to do Double the
work with less labor. Prints two letters of a
word while any other prints one.

Greelman Bros. Typewriter Co.

19 Adelaide St. E., Toronto.
Factory: Georgetown, Ont.

Welland Vale Manufacturing Co.

LOCK No. 2, ST. CATHARINES, ONT.

Manufacturers of.....

**AXES, SCYTHES, FORKS, HOES
RAKES and EDGED TOOLS**

W. H. STOREY & SON

ACTON, - - ONT.

Manufacturers of . . .

Fine Gloves and Mitts

in Every Variety and Style.

MOCCASINS

Ripans Tabules cure bad breath.
Ripans Tabules cure biliousness.
Ripans Tabules: one gives relief.
Ripans Tabules cure indigestion.

Yes! FREE

OUR CATALOGUE

ON THE

Webster System of Steam Heating

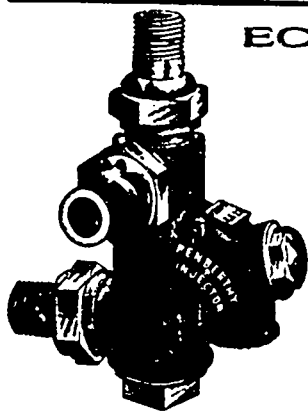
CONTAINS VALUABLE INFORMATION
THAT SHOULD INTEREST

EVERY STEAM USER AND ENGINEER

IF YOU WILL KINDLY SEND US YOUR NAME AND
ADDRESS WE WILL SEND YOU A COPY.

DARLING BROS., Queen and Ottawa Sts., MONTREAL

ECONOMY produces PROFIT
The World-Renowned



PENBERTHY

- Automatic Injector -

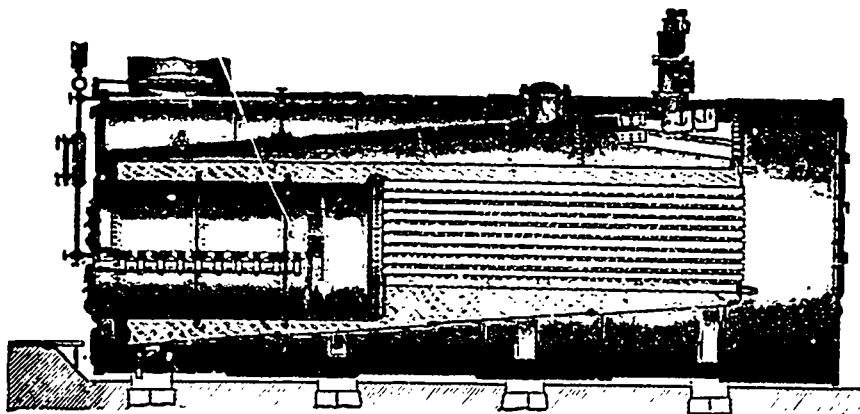
Most Economical Boiler Feeder. Works on Wider Range, Longer
Lifts and Hotter Water than any other Automatic Injector.

LARGEST INJECTOR MANUFACTURERS IN THE WORLD.

Penberthy Injector Co.,

132 Seventh Street
Detroit, Mich.
Branch Factory—
Windsor, Ont.

Large Injector Manufacturers in the World.



The Monarch Economic Boiler

Is Portable

Has an outer casing and requires
no brickwork. Leaves our Shop mounted
on skids ready for use.

Saves Fuel

Some tests show a saving of 30 per cent.
over a common brick-set boiler. We
guarantee at least 10 per cent.

ROBB ENGINEERING CO., Ltd., AMHERST, N.S.

WILLIAM McKAY, Seaforth, Ont., Traveller

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

MANUFACTURERS OF

PURE ALKALI

GUARANTEED 68 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.

WM. J. MATHESON & CO., Ltd.

NEW YORK

BOSTON

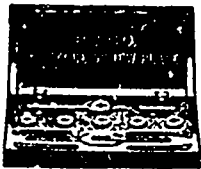
PHILADELPHIA

PROVIDENCE

CHARLOTTE, N.C.

MONTREAL, CANADA

DYE . . . STUFFS

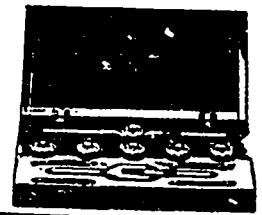
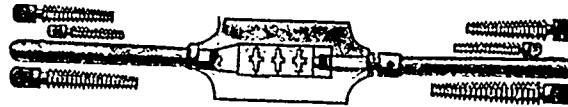
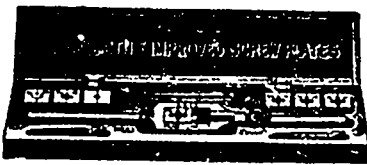


Bicycle Plates in all the most desirable sizes and threads. Taps and Dies of Every Variety



BUTTERFIELD & CO.

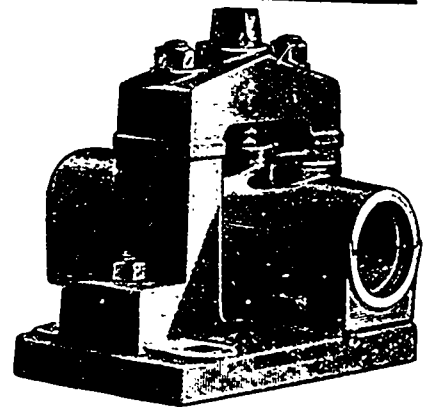
ROCK ISLAND, P.Q.



HANGERS... SHAFING... PULLEYS

We carry a full line of Power Transmission Machinery, including High-Grade Turned Steel Shafting, any length, any diameter. HANGERS of all kinds, in new designs, with plain and self-oiling bearings. FRICTION CLUTCH PULLEYS AND COUPLINGS.

SEND FOR CATALOGUE



DODGE WOOD SPLIT PULLEY COMPANY

WORKS—TORONTO JUNCTION.

Office.... 74 YORK STREET, TORONTO

JOHN INGLIS & SONS

Manufacturers of

Corliss Engines, High Speed Engines, Water Works Machinery,
Marine Engines, Condensers,
Ice and Refrigerating Machines, Flour Mill Machinery,
MINING MACHINERY

Boilers and Tank Work of all kinds.

Telephone 5333

HEAVY CASTINGS A SPECIALTY
TORONTO, ONT.

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.

JOHN BERTRAM & SONS

DUNDAS, ONTARIO

Our New Pattern Engine Lathes are a Decided Success.

Note what are said about them.

Unsolicited Testimonials.

Albion Iron Works Co., Victoria, B.C. ||
18 Inch Lathe.

Your New Tool Lathe is first class in every respect, and has fully exceeded our expectations, and is a credit to your firm.

Gendron Mnfg. Co., ||
Toronto, Ont.
16x18 Inch Lathes.

We have received the Engine Lathes purchased by us, and are pleased to state that out of the large number of lathes we have in our factory, yours is certainly superior to them.

Goold Bicycle Co., Brantford, Ont. ||
16 Inch Lathes.

We have examined your New Lathes pretty closely and think them first-class in every respect.

Nova Scotia Steel Co., ||
New Glasgow, N.S.
20 Inch Lathe.

We are pleased to say that the Lathe we received from you gives us very good satisfaction indeed, our machine shop foreman says that it is a very nice working tool, and he is very much pleased with it.

We will be pleased to send Cuts of New Pattern Tools to those interested.

The Wm. Hamilton Mfg. Co.
Vancouver, B.C. Sales Agents for B.C.

Montreal Store,
321 St. James Street.

NORTHEY MFG. CO. LTD.

TORONTO, - ONTARIO

Steam and Power

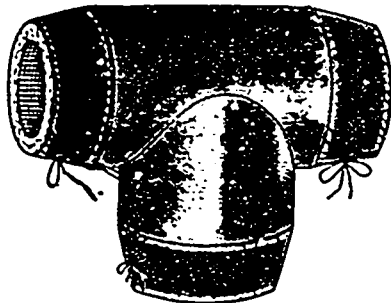
Pumps

& HYDRAULIC
MACHINERY

FOR
ALL
DUTIES

MICA BOILER AND STEAM PIPE COVERING

THE CHEAPEST IN THE MARKET. DURABLE, FLEXIBLE, AND A MAGNIFICENT NON-CONDUCTOR OF HEAT



TEE

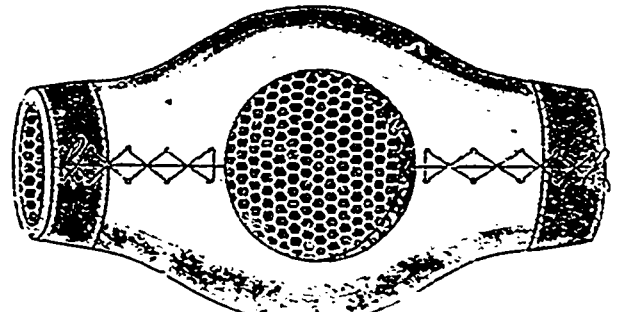
Made in Sections to fit all sizes of Pipes, and can be removed and replaced as often as desired.

Adjustable Mica Coverings for all kinds of fittings.

Mica Covering cannot be affected by vibration, and will not shift or sag.



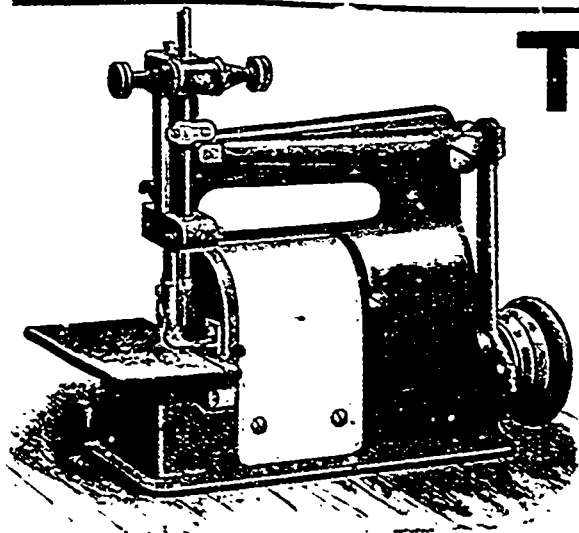
Write for reports of trials, testimonials, etc., to



GLOBE VALVE.

THE MICA BOILER COVERING COMPANY, Limited

9 JORDAN STREET, TORONTO.



Branch Offices

Cohoes, N.Y., AND
Philadelphia, Pa.

The Merrow

High Speed Crochet and Scallop Machines

For finishing the raw edges of Knit Goods, Horse Blankets, Bed Blankets, Crochet or Marseilles Quilts, Comforters, and in fact any Fabrics.

Over thirty styles of Machines especially for edge finishing.

Machines and Finishes Patented in the United States and Foreign Countries.

FOR CATALOGUE AND SAMPLES, ADDRESS—

The Merrow Machine Co.
HARTFORD, CONN.



ESTABLISHED IN 1880.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

J. J. CASSIDEY, - - - - - Editor.

Subscription, - \$1.00 Per Year.

ADVERTISING RATES:

\$12.00 Per Column inch per year; Thirty inches to Page.

The Canadian Manufacturer Publishing Company, Ltd.

McKinnon Building, Cor. Melinda and Jordan Sts., Toronto.

J. J. CASSIDEY, - - President and Treasurer.

J. C. GARDNER, - - Manager and Secretary.

OFFICERS OF

THE CANADIAN MANUFACTURERS' ASSOCIATION

President,	A. E. KEMP.
First Vice-President,	D. W. KAHN.
Second Vice-President,	J. F. ELLIS.
Treasurer,	GEORGE BOOTH.
Chairman Executive Committee,	R. W. ELLIOT.
Chairman Tariff Committee,	W. K. McNAUGHT.
Secretary,	J. J. CASSIDEY.

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

CANADIAN INDUSTRIAL LEAGUE.

President,	JAS. KENDRY, M.P.
Secretary,	J. J. CASSIDEY.

WOOLEN MANUFACTURERS' ASSOCIATION

President,	B. ROSAMOND, M.P.
Vice-President	JAS. KENDRY, M.P.
Secretary,	J. J. CASSIDEY.

KNIT GOODS MANUFACTURERS' ASSOCIATION

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

CARPET MANUFACTURERS' ASSOCIATION

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

CLOVE MANUFACTURERS' ASSOCIATION

President,	W. H. STORRY.
Vice-President,	A. R. CLARKE.
Secretary,	J. J. CASSIDEY.

REPRESENTATIVES TO

TORONTO INDUSTRIAL EXHIBITION ASSOCIATION

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

THE TARIFFS OF THREE GREAT COUNTRIES.

As soon as the new Canadian Tariff Bill is presented in the House of Commons at Ottawa it becomes the Law of the Land, going into effect immediately. The Dominion Parliament being already in session, it is the announced intention of the Government to present the Tariff Bill with as little delay as possible.

The new United States Tariff Bill has been already introduced into Congress, that body having been called together in Extra Session for the consideration of that subject; and it is expected that the Bill will become law and go into effect at an early day.

As soon as these two important measures--The Canadian Tariff and The United States Tariff--become law, a special edition of THE CANADIAN MANUFACTURER will be published containing both of them and also The British Tariff, all reproduced in full from authentic copies obtained from official sources.

The edition of THE CANADIAN MANUFACTURER of September 7, 1894, contained the full and entire texts of The Canadian Tariff, which was confirmed July 23, 1894, and of the United States Tariff, which went into effect August 28, 1894: and there are thousands of copies of that edition to be seen at this time in business offices, workshops, mills, factories, electric light stations, and other industrial establishments in Canada, United States, Great Britain and other countries.

The importance and value to all manufacturers and business men of having the Tariffs of these three great countries--Canada, United States and Great Britain--published in full within one cover cannot be too highly appreciated. The Special Edition of THE CANADIAN MANUFACTURER containing them will be printed on heavy paper, and provided with loop for hanging in any convenient place.

This Special Edition will possess unique and exceedingly valuable advantages as an advertising medium to all those who desire to have their business brought to the attention of the managers of thousands of cotton and woolen mills, pulp and paper mills, flour and lumber mills, coal and gold mines, engine and boiler shops, machine shops, electric lighting and street railway stations, bicycle factories, etc., in Canada and elsewhere.

Terms for advertising in this Special Edition are announced in a card to be found on page 268.

AGRICULTURAL IMPLEMENTS AND RAW MATERIALS.

In the March 19th issue of this journal was discussed at some length the question of whether the duty on pig iron and other forms of iron and steel, entering into the manufacture of agricultural implements, should be materially reduced or removed, in the interest of manufacturers of such implements. It was shown that although there is a duty of \$4 per ton on pig iron, manufacturers can purchase Canadian made iron at distributing points in Canada within \$1.50 per ton of what it would cost to lay American iron down at the same points, and that therefore, this extra cost of \$1.50 per ton when using Canadian iron is but a mere bagatelle when compared with the protection of twenty per cent now afforded by the tariff upon agricultural implements.

It was in this connection that we quoted from The Toronto Globe as follows:—

Several articles, not produced in Canada, which enter into implement making are taxed much beyond the twenty per cent. protection on the finished machine. Wrought iron pipe, for instance, which is not manufactured here, pays a tax equivalent to fifty-five per cent. ad valorem. There will be no great difficulty, we suppose, in reducing the tariff on these foreign made components. The trouble begins with the duties on stuff made in Canada. Pig iron is taxed \$4.48 per long ton. The contract price of a long ton at Chicago is \$11, freight to Ontario \$1.25 by water and \$2.40 by rail, duty \$1.48; total cost laid down here by water \$16.73. This is what the Ontario maker has to pay if he imports his pig-iron. His Chicago competitor, of course, gets it for \$11, or fifty per cent. less. If he buys in Canada the maker is no better off. In addition to the duty, Canadian furnaces receive bounties when they use Canadian ore. Unfortunately they are obliged to import foreign ore to blend with the Canadian, which reduces the amount they receive as bounty. The Nova Scotia furnaces are close both to ore and fuel, but their shipments to Ontario are enormously increased in price by the transportation rate of \$4.31 per ton. Ordinarily, it is as advantageous to buy pig-iron in the States and pay the duty at the frontier as to buy in Nova Scotia. In either case the Ontario maker pays fifty per cent. more for it than McCormick or Deering.

We also quoted from The Globe the following stale and threadbare threat:—

With raw materials from twenty-five to seventy-five per cent. dearer than in the States, the protection of twenty per cent. is not to the Canadian but to the American factory. It is an outrage which, if not remedied, must lead in the end to the removal of the industry from Canada, and we cannot afford to lose it from want of courage to treat it fairly

Commenting upon these vague and wild assertions and threats, made in the interest of a few manufacturers, including the Massey Harris Company, a monopoly the proprietors of which have, by that monopoly, become multi-millionaires, we suggested that if in the manufacture of agricultural implements every pound of iron and steel, the wood, paint, varnish and every article and thing that enters into the construction of such implements were imported from the United States, and full duty paid thereon, such duty would amount to perhaps not more than six or seven dollars.

But we know that Canada is an exporter of just such wood and timber as the Massey Harris Company use in constructing their implements, and that about everything else going into such construction, except iron and steel, can be and is made and sold in Canada at as low cost as the same articles can be made and sold for in the United States. As regards the duty upon the different forms of iron and steel going into the construction of certain implements, we have obtained authentic and reliable verification as follows.—

Memorandum of weight, and amount of duty on iron and steel required in the construction of a mowing machine, supposing all such material to be imported.—

		Rate of Duty.	Amount of Duty.
Cast iron.....	365 pounds	\$4 per ton	.73
Steel.....	70 "	10 "	.35
Malleable iron*.....	45 "	25 per cent.	.34
(*Value 3 cents per pound).		Total.....	\$1.42

Memorandum regarding a Massey-Harris self-binding machine:

		Rate of Duty.	Amount of Duty.
Cast iron.....	328 pounds	\$4 per ton	.65
Bar iron and steel...	600 "	10 "	3.00
Malleable iron* ...	225 "	25 per cent.	1.69
(*Value 3 cents per pound).		Total.....	\$5.34

Memorandum regarding a Noxon self-binding machine:

		Rate of Duty.	Amount of Duty.
Cast iron	300 pounds	\$4 per ton	.60
Bar iron and steel...	600 "	10 "	3.00
Malleable iron*.....	300 "	25 per cent.	2.25
(*Value 3 cents per pound).		Total.....	\$5.85

According to the contention of the Massey-Harris Company, as voiced by The Globe, their "trouble" exists in the fact that they have to pay duty on what they call "stuff," i.e., iron and steel, made in Canada, and their "trouble" seemingly does not include any other materials. According to the statement of Mr. Hobson, of the Hamilton Blast Furnace Company, self-binders sell for \$115 each; and this, we imagine, is the price at which McCormick and Deering machines are or can be sold in Canada and upon which they must pay twenty per cent. duty, or \$23; and this is precisely the amount of the protection the Massey-Harris Company have in the Canadian market over the American concern. That is to say, the "trouble" the Massey-Harris Company has to contend against consists in having to pay \$5.34 duty upon the materials entering into the construction of a self binding machine upon which they are protected to the extent of \$23, a net benefit over their American competitors of \$17.66. And because they cannot scoop in the other \$5.34 they are willing to see the entire iron industry of Canada sacrificed and destroyed.

With regard to plows, Mr. Cockshutt, of the Cockshutt Plow Company, of Brantford, Ont., one of the largest and most reliable concerns in Canada, recently showed to the Tariff Commissioners that the total duty on the iron, steel, etc., entering into the construction of such plows as he manufactures amounts to only about 53½ cents, but Mr. Cockshutt is not of those who would willingly destroy our iron industry to avoid the payment of that bagatelle, when he is protected to the extent of twenty per cent. upon his output.

The so-called tax upon stoves, furnaces, radiators and all other similar articles is equally insignificant, and it should be remembered in considering the foregoing figures that the Massey Harris Company and all other manufacturers of agricultural implements use a large percentage of cast scrap iron in charging their cupolas, probably fifty per cent. of the castings for their implements being scrap iron purchased in local markets at very low prices, and upon which they pay no duty at all. Then again they all use, or at least can purchase and use if they desire so to do, a proportion of Canadian pig iron for their cupola mixtures, which sells, we are informed, at fully ten per cent. below the price of similar iron produced in the northern part of the United States; so that in practice the amount of duty paid can be reduced very much below the foregoing estimates.

OUR CANAL SYSTEM.

The paragraph in the speech from the Throne, at the opening of the Dominion Parliament last week, referring to our canal system, is satisfactory in that it promises that the Gov-

ernment will undertake the vigorous prosecution of the enlargement of the St. Lawrence canals, and of perfecting the system by the close of the year 1893. We recollect, however, that similar pledges were frequently given by former Governments, which, if faithfully carried out, would have secured this object many years ago. Unfortunately the attention of Parliament has been too much occupied with petty sectional issues, vulgar recriminations and party intrigues; and the prosecution of this great work has been culpably neglected, so that the country has now paid in the shape of interest on the cost of the completed part of the system as much as would have completed the work yet to be done. It is to be hoped that in voting the appropriations required, Parliament will see to it that every contract to be given out shall contain such stringent conditions as to the time in which the work must be completed, and such heavy penalties for non-fulfilment, that we will have no such unsatisfactory condition as has been experienced in the matter of the Soulanges canal. When the whole system is complete from Lake Superior to Montreal, Canada will only begin to realize the advantages which it is justified in anticipating from its hitherto almost profitless enterprise. Just so soon as the date of the completion of our canal system is assured, we may expect numerous fleets of handy steamers, specially constructed for this trade, ready to engage in it. They will probably be fitted with cold storage apartments for carrying fresh meats, dairy products, fruit, etc. Perhaps many of them may be so large, and draw so much water, that they will have to complete loading at Montreal or Quebec. On their passage to Canada, they may bring 1,500 or 2,000 tons of coal from British ports, or, stopping at Nova Scotia ports, may bring coal from that province into Ontario, possibly as far west as Port Arthur. It is easier to underestimate than to overestimate the beneficial influence which our complete canal system will exert on all the interests of the Dominion, agricultural, lumbering and manufacturing.

It was prudent on the part of the Government to avoid committing itself on the subject of deeper waterways. We do not know the nature of the report which the Canadian Commissioners have submitted to them, but if it contains no more practical information than is found in the Report of the United States Commissioners to the Government at Washington, there is no reason shown why any further expense should be incurred in connection with this project. On the contrary, the United States Report clearly shows the risk which may be encountered in entering into any joint arrangement with that country. We find the cloven foot displayed at the very initiation of the negotiations. Without any data showing whether the channel from Lake Erie into Lake Ontario, for the proposed ship canal, can be more economically obtained by enlargement of the Welland Canal, or by a new canal through the Niagara district, or by way of Tonawanda to Olcott, N.Y., on Lake Ontario, the Commissioners report that this last route is to be adopted, and that this Niagara ship canal, as they name it, must be first of all the other links in the chain to be undertaken, "Ex uno disce omnes." From this sectional decision, Canadians may take warning as to what may be expected from the proposed partnership. This United States Commission Report fails to supply any new or valuable information which aids in judging as to the necessity or economical value of the proposed enterprise. Everyone knew that it is quite feasible, and that uninterrupted commerce between

the great West and foreign countries would be very desirable. The question is, whether the advantages to be obtained warrant the expense to be incurred. It seems a pity that no experienced forwarder was placed on the Commission, so that practical knowledge of the transportation problem might have assisted the members in judging of the value of the proposed work. Among some of the questions on which he could have given them useful information would be:—

Can large steamers be so constructed as to their build and equipment, and be so manned and navigated as to be equally well adapted for ocean and inland navigation, as would be steamships especially constructed and manned for each kind of service?

Would there not be considerable risk in navigating vessels of the great length required through the tortuous channel of the Thousand Islands?

Given a steamer of the capacity adapted to a fourteen-foot channel, with two steel barges in tow, carrying 50,000 to 200,000 bushels of wheat, what would be the actual expenses for the trip from Chicago to Montreal, and delivering on board ocean steamers there, as compared with the expenses of one large steamship carrying the same quantity of grain from Chicago to Montreal?

Would not the capacity of a steamship of such dimensions as to be able to carry 200,000 bushels of grain between Chicago and Montreal be greatly reduced by having a very large space required for bunker room for coal needed for a ten or twelve days' voyage across the ocean? Would not the loss of freight on the quantity of grain which could have been carried in this coal space more than cover the cost of transshipping the whole cargo at Montreal? Is not the advantage of transshipping grain, especially in midsummer, equal to the cost of elevating? Could not a Government elevator and wharf at Montreal, in connection with the canal, be so constructed and managed that the cost of transshipment of grain or other cargo should not cost over one-fourth cent per bushel, and proportionately for other merchandise?

Taking the most liberal, reasonable estimate of the saving to be effected by avoiding transshipment, how much would be the saving in cost of transportation per bushel of wheat or per ton of other goods? If the saving thus ascertained is found to be material, this would warrant the expenditure of the sum required to ascertain by survey, etc., the cost of proposed improvements. Then if the saving to be effected justifies the construction of the work, the matter will be ripe for consideration.

At present Canada can afford to wait until we ascertain the result of the operation of our completed fourteen-foot channel. If it should hereafter appear that additional facilities for securing a fair share of the western trade, which cannot now avail itself of the Canadian canal route, are demanded, we believe that a barge route via the proposed Ottawa canal can be constructed at a mere fraction of the cost of the proposed ship canals, which will afford as expeditious and a cheaper means of transportation than the latter, and of inestimably greater local advantage.

Every cord of wood ground into pulp in Canada means a total of \$8 paid for Canadian labor, and every cord of pulp-wood carried away to a foreign state is \$6 loss in cash besides depriving Canadian workmen of the labor that rightfully belongs to the producer.—Sault Ste. Marie Pioneer.

PREFERENTIAL TRADE WITH ENGLAND.

In a previous issue of this journal we reviewed at considerable length a very telling article that appeared in a recent number of *The Century Magazine* on "The Decline of Cobdenism," in which the writer, Mr. Low, treats of the doctrine of free trade from a theoretical, economical and social standpoint. He showed clearly that free trade had failed to meet the expectations of its promoters, and believes that even in Manchester, Birmingham, and other manufacturing centres, this policy is fast losing ground in public estimation. The article establishes the following propositions and facts:—

That while the theory of buying in the cheapest market may be admitted as a general principle, it has been found that it has not always proved politic to buy cheap from a rival whose very object in selling at a low price is to establish a business which in due time would destroy that of the buyer. On the other hand, it may be a really good arrangement between two parties having a family or financial relationship to buy goods from each other even at a slightly higher cost than from rivals.

That a system of free imports, with protection everywhere else, cannot be properly termed "free trade."

That the effects of free trade in England have not been such as to commend the adoption of this policy to the world at large, as was expected and predicted by its promoters. On the contrary, the policy of protection is being every year more vigorously enforced by nearly all other countries.

While admitting that Great Britain has during the last fifty years, increased wonderfully in population, commerce and wealth, this cannot be attributed to its free trade policy, because the increase in these respects has been proportionally greater in some protectionist countries. Fifty years ago England occupied a most commanding position in commerce and manufactures. Now, in many important industries, she has been actually distanced by some of her competitors, and in many other industries, is fast losing ground.

That the habit of treating important public questions as purely utilitarian or commercial considerations has been undermining national sentiment, and the intelligence and patriotic feelings of the great mass of the people have led them to revolt against a policy productive of such a result. Mr. Low believes that could a vote on free trade be submitted to the people, the demand for a change would be carried by a large majority.

The propriety of imposing moderate duties upon corn, meat, wool, sugar, etc., when imported from foreign countries, as proposed by Mr. Chamberlain, is attracting much favorable consideration; and the question of an Imperial Customs Union (or in other words, Preferential Trade within the Empire), has become a live one, and is being discussed on its merits, irrespective of the taunt of "veiled protectionism."

This journal has repeatedly urged that in the preparation of a new tariff policy for Canada, Government should carefully consider the direction in which our trade is tending, and the direction in which the proposed tariff may tend to the greatest advantage to the country. There must be a decision as to whether we are to cultivate closer trade connections with the mother country or with the United States—we cannot do both. We believe that in the present temper of the latter country, any fair and satisfactory trade arrangement is

impossible. Even if the United States Government and Congress were inclined to act fairly, the present condition of Canada is such that a policy of preferential trade with the mother country or with the Empire at large would prove infinitely more advantageous than would any extension of our trade with a country most of whose products compete with our own.

The policy of foreign countries is to exclude English manufactures. This policy is every year becoming more pronounced. Politically and commercially, Great Britain is becoming more and more isolated, and is fast learning how much she must depend upon her colonies for support.

Why should there be any difficulty or delay in formulating a policy of preferential trade with England and submitting it for consideration? There may be considerable negotiation necessary to mutual agreement. This is to be expected. The time seems opportune for such a trial. Whatever may be the result, Canada may feel certain, that any proposition submitted to the mother country will meet with the most friendly consideration.

RETALIATORY TARIFFS.

Some of the industries of the United States which feel themselves aggrieved by the high tariff in certain countries which militate against the marketing there of American products, submitted to the Committee on Ways and Means during the consideration of the new tariff at Washington, several propositions demanding a retaliatory policy. Among others, Mr. Pillsbury, of Minneapolis, on behalf of the Flour Miller's Association of the United States, asked, that, when any nation imposes an import duty on American products (flour for instance) which practically shuts them out, the United States should retaliate by doubling its ordinary import duties on the products of that nation, or to work the matter another way, the ordinary duties shall be placed very high, and cut down one half in the event of any country signing a commercial treaty with the United States. *Broomhall's Corn Trade News*, commenting on this proposition, in a recent issue says:—"It is not easy to see how a struggle of this kind would end with such countries as France, Germany, Spain, etc., where strong conflicting interests would be brought into play, but Great Britain would be a mere spectator, and might possibly obtain some indirect advantage. If the Americans got their flour admitted on continental markets they would be less likely to swamp British markets in times of heavy crops, and British millers would certainly not object to less competition. On the other hand, should American import duties be doubled for the special benefit of German products, British manufacturers might have a small boom all to themselves."

Another proposition of similar tenor was submitted by Mr. W.T. Oxnard, president of the American Beet Sugar Association, complaining of the export bounty which France, Germany and Austria have granted, in the interest of their farmers, on sugar exported (in the case of Germany, from twenty-seven to thirty-eight cents per 100 lbs.) He asks, on behalf of the sugar industries of the United States, (both cane and beet sugar producers,) that the import duties on sugars should be from twenty-five to fifty per cent. above schedule rates, when imported from such countries, or from any country imposing unreasonable restrictions or exactions.

With such propositions as these this journal has no fault to

find. It is simply a question for any country to decide for itself whether the adoption of such a policy will tend to the removal of the grievances complained of, and if not whether it will otherwise prove to its advantage.

The proposed Dingley tariff, as far as it affects Canada, is, in many of its rates of duty, absolutely prohibitory, and appears to have been framed in total disregard of what Canada may think or do, by a committee apparently culpably ignorant of the nature and extent of the commerce between the two countries. If this committee had candidly investigated the subject, they could only have arrived at one conclusion:—that it must be contrary to their own professions of devotion to home industries to imperil the sale of twice as large an amount of American products in Canada, as they can, by any prohibitory tariff, exclude of Canadian products from the United States.

We are no advocates of unrestricted reciprocity, commercial union, or indeed of any commercial treaty whatever with the United States. We believe that true statesmanship displayed by the Governments of both countries should enable the respective tariffs to be so framed as to promote good feeling and enlarged commercial intercourse. We cordially endorse the sentiment in *The Outlook* of 13th March, when referring to the relations of Canada and the United States, it says:—“Statesmanship as well as Christianity demands the freest possible exchange of both persons and goods.” But, if all Canadian products that can be excluded from the United States by tariff legislation are to be excluded, we are heartily in favor of a like exclusion of Yankee goods from Canada.

AN EXPORT DUTY DEMANDED.

This journal has always been urgent in a demand for an export duty upon pulpwood and logs as an offset to the heavy duty imposed by the United States upon paper pulp and Canadian lumber. One of the most efficient co-laborers in this effort to have justice done to Canada in this respect is the *Algoma Pioneer*, of Sault Ste. Marie, Ont.; and in that journal we find reported the recent action of the Town Council and Board of Trade of that town, which culminated in a memorial to Sir Richard Cartwright, Minister of Trade and Commerce, in which the following statements are made, which seem to cover the whole ground:—

Some years since the town of Sault Ste. Marie made expenditures amounting to over \$200,000 in the construction of a canal for water power purposes within its corporate limits. An association of American capitalists organized a company, took over all the liabilities which the town had incurred, and have expended some two millions of dollars in the erection of substantial stone pulp mills, foundry, machine shops and other industries. These operations have been of great value to the town, as is shown by the increase of 100 per cent. in its population since the commencement of these works, and a substantial advance in the values of real estate. The enterprises have been conducted in a businesslike yet liberal manner; the new citizens brought into our town have been of the most desirable class, and the wages paid have been quite equal to those paid in the United States for similar services. The workmen employed at these works have devoted their savings to the construction of over three hundred dwellings within two years; a large stone school-house has been erected in the manufacturing district, and nearly every religious denomination in the town has either built a new church, added to its present edifice, or have plans for enlargement now under way. To all these public interests the company referred to has contributed

and has been a substantial supporter of all measures tending to promote the welfare of the town. The successful operation of these mills depends entirely upon the sale of its product to the paper mills in the United States. The American pulp mills, whose product is sold in competition with that of Canadian mills, obtain the principal part of their spruce wood—the raw material for paper-making—from Canada, at small cost and entirely free from export duties by the Canadian Government, or import duties by the Government of the United States. The product of Canadian pulp mills going into the United States will be assessed a duty amounting to fifteen per cent. of the present selling value of pulp, when the proposed new American tariff takes effect. This sum is equivalent to an ample dividend upon the capital invested in a pulp mill, and is sufficient to enable the American pulp manufacturer to accept at a profit a price for his product which would mean a loss if accepted by a Canadian manufacturer. To offer a graphic illustration, it can be said that if the pulp mills now on the Canadian side of the Sault Ste. Marie were to operate against mills of the same output on the American side of the river, using Canadian pulp wood, the present conditions would give the American mills a bonus of \$100,000 a year, which is the amount of American duty which must be paid on the total output of these Canadian mills when entering the United States.

Canadian pulp mills making pulp for export to the United States must either lower their cost by reducing the rates of wages fifty per cent., or abandon their business. The first course would reduce the condition of our working population to that of the lowest European communities, and the last would mean the utter ruin of all the material interests of this town. We do not say this in exaggeration; the certain evidences are already before us.

Our mills having manufactured and imported into the United States under the present tariff all the pulp necessary to fill their existing contracts, and having been unable to make sales in the American markets for the future at prices which would protect them from the proposed increase in the American tariff, have been closed down for about one month. For that length of time the operatives have been deprived of the opportunity of earning wages, the merchants' accounts have not been paid, payments due loan companies on dwellings are past, and now that the second month of idleness is upon us, the serious question of employment for our inhabitants is demanding the attention of the town authorities. Ours is not an improvident community, and that our people are likely to experience distress is due to the fact that their savings have been entirely invested in part payment for the new dwellings that have been erected for their homes.

This condition of our affairs moves us to urge, with all the force we possess, upon the favorable attention of the Dominion Government the plain and simple remedy which is within their power to supply, namely: the immediate imposition of an export duty of \$2 per cord upon all pulpwood exported from Canada, thus equalizing the conditions between the American and the Canadian manufacturers of pulp.

While frankly declaring the infinite benefit such an enactment would be to our own town and the surrounding municipalities, we maintain that we are justified in claiming that the entire boundary population of Canada from Port Arthur to Halifax will thereby acquire advantages to a greater or less extent, and that we are not asking for legislation advantageous only to our ourselves. Every water-power along the frontier having spruce forests upon its watershed will take on higher value as a profitable site for the manufacture of pulp and paper, and thus utilized each cord of pulpwood will cause the expenditure in Canada of eight or ten dollars for labor, instead of about two dollars as is the case in exported pulpwood. Nor would those Canadians now deriving an income from the cutting of pulpwood for the American pulp mills in any degree suffer from the export duty imposed, since until the making of pulp in Canada has grown to sufficient proportions to supply the American paper mills, those mills must of necessity still be provided with Canadian pulpwood.

We represent the business interest of a Canadian community of four or five thousand people, and from our dealings with these mills and our opportunities of observing this industry as it is conducted on the largest scale ever attempted, we feel that we are qualified to express the opinion that an export duty of \$2 per cord on pulp wood sent out of Canada, would :

- (1) Immediately result in the improvement of available water powers on the Canadian-American boundary for this line of manufacture ; and, until the local demand for Canadian wood has thus increased ;
- (2) Not apparently diminish the quantity of pulpwood now exported from Canada, the revenue from which is of importance to Canadian farmers ;
- (3) Immediately give to the Canadian makers of water wheels, hydraulic, pulp, paper and other machinery a new, large and profitable line of business ;
- (4) Return to the Dominion Government a substantial revenue ;
- (5) Not in the least degree interfere with the negotiation of mutually more advantageous trade relations between Canada and the United States, since it cannot with any pretence of justice be claimed that Canada should continue to allow the raw material absolutely necessary for the carrying on of the industry of pulp making in the United States to be taken from her public domain without restraint, while the manufactured product is practically prohibited from entering the markets of the United States.

The export duty should be imposed.

A FERVENT PRAYER.

A prayer that should be answered without delay is that of the Town Council of Sault Ste. Marie, Ont., asking the Dominion Government to impose an export duty upon pulp wood. The petition showeth as follows :—

That the principal industry within the town of Sault Ste. Marie, and that upon which its four thousand inhabitants chiefly depend, is the manufacture of pulp for paper-making, as carried on at the Sault Ste. Marie Pulp and Paper Company within said town ; that during the period of thirty months last past, within which said mills have been erected and put into operation, said company have expended more than one thousand dollars for each working day in the construction and operation of its mills, shops and logging operations in the woods, and have, in all departments, kept constantly employed from five hundred to one thousand men : the pulp mills are the largest of the kind ever erected ; and the company have established a large foundry and machine shops for the manufacture of pulp and paper-making machinery, employing in this department a large number of skilled mechanics ;

That a bill is before the Congress of the United States, among the provisions of which is one to increase the duty on manufactured pulp imported into the United States from Canada ;

That the effect of such a provision—if it become law—will be to paralyze the business of manufacturing pulp in Canada for export, by reason of the fact that such manufacture cannot be carried on in Canada at a profit, as the United States is the only market available for pulp, except the small quantity consumed in Canadian paper mills ;

That owing to the probability of the said provisions becoming law, the large pulp mill of the Sault Ste. Marie Pulp and Paper Company, which for more than a year past (and ever since its completion) has been steadily operated, is now unable to sell its product in the United States at a price which will include the duty, and has closed down, and that work has stopped on the construction by them of another equally large pulp and paper mill adjoining the first mentioned mill, each of which said mills is among the largest of the kind in the world ; .

That although the said first mentioned mill has only been closed for about four weeks, the results thereof are keenly felt in the town of Sault Ste. Marie and the country adjoining it, as the monthly pay-roll for wages has been the chief reliance of the town and its vicinity for ready cash ;

And whereas your petitioners do not deem it just that an import duty should be put on manufactured pulp imported into the United States, while the pulp wood from the forests of Canada is allowed to be taken out of Canada by the Americans, free of export duty ;

And whereas the manufacture of pulp in the United States depends largely for its existence on the pulp wood forests of Canada, which are gradually being depleted, with no lasting benefit to Canada so long as the pulp wood is not manufactured in Canada ;

Your petitioners therefore pray the Government of Canada that an export duty of \$2 per cord on unmanufactured pulp wood taken from Canada into the United States be imposed at the coming session of the Parliament of Canada. And your petitioners believe that the imposition of this proposed export tax will in no material amount diminish the quantity of pulp wood to be exported from Canada ; will in no way reduce the price now obtained by those engaged in shipping pulp wood from Canada to the United States, since from no other source can the spruce wood necessary for pulp-making be obtained ; but that the effect will be to return a substantial revenue to the Dominion Government, while equalizing the condition of Canadian pulp manufacturers with that of their competitors protected by the American tariff.

Will the prayer be answered ?

IMPERIAL FEDERATION AND NAVAL DEFENCE.

There are some in Canada who ridicule the idea of the feasibility of Imperial Federation, and declare that while it is practically impossible there is very little or no interest taken in the question in Great Britain. This position we know is incorrect, as has so frequently been shown in these pages. We know that a great deal of active interest exists there, participated in by all classes, and particularly by those who are connected with the commercial enterprises of the kingdom. At a recent dinner of the London Chamber of Commerce, over which Sir Vincent Barrington presided, and at which the question of Imperial Federation was under discussion, Sir Richard Temple, in opening the discussion, pointed out the necessity of coaling stations being established along all the trade routes, and remarked that it was quite possible that some day some one of the colonies might have to adopt a tariff differentiating the mother country, and favoring a foreign nation, in order to receive the benefit of more favorable treatment by the latter. Any scheme of commercial federation as now understood and discussed could hardly include India or the Crown Colonies, and it would apply essentially to self-governing colonies.

Admiral Colomb stated that naval supremacy was not to be had—there must be opposing navies. The meaning of naval supremacy was the keeping open of the communications of the Empire—the high roads of commerce. The work of the navy had been and could be nothing else, and every part of defence was secured thereby. Coaling stations were already rendered impregnable by the power which kept them open.

Sir Ambrose Shea pointed out that the attachment of the Colonies to the mother country was as strong at the present time as it could ever be—they were prepared to give their all to her help. The economic question would be made subservient to all other matters affecting Imperial Federation.

Mr. Wm. Angus considered that, as sentiment entered into all questions of this nature, a title such as United Britain, that would include the whole Empire should be adopted; we should all then feel that we were partners in one firm and working for the common good. An Imperial new naval service of fast cruisers, for trade purposes in time of peace, or fighting in case of need, should be formed to trade only between Great Britain and the Colonies—each country of the Union contributing towards the expense of such service, the fleet to be manned by men having alternate naval and military training.

Mr. B. Biggs contended that not a single nation had followed Britain's example in the matter of free trade. England had what was called free trade and industry, and was prosperous. The United States had protection and industry, and was prosperous likewise.

General Tulloch said that the Colonies should first federate themselves, and Britain should take no steps in the matter until that was brought about. The question of Imperial defence should be considered primarily, and federation would naturally follow.

Mr. Kaye stated that in New Zealand there was a strong feeling in favor of reciprocity—at present the Colonies were put in competition with the rest of the world.

Mr. Beckett Hill considered that it should be made an advantage to emigrants to go to British colonies instead of to other lands. An all-round duty of five per cent. should be levied on goods imported from foreign countries, both in Great Britain and the colonies.

Major McCallum said that the Colonies wished to be federated to the mother country in one common defence. There should be an Imperial Defence Board appointed to advise the secretaries for the colonies as to the amount to be paid by each colony for purposes of defence, and to see that the amounts were properly expended.

Mr. T. K. Graham supported the suggestion of a five per cent. import duty on foreign goods. Commercial federation could only be brought about by thoroughly threshing out the question of free trade vs. protection.

Mr. W. H. Fox, whilst approving the idea of an import duty, did not consider it had been placed high enough; it should be at least ten per cent.

This shows the drift of sentiment in Great Britain.

There are many in Canada who do not seem to understand the advantages that would accrue to us if an arrangement of preferential trade could be established between this and the other colonies and the mother country; and we specially commend the matter to the attention of those who seem to cling to the hope that some sort of commercial reciprocity may be established between Canada and the United States. Canada is not, nor can be included in any system of McKinleyism, and the sooner and more thoroughly we are brought to comprehend this fact the better it will be for Canada. There is such a thing as paying too much for a whistle. No doubt it would be desirable for us to have access to the United States market for many of our products, but for most of these we can find sale in Great Britain; and we should remember that as regards most of these products, the United States is also a producer of them, and also an exporter of them, also to Great Britain; and it is not the policy of the reciprocity of McKinleyism to admit free of duty such articles

as that country is a producer of. The same theory should apply in Canada, and our American friends have told us repeatedly that the only condition that they would entertain in return for allowing certain Canadian products free of duty to their country would be for us to allow their manufactures free entry into Canada. This we would never consent to, for it would be tantamount to discrimination against Great Britain, and fatal to the cause of imperial unity.

Some of the speakers at the Chamber of Commerce dinner, as shown, made strong pleas for the imposition of British duties upon imports from foreign countries. If this were done those in Canada who have desired American reciprocity would find that their object was attained, but in another way and direction. It would be found that a differential duty upon merchandise entering British ports in favor of Canada and against the United States, would give them a better market in Great Britain than they could possibly hope for in the United States under any sort of reciprocity.

BEET SUGAR INDUSTRY.

A strong and widespread interest is being awakened throughout the United States looking to a more general cultivation of the sugar beet for the manufacture of beet sugar, and the procurement from Congress of substantial encouragement to the industry in the way of bounty. One of the most active and effective workers in the cause is the American Agriculturist which is engaged in assisting in the organization of the American Sugar Growers' Society, intended to bring together from all sections of the country the farmers, capitalist, manufacturers and laborers who, through their organization, may battle effectively for their interests in Congress, and later in the commercial world. It is only by such concert of action, says our contemporary, can those favorable to the development of the industry hope to defeat the machinations of what is known as the "Sugar Trust"; and it gives in tabular form as follows what it says is the principal points at issue between the Trust and the American farmer and the general public:

The principal points at issue:	The sugar trust	American farmers
Free sugar to continue from Hawaii.....	Favors	Oppose
Low duties on other sugar.....	Favors	Oppose
Extra duties to offset foreign export bounties	Opposes	Favor
Specific duties.....	Opposes	Favor
Ad valorem duties.....	Favors	Oppose
Imported sugar for refineries on coasts...	Favors	Oppose
Factories in interior of U. S. to work up beets.....	Opposes	Favor
Shall U. S. continue to pay \$100,000,000 in gold annually for imported sugar?..	Yes	No
Or, shall American farmers grow the beets and cane to supply the American people with sugar?	No	Yes
Does the sugar trust own this country?..	Yes	No
Shall the new tariff be fixed to suit the trust or to help the people?.....	Trust	People
Shall the new tariff be adjusted to benefit foreign or domestic sugar producers?..	Foreign	Domestic

In view of the great possibilities of Canada in this direction it is exceedingly regrettable that no persistent and comprehensive efforts have ever been made to develop the industry here. It has been demonstrated, beyond the shadow of a doubt, that the soil and climate of Canada are eminently well fitted for the production of the sugar beet, and that the industry, under proper encouragement for a sufficient number

of years, could be made to be of immense advantage to the country; and the suspicion is prevalent that perhaps the identical influences that combat the industry in the United States, are brought to bear in Canada. Unlike Canada, however, and in spite of the machinations of the Trust, the industry has worked its way into much prominence and value in many sections of the country, particularly in Nebraska and California.

Whenever the farmers of Canada, and the friends of the industry have become organized, as is being done in the United States, and are in a position to make demands upon both the Dominion and Provincial governments, and such demands are made, no doubt they will be attentively listened to and answered, and Canada will be in a position to manufacture all the sugar required for home consumption at least.

DEEP WATERWAYS.

The report of the United States Deep Waterways Commission, made several weeks ago at Washington, has been published in pamphlet form. In the course of his report the secretary, Mr. John E. Russell, of Leicester, Mass., says regarding the cheaper transportation of freight between the Middle West and England:

"The first break of bulk in shipping wheat from the west via the Great Lakes is at Buffalo, where grain has to be elevated and transferred from the ships, which have brought it down the lakes, to cars or canal boats; the second break is at New York, where the process is reversed, with equal expense. The lake freight from the farthest shores of Lake Superior or Michigan to Buffalo is from one to one and one-half cents a bushel. The ocean freight is, on an average, about three cents making four to four and one-half cents for deep-water carriage for 4,000 miles. The whole cost from Chicago or Duluth to Europe is from nine to ten cents for a bushel of wheat. Therefore more than half of the entire cost is in elevator charges, commissions and canal freights, to which must be added the item of waste.

"It costs twice as much," the report says, "to carry a barr of flour from Duluth to New York as it does from New York to Europe, though the latter distance is more than twice as great as the former.

"If an ocean vessel could clear from an upper lake port to Europe, it would save the time and expense required to break bulk at two intermediate points, and the cost of carriage would be about one-half of what it is now. Such a vessel could carry her cargo from the east end of Lake Erie to the ocean for not exceeding one cent a bushel for the additional distance.

"A few years ago agricultural products and lumber made the cargoes of lake shipping, but a new industry has arisen from the recent discovery of a high grade of iron ore in the Lake Superior region, which, under favorable conditions of transportation, bids fair to bring about far-reaching economic changes.

"With deep water access to the ocean, the ore required on the Atlantic coasts could be supplied to the exclusion of foreign ores, the iron and steel business of the country equalized, and our country supplied at a minimum of cost, enlarging the field for capital and industry and increasing the prosperity of the whole. At the same time, furnaces and

rolling mills on the lakes could produce iron and steel that, water borne, would irresistibly invade the markets of the world."

The report states that a deep waterway, from the lakes to the Atlantic, is entirely feasible. The commission has proposed alternate routes either via the St Lawrence river, Lake Champlain and the Hudson river, or by way of Oswego Oneida, Mohawk Valley and the Hudson river. The commission recommends that the alternate routes from Lake Ontario to the Hudson be surveyed to determine their relative merits.

EDITORIAL NOTES.

Canadian pulpwood delivered free of export duty in the United States has strangled a grand home enterprise, filled every warehouse at the border with boycotted Canadian pulp, thrown hundreds of Canadian laborers out of work, killed a wage revenue at Sault Ste. Marie of \$1,000,00 per day, obliterated glowing prosperity, and scattered widespread gloom and despondency over that town and a wide area of country. Such are the immediate fruits of giving our valuable timber to Americans free of export duty.—Sault Ste. Marie Pioneer.

At a recent public meeting held at Penetanguishene, Ont., to discuss the advisability of the Dominion Government imposing an export duty upon saw logs and pulpwood, the following resolutions were adopted:

Resolved, that in the opinion of this meeting the Government of the Dominion of Canada should, in the interests of the Canadian people at large, as well as of the Canadian lumbermen, impose an export duty upon all saw logs leaving this country for any foreign country, the Government of which imposes an import duty upon lumber, dressed or undressed, and that such saw log export duty should be equivalent to the foreign import duty upon lumber.

That whereas the manufacture of paper and pulp from pulpwood is in its infancy, and Canada has an abundance and almost a monopoly of such wood; and whereas Canadian pulpwood is now being very extensively shipped to foreign countries; and whereas it is desirable that the manufacture of pulp from Canadian pulpwood should be conducted in this country; and whereas, in the opinion of this meeting, that end might be accomplished, or to a great extent assisted, by the imposition of an export duty upon such pulpwood;

Therefore resolved that the Dominion Government be urged to impose a reasonable export duty upon such pulpwood leaving Canada for any foreign country.

Referring to a recent event, our esteemed contemporary The Manufacturer, of Philadelphia, the organ of the American Manufacturers' Association, says:—

The Canadian protectionists, it seems, have not sent their good wishes along with the two delegates now in this country trying to make propaganda for reciprocity. THE CANADIAN MANUFACTURER has no sympathy whatever with this scheme and it aims to show the Liberal leaders that they are taking the wrong course altogether. For a long time reciprocity with this country has been a dream of the political party which is now in power in Canada. What the result may be in the future we do not know. At the present time, however, the prospects of free trade between the two countries are certainly not very bright. The two members of the Dominion Cabinet who have been at Washington this week, Sir Richard Cartwright and Hon. L. A. Davies, have had inter-

views with a number of political men, both Democrats and Republicans. We doubt very much whether they have gotten very much satisfaction concerning the subject of their mission. It is certain that some of our people on the border, especially the farmers, are in no wise friendly to reciprocity. What the views of manufacturers as a whole may be it is not so easy to learn. It would seem that our manufacturers might have more to gain as a result of reciprocal trade arrangements than the manufacturers of Canada, which appears to be the view of THE CANADIAN MANUFACTURER.

No reasonable man will deny that the makers of agricultural implements should enjoy every advantage which other manufacturers enjoy. A well-considered tariff will give no special privileges to any one interest at the expense of the others. But the makers of agricultural implements have not been so badly treated. The steel used is duty free, so far as the knives are concerned (and they are the most costly), as is also the wood. Until recently they were protected by a duty of thirty-five per cent. The Globe was as bitter against the makers of agricultural implements as anybody; it is, at least, worthy of remark that it has now become the special champion of the interest it formerly assailed.—Mr. Hobson.

The lumber-dealing interests of the United States are already growing restive under prospect of the restrictions to be imposed by Congressman Dingley's lumber schedule. Even in Burlington, the centre of Republican sympathy in the State of Vermont, a vigorous protest has been lodged. The Burlington News complains that the new measure will "destroy Burlington's lumber business and that of many other places importing Canadian lumber; it will entail enormous losses on Americans engaged in the business and will throw thousands of working people out of employment; it will disastrously affect the Vermont railroads," and that it will work injury in a variety of other ways. Coming from Vermont where protective sympathy usually runs high, the complaint insignificant, and indicates the dread that is felt of the policy which Mr. Dingley has promulgated. The Philadelphia Times, in commenting on the circumstance, says:—"The Montreal papers take this matter philosophically. They think that Burlington's loss will be Montreal's gain. It was part of the policy of the new Liberal Government to cultivate closer commercial relations with the United States, but the response from this side seems to have discouraged that idea." The peculiar feature of Mr. Dingley's misguided effort to injure Canadian interests seems to be that it is awaking more excitement and alarm among his own countrymen than is yet apparent in the Dominion.—Montreal Herald.

In defiance of the plainest rules of self-preservation, our politicians have supinely stood idle while millions of cords of pulpwood have been rafted over the lakes free of export duty to build up profitable industries in the United States, while Canadians get \$2 per cord for cutting and hauling the wood to the beach, and the immense rafts have destroyed miles of fishing nets, and almost ruined the splendid lake fisheries. We have shown that a reasonable export duty would have kept the wood at home and built prosperous pulp mills and saw mills in every part of this district. But all in vain.—Sault Ste. Marie Pioneer.

The April issue of Scribner's Magazine contains two full-page compositions by Gorguet, called "A Roman Easter", a portrait by Howard Cushing; the Transformation scene in "Dr. Jekyll and Mr. Hyde," by William Hole; Albert Terter's illustration for "Cor Peccatrix," and Gibson's "London" as some of its artistic features. In Lewis Morris Idding's unconventional article on "Ocean Crossings" the author has the knack of combining useful specific information with very readable incident. Even veteran travellers will find here some things that it is good for them to know. The hints about steamship fees are eminently practical. The recent rising of the Greek nation (as well as the revival of interest in Byron) gives timely value to F. B. Sanborn's account of the friendship of the Greek chieftain, "Odysseus, and Trelawny." Odysseus was a hero among those who led the revolt against Turkey in 1821.

The Easter number of The Ladies' Home Journal is brimful of helpful and entertaining reading. "A Moravian Easter Dawn," by Clifford Howard, tells the story of the simplest and most beautiful Easter service in America, as it is given in the quaint and picturesque town of Bethlehem, Pennsylvania. Ex-President Harrison's article describes "The Social Life of the President," from the day of his inauguration, and gives interesting information as to receptions, dinners, and other social events of the White House. The popular series of "Great Personal Events" is represented by "When Lafayette Rode into Philadelphia," by Jean Fraley Hallowell. Ira D. Sankey has written for this number a hymn, entitled "The Beautiful Hills," with music by John H. Yates. The Curtis Publishing Company, Philadelphia. Ten cents per copy; one dollar per year.

A valuable contribution to the literature of heating is The Hot Water Manual, a book of over two hundred pages by Walter Jones, an English author, published by the American Artisan Press of Chicago. This book will be found very useful to all interested in hot water heating. Address Daniel Stern, care American Artisan, Chicago.

Wiring Tables, and How to Use Them, is the title of a book of seventy-five pages by Thos. G. Grier, 1436 Monadnock block, Chicago, recently received from the author. The subject is treated under four headings—The resistance of wires; electro-motive force and current; how to calculate the size of wire, and commercial wiring tables. Under the last named heading are given a large number of useful tables which will be found of great value to those engaged in electrical work.

THE TARIFF COMMISSION AT MONTREAL.

(Continued from last issue.)

CIGAR-MAKERS.

The delegation from the Cigar Makers Local Union was spoken for by Mr. A. Gariepy, as follows: Gentlemen—As I have heard the different manufacturers here express their views on this question of changing the tariff on tobacco, I would like to say that we are opposed to changing the tariff; that is to say, we are in favor of letting the law stand as it is with reference to American tobacco. We are not in favor of a tariff on leaf tobacco, because Canada does not at present produce enough tobacco for the manufacturer, and as it requires a great deal of money to import leaf tobacco on account of there not being enough people to buy large quantities of leaf tobacco, and the small manufacturer would be at the mercy of the importer, which, of course, would create a monopoly, and not being able to buy a large quantity of tobacco at a time he would have to pay an enormous price for the leaf and would therefore not be able to compete with his more powerful rival. We further ask that a duty of \$4.50 per lb. and twenty-five per cent. ad valorem be imposed on imported cigars, and our reasons are as follows:

It is our opinion that if such a high duty was imposed on imported cigars that there would be more high grade cigars manufactured in Canada which would mean a great increase in the wages of all those employed in the cigar industry. We have been of that opinion for a considerable length of time and experience teaches us that if Canada does not manufacture so many good cigars as she should, it is because the duty is not high enough on imported cigars. We think we can manufacture just as good cigars here in Canada with the tobacco we get from the other side as are purchased in Havana, and if we did make the cigars here, certainly the working men would get a higher price than when they have to make a low grade cigar. Another thing we would call your attention to, is the fact that we desire the excise duty be reduced the same as it was prior to the Northwest rebellion. This increase of duty has been the means of reducing the cigarmakers' wages and also the wages of others employed in the same industry, and we

The 1897 Canadian Tariff

The 1897 United States Tariff

The British Tariff

As soon as the new Canadian Tariff Bill is presented in the House of Commons at Ottawa it becomes the Law of the Land, going into effect immediately. The Dominion Parliament being already in session, it is the announced intention of the Government to present the Tariff Bill with as little delay as possible.

The new United States Tariff Bill has been already introduced into Congress, that body having been called together in Extra Session for the consideration of that subject; and it is expected that that Bill will become law and go into effect at an early day.

AS SOON AS THESE TWO IMPORTANT MEASURES—The Canadian Tariff and The United States Tariff—becomes law

A SPECIAL EDITION OF THE CANADIAN MANUFACTURER

will be published containing both of them and also The British Tariff, all reproduced in full from authentic copies obtained from official sources.

The edition of THE CANADIAN MANUFACTURER of September 7, 1894, contained the full and entire texts of The Canadian Tariff, which was confirmed July 23, 1894, and The United States Tariff, which went into effect August 28, 1894; and there are thousands of copies of that edition to be seen at this time in business offices, workshops, mills, factories, electric light stations, and other industrial establishments in Canada, United States, Great Britain and other countries.

The importance and value to all manufacturers and business men of having the Tariffs of these three great countries—Canada, United States and Great Britain—published in full within one cover cannot be too highly appreciated. The Special Edition of THE CANADIAN MANUFACTURER containing them will be printed on heavy paper, and provided with loop for hanging in any convenient place.

This Special Edition will possess unique and exceedingly valuable advantages as an advertising medium to all those who desire to have their business brought to the attention of the managers of thousands of cotton and woolen mills, pulp and paper mills, flour and lumber mills, coal and gold mines, engine and boiler shops, machine shops, electric lighting and street railway stations, bicycle factories, etc., in Canada and elsewhere.

ADVERTISEMENTS FOR THIS SPECIAL EDITION ARE SOLICITED at the following rates :

One Page, - \$20.00 Half Page, - \$12.50 Quarter Page, - \$7.50

No order accepted for less than a quarter page. Copies of paper free to all advertisers.

Single Copies Ten Cents each. For 100 or more copies a discount of 25 per cent. allowed.

Copy and instructions for advertisements, and orders for copies of paper, should be sent without delay to

The Canadian Manufacturer Publishing Company (Ltd.)

McKinnon Building, TORONTO, CANADA.

Orders for copies of this Special Tariff Edition should be sent in without delay. .

think that if the Government would do something in this respect, that the workman would be able to make a better living, because as it is at present, I can assure you, that we can just make enough to live.

Hon. Mr. Tarte—I would like to ask what is the average salary you now earn?

Answer—It is about \$6.00 a week.

Sir Richard Cartwright—Do you not employ a large number of women and children in your factories?

Answer—Yes, there are a great many women and children employed.

Sir Richard Cartwright—What wages are paid to them?

They earn about \$3.00 a week or \$2.50. When I speak about \$6.00 being paid to men I refer to the organized cigarmakers; they are receiving on an average about \$6.00 a week. There is another question which I would like to bring up, which one of my colleagues will refer to more fully. We think that the Government should change the present law regarding room for the manufacturing of cigars. In that case it would give the cigarmaker, with a small capital, an opportunity of starting business for himself, and we also believe that it would spread the industry.

Hon. Mr. Fielding—Is this the opinion of the workmen themselves, or is it the opinion of the small manufacturers?

It is the workmen who represent.

Hon. Mr. Fielding—You are not manufacturers in the ordinary sense of the word; you make cigars on wages?

Yes.

Hon. Mr. Fielding—About this Canadian tobacco, you say Canada does not produce enough tobacco to make cigars. Is it a question of quantity or quality?

It is not suitable. There may be a little piece of ground that might produce a few pounds of tobacco that would be suitable to use with imported tobacco, but we could not be able to use the rest of it to make a descent kind of cigar of.

Hon. Mr. Fielding—The gentleman who spoke before you said that Canadian tobacco was not at all suitable for the manufacture of cigars.

Answer—I think that there may be a little in some parts of the country.

Hon. Mr. Tarte—In Montcalm they certainly have produced very good tobacco.

I have smoked some of the cigars manufactured from Montcalm tobacco. I think that the very same tobacco that is used in those cigars is not fit for the common, ordinary cigar—that is a very common cigar, indeed. I don't believe that we have the proper kind of soil to produce enough suitable tobacco. I think that Canada will never be able to grow tobacco to make a complete cigar out of it.

Hon. Mr. Fielding—Then you don't think that the tobacco industry is one that is suited to our country at all?

Answer—No, sir, I do not think it is.

Hon. Mr. Fielding—You do not think it is any use to try to grow tobacco?

No, sir.

Mr. Boyard, another member of the deputation, said, with regard to wages, that the scale was lower in Quebec, and in Lower Canada for that matter, than in the cheapest district of Pennsylvania.

Hon. Mr. Tarte—Can you give the reasons why the wages are so low?

Answer—Yes, it is a case of capital against labor. The present attitude of your Government on the excise duty prevents a poor man, with a small capital, from going into business for himself, and for this reason there is a duty, at least a license, of \$75 for manufacturing. Well, suppose a man has \$200; after paying his license he has only \$125 left to buy his stock. He has got to have a special room set aside for manufacturing, and before he is able to introduce his goods to the market he is reduced to nothing. On account of having to buy his tobacco in small quantities he has to pay a higher price than the big manufacturers, and, therefore, he has to sell his cigars at such a rate that he has nothing with which to continue his business.

We think that if the Government would adopt a law giving the manufacturer the privilege of having a store in connection with his factory, it will give a cigarmaker, with a small capital, an opportunity of starting business for himself, and also that it would spread the industry in the Dominion, because we have many little towns of from 1,000 to 5,000 population that have no cigar industry whatever.

Hon. Mr. Fielding—Would there be any danger of the revenue losing?

No, sir, because at present you have men employed to see that the manufacturers do not defraud the Government, and under the new conditions these inspectors would have the same opportunity of going into the store and ascertaining that the small manufac-

turer complies with the law in the same way that the large manufacturer does.

DUTIES ON TOBACCO.

Mr. J. M. Fortier, a Montreal manufacturer said:—I would like to explain to you gentlemen the interests of the Canadian farmer regarding Canadian tobacco. What I wish is to see that my fellow countrymen get the proper amount of trade that they deserve. A man lives in the country, earns his bread and butter in Canada, and it is only just that he should use Canadian material, and that he who wants to use a foreign article—we have no objection—should answer to the Government for the injustice he is doing his fellow-countrymen. These manufacturers ask for \$4.50 a lb. on foreign cigars. He wants to be protected, but he does not like to see his neighbor protected. Now he has got \$2 a lb. to-day. As a cigar manufacturer I am perfectly satisfied, I have made lots of money out of it, and I would make more if we had more people in the country, and I assure you gentlemen that the reason I ask for a duty on raw leaf, is to give my fellow-countrymen an opportunity to make \$100 a year, and these farmers would be an additional population to what we have to-day. As it is they are emigrating almost every year. If every industry were looked into from this point of view, our population would be greater than it is to-day. The trouble is, that the people have no work.

Hon. M. Fielding—We have been looking at it from that point of view for eighteen years, and we have not been getting the population.

Mr. Fortier—Well, you have not protected the proper industry, (Laughter.) I don't mean you, Mr. Fielding, but the Government. In 1878 I was in the United States, and I read in the papers that the Macdonald Government was going to impose a duty on foreign goods. I knew I could do well in Canada under the protective system, so I came here and established myself. We were protected and we increased in number. At that time there were probably only twenty-five cigar manufacturers in Canada—to-day there are over a hundred.

At that time there were probably 200 cigarmakers; to-day there are probably 10,000. We, as manufacturers of cigars, augmented in number because we were protected, but the farmers did not increase in number. To-day they are the same number as in 1878. If they had been protected in the same way as I was protected they would have increased the same as we have. What I want is to augment the population. People do not come here to fold their arms, they come here to work. It is not by buying and selling that we can enrich the country, but it is by encouraging industry. The other day some gentlemen before you said that they never paid less than six cents for tobacco. Now, here is an invoice of goods I bought on June 29th, fifty cases of tobacco at 2½ cents a pound. I use this tobacco, and think some of the other manufacturers do the same.

Hon. Mr. Fielding—Is that American tobacco?

Mr. Fortier—Yes.

Hon. Mr. Fielding—Is that used for cigars?

Mr. Fortier—Yes, we have tobacco which we use for cigars as low as 2½ cents and some for one cent a pound. I tell you, gentlemen, Canada has been the dumping ground for poor tobacco because there has been no duty on it. If there was a duty on tobacco we would be very careful to import only the best goods, as the Canadian tobacco would answer our purpose just as well as the cheap tobacco which is at present imported. But what is the use of buying from the farmers? The farmer can't raise it for 2½ cents a pound, and why? Because it is only the surplus that I get from the United States. The United States is the biggest tobacco producing country in the world. The farmer here has a severe winter to contend against and has not the experience. Supposing he gets seven to ten cents for his tobacco—that would be cheap enough for me. These cigar manufacturers say they must have raw leaf tobacco free of duty, but why do they ask for \$4.50 a pound on foreign cigars? They should stop the foreign cigars from coming in here. I say let us protect the farmer. We could still afford to pay twenty-five cents a pound on raw leaf tobacco and pay the inland revenue. The business of growing tobacco is very different from that of manufacturing it into cigars. The tobacco grower must earn a living.

He must sell his tobacco, and therefore twenty-five cents a pound is not too much to pay him, but what is in his way? Simply the goods coming from abroad. What is the remedy? All we have to do is to put sufficient duty on the goods that come from abroad to foster the cultivation of Canadian tobacco, and enable the Canadian farmer to make a living out of it. By putting a duty on foreign raw leaf tobacco, the manufacturer would put a certain quantity of Canadian tobacco in the cheaper grade of cigars.

Mr. Fielding—The poor man's cigar is made in Canada?

Mr. Fortier—It is made in Canada from foreign leaf tobacco,

Sherbrooke Gas & Water Co.

M. W. HENEKER,
PRESIDENT.

T. J. TUOK,
VICE-PRESIDENT.

E. F. WATERHOUSE,
SECY-TREAS.

A. SANGSTER,
SUPERINTENDENT.

Sherbrooke, Que.,
CANADA.

Feb 9th 1897

messrs The Royal Electric Co
Montreal

Gentlemen

We have tried the 180 K.w. Generator, with what we consider a good fair load. or perhaps a little more than fair, we had 50 Amps on one side for Sherbrooke, and 30 Amps on the other side for Lermorville. We had the voltage 10 volts higher on the Lermorville line. I must say it does more and better than I could imagine. The bearings of the machine were as cool this morning as when we had run one hour, and the lights did not seem to vary in the slightest, you see we had every confidence in your work and machine, and put the extremes on, you should have seen how pleased the men were when they saw how steady the voltage kept on the two different lines, when we get the new exciter on. it will be better I thank your mt. Brown for coming for ~~con~~ out, and giving us so much good advice, which will be carried out.

Yours respectfully

A. Sangster
Supe

and he pays 6-10ths of a cent duty on it. If it were made out of Canadian tobacco solely, it would be quite different. He could have a blend of foreign tobacco in that Canadian cigar and contribute less than he does to-day. By having it mixed—say seventy-five per cent of Canadian tobacco and twenty-five per cent. of foreign tobacco—that would make a splendid aroma.

Hon. Mr. Paterson—Then you think the Canadian farmer is not protected in growing tobacco?

Answer—No sir.

Hon. Mr. Fielding—Your idea is to put on a duty of twenty-five cents per pound on the leaf in order to protect him?

Mr. Fortier—Certainly.

Hon. Mr. Paterson—That would be pretty good tobacco, the Canadian tobacco. How many pounds would it take to make a thousand cigars?

Mr. Fortier—Twenty-four pounds of tobacco would make a thousand cigars including the fillers and binders.

Hon. Mr. Paterson—Under the present tariff the farmer has thirty cents a pound instead of twenty-five. The excise duty on Canadian tobacco, as I understand it, is \$3, and the excise duty on the foreign leaf is \$6. The difference is a protection to the Canadian grower of \$3.

Mr. Fortier—The Inland Revenue laws are that we must make 1,000 cigars out of every twenty-four pounds of tobacco that enters our factory.

Hon. Mr. Paterson—Do you work up all your scrap?

Mr. Fortier—Yes, we work it up into cigars. We have machines now that enable us to make a thousand cigars for fifty cents packed up in boxes. The price of tobacco is nothing; it is the labor. We have machines that make 10,000 cigars a day.

Hon. Mr. Paterson—The late Government wanted to protect the Canadian farmer and they attempted to do so, because the difference in the excise duty of \$3 a thousand is a very large measure of protection.

Mr. Fortier—Yes, but it is so administered that it is an interference. Why do you not collect a duty at the principal place,—at the port of entry. If I make a thousand cigars and put two pounds of Canadian tobacco into it, I have to pay the same duty on them as I do on foreign goods.

Hon. Mr. Fielding—If it were possible to amend the regulations so as to permit of the blending of Canadian tobacco and American tobacco would not that meet the difficulty, so that you could only pay duty on foreign tobacco?

Mr. Fortier—That is all the farmer wants. He wants his tobacco to be treated like the foreign tobacco. Of course, to be protected by that duty you are imposing. Whatever we sell of Canadian tobacco is very limited certainly, but the greater part of it goes down into the Lower Provinces. They buy most of our Canadian plug tobacco.

Hon. Mr. Paterson—Are you well versed in the effect on the soil? Would we be doing a real benefit to the farmer to turn his attention to cultivating tobacco instead of producing what he is now producing? What is its effect on the land?

Mr. Fortier—There is nothing wrong in its effect on the land. The Connecticut valley has been raising tobacco ever since I remember. They are still raising it and they have been enriching the land.

Hon. Mr. Paterson—Is the growing of tobacco more profitable than other crops?

Answer—Yes, if they could sell it. On one acre of land you can raise from 1,000 to 2,000 lbs. of tobacco. If the farmer could get ten cents a lb. that would be \$200 an acre. Of course you must give them a market for their goods. I myself have tried hard to create a market for Canadian tobacco. I have exported Canadian tobacco to England, Belgium and Holland, but they do not want it because it is too raw.

Hon. Mr. Paterson—Do you remember the sugar beet industry? It would have been very desirable to have had that succeed, and I do think an honest attempt was made in two or three places, and the farmers probably deviated from their other crops in order to produce it, but as you well know it did not turn out very well.

Mr. Fortier—Well, sir, I would account for that in this way. You ought to have taken the same procedure as the European powers did when they introduced that industry. They put an almost prohibitive tariff on foreign sugar, and of course they had to interest everybody in introducing the sugar beet. But in our country the last government allowed the foreign sugars to come in here on too small a duty. The cigar industry is very small as compared to the consumption of tobacco. We take probably 2,000,000 lbs. a year; that is all we use as cigar manufacturers, but the plug tobaccos use very much more. There is about 10,000,000 lbs. of tobacco brought into the country for that purpose.

Hon. Mr. Paterson—If we were putting a duty on the leaf and taking off the excise duty —

Hon. Mr. Fielding—Mr. Fortier does not propose taking off the excise duty.

Mr. Fortier—Certainly not. In the United States before the McKinley tariff came into force the duty on tobacco was thirty-five cents a lb. for all foreign tobacco imported into the United States, but under the McKinley tariff it was increased to \$2 a lb., and at the increased rate of duty more revenue was derived simply because a certain class of people would insist on having imported cigars, no matter at what price.

Hon. Mr. Fielding—About what quantity of tobacco is usually carried in the trade?

Answer—I could not tell you that, but we know that we are importing right along about 10,000,000 lbs. a year.

Hon. Mr. Fielding—With regard to this Cuban edict, does it apply to all parts of the island or only to certain sections?

Answer—Only to certain sections. It is only a matter of price.

Hon. Mr. Paterson—If the Government were to decide to put this duty on the raw leaf, how would you treat the tobacco that is in the country at the present time?

Answer—I would collect the Inland Revenue duty.

Hon. Mr. Paterson—What about the import duty?

Answer—You could not collect anything on what we have on hand. You have no law to collect it now.

Hon. Mr. Paterson—But supposing one man had 40,000,000 lbs. on hand.

Mr. Fortier—Well, I think that would be his own business. If the Government wished to maintain the present Inland Revenue Department, keep the same duties as to-day, only treat the tobacco alike—Canadian and foreign tobacco should be treated alike. That is what I ask, that is what the farmer asks. Make it a uniform duty of twenty-five cents a lb. excise, on all manufacturers' tobacco, and \$3 to \$6 on all manufactured cigars whether they are Canadian or foreign.

JEWELRY.

A deputation of the Montreal Jewelry Manufacturers' Association waited upon the Commission, the first speaker being Mr. A. Schwob, who said that the Association had held a meeting and had discussed what they thought about the tariff, and had found out that they were in accord with their western friends in every point except one or two, which he would now introduce. The only point they wished to discuss was that of watch cases and diamonds. He might say that the meetings held had been composed of two watch-case manufacturers, three or four jewelers and some jobbers. The merchants representing this trade consider twenty-five per cent ad valorem sufficient protection, but the watch-case manufacturers held, considering the limited manufactures of the country that their industry would be imperilled by the competition of those outside. At their meeting it had been decided by a majority to agree to twenty-five per cent.

Mr. John H. Jones was the next speaker. Mr. Jones, who is a watch-case manufacturer, said that it was not his intention to have spoken on this part of the subject. He was not a manufacturer, but an importer. He was a thorough protectionist himself, but believed that the best way to protect the trade was to lower the tariff. The duty now though nominally twenty-five per cent. is really in some cases of jewelry prohibitory, inasmuch as raw material was admitted free. The protection to the labor in this country was enormous, amounting in gold goods to 100 per cent., and preventing the importation of such goods. As to the question of kindred matters such as watch boxes and jewel boxes, these are protected in a like manner, amounting to prohibition. He would cite an instance or two in low priced goods, such as thimble boxes, etc., on which there was a specific duty of five cents each.

In answer to a question by Hon. Mr. Fielding as to what the ad valorem and specific duties together would be, Mr. Jones said that he had never averaged it, but that the specific duty would cost more than the production of the goods themselves. All these goods would run from \$2.50 per gross to \$9 per gross. Jewel boxes were more expensive, but were not in much demand. In the matter of clocks, he would suggest that the tariff should be reduced to twenty per cent. His reason for this was that the consumption in this country was largest among the poorer classes of the people. He had never averaged the importation on clocks as to their value, but he knew that there were thousands of clocks sold, costing from one and a half marks to three marks, or from fifty-five to seventy-five cents. Thousands of these were sold compared to the number costing three or four dollars. A few only of the higher priced goods were sold. The average value for duty on the clocks would not exceed \$2.

Mr. C. H. A. Grant, another member of the delegation, here stated that he had noticed that the majority were in favor of a reduced duty on watch cases of from thirty-five per cent. to twenty-five per cent. He had no objection to a twenty-five per cent. duty, provided it was collected. The American

manufacturer who produced a large surplus used the Canadian market and others as a dumping ground. The Commission could readily understand what their object was in doing so. A factory producing a thousand cases a week, if it could produce 1500 a week of a cheaper class with the same number of hands and market them abroad at the cost of production, would reduce the average cost on each case. This market is very limited, and owing to the small quantity of goods that we can market and the very large variety that have to be made, he considered it unfair to the capital and labor employed to reduce the tariff from what it is at present.

Sir Richard Cartwright—Your difficulty is wholly due to the advantage which the large market has over the small?

Answer—Yes.

Sir Richard Cartwright—The cost of your raw material, so to speak, is precisely the same as in the American market?

Answer—Yes.

Sir Richard Cartwright—The wages you pay are about equal to those paid in the United States?

Answer—Yes, in some cases we pay more.

Sir Richard Cartwright—Have they an advantage over you in being able to use more costly machinery in their output? Do you use the same class of machinery?

Answer—Yes.

Sir Richard Cartwright—It is the advantage which the large market has over the small?

Answer—Yes. A factory that can work on one style of case only can reduce cost.

Hon. Mr. Fielding—Although the duty is thirty-five per cent., it only amounts to 27½ per cent.? The export prices to which you refer are common to trade in the world generally?

Answer—I think they are.

Hon. Mr. Fielding—The export value after all is a fair value?

Answer—It may be to the importer, but not to the manufacturer.

Hon. Mr. Fielding—The question of value cannot be fair to one and not to another?

In answer to this Mr. Grant said that he would give a case in point. Supposing he were a hat manufacturer in New York and his factory produced a thousand dozen too many, which he exported to Canada at cost. Would it seem fair that the capital interested

in the manufacture of hats in Canada should have to meet that competition.

Hon. Mr. Fielding—You do not need any duty to keep them out.

Answer—I beg your pardon. Any one could then go to the United States, buy his things cheaper and bring them in here. Give me the same facilities of doing business with the United States that the United States has of doing business with Canada and we will be with you.

Hon. Mr. Fielding—What are the facilities they have which you have not?

Answer—Their large factories.

Hon. Mr. Fielding—How many factories are there?

Answer—Three in Canada.

Hon. Mr. Fielding—Are they separate?

Answer—Entirely separate.

Hon. Mr. Fielding—They have no agreement as to prices?

Answer—No. We have agreed on prices to a certain extent, but there is no combination.

Mr. Schwob, who now resumed speaking, said that it had been decided at a jewelers' meeting to recommend that diamonds be left on the free list, considering the large number of skilled workmen who were employed in diamond setting and the fact that diamonds were bought in Canada as cheap as in Europe.

Mr. Henry Birks, who was the next speaker, remarked that the high tariff in the United States on diamonds, had jeopardized the entire business there. The receipts from customs duties on these goods last year had shown a falling off of \$500,000. He had letters from a number of American dealers who said how little the high tariff had done for their trade, and that these diamonds were now being brought in by smugglers.

The United States Government had instructed its consuls to look sharply after this matter, but the consul at Amsterdam had informed him that his efforts in keeping down smuggling were of no use. Mr. Birks went on to say that he used to import fine jewelry, but that he now made it all, because the diamonds came in free. He had twenty-six workmen in his establishment getting good wages. He never could keep such good men before.

Sir Richard Cartwright—Do you cut diamonds?

Answer—No, sir. We set them only. We used to lose a great deal of trade years ago by our wealthy people buying goods in

Why not Get The Best?

If you are paying more for LEATHER BELTING than we charge, you are paying too much.

If you are paying less than we sell at you are not obtaining as good a quality.

SADLER & HAWORTH.

FACTORIES AT

511-513-515 WILLIAM ST. MONTREAL.

9 & 11 JORDAN ST. TORONTO.

Europe. Now these buy here owing to the free importation of diamonds. There is as good jewelry made here as anywhere in America.

Sir Richard Cartwright—You say that diamond jewelry is now bought here. Is that the case in the matter of colored stones?

Answer—Yes, sir. My remark applies to all kinds of jewelry. As to smuggling, it did not pay a man to run the risk of smuggling, considering the small amount of duty. He hoped that if they had to be taxed for duty, though he did not care how high it might be on other jewelry, he contended that diamonds should be on the free list.

Mr. R. Hemsley said that he agreed with Mr. Birks that it would be impossible to collect duty on diamonds. The same remark would apply to all gems. He had two retail establishments. A few years ago it was quite common to have people asking the value of goods which they had purchased in New York and London. To-day the case does not exist. It does not come under our notice once a year. The fact that the country is advertised as a market for diamonds is a great thing in our favor.

A duty on diamonds would destroy this. The tax would press more on the middle-class people than on the rich, as the rich man can travel and buy good diamonds in foreign markets, but those who did not travel would have to buy here and pay the duty. It would throw the trade into irresponsible hands. There was no doubt in his mind that the considerable loss of revenue to the United States was due to the fact that the wealthy people were purchasing abroad. This with smuggling made up the deficit.

The next speaker, Mr. William Brownley, said that he was satisfied with the present duty of twenty-five per cent. Diamonds were now admitted free, but on other stones the duty was ten per cent. The trouble he found was that these stones are in the hands of a very few dealers in Canada, and that he had to pay a very high price. He imported from the United States, paying ten per cent. duty, and got his goods cheaper than he could here. He thought stones should be placed on the free list and save us that ten per cent., and we could compete with foreign goods.

Mr. H. E. Nelson, speaking of clock importation, said that the large majority of clocks imported are very cheap ones, sold principally to the poor people, on which there was a duty of twenty-five per cent., which was very heavy for the poor people to pay. He

thought that a slight reduction should be made to the clock trade. We import thousands of clocks that cost in Germany under two marks—which is about forty-eight cents. The cheap clocks kept good time. It could be reduced so that clocks could retail here for about fifty-five cents after paying twenty per cent. duty. At present they retailed for \$1.

He imported fancy boxes for jewelry. The Appraisers called them jewelry boxes, but he had never been able to find out why they did so as many of these boxes were used for hair-pins, etc. On these a duty of thirty per cent. and five cents each was paid. They paid \$6.00 a gross for a box. There was a duty therefore, of \$9.00

Mr. Alfred Eaves who said he was a jobber in jewelry and handled different lines, said he was of the same opinion as Mr. Nelson and was in favor of a reduction of duty on watch goods; Twenty-five per cent. would be ample. It would help the retailers. As to clocks he thought that twenty per cent. would be enough. They would then be cheaper to the poorer classes.

WATCH CASES.

Mr. W. F. Doll, late of Winnipeg, but now located in Montreal, appeared before the Commission in behalf of himself and some other retail jewelers, and presented the following petition:

Your petitioners, the undersigned, humbly show as follows: That the ad valorem duty on watch cases, viz.: thirty-five per cent. is very high, greatly increasing the cost to the consumer, and not effectual to encourage bona fide manufacturers within Canada, and that the varied ad valorem duties now imposed upon such lines as watch cases, watch movements, clocks, solid silverware, electroplated ware, jewelry, jewelry novelties, etc., varying as they do from ten per cent. to thirty-five per cent. are most indefinite, annoying and detrimental to the trade.

Your petitioners would therefore pray that a more uniform ad valorem duty, for revenue only, on all the above lines be considered, and if possible, adopted.

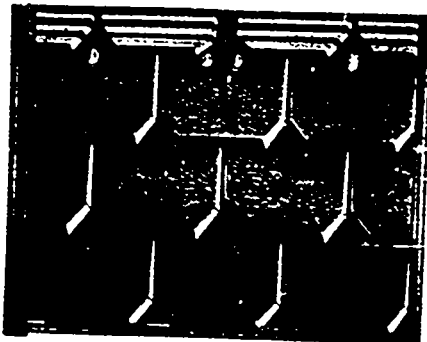
A number of signatures of retail jewelers were appended. Mr. Doll (continuing)—Now if you will allow me a few minutes, as one of the oldest jewelers in Canada, having been over twenty years in the jewelry business altogether, I should like to lay before you some reasons why we want a revenue tariff, not only the jewelers but the consumers as well. With your permission I

UNQUESTIONABLY
THE BEST
FIRE-PROOF LATHING
YET PRODUCED

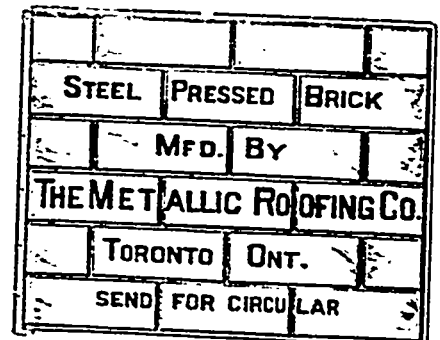
Hayes'
Patent
Steel
Lathing

FOR BUILDINGS OF
EVERY DESCRIPTION
ALSO BOILERS, HOT AIR
FURNACES, FLUES, &c.

USED IN DOMINION BANK, BOARD OF TRADE, CONFEDERATION LIFE AND TORONTO UNIVERSITY BUILDINGS, TORONTO. Send for Sample and Price List.



Eastlake Steel Shingles



FIRE, LIGHTNING AND STORM-PROOF, DURABLE
ORNAMENTAL AND CHEAP

WHEN APPLIED OVER A LAYER OF PAPER IS
WARMER AND DRYER THAN BRICK
VENEER.

Write for prices and ask for Catalogue "O."

METALLIC ROOFING CO., Ltd., Manufacturers,

TORONTO

should like to refer to the petition presented in Toronto by the manufacturers, and go over that petition item by item.

I will first call attention to the speaker in Toronto, Mr. Ellis, who came before you there, and who opened the proceedings by telling you that there was no combine among the manufacturers. Now, in contradiction of this I produce a price list which my friends the manufacturers will recognize as their association price list. I have also a copy of the by-laws of their association, which forbids any manufacturer to sell, under a penalty of \$500, to any person who does not belong to the association. I may say it costs \$50 to join this association, and when you join you are bound to buy only such goods as are sold by the association. In proof of this I may say that there was a factory recently started in Canada to manufacture watch cases—the Canadian Watch Case Company—and I understand from the manager that he was unable to place his cases before the jobbing trade unless he joined the association, and so he gave me to understand that he spent his \$50 and joined the association.

A voice—No, no; we did not pay \$50 to join the association.

Mr. Doll—Then the fee has recently been abolished. There has been considerable agitation about it. I refer you to this list, gentlemen, it is rather old, but it is one sent to me by the association, dated 1891. The preamble says in effect: "We jobbers in American watches do hereby form an association for the purpose of sustaining prices of American movements, etc., and furthering the general interest of the Canadian jobbers in American watches." Article 9 of the constitution and by-laws says: "Each and every member of the association convicted of a violation of this constitution or by-laws shall forfeit to the association the sum of \$500, and shall be suspended from membership until the fine is paid." And so it goes on in this way showing penalties for violation.

It also says under clause 10 that the members of the association agree to purchase during one year not less than \$6,000 net of combine goods, including gold cases. From this you will see that the

small dealer is under a great disadvantage if he does not buy as much as the manufacturer says he ought to buy. He is therefore so restricted that the association is practically a combine to throttle the small dealer for the benefit of the large manufacturer. I might say further that I will just state the articles as they come. Mr. Ellis pointed out to you that on the article of tower clocks they wish a duty of thirty per cent. continued on tower clocks, because they are manufactured in Toronto and Montreal. What is the fact, gentlemen? There is only one man in Montreal; he repairs tower clocks and once in a while he imports some material and puts an occasional clock up, and calls himself a manufacturer of tower clocks, and there is one man in Toronto who employs a few hands in repairing clocks. He also imports material—he brings this material in raw, finishes it in Toronto and puts it together, and in consequence calls himself a manufacturer of tower clocks. Gentlemen, it is ridiculous. Now I say that the duty on tower clocks of thirty per cent. is a disgrace to the country and a drawback to the country and for this reason: If a man wishes to put up a tower clock if he has an interest in the community—say the clock would cost \$1,000; he would have to pay the Government \$300, and he argues that it is an injustice, since the clock is practically a gift. The consequence is we see so many buildings being put up year after year with a big hole left for a tower clock, but no tower clock in it, and so I say it is not in the best interests of the country that this duty should be continued on tower clocks.

[NOTE.—The foregoing is only a part of the testimony taken at Montreal. The publication of it will be continued in our next and other issues.]

The successful progress of the Royal Electric Company is a component of the increased commercial prosperity of the City of Montreal, and through the use of its manufactures the Dominion will obtain similar advantages.

THE - - - -

WM. HAMILTON MANUFACTURING CO., Ltd.

MANUFACTURERS OF

THE "RELIANCE"

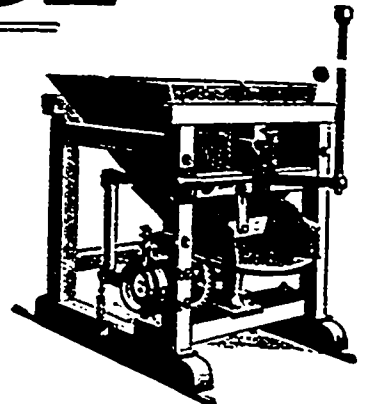
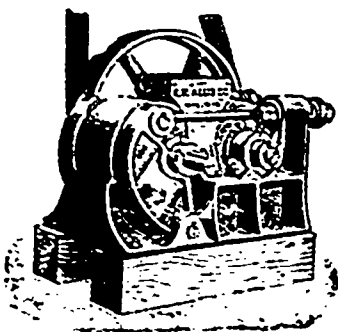
Mining, Milling

AND

Smelting Machinery

FOR THE DOMINION
OF CANADA

(Under License from The E. P. ALLIS CO., Milwaukee, Wis.)



Crushers, Rolls, Jigs, Concentrators, Screens, Stamps, Pumps
Compressors, Hoists, Boilers, Engines, Water Wheels, Etc.

Branch Office

VANCOUVER, B.C.

 PETERBOROUGH, ONT.

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, belting, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamo, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, alkalis, etc. It is well worth the while of every reader of the Canadian Manufacturer to closely inspect all items under the head of Captains of Industry.

The town of Essex, Ont., will vote on a by law to raise money to extend its water mains.

Sixteen carloads of glassware were shipped from the Sydenham (Ont.), Glass Company's works last week.

Mr. B. B. Barnhill's saw mill at Two Rivers, N.S., was burned a few days ago. Loss \$3,000.

Messrs. Donald Fraser & Sons, Fredericton, N.B., will replace their two small engines with a large one and will also put in a new boiler.

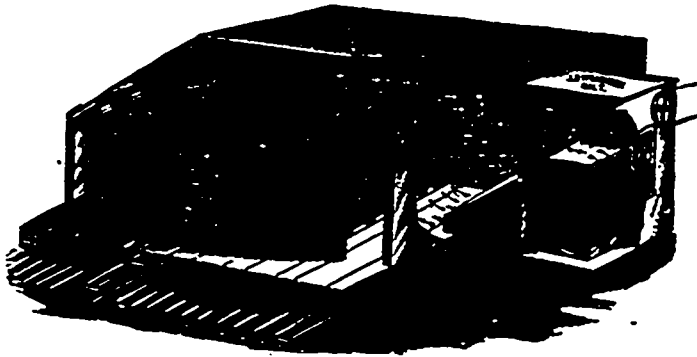
Messrs. Wood Bros. are building a new flour mill at St. George, Ont.

The Carborundum Company, Niagara Falls, N.Y., have decided to begin work at once on their plant on the Canadian side of the river. The Canadian patents on the article call for a certain quantity of its production in Canada before June 1, 1897.

The Jenckes Machine Company, Sherbrooke, Que., has been awarded the contract for the machinery, an eighty h. p. boiler, thirty-five h. p. engine, the pipe fittings, etc., for the Moyser & Blue brewery in British Columbia.

McEachren's System of Drying, Heating and Ventilating

Under Recent Patents.



In construction an 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.

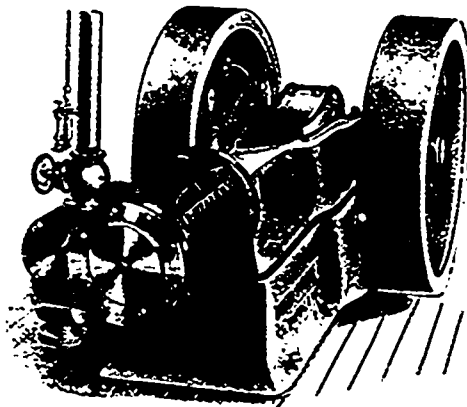
BLAST HEATING SYSTEM FOR LARGE BUILDINGS

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 FORGE CO.



AUTOMATIC CUT-OFF ENGINE

Horizontal and Upright Types, for Electric Light and Power Purposes.

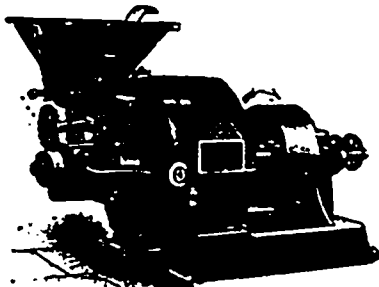
DIRECT CONNECTED AND BELTED

1896 Sectional Catalogue furnishes full details.

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

BRANCHES:

NEW YORK, CHICAGO, PHILADELPHIA, LONDON
PARIS AND ST. PETERSBURG



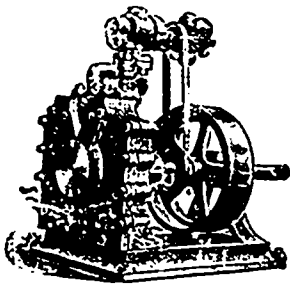
ROCK EMERY MILLS
CRUSHERS AND MILLSTONES.

FRENCH BUHR AND ESOPUS STONES. Send for Circular. STURTEVANT MILL CO.
BOSTON, MASS.

A. C. NEFF
 CHARTERED ACCOUNTANT
 AUDITOR, ASSIGNEE, ETC.
 28 Wellington St. E., Toronto
 Audits and Investigations a Specialty.

The Dake Engine

For Running Dynamos in



Small Isolated Plants.

CONTRACTORS' HOISTS

STEADY AND EVEN MOTION,

ALSO FOR

Attachment Direct to Fans, Blowers, Centrifugal Pumps, Stokers, Steering Gear, Etc.

Correspondence Solicited.

Phelps Machine Co'y,
EASTMAN, P.Q.

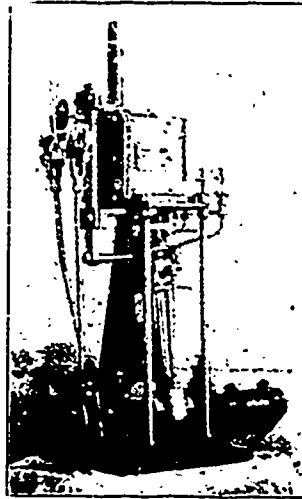
BOILERS

You Want Them
We Make Them

WRITE FOR PRICES

BANNERMAN & FINDLATER,
Boiler Makers, OTTAWA, ONT.

ALBERT BELL DUNNVILLE, ONT.



Maker of

YACHT ENGINES, 1 H.P. to 50 H.P.
Safety Water Tube BOILERS
PROPELLER WHEELS
Stationary Engines and Boilers

WRITE FOR CIRCULARS

Kemp Mfg. Co. TORONTO.

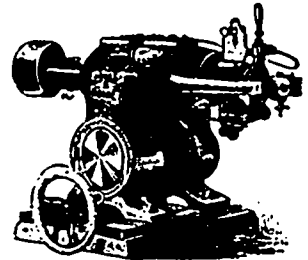
Galvanized Steel Pails

FOR FIRE PURPOSES ONLY.

NO HOOPS TO FALL OFF.

PRICES ON APPLICATION.

ELECTRIC BARGAINS



Two Incandescent and one Arc Dynamo, in perfect condition, for sale at a sacrifice.

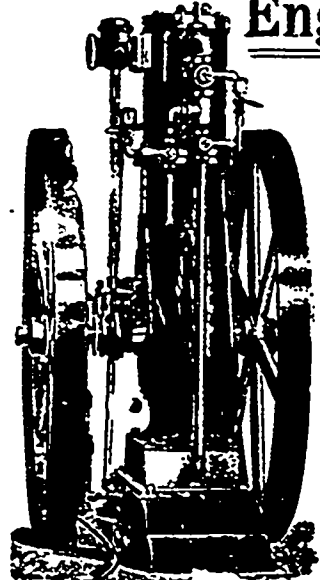
We also Manufacture a complete line of

**MOTORS,
DYNAMOS
and PLATERS.**

WRITE FOR PRICES.

THE JONES & MOORE ELECTRIC CO.
22 Adelaide Street West
TORONTO.

THE ELECTRICAL GAS OR GASOLINE... Engine



WRITE FOR PRICES AND TESTIMONIALS

J. R. BAIRD

WOODSTOCK, ONTARIO

F. W. HORE'S SONS

HAMILTON, ONT.

Manufacturers of . . .

WHEELS. Wheel Materials. Shafts. etc



For IRON FENCING, BANK and OFFICE RAILINGS and all kinds of IRONWORK

Address..

Toronto Fence & Ornamental Iron Works
73 Adelaide St. West, Toronto.

WASHERS

Rhode Island Horse Shoes

Cut Nails

Bar Iron and Steel

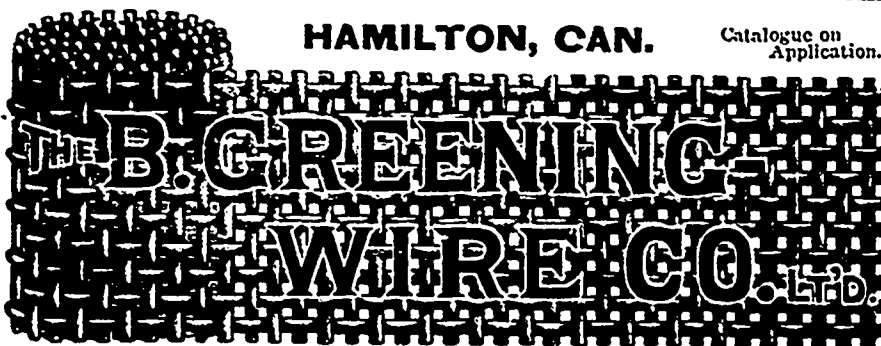
Railway Spikes

Pressed Spikes

ABBOTT & CO., - MONTREAL

HAMILTON, CAN.

Catalogue on Application.



We have received from Messrs. E. Leonard and Sons, London, Ont., their now illustrated catalogue of engines, boilers etc., one illustration of special interest is that of a pulp digester being one of three made for the Masterman Pulp and Paper Co., Chatham, N.B. They are nine feet in diameter, thirty-one feet eight inches long and weighed 41,000 pounds each.

The latest colors introduced by Wm. J. Matheson & Co., 178 Front St., New York, agents for Leopold Cassella & Co., are several handsome shades of anthracine acid brown G on woollen yarn, and diamine catechine G and B.

Our readers who take an interest in the progress of our country and her enterprise will be pleased to note the purport of the

following telegram from Rossland, B. C., which refers to the large air compressor which was last summer manufactured for the Le Roi mine by the Canadian Rand Drill Co., Sherbrooke, Que., and which is, we learn, the largest air compressor ever manufactured in the Dominion of Canada. The telegram says:—Rossland, B. C., Feb. 28, 1897. To the Canadian Rand Drill Co., Sherbrooke, Que. Compressor started up perfectly. Accept my sincere congratulations for such a magnificent machine. William E. Hall, Sup. Le Roi Mine.

Moncton, N.B., proposes to build a new school building to cost \$40,000.

Wm. McLellan's steam lumber and shingle mill at Magnetawan, Ont., was destroyed by fire March 18th. Loss about \$2,000.

The Ontario Radiator Manufacturing Company, the incorporation of which was noted in THE CANADIAN MANUFACTURER recently, have secured large premises in Toronto, and will manufacture a radiator the invention of Mr. J. T. Jackson, Toronto, and Mr. S. Jackson, St. Catharines, Ont.

W. S. Norman, of Rossland, and William Archer, of New York, are at the Driard, their visit to Victoria being in connection with the private bill that is being asked by the British Columbia Light and Power Company, to supply electric power to the towns of Trail and Rossland. The syndicate to which these gentlemen belong have already spent \$100,000 in putting in turbine wheels, cribwork and flumes in connection with placer mining on the Pend d'Orcille river, not far from Waneta, and already have 3,000 horse

**BREWERS
COPPER
WORK**

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

—THE—
BOOTH COPPER CO.
LIMITED,
TORONTO, ONT.

Established 1854.

**VALVES AND
PIPE . . .
FITTINGS**

WRITE FOR LATEST PRICES

**RICE LEWIS
& SON, Ltd.**

Corner King and Victoria
Streets

TORONTO

ALGOMA IRON WORKS

SAULT STE. MARIE, ONT.

**Engineers
Founders**

AND

Machinists

PULP AND PAPER MILL

AND

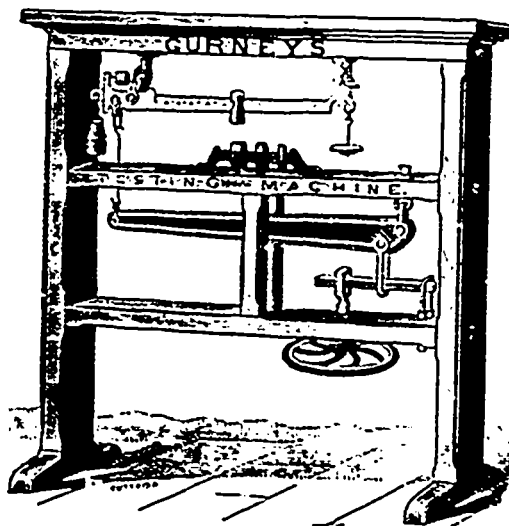
MINING MACHINERY

DESIGNED, CONSTRUCTED and
REPAIRED

FOUNDRYMAN'S TESTING MACHINE

A Durable and Effective
Machine for the Use of Foundry-
men in Testing the Strength
of Best Iron, and
ascertaining the Best Mixture
of Iron for any work,
thus showing positively which is
the Best Iron for the Re-
quirements.
Can be done in a few minutes.

...
SUBSTANTIALLY CONSTRUCTED.
HIGHEST CLASS OF
WORKMANSHIP.
CAPACITY, 5,000 POUNDS.
...



Manufactured by... **THE GURNEY SCALE CO., Hamilton, Ont.**

**Canada Chemical
Manufacturing Co.**

Manufacturers of

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

LONDON
ONT.

power at their command. They wish to incorporate with a capital of \$1,000,000, to string wires and increase their water power to carry 1,500 electric horse power over seventeen miles of line to Rossland and Trail. "As soon as we can get our bill through," said Mr. Norman, "we will have contracts to supply the War Eagle, Le Roi, Josie, and in fact, the leading mines in Rossland, with power, and expect that before long we shall have to increase our power to keep up with the demand. We have all the necessary capital to go right ahead, and mean business from the start."—Victoria (B.C.) Colonist.

A BIG COMPRESSOR PLANT.

A telegram from Rossland, B.C., says:—Promptly at 2 o'clock to-day, Mrs. Hall, wife of Superintendent Hall, of the Le Roi mine, turned the steam valve on the new 40 drill compressor, lately built by the Canadian Rand Drill Co., and broke a bottle of Mumm's extra dry on the fly-wheel, christening the magnificent

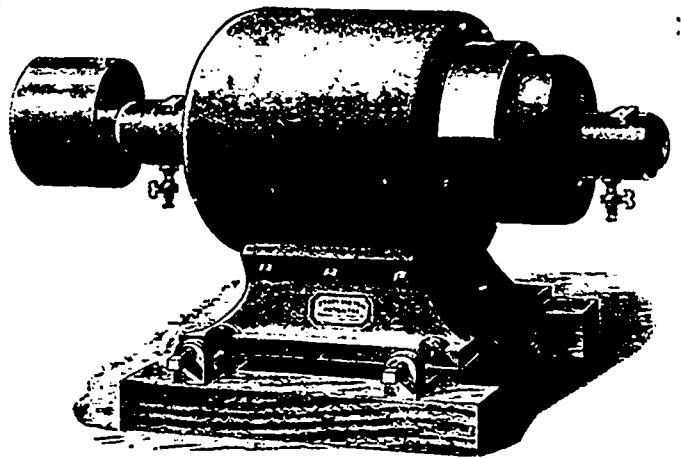
engine the "Senator," in honor of George Turner, the general manager of the company. The immense machine quickly responded to the steam and worked beautifully in each and every detail.

The compressor is a beautiful piece of mechanism and has the distinction of being one of the three immense machines in operation in the north-west. It is a cross compound condensing Corliss air compressor, of 450 indicated horse power, of Rand make, fitted with the latest type of mechanical air valves, automatic governors, etc., and will be utilized for running all the pumps and hoists and operating 40 drills at the mine.

The event was the occasion of considerable speech-making, John M. Burke, Ross Thompson, Ed. Saunders and Captain Hall all spoke in a happy strain, Mr. Burke saying that "the operation of such a large and magnificent piece of machinery in so young a camp stamps Trail Creek as one of the greatest mining camps anywhere."

This has been a field day for the Le Roi Company, as the new gravity tramway between the mine and the Red Mountain Railway was put in operation this afternoon and worked like a charm.

THE Storey Motor and Dynamo

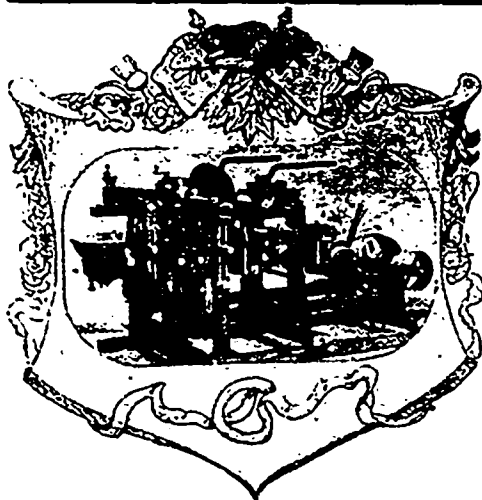


MANUFACTURED BY

THE STOREY MOTOR AND TOOL CO.

John St. North, Hamilton, Can., and Philadelphia.

Send for Catalogue.



Wood or Iron-Working Machinery, Engines, Boilers, Motors, Shafting, Etc.

The Toronto Machinery Supply Co., 164 King St. W.

FACTORY BRUSHES



All kinds of MACHINE BRUSHES Made and Blocks Re-filled.

Highest Quality and Best Workmanship Guaranteed.

... CLOSEST POSSIBLE PRICES....

CHARLES BOECKH & SONS, Manufacturers, 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

FERGUSON & PATTINSON

PRESTON, - - ONTARIO.

MANUFACTURERS OF

FINE AND MEDIUM TWEEDS

The name of the Drummond-McCall Pipe Foundry Company, Montreal, has been changed to The Montreal Pipe Foundry Co. The capital stock has also been increased to \$150,000.

The two firms of Messrs. Clark & McFarlane, and Schurman, Lefurgey & Co., Summerside, P.E.I., have been amalgamated under the name and style of the Summerside Manufacturing and Lumber Company.

The Royal Electric Company, Montreal, have recently furnished an electric switch-board for the Sherbrooke Gas and Water Company, Sherbrooke, Que.

Messrs. Raney, Reid & Selby, machinists, Kingston, Ont., have dissolved. Frank Raney and Chas. Selby continue under style Raney, Selby & Co.

Mr. Charles Raymond, of Guelph, Ont., has sold out his interest in the Raymond Manufacturing Company, Guelph, Ont., manufacturers of the Raymond sewing machine, to Mr. C. Kloefer.

The Preston Furniture Company, Preston, Ont., a few days ago made another shipment of furniture to Liverpool, England.

THE ELECTRIC PLANT OF THE AUBURN POWER COMPANY AT PETERBOROUGH, ONT.

Following is a description of the electric plant of the Auburn Power Company, at Peterborough, furnished by Mr. W. H. Meldrum, managing director of the company: The plant is of the three-phase type, for


power purposes only, and operates at 200 revolutions per minute, having a periodicity of sixty cycles per second, with a potential at full load of 2,000 volts.

The switch board consists of two standard white marble panels, twenty four by ninety in., and two in. thick, and contains the following instruments. Generator panel; three 150 ampere single pole switches, one current indicator, one potential indicator, one station transformer, three fuse blocks, one exciter reostat, three lightning arrestors, one ground detector, one exciter switch double pole double throw, one current indicator for exciter, seventy-five amperes; the feeder panel: four seventy-five ampere triple pole single throw switches, twelve fuse blocks, two current indicators, 100 ampere capacity, with connections to cut in on any leg of any circuit.

HAHLO & LIEBREICH
 Machinery Merchants and Exporters
 BRADFORD, ENG.
 NEW & GOOD SECOND-HAND **WOOLLEN MACHINERY**
 SHAKE WILLEYS, TEAZERS, RAG PICKERS, GARNETTS, AUTOMATIC FEEDS, WASTE CLEANERS, CARDS, CONDENSERS, SELF-ACTING MULES, TWISTERS, LOOMS, HYDRO-EXTRACTORS, SHEARING MACHINES, Etc.
 GOOD Second-Hand COTTON and WORSTED MACHINERY
 BELTING, CARD-CLOTHING, PICKERS, PICKING BANDS, etc.

ST. LAWRENCE FOUNDRY CO.
 OF TORONTO.
ARCHITECTURAL IRON & STEELWORK
 ROOFS, BRIDGES, STAIRS, PORTALS, STAIRS, AREA LIGHTS
 MANUFACTURERS OF **FORGINGS & CASTINGS.**
 CAST IRON GAS WATER & SEWER PIPES
 SPIKES & BOLTS.
PATTERNS & MODELS.
 OF EVERY DESCRIPTION FOR BUILDERS, MACHINISTS & RAILWAYS.
 HEAVY CASTINGS A SPECIALTY.
 262 TO 278 FRONT ST. EAST. TORONTO.

Dominion Oil Cloth Co.,
 Manufacturers of....
OIL-CLOTHS OF EVERY DESCRIPTION
 Floor Oil-Cloth, Table Oil-Cloth, Carriage Oil-Cloth, Enamelled Oil-Cloth, Stair Oil-Cloth, etc, etc.
 Office and Works
 Cor. St. Catharine and Parthenais Sts., MONTREAL, Que.

SHUTTLES

 BOBBINS SPOOLS PICKER STICKS CLOTH ROLLS, Etc.
JOHN HOPE & CO., - - LACHUTE, QUE.

D. K. McLAREN
BELTING, CARD CLOTHING
 - - - **MILL SUPPLIES**
 COTTON AND WOOLEN SUPPLIES
 SHUTTLES, PICKERS, HEDDLES
 REEDS AND HARNESS
 Sole Agent for....
Messrs. Wilson & Ingham
 MIRFIELD, ENGLAND
 24 Victoria Square, - Montreal

Penman Manufacturing Co., Ltd.
 PARIS, ONTARIO.
 Manufacturers of
 HOSIERY, SHIRTS, DRAWERS, GLOVE LININGS AND YARNS
 Selling Agents: D. MORRICE, SONS & CO., Montreal and Toronto.

ROSAMOND WOOLEN COMPANY
 ALMONTE, ONT.
 FINE TWEEDS, CASSIMERES, AND FANCY WORSTED SUITINGS AND TROUSERINGS.

Guelph Woolen Mill Co., Ltd.
 GUELPH, ONTARIO
 Manufacturers of
 Underwear, Hosiery, Wheeling, Fingering and Worsteds Yarns
 EIDERDOWN FLANNEL, ETC.
 Selling Agents: Donald Fraser, Montreal E. H. Walsh & Co., Toronto.

AUBURN WOOLEN COMPANY
 PETERBOROUGH, ONT.
Manufacturers of Fancy Tweeds, Etc.
 Selling Agents, D. MORRICE, SONS & CO., Montreal and Toronto.

Hamilton Blast Furnace Co.

HAMILTON, - - ONTARIO

(Limited)

Manufacturers of

HIGH GRADE PIG IRON

THE . . . DOMINION WATER

SPECIAL FEATURES

- Economy in Use of Water, Great Power
- Equal Efficiency at any Gate-Opening
- Steadiness and Strength of Motion
- Sensitiveness to Change in Gate-Opening
- Ease for Regulation by Governor
- Strength and Durability
- Freedom from Trouble with Step
- Not Clogged by Ice
- Accessibility to all Parts

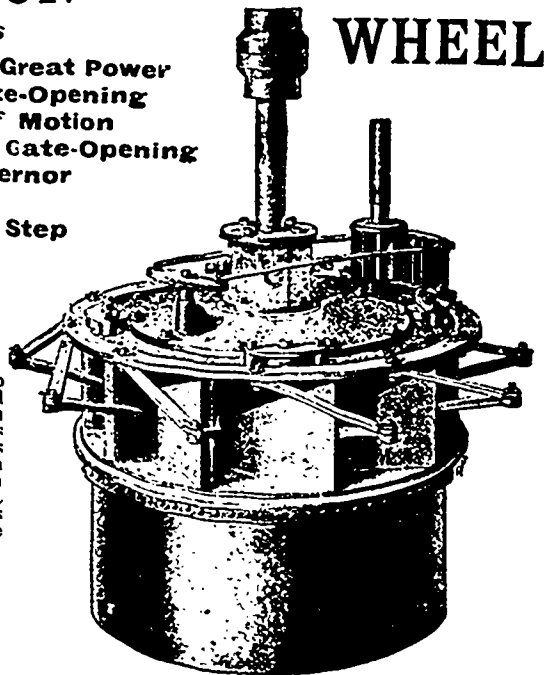
St. CATHARINES,
February 9, 1897

Messrs. Wm. & J. G. Greey,
Toronto.

GENTLEMEN,—Your favor of the 5th to hand. Have been away from home, and hence delay in answering your letter. You ask us how your Dominion Wheel compares with the Well, sir, the comparison is this—we have been using two 33 inch diameter, double wheels, and your 54 inch Dominion wheel we put in December last gives us as much power as both, and does not use but very little more water than one of the 33 inch wheels.

Yours truly,
COOKE & SON.

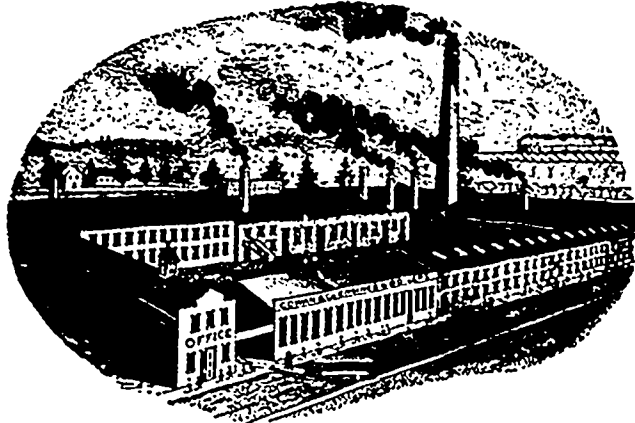
MANUFACTURED ONLY BY
WM. & J. G. GREEY
TORONTO



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 new. 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

TORONTO WAREHOUSE:

Toronto Machinery Supply Co., 164 King Street West

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.

WE BUILD

STEAM AND ELECTRIC . . . ELEVATORS

WRITE US FOR PRICES

MAGUIRE & DRYDEN

78 ESPLANADE WEST, TORONTO

SPECIALTIES.

Machinery Brushes for woollen and flour mills, jewellers, shoes, breweries, dairies, platers, foundries, and all machinery work; old rollers refilled.

Frank Wehrle & Co.,
Brush Manufacturers,
134 Bay Street, Toronto.

McLAUGHLIN BROS. TEASELS

Shanateles Falls
NEW YORK

BUSINESS ESTABLISHED IN 1832

JOHN HALLAM TORONTO

WHOLESALE DEALER IN

DOMESTIC and FOREIGN WOOLS

Sumac, Japonica, etc.

Cans, Solder

AND

CANNERS' SUPPLIES

WE have special facilities for manufacturing Solder in triangle bars, large bars and wire.

GET OUR PRICES BEFORE BUYING

THE NORTON MFG. CO. Hamilton, Ont.

A. H. TURNER & CO.

Accountants and Auditors

28 Wellington St. E., TORONTO.

BOOKS WRITTEN UP.

STOPPING LEAKS A SPECIALTY.

SMITH WOOL-STOCK CO.

219 FRONT ST. EAST, TORONTO

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

All lines of Graded Woollen Rags. Carbonizing and Neutralizing. Buyers of Wool Pickings, All lines of Hard and Soft Waste,

Do You Require

RUBBER BELTING?

IF SO, BUY THE BRANDS
MADE BY

The CANADIAN RUBBER COMPANY of MONTREAL

CAPITAL, \$2,000,000

MANUFACTURERS OF

ALL KINDS OF RUBBER GOODS

Ontario Branch, Cor. FRONT and YONGE STS., TORONTO

J. H. WALKER, - - Manager.

The Thompson Electric Co.

HAMILTON, ONT.

"Enclosed Arc Lamps"

To burn 150 hours without Recarboning, for Series, Incandescent, Alternating and Power Circuits.

"Open Arc Lamps"

For all Circuits, Single and Double Carbon Lamps.

We are the only concern in Canada making a specialty of manufacturing all kinds of **Arc Lamps**.

WRITE US FOR PARTICULARS.

The Packard Electric Co., Ltd.

MAKERS OF

Lamps and Transformers

Sole Agents for SCHEEFFER RECORDING WATT METERS
ST. CATHARINES, ONT.

THOMAS PINK
PEMBROKE, ONT.

Pink Peaveys, Handles, Cant Hooks

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

The exciter is of the slow speed multipolar type, having a capacity of nine kilowatts, or double what is necessary to excite the present machine, this machine, together with switch board, being designed and connections arranged with a view of adding another generator of 500 h. p. capacity, to be driven by two water wheels to be erected on the south side of the power house. The voltage used is as low as is consistent with economy in the transmission of power for that distance. The first manufacturer to use this power is the Canadian General Electric Co., starting off with 150 h. p., with an option on another 150 h. p.

The machine and exciter are driven by two sixty-six in. "Boss" wheels, made by the Wm. Hamilton Manufacturing Co., of Peterborough. The shafting, crown wheels, pinions, with eye beams, breach trees, etc., were furnished by Messrs. Wm. & J. G. Greey, of Toronto, and the operating of the same reflects credit upon the manufacturers, there being some eighteen tons of iron, outside of the water wheels. The gear runs as smooth as a clock. The whole driving arrangement is carried on four steel girders, six by fourteen in., bolted to six solid concrete piers. The water wheels operate under a fifteen ft. head of water on the Auburn dam, and are tabled to 450 h. p., and are coupled together, the same shaft extending to the generator, which is twelve ft. in diameter and rests on a solid concrete bed. A large coupling bolts the armature of the generator to the shaft, making a thoroughly rigid direct-coupled plant. The power plant is all in shape, and the big generator weighs some eighteen tons. It is the intention to supply power to all classes of manufacturers in Peterborough, both alternating current for induction motors and direct current for small motors. The latter will be supplied from a central station 250 and 500 volts, reducing the liability of burnt armatures to a minimum.

The starting up of this electric plant says Mr. Meldrum, will mark a new era in the manufacturing industries of Peterborough, not only being a boon to present manufacturers but it should also be quite an inducement to intending manufacturers to locate here where they can get the advantages of cheap power, without the disadvantages of being located on the river, when manufacturers take units of fifty h. p. or over. The price is \$20 per h. p. per year, this being, it is claimed, much lower than is offered by any company in Canada to-day, the aim of the Auburn company in purchasing the plant and of the engineer in designing the same, being to get such results as would enable them to offer power at half the cost of steam and to utilize the large amount of power now running to waste down the river since the destruction of the flour mill by fire last May.

The use of motor power, it can also be remembered, instead of steam in operating machinery makes a large saving in insurance and in space occupied by motor as compared with boiler and engine, to say nothing of the advantage of having power always on tap by the simple throwing in of a switch.



AUTOMATIC SPOKE TURNING AND SQUARING MACHINE.

The patent 32 inch automatic spoke turning and squaring machine as described by the accompanying illustration is built in six sizes to turn spokes 32 inches, 38 inches, 42 inches, 48 inches, 52 inches and 58 inches. It is arranged for turning every variety of spokes, including common, Sarven-patent and sharp-edged.

These machines have a capacity for turning and squaring 2,500 spokes complete in ten hours, performing the work smooth so that little polishing is required.

The cutter heads are large in diameter, secured to the spindle by friction grip, no set screw points coming in contact to mar the spindle, each accurately balanced to run true without the slightest vibration.

The knives are flat shear cutting, their edges ground straight over; three knives attached to each head. The edges of knives used to form the throat or neck of spoke are shaped to suit the style of spoke desired. Two sets of throat knives for common and Sarven-patent spokes are furnished with each machine. The knives can be quickly ground and reset. A wooden straight-edge placed between the centers should be used, setting each knife so as to form a straight line.

A shield, hinged to the back end of frame, surrounds the heads, preventing any possible chance for the operator to become injured, and discharging dust and shavings at the back portion of machine.

The table is made in two parts, each planed and scraped to a perfect bearing. The one resting upon the frame slides upon angle ways provided with gibs, operated to and from the cutter heads by hand lever. Two adjusting screws, one at each end underneath the table, working against stops attached to frame, are used for regulating the diameter of spokes, thus one sized cam is used for turning several sized spokes of the same shape. The tables are coupled together at tail center end by a steel pin in one of the several holes which extend through both tables. As the cam revolves against the upright shoe attached to lower table, the upper table vibrates to and from the cutter-heads according to shape of cam which governs shape of spoke. By placing the pin connecting tables directly opposite tail center, the tread end of spoke will be turned round with a gradual change in shape to the throat, at which point the shape of cam and spoke agree. Placing the pin towards the right-hand end of table increases the oblong shape at tread end of spoke.

Sharp edge spokes are turned with a special attachment to turn both throat and tread ends alike, forming a straight line on sharp edge.

The tail block can be quickly adjusted to the desired distance from the head center for short or long turning; can be set in alignment with the head center or at either side, thus turning a spoke parallel or to any taper desired.

The squaring head advances and retreats from the spoke automatically, forming the square of spoke to agree with shape of cam, which is attached to spur center spindle. The squaring knives cover nine inches in length. A shield surrounds the head excepting a small space on working side.

The operation is simple, requiring no expensive help. Rived or sawed timber requires no hewing or other preparing, taken just as it comes, placed in the lathe, reduced to proper size and shape, finished complete at one and the same operation. In changing from one style of spoke to another requires but a moment's time to loosen two set screws and change the cams. These are inexpen-

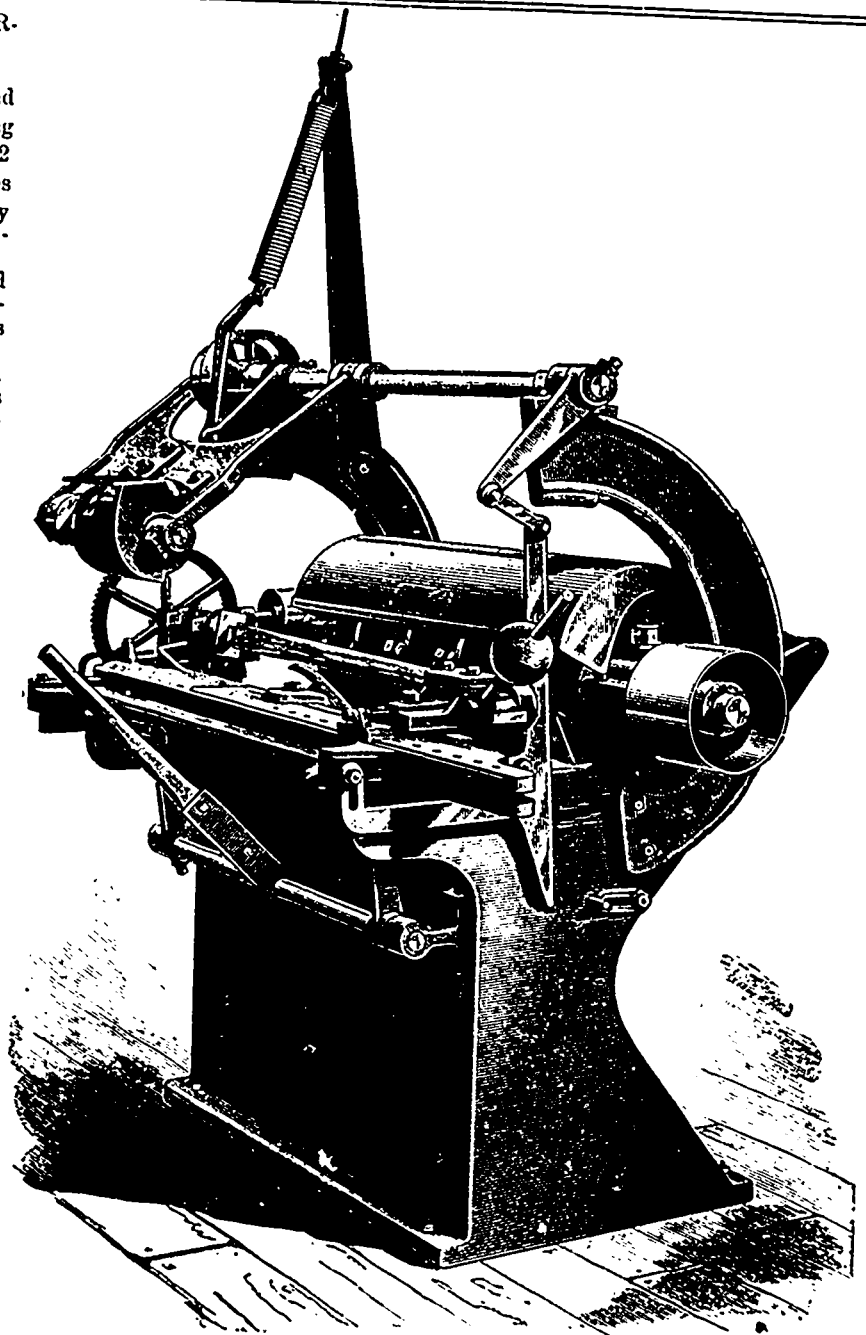
sive, made of cast iron, and can be shaped with a file to best suit the requirement.

Manufactured by the Defiance Machine Works, Defiance, Ohio, U.S.A., for whom Estate of T. T. Coleman, Seaforth, Ont., are general Canadian agents.

The Milton Wire and Roofing Company, Milton, Ontario, is being incorporated with a capital stock of \$40,000, to manufacture all sorts of metallic work, wire nails of all sizes, etc.

The Chatham (Ontario) City and Suburban Railway Company is applying for power to extend its line to Rondeau and thence to Blenheim and Charing Cross, and also to Wallaceburg and thence to Petrolia.

The South Essex Electric Railway Company is applying for an act to permit them to construct a railway from the city of Windsor, Ontario, to Sandwich, Ontario, and Amherstburg, Ontario, and to the village of Kingsville, Ontario.



A. McKinnon, of Portage la Prairie, Man., proposes building an oatmeal and barley mill on the Balkwell water power at Rapid City, Man.

The Lake of the Woods Powder Company, Toronto, is being incorporated with a capital stock of \$20,000, to manufacture dynamite and other explosives.

The Laidlaw-Watson Shoe Company of London, Ontario, has been incorporated with a capital stock of \$24,000.

The Hamburg Manufacturing Company, New Hamburg, Ontario, is being incorporated with a capital stock of \$45,000, to manufacture agricultural implements.

The Dominion Electric Heating and Supply Company, Ottawa, is being incorporated with a capital stock of \$100,000, to manufacture electric heaters, and other electrical appliances.

Wood Bros., St. George, Ont., will enlarge their flour mill the coming season. Goldie & McCulloch, Galt, have the contract for the new machinery.

FETHERSTONHAUGH & CO.

PATENT BARRISTERS AND SOLICITORS

ELECTRICAL AND MECHANICAL EXPERTS AND DRAUGHTSMEN

Head Office: Canadian Bank of Commerce Bldg, Toronto, Ont.

Patents Procured in Canada and all Foreign Countries.

Offices in Montreal, Que., Ottawa, Ont., and Washington, D.C.

THE Defiance Machine Works

DEFIANCE, OHIO, U. S. A.

Established 1850

INVENTORS AND BUILDERS OF UP-TO-DATE NINETEENTH CENTURY

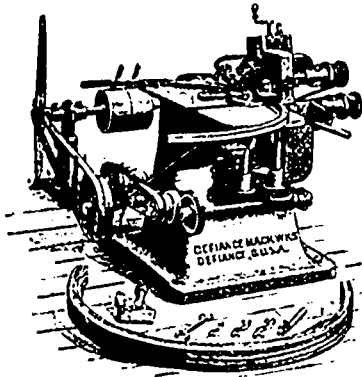
AUTOMATIC Wood-Working Machinery

For Making

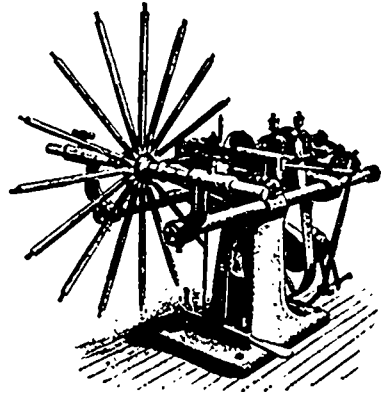
WAGON AND CARRIAGE WHEELS, HUBS, SPOKES, RIMS, FELLOES, SHAFTS, POLES, NECK-YOKES, SINGLE-TREES, BARREL HOOPS, Etc., Etc.

Send for 300-Page Catalogue—FREE
GENERAL CANADIAN AGENTS

ESTATE OF T. T. COLEMAN
SEAFORTH, ONTARIO, CANADA



RIM PLANING MACHINE



WHEEL TENONING MACHINE

London Electric Motor Co., Ltd.

LONDON, - - ONTARIO

MANUFACTURERS OF

ELECTRIC MOTORS, LIGHTING DYNAMOS, POWER GENERATORS

DEALERS IN ELECTRIC SUPPLIES.

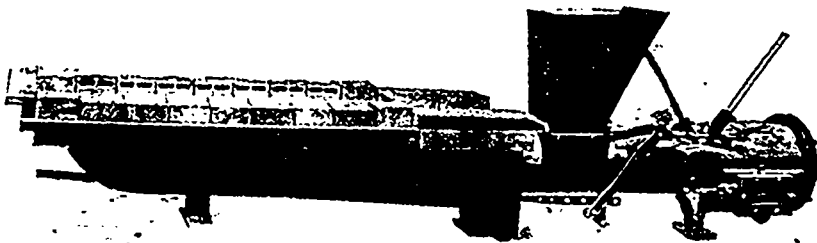
REPAIRS OF ALL KINDS, AND ANY SYSTEM, ON SHORT NOTICE

Contractors for Street Railways, Electric Light and Power Plants, and Power Transmission. Estimates Given

THE WEEKS-ELDRED CO. OF TORONTO, LIMITED

Mechanical, Civil and Sanitary Engineers

GENERAL CONTRACTORS. STEAM POWER, HEATING and VENTILATING. Sewage Disposal Plants a Specialty



Sole Canadian Manufacturers of the

Improved Jones Under-feed Mechanical Stoker

Perfect Combustion. No Smoke. No Ash.

Offices..

BOARD OF TRADE BUILDING, - - TORONTO, ONT.

Send for Illustrated Catalogue

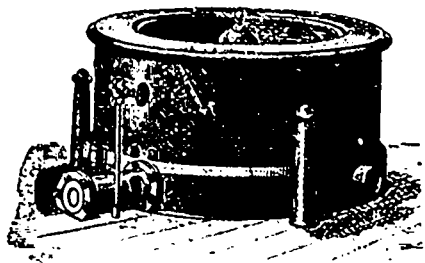


ELEVATORS

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

ELECTRIC HYDRAULIC
STEAM & HAND-POWER
PASSENGER & GOODS
ELEVATORS. DUMB WAITERS

Broadbent's Hydro-Extractors



Adapted for
MANUFACTORIES, DYE HOUSES,
LAUNDRIES, CHEMICAL WORKS, SUGAR
REFINERIES, etc., etc.

THOMAS BROADBENT & SONS, Ltd.

HUDDERSFIELD, ENG.

Telegrams: "BROADBENT, HUDDERSFIELD."

Agents for Canada

SHAW BROTHERS, 164 MCGILL ST., MONTREAL

ALEX. GARTSHORE,
PRESIDENT.

J. G. ALLAN
SECY & TREAS.

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

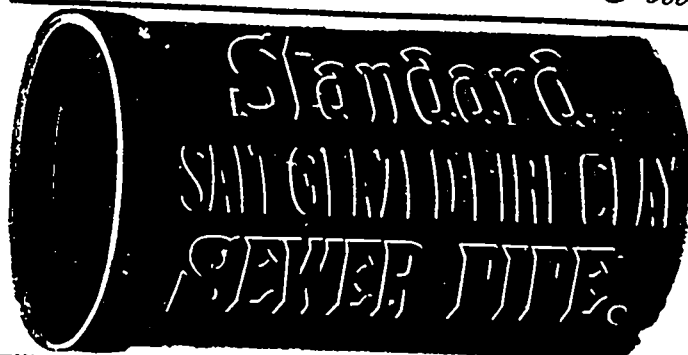
ESTABLISHED 1870

INCORPORATED 1896

GARTSHORE & THOMSON PIPE & FOUNDRY CO. LTD.

MANUFACTURERS OF
SPECIAL CASTINGS AND ALL KINDS OF WATER WORKS SUPPLIES.
CAST IRON, WATER, GAS, CULVERT & SEWER PIPE

Hamilton, Ont



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.

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

REGISTERED..... BRAND

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.

ECO MAGNETO Watchman's

Without Batteries

ELECTRIC CLOCK

Write for descriptive circular to

Eco Magneto Clock Co.

Room 71, 620 Atlantic Avenue, BOSTON, MASS.

MONTREAL ELECTRIC CO., Agents for Province of Quebec
302 St. James Street

John Starr, Son & Co., (Ltd.), HALIFAX, N.S.

Agents for the Maritime Provinces.

THE LONDONDERRY IRON CO., Ltd.

A. T. PATERSON,
President and Managing Director.

R. L. MILDRETH,
Secretary.

.... Manufacturers of.....

PIG IRON **PUDDLED 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: *Canada Life Insurance Bldg., Montreal.*

The NOVA SCOTIA STEEL COMPANY, Ltd.

MANUFACTURERS OF

BRIGHT COMPRESSED STEEL SHAFTING

FROM $\frac{3}{8}$ TO 6 INCHES IN DIAMETER. GUARANTEED STRAIGHT AND TRUE TO WITHIN $\frac{1}{32}$ OF AN INCH.

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

RAILWAY AND ELECTRIC RAILWAY CAR AXLES
FISH PLATES, SPIKES AND TRACK BOLTS

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

HEAVY FORGINGS a Specialty

"FERRONA" PIG IRON, For Foundry Use.

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

Head Office—NEW GLASGOW, NOVA SCOTIA

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, Skilful Manufacture, Sharpness, Dura-
bility, and Uniformity of Grain.

Manufacturers....

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

Inquiries should be addressed to

JOHN FORMAN, 650 CRAIG ST.,
MONTREAL.

BICYCLE CHAINS

—MADE WITH—

HARD PINS AND HARD BLOCKS

Write for Samples and Prices

Manufactured by.....

McKINNON DASH AND HARDWARE CO.'Y
ST. CATHARINES, ONT.

The United Alkali Company, Ltd., of England



CAUSTIC SODA, 60°, 70°, 74°, 76°, 77°.
SAL. SODA.

SODA ASH, all strengths.
PURE ALKALI, 58°.

WILSON, PATERSON & CO., MONTREAL, SOLE AGENTS.

Importers of . . .
SULPHATE OF ALUMINA
HYPO SULPHITE OF SODA
BICHROMATE OF SODA

SILICATE OF SODA
CAUSTIC POTASH
CRYSTAL CARBONATE

BORAX
COCOANUT OIL
PALM OIL

CASTOR OIL
COTTON SEED OIL
ROSIN OIL

ROSIN

ALL CHEMICALS USED BY
SOAP, PAPER, WOOLEN, AND COTTON MANUFACTURERS

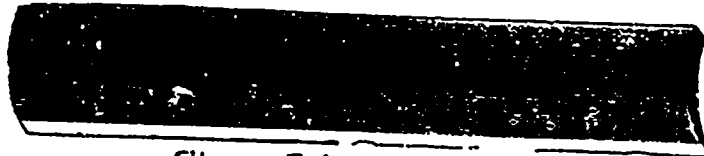
New York Office
133, 135, 137 FRONT ST.

Galt Machine Knife Works



Stave Cutter Knives

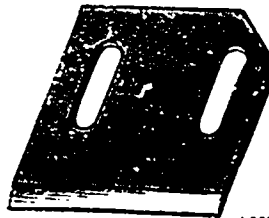
PLANING . . .
MACHINE . . .
KNIVES . . .



Stave Jointer Knives



Moulding,
Tenoning,
Mitreing

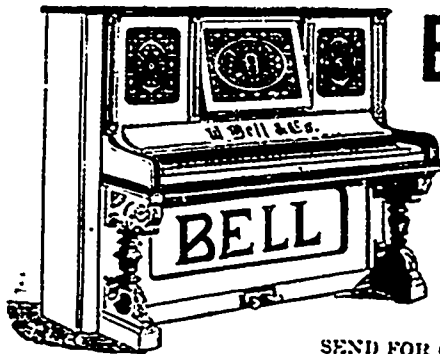


SHINGLE . . .
JOINTER . . .

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.



BELL -
HIGH-CLASS
INSTRUMENTS

Used and
Recommended by
Leading . . .
. . . Musicians

SEND FOR CATALOGUE.

THE BELL ORGAN AND PIANO CO., Ltd.
GUELPH, . . . ONTARIO

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.

FIRSTBROOK BROS.

Dovetail and Packing Boxes

Top-Pins, Side Blocks and Cross Arms. Wood
Printers, Etc.
Cigar Boxes. Shipping Cases
TORONTO, . . . ONTARIO

Write for Prices.

THE PARIS ELECTRO-PLATING CO.

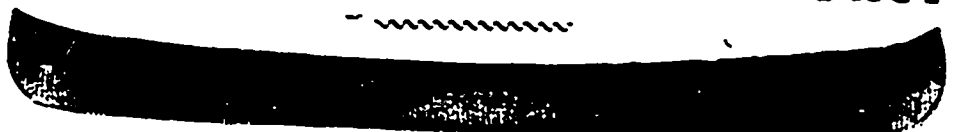
Manufacturers of

Stove Trimmings, Organ and Piano
Trimmings, also all kinds of
Brass and Nickel Plating Done

Paris Station, - - Ontario

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.

The Goldie & McCulloch Co., (Limited)

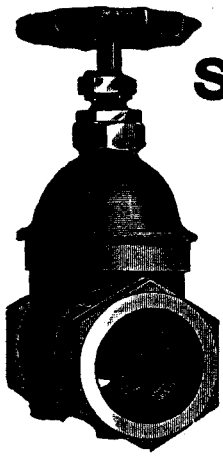
GALT, - - ONTARIO

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



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

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.**

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. P. SAVERY & CO.,
Huddersfield, Bradford, England.

Also....
ALONZO KNOPS, Aachen, Germany.
I. CUPPER SOHN, Birtchid, German

.....WHOLESALE TRADE ONLY SUPPLIED.....

WOOL

A. T. PATERSON & CO.

MERCHANTS

35 FRANCOIS XAVIER ST., - MONTREAL



Represented by MR. DAVID GUTHRIE

The Canadian Colored Cotton Mills Co.

1897 ——— SPRING ——— 1897

COTTONADES, TICKINGS, DENIMS, AWNINGS, SHIRT-
INGS, FLANNELETTES, GINGHAMS, ZEPHYRS, SKIRT-
INGS, DRESS GOODS, LAWNS, CRINKLES, COTTON
BLANKETS, ANGOLAS, YARNS, Etc.

Wholesale Trade Only Supplied

D. MORRICE, SONS & CO.

AGENTS

MONTREAL AND TORONTO

PLUMBAGO FOUNDRY FACINGS The **DOMINION FOUNDRY SUPPLY CO.**
FOUNDRY SUPPLIES 43 St. Sacrement Street, MONTREAL.

USE THE McCASKILL STANDARD VARNISHES

SATISFACTION GUARANTEED

Manufactured by.....
McCASKILL, DOUGALL & CO.
 Montreal, Que.

ALIZARINES
 -AND-
ANILINES
 FAST COLORS A SPECIALTY.
 Chemicals, Dyestuffs and Acids
 "LOGWOOD EXTRACTS."
**BELLHOUSE,
 DILLON & CO.**
 47 Wellington Street East, Toronto
 30 St. François Xavier Street, Montreal



**The Ontario
 Malleable Iron Co.**
 (Limited)
Manufacturers of....
MALLEABLE IRON Castings to Order for all kinds of
AGRICULTURAL IMPLEMENTS
AND....
Miscellaneous Purposes
 QSHAWA - - 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

 READY TO APPLY FINISHED JOINT
Greatest Strength with Least Material
 EASILY APPLIED and LOW IN PRICE
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—Asphaltums—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.
 6 to 18 MORSE STREET
 TORONTO

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

ENGINEERS, FOUNDERS, MACHINISTS
 BOILER MAKERS AND

MONTREAL BRANCH
 147 St. James St.
 Quebec Branch

Reeds—Mill Supplies
 Sheets and Pilot Stock in Montreal