

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.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Coloured covers/
Couverture de couleur | <input type="checkbox"/> Coloured pages/
Pages de couleur |
| <input type="checkbox"/> Covers damaged/
Couverture endommagée | <input type="checkbox"/> Pages damaged/
Pages endommagées |
| <input type="checkbox"/> Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée | <input type="checkbox"/> Pages restored and/or laminated/
Pages restaurées et/ou pelliculées |
| <input type="checkbox"/> Cover title missing/
Le titre de couverture manque | <input checked="" type="checkbox"/> Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées |
| <input type="checkbox"/> Coloured maps/
Cartes géographiques en couleur | <input type="checkbox"/> Pages detached/
Pages détachées |
| <input type="checkbox"/> Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire) | <input checked="" type="checkbox"/> Showthrough/
Transparence |
| <input type="checkbox"/> Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur | <input checked="" type="checkbox"/> Quality of print varies/
Qualité inégale de l'impression |
| <input checked="" type="checkbox"/> Bound with other material/
Relié avec d'autres documents | <input type="checkbox"/> Continuous pagination/
Pagination continue |
| <input checked="" type="checkbox"/> 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 | <input type="checkbox"/> Includes index(es)/
Comprend un (des) index |
| <input type="checkbox"/> 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 on header taken from: /
Le titre de l'en-tête provient: |
| <input type="checkbox"/> Additional comments: /
Commentaires supplémentaires: | <input type="checkbox"/> Title page of issue/
Page de titre de la livraison |
| | <input type="checkbox"/> Caption of issue/
Titre de départ de la livraison |
| | <input type="checkbox"/> Masthead/
Générique (périodiques) de la livraison |

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

10X	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

SAMUEL ROGERS, President.

TORONTO.

REFINED

HAMILTON, ONT. Manufacturer of Ceylon Plumbago Supplies also Extra Fine Quality Moulding Sand Pipe and Core Sand. WRITE FOR PRICES

REGISTERED PATENT. H. ASPELBER, ONT. SEND FOR CATALOGUE.

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

THE MOST COMPLETE JOURNAL OF THE PROGRESS OF THE MANUFACTURING INDUSTRY THAT MANUFACTURES FOR ITSELF PROSPERS

VOL. 41.

TORONTO, NOVEMBER 2, 1900.

No. 9.

MAGNOLIA METAL
 ANTI-FRICTION
 Used by all the Leading Governments

THE BEST ANTI-FRICTION METAL FOR ALL MACHINERY BEARINGS

For Sale by all Dealers Beware of Imitations.

MAGNOLIA METAL CO.



Owners and Solo Manufacturers.
 266-267 West St., New York.
 Montreal, Board of Trade Bldg.
 Chicago, 231 Dearborn St.
 London, 49 Queen Victoria St.
 Pittsburgh, 723 Liberty Ave.
 Boston, 191 High St.
 San Francisco, 32 First St.
 Philadelphia, Hale Bldg.

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

SANDERSON'S ...STEEL...

The Oldest and Most Reliable Brand on the market.

FULL STOCK Carried at Montreal of **SELF-HARDENING AND TEMPERING STEELS**

A. G. LESLIE & CO.,
 Canadian Agents, MONTREAL.

"Every Factory in Canada should use the best Belting." Our "EXTRA" brand.

THE J. C. McLAREN BELTING CO.

Factory : MONTREAL. TORONTO. VANCOUVER.

Fensom's

ELECTRIC HYDRAULIC STEAM HAND-POWER

All made of the best material and finest workmanship.

Elevators

The Fensom Elevator Works... 52 St. St. Toronto, Ont.

RUBBER GOODS OF ALL KINDS.



61 and 63 FRONT ST. WEST, TORONTO.

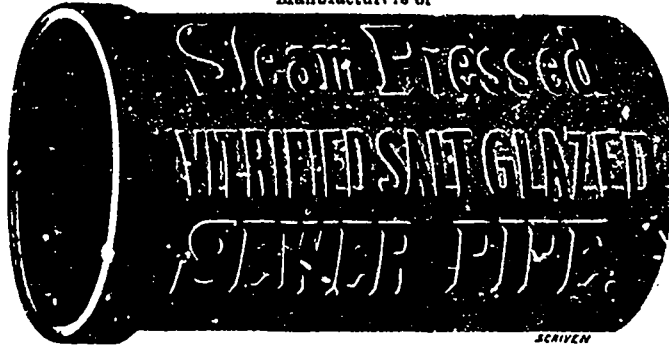
THE... **Walkerville Malleable Iron Co., (Limited)**

Manufacturers of **REFINED AIR FURNACE Malleable Castings**

ALSO LIGHT GREY IRON CASTINGS.
WALKERVILLE, ONTARIO.

THE CANADIAN SEWER PIPE CO.

Manufacturers of



ST. JOHNS
P.Q.

HAMILTON
ONT.

TORONTO
ONT.

ANILINES

St. Denis Dyestuff and Chemical Co.,

(A. POIRRIER), of Paris, France.

Manufacturers of

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

A Complete Assorted Stock of the above always on hand.

W. T. Benson & Co.,

Sole Agents for Canada.

164 St. James St., MONTREAL

PORTLAND CEMENT SAMSON BRAND MAGNET BRAND

Made at SHALLOW LAKE, ONT.

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

The OWEN SOUND PORTLAND CEMENT CO., Limited

Correspondence invited.

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

Works, SHALLOW LAKE, Ont.

Head Office, OWEN SOUND, Ont.

New Black for Cotton

Colonial Black

Double Strength. Unequaled for Depth of Shade.

Users of Black should investigate

Fastest Black on the Market.

F. E. ATTEAUX & CO.,

BOSTON, MASS., U.S.A.

CANADIAN BRANCHES:—63 Colborne Street, TORONTO.

13 Lemoine Street, MONTREAL.

CANADA CHEMICAL MANUFACTURING CO.

— MANUFACTURERS OF —

Sulphuric, Nitric, and 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 Powders
and General Chemicals, Fertilizers, etc.

LONDON, - ONTARIO.

HAMILTON COTTON CO.,

HAMILTON, ONTARIO.

Yarn Manufacturers, DYERS AND BLEACHERS.

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

Twines, Lampwicks, Webbing, Etc.

Dyeing of all Colors, including GENUINE FAST BLACK.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

CANADA IRON FURNACE CO., LIMITED

Montreal, Radnor and Three Rivers

Manufacturers of the well-known

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

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

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

Offices: Canada Life Insurance Bldg., Montreal.

MONTREAL PIPE FOUNDRY CO.,

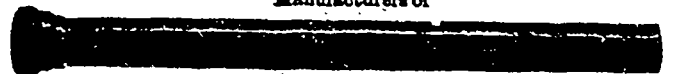
SUCCESSORS TO

(Limited)

DRUMMOND-McCALL PIPE FOUNDRY CO.

(Limited)

Manufacturers of



"Specials," Hydrants, Valves, Etc.

Offices: - - - Canada Life Building,
MONTREAL

THE sale of **55 New Wheelock and Ideal Steam Engines** in 8½ months this year is abundant evidence that the power users of Canada have great confidence in the efficiency of these engines. Add to this the sale of **64 Model Gas and Gasoline Engines** in the same period and you have a most convincing argument in favor of the popularity of these types of power. Send for Catalogue.

The Goldie & McCulloch Co., Limited, Galt, Ont.

WE ALSO MAKE GAS AND GASOLINE ENGINES, SCILERS, PUMPS, WATER WHEELS, FLOUR MILL MACHINERY, OATMEAL MILL MACHINERY, OATMEAL STEAM PAN KILNS, WOODWORKING MACHINERY, IRON PULLEYS, WOOD RIM SPLIT PULLEYS, SHAFITING, HANGERS, GEARING, FRICTION CLUTCH PULLEYS, Etc., Etc. SAFES, VAULTS and VAULT DOORS.

THE IMPERIAL OIL COMPANY, Limited.

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

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

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

Refineries at **SARNIA and PETROLIA, CANADA.**

Merchandising Branches at:

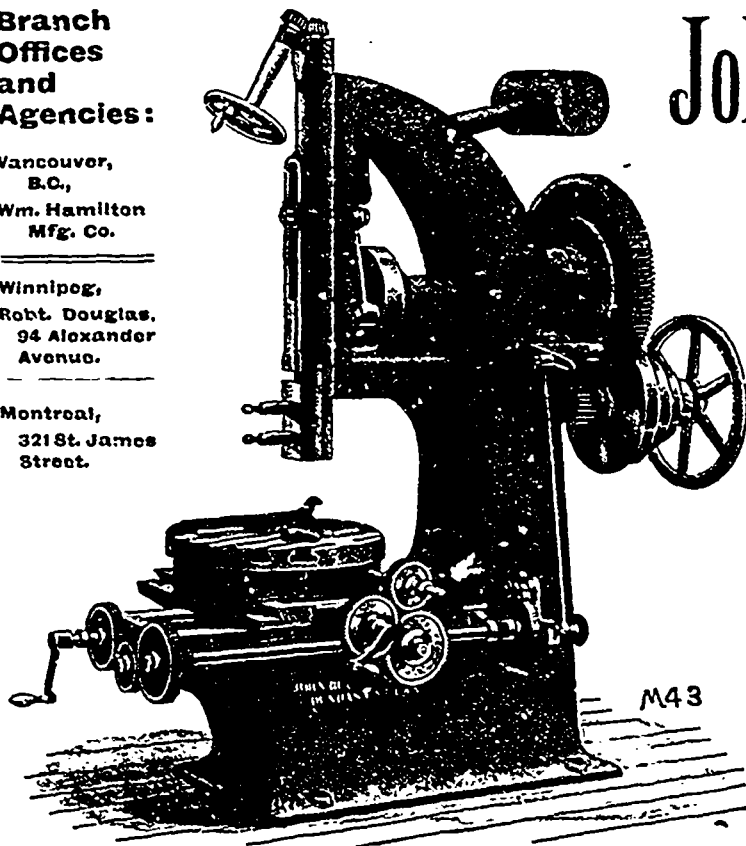
HALIFAX, N. S. HAMILTON, ONT. QUEBEC, QUE. LONDON, ONT. TORONTO, ONT. WINNIPEG, MAN. ST. JOHN, N. B. GUELPH, ONT. MONTREAL, QUE. CHATHAM, ONT. PETERBORO, ONT. VANCOUVER, B. C. MONCTON, N. B. STRATFORD, ONT. KINGSTON, ONT. WINDSOR, ONT.

Branch Offices and Agencies:

Vancouver, B.C.,
Wm. Hamilton Mfg. Co.

Winnipeg,
Robt Douglas,
94 Alexander Avenue.

Montreal,
321 St. James Street.



John Bertram & Sons

DUNDAS, ONTARIO.

— Canada Tool Works

MANUFACTURERS AND BUILDERS OF

METAL-WORKING

MACHINE TOOLS

—FOR—

Machine Shops,
Ship Yards, Boiler Shops,
Rolling Mills,
Locomotive and Car Shops,
Brass Shops.

PAPER MILL MACHINERY.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

THE NOVA SCOTIA STEEL CO., LIMITED

MANUFACTURERS OF

BRIGHT COMPRESSED STEEL SHAFTING

FROM 1 TO 5 INCHES IN DIAMETER. GUARANTEED STRAIGHT AND TRUE TO WITHIN $\frac{1}{16}$ OF AN INCH.

Spring, Reeled Machinery, Tiro, 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

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

HEAVY FORGINGS a SPECIALTY.

"FERRONA" PIG IRON, For Foundry Use.

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

Head Office—NEW GLASGOW, NOVA SCOTIA

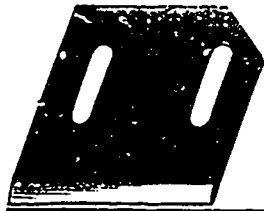
GALT Machine Knife Works

PETER HAY,



GALT, ONT.

Manufacturers of Every Description of.....



KNIVES,

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

BARK KNIVES
PULP KNIVES
RAQ KNIVES
Etc., Etc.



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



Quality Guaranteed.

Special Knives Made to Order.

Send for Price List

DOMINION BRIDGE CO., Limited,



MONTREAL AND
LACHINE LOCKS, P.Q.

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

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

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

ALWAYS ON HAND

IN LENGTHS TO THIRTY-FIVE FEET.

Post Office Address,
MONTREAL.

GEORGE E. EVANS, Agent, 38 Canada Life Building
TORONTO, ONT.

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

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

PURE ALKALI

48% and 58% (Light and Heavy)

BLEACH^g PWD.

35% to 37% (Hardwood Casks)

CAUSTIC SODA

60% to 77%



Winn & Holland,
MONTREAL,
Sole Agents for Canada.

SODA CRYSTALS

Lump and Crushed. Brls. and Bags.

CON^{CTD} SAL SODA

DOUBLE STRENGTH

BICARBONATE SODA

ABSOLUTELY PURE

Also for Mineral Water Manufacturers.

Wm. J. MATHESON & CO., LIMITED

NEW YORK

BOSTON

PHILADELPHIA

PROVIDENCE

CHARLOTTE, N.C.

MONTREAL, CANADA

DYE . . .

STUFFS

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

STEEL STEAM VESSELS OF EVERY DESCRIPTION.

STEAM YACHTS AND LAUNCHES.

GET OUR PRICES BEFORE ORDERING.

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



If your Dealer Does not Keep Them Send to Us.

CHEAPEST AND BEST
Bicycle Screw Plate

14 PAIRS DIES—22 TAPS

...A Complete Repair Shop in Itself...

BUTTERFIELD & CO.
Rock Island, P.Q.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

ALBERT MANUFACTURING CO.

MANUFACTURERS OF THE
WELL-KNOWN

"HAMMER BRAND"

Calcined Plaster

AND

Patent Rock Wall Plaster

HILLSBOROUGH, N. B.,
CANADA.

KEMP MFG. CO.

TORONTO.

Galvanizing

DONE FOR THE TRADE.

GET OUR PRICES.



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

Address:

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

BROWN & CO.

Manufacturers of

Square and Hexagon

HOT PRESSED NUTS.

PARIS, - ONT.



Send for Catalogue and Price
List to

THE JOHN MORROW MACHINE SCREW CO.
INGERSOLL, ONT.

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



WEBSTER FEED WATER HEATER AND PURIFIER

BEFORE PURCHASING ELSEWHERE
ENTERTAIN A BID FROM US.

Particular experience for ten years in this department of engineering,
and the fact that over **1,000 WEBSTER HEATERS** are in use, is
self-explanatory.

Satisfying particulars, embracing details of construction, materials, operation
and exclusive results, will be sent on application.

Darling Brothers,

RELIANCE WORKS, - MONTREAL

A. KLIPSTEIN & CO.

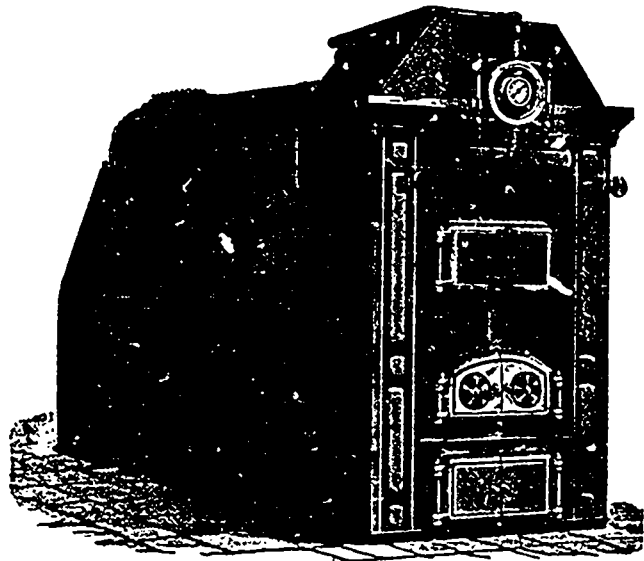
122 Pearl St.
New York

Anilines, Dyestuffs & Chemicals

DELIVERY MADE AT NEW YORK, MONTREAL OR HAMILTON.

WRIGHT & DALLYN, AGENTS,
HAMILTON, ONT.

A FUEL SAVER



This boiler is built with sheet steel case or for brick casing as desired.
It is internally fired, has perfect water circulation, is a quick steamer
and gives the highest economy.

Two settling chambers are provided for catching deposits of scale, and
every part is accessible for cleaning.

Robb Engineering Co. Limited,

AMHERST, N.S.

CANADIAN RUBBER CO.,

OF MONTREAL,

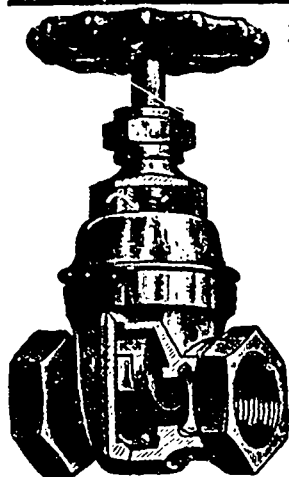
Manufacturers of High-Grade Rubber Goods
of all Descriptions.



BELTING, HOSE, PACKING,
VALVES, BOOTS, Etc., Etc.

Factories and Head Office, - - MONTREAL.
Ontario Branch, - - - - TORONTO.
Western Branch, - - - - WINNIPEG.

Orders Filled with Despatch from Head Office or Branch Warehouses.



It Pays to Buy Good Valves.

KERR'S

Globe and Webber Straightway

VALVES

ARE THE VALVES TO BUY.

Ask Your Dealer for Them.
Catalogue Sent on Application.

The Kerr Engine Co., Limited
WALKERVILLE, ONT.

The Wellington Mills, LONDON, ENG.

GENUINE EMERY

Oakey's Flexible Twilled Emery Cloth.
Oakey's Flint Paper and Glass Paper.
Oakey's Emery Paper, Black Lead, Etc.

Prize Medal and Highest Award Philadelphia, 1876, for Superiority
of Quality, Skilful Manufacture, Sharpness, Durability,
and Uniformity of Grain.

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

Inquiries should be addressed to
JOHN FORMAN, 650 CRAIG ST., MONTREAL.

Current
Completely
Registered

No
Current
Lost

Entire
Revenue
Secured

No Friction

ABSOLUTELY ACCURATE

From Less than 5 c.p. to Full Capacity. Guaranteed for Three Years.

METERS

MADE BY... **STANLEY INSTRUMENT CO.,** GREAT BARRINGTON, MASS., U.S.A.

FOR SALE IN CANADA EXCLUSIVELY BY

Air Tight

Moisture
Proof

Dust Proof

Insect
Proof

Magnetic
Suspension

No Wear

The Royal Electric Co'y

MONTREAL, QUE.

TORONTO, ONT.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Pumps

"FOR ALL DUTIES"

We invite enquiries from engineers in need of any description of Pumping Machinery. We manufacture over five hundred varieties and sizes of Steam and Power Pumps for stationary and marine purposes. We will be pleased to furnish plans and specifications for any special types. Our Catalogue, giving a good idea of our standard patterns, sent free to all enquirers.

Northey Gas and Gasoline Engines

To anyone requiring a compact, thoroughly reliable engine, especially suited for users of intermittent power, we recommend our Gas and Gasoline Engine. We shall be glad to furnish estimates for Gas or Gasoline operated pumps, electric light plants, etc., etc. Explanatory Booklet free on request.

Northey Mfg. Co., Limited, 1000 KING ST. SUBWAY, **Toronto, Ont.**

THE ATLANTIC REFINING CO.

TORONTO, ONTARIO

MANUFACTURERS
AND IMPORTERS
OF ILLUMINATING
AND LUBRICATING

OILS, GREASES

and SPECIALTIES

SEE THIS SPACE NEXT ISSUE.

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



Reflectors, Shades, Lamps

We Stock a Large Variety of SHADES
and REFLECTORS in

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

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

Write us about Lighting
your Factory or Office.

JOHN FORMAN, 708 and 710 Craig St., MONTREAL

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



ESTABLISHED IN 1880.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

SUBSCRIPTIONS:

CANADA AND UNITED STATES, - - - \$1.00 PER YEAR.
 ALL OTHER COUNTRIES IN POSTAL UNION, EIGHT SHILLINGS
 STERLING PER YEAR, INCLUDING POSTAGE.

The Canadian Manufacturer Publishing Co., Limited.

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

J. J. CASSIDY, - - - Editor and Manager.

FRANK B. WHITE COMPANY.

The Fisher Building, CHICAGO. 150 Nassau St., NEW YORK.
 Represent the Advertising Department of THE CANADIAN
 MANUFACTURER in the United States.

CONCILIATION THE POLICY.

None are so deaf as those who do not wish to hear. It might reasonably be supposed that after the adverse criticisms made against the management of the Toronto Fair about the time that institution was in full blast a few months ago, some attention would be paid to the complaints, an investigation of them made, and, where necessary, reforms effected. This would be the usual course in any other enterprise where hundreds of thousands of dollars had been invested, and where the management was in the hands of experienced business men. The complaints against the management of the Industrial were not new. More than a year ago the dissatisfaction had assumed such proportions that one body or class of exhibitors—the manufacturers of agricultural implements, notified the Industrial managers that unless certain changes and improvements were made, they would not again make their accustomed exhibits. The protest was made in a kindly spirit but in a determined manner, but unfortunately it was treated with contempt, and these Canadian manufacturers were told that if they declined to exhibit as usual, their places could and would be occupied by American manufacturers. We know the result. This is a specimen of the bad management of the Fair and the bad judgment of its officers. The complaints were general from all classes of manufacturers, and while some improvements were visible at the last Fair, the friction was not abated nor the popularity of it increased. The Toronto papers took up the matter and made strictures which should have received consideration; visitors from abroad noticed the conditions and wrote regarding them; the citizens of Toronto—the taxpayers who have contributed the necessary funds with which to establish and carry on the Fair, expressed their sentiments in exceedingly plain language, but all to no purpose. All these protests were as persistently ignored as if the makers of them were exceeding their privileges and were meddling with things which did not concern them. In fact, the Industrial Directors acknowledged no obligation whatever to hear complaints nor to make reforms. Their conceit and self-sufficiency was unbounded, as it had always been and is now. The taxpayers

had always put up the necessary money wherewith to carry on the Fair, and the Directors had always handled it. We are not inclined to withhold any praise due these gentlemen for the excellent Fairs they have presented year after year—they deserve all the kind words that can be said in this direction, but these successes have made them vain; they are fearfully afflicted with swell head, and as creatures they are, in their opinion, greater than the taxpayers who created them. A general desire now exists to have a Dominion Exhibition, and these Directors realize that money is necessary. In the early months of the year this desire took shape by the City Council deciding that a couple of hundred thousand dollars should be devoted to the erection of new buildings in the Fair Grounds and in making improvements incident thereto, and a by-law was passed to that effect, which, however, required ratification by the taxpayers, and a day was named when it should be voted upon. The necessary publicity given the matter evoked such a storm of protest from all classes in the community, as to force the Industrial Directors to request the City Council to withdraw the by-law, and it was withdrawn. It would not do to have the measure defeated. Without the money the buildings could not be erected, and without the buildings a Dominion Exhibition was an impossibility. In this dilemma it might naturally be supposed that the Industrial Directors would turn their attention to removing the causes of complaint and to conciliating the vexed taxpayers, but they did no such thing. At this juncture they secured the backing of the Canadian Manufacturers' Association, and that organization is now actively engaged in trying to induce the Toronto taxpayers to vote the hundred thousand dollars required for the new buildings, and to persuade the Dominion Government to give a like amount, the expectation being that the Ontario Government will do likewise. It might also naturally be supposed that the Manufacturers' Association, when espousing the cause of the Industrial, would do what the Industrial Directors had not done, endeavor to remove the causes of complaint and to conciliate the taxpayers, but it is not working along that line, at least not to any visible extent. Many nice speeches are made at luncheons and banquets, and delegations wait upon the Government, and that seems to be the extent of the efforts of the Association.

In addition to its other involvements, the Industrial Directors seem to have arrived at a misunderstanding with the Toronto Trades and Labor Council, an element which should be conciliated as an influential integer of the tax-paying community. There should never have been any friction in that direction, and when friction appeared efforts towards conciliation would have been more in order than antagonism or indifference. Why should there be any spirit of antagonism exhibited having reference to the Industrial? A house divided against itself cannot stand. But the Directors as well as the Manufacturers' Association, while realizing that the good-will of the taxpayers is absolutely essential to the realization of a Dominion Exhibition, ignore the fact that serious friction and dissatisfaction exists, and do absolutely nothing to remove it. It seems that the intimacy between the two organizations is of such a character as to make the backer blind to the faults of the principal. The Industrial Directors should recognize the fact that the Manufacturers' Association can only assist in extricating the

Exhibition from its difficulties, and the way to do it is by conciliating the taxpayers. Lop off the mouldering branches, infuse new blood and brains, and give the manufacturers as fair a show in the management as is accorded to the agricultural interests, else good-bye Toronto Fair.

WORKMEN'S COMPENSATION FOR INJURIES ACT.

There is not a manufacturer in Ontario who is not interested in the legislation recently enacted into law in this Province having reference to what is usually known as the Compensation for Injuries Act. At the time the matter was under discussion in the Legislature it was stated by the Premier that that Act was based upon the Act which had then passed the British Parliament, which would be followed as closely as circumstances would permit. It is therefore a matter of much interest to observe the working of the British Act in that country.

In a recent number of the London Lancet is an article by Dr. Albert Benthall, in which he criticizes the working of the Act; and it will not be disputed that medical men are well qualified to observe the operation of a law which rests upon estimates of bodily injury. Dr. Benthall, however, discusses the question on a wider ground as touching the rights of the citizen and the welfare of the country, and appeals to medical men to use their influence to obtain such alterations in the Act as will make it beneficial only, not hazardous and pernicious. He says the Act involves "a question of national importance which will influence the fortunes of the people for many years to come;" that it has been brought by the judges "to its present position of a veritable danger to the community for the reason that as it is impossible to obtain justice in the interpretation of it; employers are obliged to pay doubtful and suspicious claims rather than incur heavy law costs resulting in haphazard judgments," and that as to the bearing of it upon the class for whose benefit it was instituted "it puts a premium on malingering, and has a demoralizing effect upon large numbers of workmen." According to Dr. Benthall, it is in the construction that has been put by the courts regarding accidents with disease complications that the great danger lies. The difficulty of assessing damages in the cases of injuries that might be intensified by constitutional defects were anticipated in framing the Act, in that medical referees were provided for to assist the judges in determining the nature and extent of any alleged disability; but it is remarkable that in the adjudication of such cases, with singular unanimity medical aid has been dispensed with. Dr. Benthall points out that even good all-round graduates in medicine and surgery, who have had unexceptionable training and extensive experience, often find it necessary to call in specialists when difficult cases occur in practice. But the judges have, as the French say, taken their courage in both hands, and nothing in the medical or surgical way has hitherto come anis to them. They have rushed in where practitioners of recognized ability would walk diffidently, and have proceeded to deliver a succession of happy-go-lucky verdicts "upon medical questions the points of which they are quite unable to appreciate." The position will be more fully grasped after reading some short notices of cases which the judicial cobblers have not hesitated to pronounce judgment in, as collected and set forth by Dr. Benthall:

A workman in the course of his employment held a flatter for a hammerman to strike. The flatter turned and his hand was jarred. Two days afterwards gout appeared in the hand, and the medical attendant stated that the man had gouty diathesis, and had had several previous attacks of gout in this same hand. The Court of Appeal held that the employer was liable, Lord Justice Collins going out of his way to explain that under this Act employers were liable just in the same way as railway companies were, where negligence was proved—that is, they have to pay heavily for a slight injury to a weakly person when the same injury would not, perhaps, have affected a healthy one.

A bruise in the shin producing in a workman suffering from albuminuria, prolonged ulceration, was held to render the employer liable.

A workman engaged as a bricklayer alleged that by touching a broken incandescent electric-light he had sustained a shock that produced permanent disability. The hospital surgeons stated that they had not heard of any accident, but had treated the man for peripheral neuritis of alcoholic origin. The man was a typical chronic alcoholic, and it was explained by medical and electrical experts that 100-ampere current could not cause the disability. The county-court judge remarked, "Oh, but they kill people by electricity," and he could not be made to see the difference between 100-ampere current working at a pressure of under 100 volts and of a current at a voltage of 3,000. He was asked to feel the current of an identical lamp to the one in question, but he declined and awarded the workman £1 a week for life.

A workman suffering from cancer of the bladder, for which an operation had been performed, died after a further operation in the groin. Although cancer was the cause of death it was alleged that the man had accidentally wrenched his leg at a time between the two operations, and a "fatal" claim was made on the employer.

A workman with varicose veins of long standing in both legs had an accident producing a slight sprain of one ankle. When all objective signs of this sprain had disappeared he said he could not work as his veins were much worse. Although two medical men who had watched the case all through refuted this, and although the workman did not produce any medical evidence in support of his statement, the county-court judge awarded him half wages for life.

Employers have also been held to be liable in cases of phthisis where an alleged strain had been said to produce hemorrhage; in cases of diabetes when gangrene had appeared after a trivial injury, and in cases of old age when senile gangrene had appeared after a bruise of a foot. Numberless cases have also occurred where county-court judges have disregarded the medical evidence altogether, and have made awards in favor of workmen who were absolutely not in any way disabled.

Alluding to this matter The Textile Mercury says:

It should be borne in mind that these decisions not only saddle hapless employers with the consequences of disease, whether inherited or acquired, and of constitutional weakness, but that they load industry with the maintenance of men who have broken down their health through dissipation as well as drink—providing always, in the blessed legal phrase, that an accident is proved to the unskilled satisfaction of a judge. The chronic alcoholic can live an idle life for the remainder of his days as the result of an unverified electric shock, and we may take it that if he had been suffering from syphilis he would have been compensated just the same. A case of the latter kind occurred in a Lancashire mill last year, the employers being successfully victimized.

THE TORONTO INDUSTRIAL EXHIBITION ASSOCIATION.

On the occasion of the recent visit to Toronto of Sir Wilfrid Laurier, Premier of Canada, a deputation from the Canadian Manufacturers' Association, headed by the president,

waited upon Sir Wilfrid, advocating a government grant of \$100,000 in aid of the proposed Dominion Exhibition in 1901. The principal speakers were Messrs. P. W. Ellis and W. K. McNaught, other members of the Association also taking part in the appeal. Sir Wilfrid received the deputation with much cordiality, endorsed the idea of the exhibition and took the matter into his serious consideration. The arguments advanced were cogent and should produce the desired result provided the anticipations and hopes of the speakers and those whom they represented, particularly the Industrial Exhibition Association, regarding that feature of the proposed Exhibition looking to the construction of a number of new buildings for the housing of manufactures, the exhibition of machinery in motion, etc., could be realized. The Dominion Government have had this matter before them before, and it is well to keep it before them; and there should not be a shadow of doubt regarding a liberal appropriation being made whenever it can be shown that the necessary buildings in the Fair Grounds were in course of construction. If this could be assured, the Dominion grant would quickly be made. No wonder, then, that Sir Wilfrid, while endorsing the idea, should decline to commit the Government to a project the success of which depends primarily, upon the construction of these new buildings.

It appears that the Industrial Board depend very largely upon the assistance of the Canadian Manufacturers' Association in working up a sentiment that will result in the appropriation of the necessary funds, without which there would be no Dominion Exhibition next year, and the Association are doing much in that direction, but to our mind the exertions being put forth cannot be successful until the prejudices and objections which have been so forcibly advanced within the past year against the bad management of the Industrial have been removed. In the earlier part of this year the city council had been persuaded to formulate a by-law to be submitted to the voters, appropriating a large sum of money for the erection of the desired buildings in the Fair Grounds, but before the arrival of the day for voting thereon, so much opposition to the Fair management had been developed in the community that the Fair directors requested and obtained the withdrawal of it, and that is the situation at this time. At a complimentary luncheon tendered by the Fair managers when the Exhibition was in progress in September, to some of the officers of the Canadian Manufacturers' Association, one of the chief speakers, Mr. McNaught, who appeared in the dual capacity of a vice-president of the Industrial Association and a representative of the Manufacturers' Association, speaking of the entire unfitness of certain buildings on the Fair Grounds for the purposes for which they were erected, stated that if the Exhibition received \$150,000 or \$200,000 from the city they would have buildings that would be up-to-date, and the manufacturers would make the finest exhibit ever shown in Canada. He was positive that in no other way could the resources of the country be shown. Mr. P. W. Ellis, president of the Manufacturers' Association, said that the members of his Association, knew that the Exhibition, like any other business venture, must either go forward or backward—it could not stand still; that it must have assistance. He believed that the Dominion Government would supplement a grant made by the city, and the Exhibition should be fortified by the good-will and

tangible co operation of the taxpayers of Toronto. The inference from these remarks is that the Exhibition must have money and plenty of it, to be supplied by the city, and that it could not be obtained from that source without the good-will and tangible co operation of the taxpayers, and undoubtedly this is the correct view.

It is to be supposed, then, that this being the view of the Manufacturers' Association, the most active and persistent element engaged in assisting the Exhibition Association, it would have enquired into the causes for dissatisfaction with the management of the Exhibition, and, as its best friend, have counselled such changes as were absolutely necessary to gain the good-will and tangible co operation of the taxpayers. Speeches at free lunches and banquets do not generally attract much attention or carry much influence, and while no one doubts the expressions of good-will, and desire for success, on the part of the Manufacturers' Association, we have failed to observe that it or any of its officers have ever suggested that to obtain the good will and material assistance of Toronto, some radical reforms must be made in the Exhibition management. We hear of no suggestions from Mr. McNaught or Mr. Ellis to the effect that some very worthy industries are over represented, while others are inadequately represented. It was told Sir Wilfrid, at the interview alluded to, that the Manufacturers' Association represented wealth to the value of a hundred million dollars, and yet all these manufacturers and their wealth, are represented in the Industrial Association by only five members and two directors, while the Toronto District Electoral Society, whose only reason for existence as far as we know, is to make a display of flowers once a year to which an admission fee is charged, is represented by twelve members, five of whom are directors. The growing of chrysanthemums, while interesting to many, is not an important Canadian industry, and not to be compared with the hundred million dollars investment in manufacturing industries, yet we fail to notice that either Mr. McNaught, Mr. Ellis or the Manufacturers' Association have ever protested to the Exhibition directors against the ridiculous over representation of one industry or the under representation of the other. We fail to notice that Mr. McNaught, as chief representative of the Manufacturers' Association, has demanded of Mr. McNaught, as vice-president of the Industrial Exhibition, that the several important guilds of manufacturers of which he has knowledge, be represented, not only in the Association, but in the directorate also. Why is it that, considering the existing prejudice against the management of the Fair, the Manufacturers' Association, as the best friend of the Industrial, does not point out the inevitable collapse of it unless some changes are made in this direction? The Association, as representing the manufacturers of Canada, cannot afford to quietly acquiesce in the existing condition. Why not, as they should do, advise the Exhibition Board that, as Mr. Ellis pointed out, something should be done to allay the dissatisfaction existing in the community and make the taxpayers friends of the Exhibition by meeting their views as regards the management of it? Why not demand that if the manufacturers are to be conciliated and made friends of the Exhibition, they have adequate representation on the Industrial Board? It is evident that a majority of the Board are so conceited as to think that no improvements are

possible and no changes should be made; and it looks as if the Manufacturers' Association, some of them, entertain the same idea. The result of clinging to this idea will be that the taxpayers of Toronto will reject every by-law that may be presented looking to giving any money whatever to the Exhibition to be expended by men in whose management of it they have no confidence. Unless there is a radical change there will be no money voted by the people, and, therefore no money grant by the Dominion Government. As Sir John Thompson said on a certain occasion, the mouldering branches should be cut away. The Manufacturers' Association should insist upon the reform or else, in self respect, withdraw its support.

PREFERENTIAL RECIPROCITY.

A writer in the British and South African Export Gazette is indignant at the idea that Great Britain should endure the unfriendliness of other nations, while at the same time her commercial markets are thrown open to foe and friend alike, giving her enemies a greater freedom than they enjoy in their own markets; and his comments run as follows:

John Bull had a little general shop, away over the surging foam; and he stocked it well with a thousand wares from his wholesale stores at Home.

Then Hans and Jacques and the rest of them, observing that shop thrived well, cried: "Is there on earth a likelier place where our goods we can push and sell?"

And John, he being an easy man, allowed them to have their way, though there were not wanting those who said, that he'd live to rue that day.

Now the manager John had left in charge of that shop across the sea was false to his firm, and boasted loud "This place now belongs to me."

So John called his sons from his other shops, and went o'er the rolling main, to thrash the bold and rebellious one, and to get his own again.

Then Hans and Jacques and the rest of them, being jealous of John, you see, sent help to the traitor and smiled to think how harassed poor John would be.

At each knock-down of our sturdy friend, and as he touched Mother Earth, how Hans and Jacques and the rest of them, laughed long in their uncurbed mirth!

But John was never deterred by a fall, and once he had taken his stand, the "mill" went on to the final round when he got the upper hand.

Then Hans and Jacques and the rest of them looked glum at the big knock-out; but they thought: "John Bull is an easy man, he'll forgive us without doubt."

"We will cringe a while to his old-world pride, and he'll bow us in once more; then we'll undersell him and oust his goods, as we did the time before."

But the sons of John from the other shops, when they saw the way things stood, cried, "These have thwarted while we have helped, for are we not yours by blood?"

"So a preferential tariff, please, 'tween the family let there be," and although John Bull is an easy man, we shall see—what we shall see!

EDITORIAL NOTES.

Following is the agreement between manufacturers of, dealers in and agents, for farm implements, threshers, windmills, wagons, plows and carriages, adopted at a meeting held in Winnipeg, on May 19 last?—

We, the undersigned manufacturers, jobbers, dealers and agents, agree each with the other, and which agreement is to remain in force for a period of not less than five years, not to exhibit, nor allow to be exhibited, any of the implements,

threshers, windmills, plows, wagons, sleighs, cutters, carriages, or any implements used on a farm not herein specified, manufactured or sold by us, whether sold outright or sold on commission, at any fair held in the Provinces of Manitoba or North-West Territories; and the agents will be restricted to exhibit their goods in their warerooms or sample rooms only, and not on the street or market places. This agreement not to be binding unless signed by all manufacturers and jobbers, or their authorized and recognized representatives, now resident or operating the territory referred to herein.

The Chinese are a near approach to consistent protectionists. They object to foreign trade because they think the importation of goods from abroad deprives their own people of a chance to work. For the same reason they oppose the introduction of railways. Such innovations have had to make headway against the belief that they would throw a great number of carriers, messengers and porters out of work. On the same ground they object to the introduction of improved manufacturing machinery.—The Toronto Globe.

The population of China is said to be about four hundred million souls, and we do not want any of them in Canada. They constitute an element which will not, cannot assimilate with our people. Their civilization and methods of living seems to suit them, and if they are happier as they are than they would be by the introduction of the ideas of the balance of the world, why should they be disturbed by having railroads and things crammed down their throats. If the masses there, millions of them, would be deprived of their chance to work by the introduction of railroads, they would have either to find other employment or migrate. If they can find no other employment, and if they cannot migrate, in what respect would their condition be bettered by the introduction of railroads? If they are happier and better off without railroads than they would be with them, why force railroads upon them?

Protection has built up the industry of making pianofortes and organs for the home market and for export. In 1881, 270 hands were employed in and around Toronto under 'his policy. In 1900, 1,201 were employed. The new Liberals promise to destroy protection to Canadian Industry. Sir Wilfrid Laurier pronounces protection a curse, and declares that free trade is his goal. Sir Richard Cartwright announces that he will cut off protection by the head or by the tail—he cares not which. Do not permit the enemies of honest industry longer to threaten its future.—The Mail and Empire.

The new Liberals, according to our esteemed contemporary, promise to destroy protection to Canadian industry, and so does Hon. Hugh John Macdonald, who hopes to be Finance Minister in Sir Charles Tupper's Government. Sir Wilfrid Laurier pronounces protection a curse, according to the same authority, and so does Hon. Hugh John, who tells his constituents that if he is elected to represent them in the next Dominion Parliament, he will do all he can to eradicate protection to one of the most valuable of our industries. Free trade seems to be the goal of Hon. Hugh John also. Sir Richard Cartwright announces, so the Mail and Empire says, that he will cut off protection by the head or tail—he cares not which, and Hon. Hugh John promises the same thing.

The number of members in the United States House of Representatives is three hundred and fifty-seven, or one to every one hundred and seventy-four thousand of population. In Great Britain there is a member of parliament for each

fifty-seven thousand. Germany sends one representative for each one hundred thousand, Italy one for each fifty-seven thousand, and France one for each sixty-seven thousand. According to the recent censuses of the United States, each representative in Congress will stand for two hundred and ten thousand of the population, unless, as has been suggested, the number of representatives be increased to four hundred and thirty, which would allow one member for each one hundred and seventy four thousand, as at present. In Canada we have two hundred and thirteen members of Parliament, or one for about each twenty-five thousand of the population. In comparison with other countries Canada is very much over-governed. The number of our representatives might very advantageously be reduced by fifty per cent., both in the Federal and Provincial Houses.—Toronto World.

Respectfully dedicated to the Toronto Industrial Exhibition Association:—

We don't believe in kicking,
It is not apt to bring us peace,
But the wheel that squeaks the loudest
Is the one that gets the grease.

The following are the revised figures of exports to Great Britain of Canadian produce for the year ending June 30, 1900:—

Mines.....	\$193,686
Fisheries.....	4,071,136
Forest.....	15,055,411
Animals and their products.....	50,890,439
Agriculture.....	21,668,982
Manufacturers.....	5,534,198
Miscellaneous.....	38,864
Total.....	\$97,452,716

The total exports for the same period were:—

Mines.....	\$14,301,628
Fisheries.....	11,355,141
Forestry.....	30,340,759
Animals and their products.....	57,041,699
Agriculture.....	38,385,753
Manufacturers.....	14,925,232
Miscellaneous.....	665,304
Total.....	\$167,015,516

In a poem entitled "Opportunity," the late United States Senator Ingalls wrote:—

Master of human destinies am I!
Fame, love and fortune on my footsteps wait.
Cities and fields I walk; I penetrate
Deserts and seas remote, and, passing by
Hovel, and mart, and palace, soon or late
I knock, unbidden, once at every gate.
If sleeping, wake; if feasting, rise before
I turn away. 't is the hour of fate,
And they who follow me reach every state
Mortals desire, and conquer every foe
Save death; but those who doubt or hesitate,
Comdemned to failure, penury, and woe,
Seek me in vain, and uselessly implore.
I answer not, and I return no more.

The Mail and Empire keeps the following words prominently before its readers in every issue:—

One policy; one country; one Empire; one flag.

The one country sentiment is right, the one Empire sentiment is right, and the one flag sentiment is right, and in these the whole of Canada is agreed. But who are the truthful exponents of the "one policy" to which allusion is made. Is it Sir Charles Tupper who stands up for tariff protection, or Hon. Hugh John Macdonald, who declares that one of the most valuable industries of Canada shall be denuded of every vestige of protection if he is able to do the trick. Hugh John is willing to go back on his political friends if by so doing he can win a seat in the House of Commons.

A meeting of the Toronto Gardeners' and Florists' Association was held in this city a few days ago at which arrangements were made for the annual chrysanthemum show to be held next week. This is the latest graft upon the Toronto Industrial Exhibition Association, a part of which it became last year. It was allotted two members, one of which was forthwith placed upon the Board of Directors. We hear of no protests being made by either of the two directors representing the Canadian Manufacturers' Association against this stuffing process in the interests of the Toronto District Electoral Society.

The American Correspondence School of Textiles, New Bedford, Mass., of which C. P. Brooks is director, has sent us their 1900-1901 catalogue having reference to that institution, which is a textile school education by mail. Among the advantages offered by this school are: the student earns and learns at the same time; it is available wherever resident; the lessons are brought to the student at any address until the course is completed; position retained while obtaining education; fees small; instruction simple, etc. Industrial education is the important question, and no workman, foreman or manager can possibly be proficient in his occupation without it.

"South America as a Field for Enterprise," is a brochure sent us by The South American Journal of 9 New Broad Street, London, E.C. It contains many important facts about the trade resources and business opportunities in South and Central America and Mexico, with tables of moneys, weights and measures in those countries, postal guide, etc.

The Shirt and Collar Manufacturers' Association of Canada in convention in Montreal last week adopted the following resolution: "That the present Government having seen fit to take away from the shirt and collar manufacturers of Canada the protection they had in their several lines of manufacture, notwithstanding the protests of this association, of members of Parliament, and of the press of Canada, and having since refused to grant any measure of relief from the injustice inflicted upon the shirt and collar industry, which injustice affects about eight thousand working people and a vast amount of capital, we, the Shirt and Collar Manufacturers' Association of Canada, hereby put on record our unqualified condemnation of the action of the Government in connection with our respective manufactures, and declare that the Government of the day is unworthy of the support of this association and of its members."

THE CANADIAN MANUFACTURER

ESTABLISHED IN 1880.

Devoted to the Development of Canadian Trade,
Foreign and Domestic.

THE INTERNATIONAL BUREAU OF COMMERCE

.. OF CANADA ..

In connection with The Canadian Manufacturer, works to attain this end.

Any inquiry addressed to THE CANADIAN MANUFACTURER will result in placing the writer, if he so desires, in communication with Manufacturers, Buyers or Sellers of any sort of merchandise in Canada or any other country.

Merchants, Importers, Exporters, Boards of Trade, Chambers of Commerce and Commercial Organizations in any part of the world are invited to make full use of the facilities afforded by THE CANADIAN MANUFACTURER whenever they may desire information about any article produced in Canada, Tariff Law, Customs Regulations, Routes of Transportation, etc.

We especially request Canadian manufacturers to send us lists of the different lines of goods produced by them so that we may address to them special letters of inquiry as soon as information is received by us.

BELGIUM.

Pastry Baking Ovens. | Dairy Appliances.
Bread Molding Machines.

BRAZIL.

Cotton Goods. | Horse Leather.

CAPE TOWN.

Carriage and Wagon Woodwork. | Varnishes, Paints and Oils.
Carriage Hardware. | Axles and Springs.

CHILL.

Printing Paper. | Oil, Gas and Compressed Air Motors.
Writing Paper and Envelopes. | Wrapping Paper, Bags and Twine.
Folding Boxes, Wooden Dishes, etc. | Mining } Machinery.
Paper for Book Work. | Textile }
Stockings. | Underwear. }
Linen for Sheets and Shirts. | Handkerchiefs.

CHINA.

Sheetings. | Factory Supplies.
Shirtings. | Shafting, Hangers and Pulleys.
Dye-stuffs. | Leather Belting.
Rope. | Wrought Iron Pipe.
Wagon, Carriage and Railway parts. | Valves, Pipe Fittings, etc.
Carriage Hardware. | Portable Forges.
Axles and Springs. | Contractors' } Tools.
Bar Iron and Steel. | Blacksmiths' }
Pig Iron. | Wire Rope.
Engines and Boilers. | Engines and Boilers. }
Pumping | Electric Railway Equipment.
Metal-working | Telegraph and Telephone Material.
Mining and Hoisting } Machinery. | Electric Light Fixtures.
Milling | Electrical Supplies in general.
Cotton Mill | Tanks.
Electrical |
Wire for Electrical

COLOMBIA.

Bicycles. | Table Linen and Towels.
Building Papers. | Handkerchiefs.
Paints and Oils. | Hosiery and Underwear.
Dress Goods. | Millinery.
Prints, Gingham, etc. | Clothing.
Sheetings, Shirtings, etc. | Hats and Caps.
Blankets and Counterpanes. | Boots and Shoes.

DENMARK.

Lard, Pork and Bacon. | Pliers.
Fertilizers. | Hammers.
Dirigibles. | Wrenches.
Callipers. | Levels.

ECUADOR.

Carpenters' Tools. | Lamps.
Household Hardware. | China and Glassware.
Cutlery. | Kitchen Utensils.
Bicycles. | Italian Furniture.
Tin Plates. | Brass and Iron Bedsteads.
Pig Iron. | Office Furniture.
Wire Rope. | Flour.
Light Business Wagons. | Hams, Bacon, Pork and Lard.
Building Paper. | Butter, and Cheese.
Paints and Oils. | Confectionery.
Roofing Slate.

GERMANY.

Motor Carriages and Wagons. | Rubber Boots and Shoes.
Shoes. | Textile Machinery.
Boot and Shoe Leather.

GREAT BRITAIN.

Household Hardware. | Wrapping Paper
Paints, Varnishes, Oils, etc. | Bag and Twine.
Belting. | Writing Paper and Envelopes.
Lamps. | Folding Boxes.
Wooden and Willow Ware. | Wooden Dishes.
Prints, Gingham, etc. | Toys and Games.
Smallwares and Notions. | Groceries.
Hats and Caps. | Flour.
Boots and Shoes. | Hams, Bacon, Pork and Lard.
Rubber Clothing. | Butter and Cheese.
Trunks and Travellers' Requisites. | Canned and Bottled Goods.
Drugs, Wines and Spirits. | Patent Medicines.
Confectionery. | Labor Saving Machinery.
Druggists' Sundries. | Roll-top Desks.
Bottles.

HAWAIIAN ISLANDS.

Watch Cases and Movements.

INDIA.

Coal Mining Machinery. | Rope and Twine.
Boilers. | Engines and Boilers.
Winding Engine. | Belting.
Patent Winding Steel Ropes. | Wrought Iron Pipe.
Head Gear Pulleys. | Valves, Pipe-fittings, etc.
Cages and Bridle Chains. | Portable Forges.
Builders' Hardware. | Wire Rope.
Carpenters' | Barb Wire and Fence Material.
Blacksmiths' } Tools. | Stoves and Ranges.
Machinists' | Office Furniture.
Paints, Oils, Varnishes. | Safes.
Mining and Hoisting } Machinery. | Bolting Leather,
Milling | Printing Paper.
Textile | Artists' Material.
Printers'

ITALY.

Dress Shields. | Boots and Shoes.

MEXICO.

Boots and Shoes. | Furniture Dealers' Supplies.
Cane-seated Chairs.

PORTO RICO.

Printing } Paper.
Wrapping }
Bags and Twine. | Toys and Games.
Writing Paper and Envelopes. | Flour.
Blank Books. | Ham, Bacon, Pork and Lard.
Printing Office and Stationers' Sundries. | Butter and Cheese.
Confectionery.

RUSSIA.

Farming Tools. | Planters and Seeders.
Dairy Supplies, | Threshers.
Textile, | Cylinder Oils.
Wood and Metal Working } Machinery.

SPAIN.

Potato Starch. | Mineral Wax.
Paraffine.

TURKEY.

Plumbing Material. | Pianos.
Wire Rope. | Organs.
Oilcloth and Linoleums. | Sheet Music and Books.
Lamps. | Groceries.
Dress Goods. | Butter and Cheese.
Hosiery and Underwear. | Canned and Bottled Goods.
Printing } Paper. | Malt Liquors.
Wrapping }
Bags and Twine.

Preserve this Bulletin for Reference—it will not be Duplicated.

If You want Information, Ask for It.

Address,

THE CANADIAN MANUFACTURER, Toronto, Canada.

CAPTAINS OF INDUSTRY.

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

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

The starting of any such concern means a demand for some sort of machines, machinery, or supplies, such as steam engines and boilers, shafting, pulleys, bolting, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamos, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, 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 Harris, Campbell & Boyden Furniture Co., Ottawa, has been incorporated with a capital stock of \$75,000, to manufacture furniture, etc. The provisional directors include R. P. Harris, Thos. Campbell, Jos. Boyden and H.C. Monk, all of Ottawa.

Mr. John S. Moore, proprietor of the Dominion Gas Meter Works, London, Ont., manufacturers of gas meters, meter provers, station meter drums, etc., inform us that extensive alterations are now being made in his present premises prior to building larger works. These changes will enable the employment of an additional number of workmen to the present staff, necessary to keep up with orders, the pressure of late requiring working overtime. New tools and machinery are being introduced, including a large power press for stamping. Mr. Moore has recently installed in his works a Goldie & McCulloch well known "Model" gas engine, with which he is well pleased. He reports business as being exceedingly good throughout the country. Mr. Moore established this business in Canada in 1879. In addition to making the complete meter, he supplies the trade with the various parts and movements, etc.

The James Cooper Mfg. Co., Montreal, has increased its capital to \$500,000.

An Ottawa deputation representing the Metropolitan Electric Co., waited upon the Ontario Crown Lands Commissioner last week to urge their claims for a charter to develop the water-power of the Ottawa River at Britannia, a few miles above the capital.

The Thorold Pulp Co., Thorold, Ont., has been incorporated with a capital stock

of \$30,000, to manufacture wood pulp, etc. The provisional directors include E. H. Morris and E. E. Rowe, both of Warsaw, N.Y., and W. N. Davidge of Niagara Falls, N.Y.

A deputation from Niagara and Grimsby, headed by Warden Evans of Lincoln county, waited upon the Ontario Government last week and asked a charter to build an electric railway from Niagara to Queenston, and another branch from Niagara to Port Dalhousie. The distance is twenty miles.

L. Sapery, Esq., of the Syracuse Smelting Works, manufacturers of babbit metal and solder, Columbia phosphor tin, phosphor bronze ingots, double refined spelter, etc., Montreal, and Syracuse, N.Y., has just returned from Europe, where he secured a number of orders both in England and France for the company's celebrated Babbit metals, Columbia phosphor tins, etc., which will be filled from the Montreal works. We are informed that the works of this company, both in Montreal and Syracuse, are being operated to their full capacity.

The Cameron-Dunn Mfg. Co., Strathroy, Ont., has been incorporated with a capital stock of \$40,000 to manufacture rakes, scythes, pumps, etc. The provisional directors include J. W. Cameron and T. U. Dunn, both of Strathroy, and J. D. Strumbert, Toronto.

E. B. Thompson, Esq., the Custom House broker, 39 Yonge St., Toronto, directs the attention of importers of foreign merchandise to the conveniences he offers those who do not reside in this city in taking charge of their goods, paying all freight, express and custom charges, and forward-

ing same to destination without delay. Those interested should communicate with him at above.

Fire at Harrowsmith, Ont., near Kingston, on October 23, destroyed W. J. Shubley's grain elevator and 4,000 bushels of grain.

The Electrical Construction Co., London, Ont., are asking for tenders for the erection of a new factory. It is the intention to have a three-story building, 40 by 100 feet.

The capacity of the Queen's University, at Kingston, Ont., is to be increased by the addition of a new Arts and Science building to cost \$50,000.

Mr. Collingwood Schreiber, Deputy Minister of Railways and Canals, has just made an inspection of the work on the canals from Prescott to Cornwall. The whole of the fourteen-foot waterway from Montreal to the west will be completed this fall. There only remains a small portion of the work under Contractor Davis at the west end of the Galops Canal to be finished, Messrs. Larkin & Connolly having completed their work on the eastern end of this canal. The Gilbert Dredging Co. will also complete their work in the Galops Channel this season. In the Rapide Plat Canal, Weddell & Co. are doing some dredging work, in order to make the bend at Mariatown Point more easily navigated by the larger steamers. This will not be completed till next season. Tenders are being called for some improvements at the upper end of this canal. The Canada Construction Co. need only about three weeks more for their work on the Farran's Point Canal. Additional improvements are being made at the upper entrance to the Cornwall Canal by dredging the entrance wider. This work will also continue next year.

The work of exploring the pulp-wood resources of the Province of Ontario that was begun last spring has been carried on during the summer and early fall with considerable dispatch, and of the ten parties of surveyors sent out, two or three have already made preliminary reports. These parties have been working in the territory beyond what is known as the Height of Land, that is to say, to the northward of the ridge dividing the watershed of the St. Lawrence from that of the streams which flow into Hudson's Bay. Their preliminary reports indicate that the commonly accepted idea that the pulpwood resources of that portion of the province are practically inexhaustible is correct. There is any quantity of spruce

INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

PISTON INLET Air Compressors

STRAIGHT LINE
DUPLIX and
COMPOUND.

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

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

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

wood in the northern portion of the province, and there are many waterfalls from which power may be developed, but transportation facilities will have to be provided before a pulp or paper industry can be built up in that section of the province. It will be gratifying to Canadians to know that their resources in the way of pulp wood in that portion of Ontario have not been overestimated. —The Paper Mill.

The big Westinghouse electric generators at the power house at Niagara Falls, Ont., were set in motion a few days ago. Their capacity of transmission is 30,000 horse power. This extraordinary development of Niagara Falls power it going to be the means of bringing a number of manufacturers to that place. All the immense wide heavy leather belts are of Canadian manufacture, and were furnished by Sadler & Haworth, of Montreal and Toronto. They are said to be the largest of the kind in that part of the country, and are a credit to the makers. There are several forty-four inches wide, some twenty-four inches wide, and a number of smaller belts, each about 100 feet long. Thousands of horse-power are now waiting for sale to all those who will come and locate here, and take advantage of cheap power.

Mr. Mitchell, a mining engineer of Toronto, has recently been working on a copper mine located on the property of Mr. John A. Carscallen, near Flinton. Mr. Mitchell is backed by Gooderham & Worts, Toronto, and it is understood that he has made a very favorable report to them, and that they have made a very liberal offer to Mr. Carscallen. The shaft is down eighteen feet, and is about eight feet square. A building has been erected over it, and a steam drill put in. This property promises to be one of the best paying in this section. —Tweed, Ont., News.

Messrs. Rogers & Taylor, Montreal, have been awarded the contract for double tracking the Grand Trunk Railway from Hamilton to Niagara Falls, Ont. The work will cost about \$500,000.

Tellier, Rothwell & Co., L'Original, Que., have purchased a boiler from Cowan & Co., Galt, Ont.

The Algoma Central Railway is to be continued up to James Bay.

Cowan & Co., Galt, Ont., have shipped a rip saw table to R. Whitelaw, of Woodstock, Ont.

East Toronto, Ont., will shortly call for tenders for an electric lighting plant.

A corporation entitled la Compagnie Electrique de Rimouski has been formed at St. Germain de Rimouski, Que., with a capital of \$100,000 to furnish water and electric power, etc., for factories.

Cayuga, Ont., is to purchase the local electric lighting plant and purchase a new dynamo.

The St. Thomas, Ont., Street Railway Co. has increased its capital stock from \$100,000 to \$250,000 and is to build an extension of its system to Port Stanley.

The Cape Breton Tramway & Electric Co., with a capital of \$500,000, is to build an electric railway in Sydney, N.S. Lines to Glace Bay, Sydney Mines, and North Sydney are contemplated.

Cowper Bros., Thamesford, Ont., are installing a power feed rip saw manufactured by Cowan & Co., Galt.

The Sarnia, Ont., Street Railway Co. proposes to convert its system from horse to electric power.

The Ontario Wind Engine & Pump Co., Toronto, manufacturers of the Canadian airmotor, have been favored with an order for four irrigation airmotors complete for the British Government. This is not the first machinery of this character that they have supplied to Her Majesty's Government. The others have proved so satisfactory that this order is only a natural consequence.

The Hayden Piano Co., of Montreal, are placing a large jointer built by Cowan & Co., Galt, Ont.

Cowan & Co., of Galt, Ont., have supplied a large planer and matcher to the Prince Edward Island Railway Co., at Charlottetown, P.E.I.

F. N. PHILLIPS, President.

GEO. H. OLNEY 2nd, Sec.-Treas.

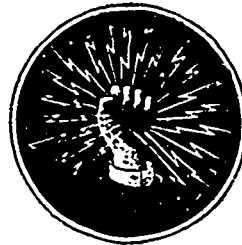
EUGENE F. PHILLIPS ELECTRICAL WORKS

(LIMITED)

MONTREAL, - CANADA.

BARE AND
INSULATED
ELECTRIC WIRE

Electric Light Line Wire,
Incandescent and Flexible Cords,



RAILWAY
FEEDER and
TROLLEY WIRE

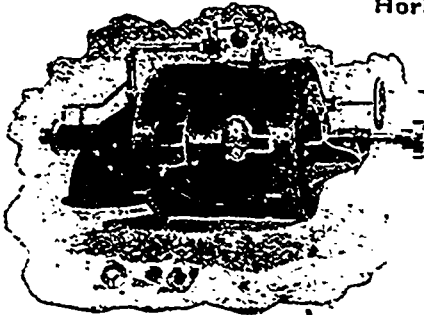
Rubber-Covered, Magnet,
Office and Annunciator Wires.

Cables for Aerial and Underground Use.

United States Factory—AMERICAN ELECTRICAL WORKS, Providence, R.I.
New York Store—W. J. WATSON, Agent, 26 Cortlandt Street.
Chicago Store—F. E. DONOHUE, 241 Madison Street.

THE Crocker Patent Turbine

Horizontal Setting, with Quarter Turn Elbow.



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

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

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

The JENCKES MACHINE CO.,
42 Lansdowne St., Sherbrooke, Que.

A remarkable discovery in the ore from the Venus mine has been announced, when it was stated that uranium had been found to exist in paying quantities. Uranium is an element of the chromium group, and is reduced as a heavy, hard, nickel-white metal, which is quite permanent. Its yellow oxide is used to impart to glass a delicate greenish-yellow tint, which is accompanied by a strong fluorescence, and the market value is \$6 per pound. A well-known Toronto analyst reports that the percentage of uranium is .31, and experiments are now being made to determine if the rare metal can be saved. In this event the Venus property will assume an entirely new complexion.—Rossland, B.C., Miner.

Cowan & Co., of Galt, Ont., are shipping a planer and matcher and twelve-inch jointer to Roch Pelletier, of St. Aime, Que.

Regarding the works of the Canadian Portland Cement Co., at Marlbank, near Perth, Ont., which were recently destroyed by fire, the company have decided to rebuild on a much more extensive scale than before and will have capacity to turn out 1,000 barrels of cement per day.

When Canada has her branch of the Royal Mint there will be four colonial branches, as there are already three in Australia. Those at Melbourne and Sydney were established about forty years ago, but that at Perth, Western Australia, was completed in 1898. These branches are directly under the control of the Imperial authorities, but receive an annual grant each from the colony in which they are located, any surplus of revenue being returned to the Colonial Treasury. The grants from each colony are £20,000 annually, but in 1898 the surplus returned in the case of the Melbourne

branch was over £8,000. In 1899 these branches coined as much gold as did the Royal Mint, a large demand being made from South Africa on account of the approach of war. In 1899 the Royal Mint coined for Canada the militia medals, over two million copper, three million five-cent pieces, and 1,212,000 ten-cent pieces. There are also mints at Calcutta and Bombay.

Mr. Carl Linde, who is giving special attention to machines for producing liquid air, describes in the journal of the Association of German Engineers, a furnace designed by Mr. Hempel for an ingenious application of this substance. The furnace is intended to burn low-class fuels, such as lignite and peat. The combustion is intensified by turning the gaseous mixture obtained by evaporating liquid air on the fire. Nitrogen is first set free, after which there remains a gas containing at least fifty per cent. of oxygen. The price of this gaseous mixture is said not to exceed eighty-one cents for 1,000 cubic feet.

Cowan & Co., Galt, Ont., have recently shipped a seventy-five h.p. engine and boiler to the Rosthern Milling Co., Hague, N.W.T.

A good instance of the enormous growth and importance of the electro-chemical industry in the United States is afforded by the huge power plant of the St. Lawrence Power Co., at Messena Springs, N.Y. This installation will take advantage of an extremely curious configuration of the country, whereby the St. Lawrence River is nearly fifty feet higher than one of its tributaries, the Grass River, which is only three miles distant. A canal cut across this short stretch of country would give one of the best


water-powers in the world, and no less than 150,000 horse-power, or three times that generated in the great plant at Niagara, will be produced. All of this gigantic power will be used on the spot in electrolytic processes for the manufacture of calcium carbide, bleaching powder, alkali, etc.

"2,500 Witnesses" is the suggestive title of a fifty-six page production of the advertising department of the B. F. Sturtevant Co., Boston, Mass., being, as announced in the sub-title, "A list of buildings and sundry steamships wherein the Sturtevant system or apparatus has been installed for the purposes of ventilation and heating." The introduction contains this statement: "Some evidence is usually demanded by the prospective purchaser as to the extent and success of the application of the article or system under consideration. Printed testimonials, no matter what their tenor, are always more or less questionable as to their character. But a comprehensive list of purchasers and users, to each and everyone of whom the inquirer is at perfect liberty to apply for information, forcibly presents, by its very numbers, the most indisputable evidence of widespread adoption, and provides the best possible opportunity for searching inquiry as to success. Such is the list which follows. These names are the most emphatic, and, in fact, the only witnesses that this company desires to present as evidence of the successful operation of the Sturtevant system and apparatus."

The Magnolia Metal Co., New York, have sent us a very convenient desk ruler, upon which is inscribed some of the many purposes to which Magnolia Metal is put, the addresses of their branch offices being also given.

W. A. FLEMING & CO.

MILL SUPPLIES **CAMEL BRAND BELTING**
HOSE of all kinds
DRIVING ROPE
BELTING of all kinds



REGISTERED TRADE MARK

771 CRAIG STREET, MONTREAL.



**R
A
N
D**

**MINING
MACHINERY**



**R
A
N
D**

**The Canadian
Rand Drill Co.**



**MONTREAL.
SHERBROOKE,
HALIFAX, N.S.
TORONTO, ONT.
RAT PORTAGE, ONT.
ROSSLAND, B.C.
GREENWOOD, B.C.
NELSON, B.C.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

CRUSHERS-ROLLS

Roll Jaw Fine Crushers Reduce Large Rocks at once to Gravel and Sand. Centrifugal Rolls. Cost half and do three times as much as Common Rolls of equal dimensions, and do finer work.

SEND FOR CIRCULAR.

STURTEVANT MILL CO., 104 Clayton St., BOSTON, MASS.

Messrs. Fraser & Hamilton, Ottawa, are placing in their wood-working establishment a large planer and matcher purchased from Cowan & Co., Galt, Ont.

The Dominion Commercial Travellers' Association, Montreal, of which Mr. H. W. Wadsworth is Secretary, has sent us a copy of their hotel guide, an exceedingly neat and convenient edition for 1901, which contains the names of a large number of hotels not included and recommended in the previous issue, and a number of them previously recommended are not included as they did not fulfill the requirements. The hotel is practically the commercial traveller's home, and when they demand good, wholesome food, clean, warm and well ventilated sleeping apartments, satisfactory sanitary arrangements, suitable sample rooms and safe arrangements for escape in case of fire, they ask for no more than they ought to have.

Messrs. Brain Bros., Hornby, Ont., have recently added to their plant a fifty h.p. boiler and a Dakin feed water heater and purifier, manufactured by Cowan & Co., Galt.

The Buffalo Forge Co., Buffalo, N.Y., write us that in spite of the discurbing

influences due to election times in the United States, the books of the company evidence an increasing activity along their various lines. Owing to press of work in their engine department, for instance, they have been compelled to run night and day in that branch of their work to enable them to keep up with orders.

Messrs. Cowan & Co., Galt, Ont., through their Montreal branch, which is in charge of Mr. W. N. Fisher, have recently made sales as follows:—In Montreal: H. R. Ives & Co., buzz planer and band saw; Tellier & Rothwell, soap manufacturers, boiler; La France et Fils, boiler; Hayden Prain Co., buzz planer; Hansel & Blean, three wood-working machines; St. Louis de Mile End: Deaf and Dumb Institute, power mortiser. St. Felix, Que.: J. B. Porrier, cupola blower. St. Aime, Que.: two wood-working machines. Cornwall, Ont.: Wm. Langevin, boiler and engine for flour mill.

The William Sutton Compound Co., Toronto, have sent us a circular having reference to the polishing compound manufactured by them for use in polishing machinery, plates, etc. In it we are told of the quickness with which the compound will do its work, and the abiding quality and brilliancy

of the polish. All the polishes made by this concern are compounded in their own laboratory, and no acids or any other ingredients are used that will injure the finest plate.

Cowan & Co., of Galt, Ont., are shipping to the Canada Veneer Lumber Co., London, Ont., a combined double rip and cross cut saw, gang rip saw table and a special nitre machine.

Dominion Oil Cloth Co.

(LIMITED)

Manufacturers of

OIL-CLOTHS of Every Description

Floor Oil-Cloth, Table Oil-Cloth,
Carriage Oil-Cloth.

Enamelled Oil-Cloth,

Stair Oil-Cloth, etc.

Office and Works

Cor. St. Catherine and Parthenais Sts
MONTREAL, Que.

BLACK IS BLACK

Extra C is our best grade. We cannot make anything better than the best. You cannot buy anything better, try where you will. When you buy, see that our Trade Mark and grade are stamped on it and quality will be there.

D. K. McLAREN

Mfr. "GENUINE OAK" BELTING

88 Bay St., TORONTO

Factory, MONTREAL



Manufacturers of
Cotton, Jute, Hemp and Flax,
Twines and Cordage,
Mill Banding and Driving Ropes,
Chalk and Fishing Lines,
Seine Twine, Hammocks, Tennis,
Cricket and Fly Nets,
Cotton Rope and Clothes Lines,
Plough Lines, etc.

HUTCHISON, SHURLY & DERRETT,
1078 Bloor St. West, TORONTO.

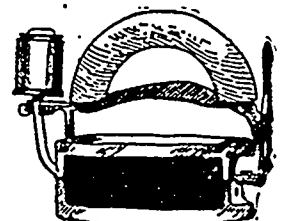
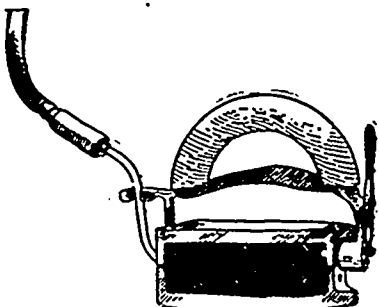
ONE AGENT ONLY IN EACH TOWN WANTED

WRITE US FOR PARTICULARS ABOUT

"PERFECTION"

Self-Heating Sad Iron

Something New. Sells Well.



The EDWARDS SAD IRON CO., Confederation Life Building, Toronto, Canada.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

OPPORTUNITIES FOR TRADE.

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

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

345. A Glasgow merchant and manufacturer's agent is open to represent a Canadian wood-pulp factory.

346. A Scotch firm manufacturing stable fittings, manhole covers, gully traps, gratings, etc., desire to have agents in Canada to take up their class of work.

347. A Canadian firm manufacturing radiators and boilers, desires to be placed in communication with a responsible firm in Great Britain who would introduce their goods.

348. A gentleman who is retiring from the management of an important branch in the silverware and silver-plate business in Canada, wishes to take up the agency of a

good firm requiring a Canadian representative. Is fully in touch with the jewelry trade in the Dominion, and can offer excellent reference.

349. An importer of considerable quantities of maple manufactured into floor boards and blocks asks for names of Canadian shippers of these goods.

350. Canadian firms desiring to be represented in South Africa can be furnished with the name of an agent who is leaving London shortly to engage in business in that colony.

351. A Canadian firm of wagon and carriage makers would be glad to quote prices for wagons which they are prepared to export to the United Kingdom.

CAPE COLONY.—The Cape of Good Hope Government Gazette publishes some statistics showing the value of the imports into and exports from Cape Colony for the eight months ended August 31, 1900, as compared with the corresponding period of 1899. The following table shows the imports of the principal and other articles into the Colony during the periods above mentioned:—

Articles.	Eight Months ended August 31, 1899.	Eight Months ended August 31, 1900.
Provisions of all kinds—(Includes butter, cheese, coffee, confectionery, meats, rice, sugar, tea, etc.).....	£1,217,867	£1,534,971
Corn, etc.—(Flour, maize, oats, wheat).....	432,796	789,834
Textile goods—		
Cotton manufactures.....	762,596	554,863
Linen ".....	32,655	54,522
Woolen ".....	220,732	181,549
Haberdashery and millinery.....	792,077	672,872
Apparel (includes hats).....	533,303	425,313
Leather and leather manufacturers (includes saddlery and harness).....	417,565	408,093
Metals and manufacturers (includes machinery).....	1,046,781	413,945
All other articles of merchandise.....	4,516,898	4,175,665
Total merchandise.....	9,913,230	9,271,537
Articles imported for the Colonial Government.....	654,741	603,153
Specie.....	1,263,464	2,215,671
Grand total.....	£11,831,435	£12,090,351

352. Enquiry has been received from Montreal, Canada, for names of British makers of sheet glass for pictures from whom quotations are desired.

353. An Ontario lumber company ask for names of parties who wish to handle wood-ware manufactured in Canada.

354. The names of some English firms exporting novelties, and of a few good stationery houses are asked for by an Ontario correspondent.

GREAT BRITAIN.—The number of applications made to the Board of Trade for electric lighting, provisional orders, during the past year was 111, the largest in any year except 1883 and 1890. Of these, fifty-nine were made by local authorities and forty-nine by twenty-seven companies or persons. The city of Leeds is to borrow £510,500 for electric lighting and power extensions; Leith is to borrow £20,000 for electric lighting extensions, and the towns of Nelson, West Bromwich and Wigan are to borrow £2,500, £10,000 and £18,000 respectively for the same purpose.

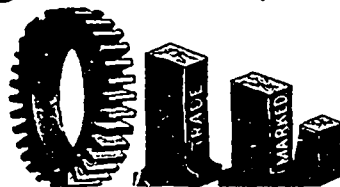
Further details are now available regarding the plans of the London Tramways, Limited, for the construction of a system of electric tramways in and around London. It is proposed to construct twenty-three miles of additional tramways in Surrey, twenty miles in Middlesex and twenty miles in the county of London. The existing system is to be extended to St. Pancras, Marylebone and Fulham in the county of London, and north to Willesden and Southall and west to Sunbury. The lines in Surrey and Middlesex counties are to form an elaborate system, furnishing inter-communication for nearly twenty towns and cities. Extensions are proposed to the Glasgow tramways, amounting in the aggregate to twenty miles of single track.

The British trade returns for September, 1900, show an increase as compared with the corresponding period of 1899 in the value of the imports from foreign countries and British possessions, and in the exports of British and Irish produce and manufactures, but a decrease in the exports of foreign and Colonial merchandise.

"Capitol" Cylinder

"RENOVN"
ENGINE

"ATLANTIC" RED



RELIABLE WELL-KNOWN BRANDS.

ALL ORDERS PROMPTLY FILLED

THE...

QUEEN CITY OIL CO.

LIMITED

SAMUEL ROGERS, President

TORONTO, CANADA

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

"Quality Talks" In Electrical Work.

The fact that we have installed, and are installing electrical equipments for the foremost concerns of the country, should convince you that our work is of the best and our prices close.

Among our customers are:—

Menzie, Turner & Co.....Toronto.
McLaughlin Carriage Works.....Oshawa.
Mail Job Printing Co., Ltd.....Toronto.
Brodie Woolen Mills.....Hespeler.

Always pleased to quote prices.

R. A. L. GRAY & CO.
Electrical Contractors,
83 YORK ST., . TORONTO.

The imports for September, 1900, were valued at £41,232,852, as compared with £38,721,079 for September, 1899, an increase of £2,511,773, or 6.5 per cent., and the exports amounted in value to £28,990,095, as against £27,035,364 in September, 1899—an increase of £1,954,731. The exports of British and Irish produce and manufactures alone were valued at £24,559,811 in September, 1900, and £22,374,897 in September, 1899—an increase of £2,185,004, or 9.7 per cent. The value of foreign and Colonial merchandise exported in September, 1900, shows a decrease as compared with September, 1899, of £230,273 or 4.9 per cent.

Taking the import trade for the nine months ended September, 1900, as compared with the similar period of 1899—the net increase in value is £23,168,252, the principal decreases being under the categories of animals, living (for food), chemicals, dye stuffs and tanning substances, and tobacco. The exports for the nine months ended September, 1900, show a net increase as compared with the same period of 1899 of £24,120,558, the only decrease being under the heading of animals, living (£55,618). The value of the exports of foreign and Colonial merchandise shows a decrease of £620,297.

Mr. Halstead, U.S. Consul in Birmingham, says:

The ice habit is making rapid progress in Great Britain, due largely to the incessant clamor for ice in hotels and public places by the thousands of traveling Americans. Not long ago, the attendants of public places in England, where nearly everything except ice was provided, would be insulting if one complained because ice could not be had. Today, all first-class places have a few small

lumps swimming in a glass dish, and you pick these out with sugar tongs; and in country inns and even in second-class public houses they apologize for not having it. Though few saloons and restaurants have refrigerators, many private residences now own them; and there would be far more general use of ice if companies were organized to distribute it from house to house. As it is, one must secure it almost by favor from the fishmonger.

All the American refrigerators in stock in England by consignment or otherwise are sold quickly. Properly handled, there is good opportunity in England for refrigerator manufacturers.

Cold storage is a growing business, and large brewers are putting in extensive cold storage machinery plants; but American manufacturers in this line are not in evidence.

How much enjoyment England has yet to get out of ice may be understood from the fact that she uses only 450,000 tons a year London taking 160,000 of this.

The Houghton-le-Spring and District Tramway, which secured Board of Trade orders at the last session of Parliament, is soon to be begun. This enterprise is being promoted by the United Kingdom Tramway & Light Railway Electrical Syndicate. The Engineer is Mr. D. Balfour of Newcastle. It is stated that probably the necessary iron-work for the line will have to be secured abroad as English concerns are too crowded with orders to promise delivery with the promptness desired.

The town council of Folkeston is to seek Parliamentary permission to construct and operate a system of electric tramways, costing, it is estimated, about £95,000.

The Mersey Railway Co., of Liverpool, is considering the conversion of its system of electric traction. The line is four miles long, including the Birkenhead tunnel, and the traffic is very heavy. The estimated cost is about £300,000. It is reported that the Wirral Tramways Co., which operates a short horse railway in Liverpool, will also convert its system to electricity, perhaps forming a joint line with that of the Mersey Co.

GERMANY.—A very useful index to the opportunities for exporting machinery to Germany is furnished by the official statement as to the classes of machinery that are exported and imported in greatest quantities. The exports of the following exceed the imports: Sewing machines, agricultural machines, brewery, refining, electric, weaving and line shafting machinery, pumps, hoisting, rolling, carding and flour milling machinery, saw mills, paper mills, steam engines and boilers, turbines, ventilators for factories, steam hammers, machinery for punching and cutting metals, locomotives and automobiles. The imports of the following exceeded the exports. Machinery for cotton spinning, wool compressors, blasting machines, machine tools and typewriters. The first mentioned come chiefly from Great Britain, the next two from Belgium, and the last, together with cash registers, from the United States, almost exclusively.

The export of musical instruments from Germany amounted in the year 1899 to 3,776 tons with a value of £51,769, compared with 3,909 tons with a value of £60,161 in 1898. The past year, therefore, shows a decrease of 133 tons or 3.4 per cent. as to the quantity, and a decrease in value of

COWAN & CO., - GALT, ONT.

Manufacturers of

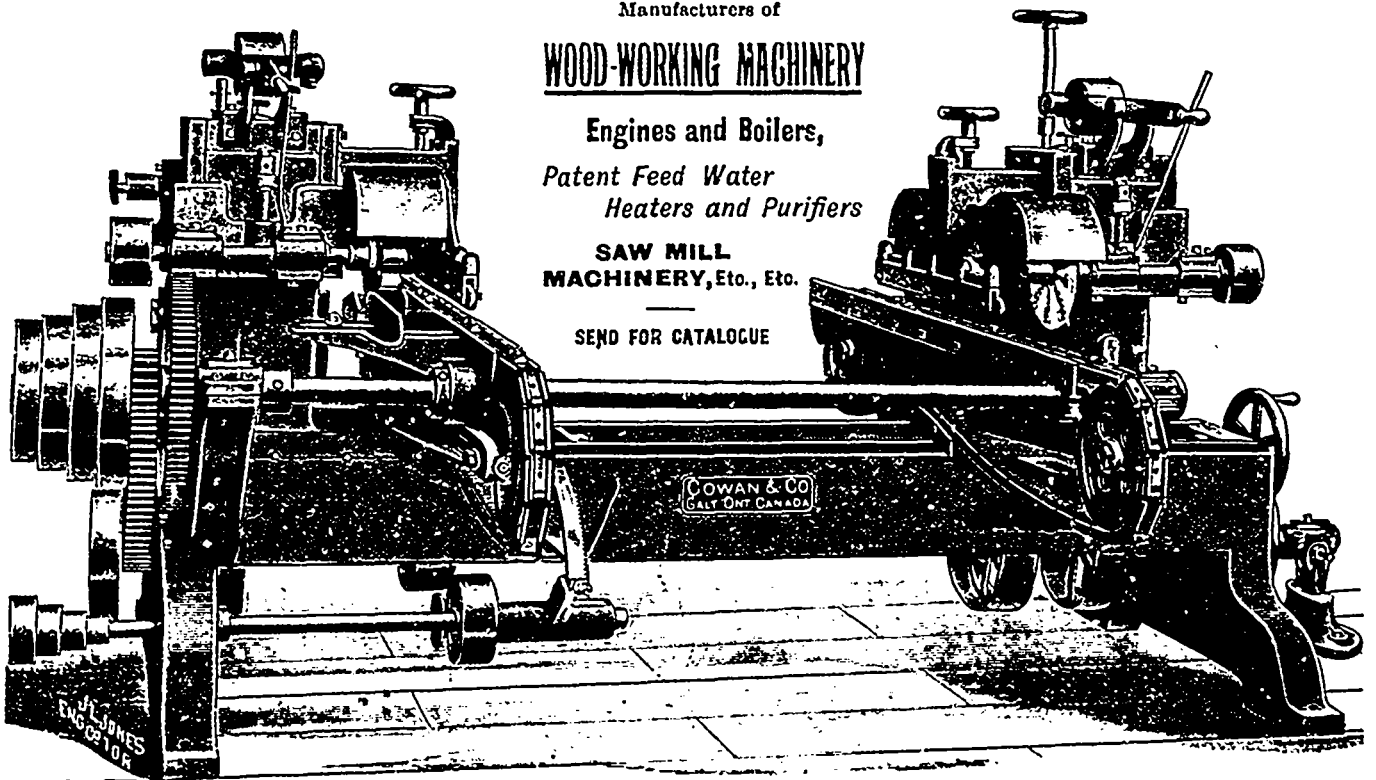
WOOD-WORKING MACHINERY

Engines and Boilers,

Patent Feed Water
Heaters and Purifiers

SAW MILL
MACHINERY, Etc., Etc.

SEND FOR CATALOGUE



IMPROVED DOUBLE TENONING MACHINE.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

£8,392 or 14 per cent. The cause of this retrogression seems to be the constantly decreasing export to the United States.

H. M. Consul-General at Berlin notes that, since January, 1899, mechanical musical instruments, which were formerly included under the heading "musical instruments," have a special line for themselves in the Customs Tariff, so that it is now easy to see in which branch fluctuations of export and import take place. The principal market is still the United Kingdom, which takes 881 tons, or 23.3 per cent.

The United Kingdom and her colonies are the best market for German pianos. Of the entire export of 11,863 tons in 1899, 4,889 tons went to the United Kingdom; to British South Africa, 1,975; to India, 70 tons; and to Australia, 2,216 tons. This has led to British taste being predominant in the ornamentation of the piano case. As a general rule, the old classical style is preferred.

RUSSIA.—In the report of H. M. Consul-General at Odessa, it is stated that the demand for agricultural machinery is increasing each season in the district of Theodosia, and during last spring about fifteen sets of steam threshing machines were sold, most of which were supplied by German makers. Hitherto this kind of machinery has been supplied almost entirely by British makers, as those of German make were not suited to the country, but during the last two years German makers have been altering and copying those of the British makers, and in order to push their machines on the market have sold them somewhat cheaper. Binders and reapers of American make are also being introduced, and a fair business has been done in this kind of machinery. The

manual delivery reaper of Russian make is still, however, most in demand.

The demand for agricultural machinery is increasing each season in the district around Odessa. English trade is reported to be on the decline, while the Germans are gaining ground rapidly. American binders and reapers are being introduced successfully in the region, and there are opportunities to greatly extend trade in other lines of agricultural machinery and implements.

The British Vice-Consul at Sevastopol reports that American, German and Belgian manufacturers are driving English goods out of that market altogether, dealers no longer stocking in the higher priced English lines at all.

RUSSIA—FINLAND.—According to the Commercial and Industrial Gazette of St. Petersburg, the railway administration of Finland is making the following additions to its rolling stock.—12 passenger locomotives, 20 goods locomotives, 250 closed goods wagons, 250 open goods trucks, 16 steam engines, 50 passenger coaches, 20 guard's vans, 15 luggage vans, 2 gas generating machines.

AUSTRALASIA.—Mr. J. S. Larke, Government agent at Sydney, New South Wales, has sent a trade report to the department of Trade and Commerce, which says that by reason of the uncertainty of tariff legislation pending the confederation of all the colonies trade has been somewhat nervous. It is now clear that the federated colonies will not be able to determine their tariff until 1902, and in the meantime Sydney will be a free port. This will be a good opportunity

for Canadians, and Mr. Larke advises that business houses should send out their own agents. Few important wholesale houses there have taken up Canadian lines as yet, most of the trade inquiries coming only from commission merchants, who seem chiefly to wish to get lines of goods in which Canadians would have to compete with other importers. Mr. Larke advises that Canadian exporters combine to establish an agency there to take charge of their samples, etc. In this way expense will be saved, and the trade will be in the hands of men who will be even more anxious to extend it than commission merchants already dealing in similar lines. Canadian manufacturers have already lost opportunities by failing to answer correspondence promptly when the proposed purchasers have waited more than three months. Sydney has been declared a clean port, free from the plague.

The importations of dynamite and blasting powder has largely declined, local manufacturers presumably supplying the demand. Imports of gelatine dynamite, on the other hand, increased in Victoria from 243,400 lbs. in 1890 to 938,250 in 1899, and about an equal quantity is now annually imported for the other colonies collectively. Imports of blasting gelatine and sporting powder are small.

The Portland Cement Works are erecting a plant for making cement at Lithgow, New South Wales. Mr. Matthew Rogers is the manager.

The Sydney & Suburban Hydraulic Power Co. are building extensive additions to their plant on Hay St., Sydney, N.S.W. New machinery will be required.

The New Zealand Glass Co. has just been organized at Auckland, N.Z., with a capital

SADLER & HAWORTH

Manufacturers of

OAK-TANNED LEATHER BELTING

MONTREAL and TORONTO.

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

BELTS MADE SPECIALLY FOR ELECTRIC POWER USE.

of £12,000. It is proposed to make glass cans for fruit preserving, etc.

Machine shops in New Zealand are working night and day to keep up with their orders, but buyers are none the less being forced to go abroad.

The Public Works Committee of the Hobart, Tasmania, city council has recommended the purchase of the following ma-

chinery, one twenty-five horse-power engine with boiler, one twenty inch by nine inch stone crusher, one circular stone crusher of half-inch metal, and one elevator.

The Launceston, Tasmania, city council are to purchase electric light motors at a cost of £550.

An electric tramway is projected for Boulder City, West Australia.

An electric tramway connecting Melbourne with a number of suburban towns is projected. According to the estimates furnished it will cost about £65,000.

QUEENSLAND. — A communication has been received from the Brisbane Chamber of Commerce enclosing a notification from the Secretary of the Brisbane Hospital to the effect that the Committee of that Hospital are contemplating the introduction of steam machinery in the departments of the laundry and kitchen, and the installation of a hot water supply and possibly the electric light. Any communication on this subject may be sent direct to the Secretary of the Brisbane Hospital, or through the Secretary of the Brisbane Chamber of Commerce.

SOUTH AFRICA. — That normal conditions in South Africa will soon be restored is certain now that the residents of Johannesburg, Pretoria, Bulawayo, Mafeking and other important centres are being allowed to return on showing proof of identity. English exports to South Africa for the month of August amounted to £728,547, as compared with £558,296 for July. Statistics regarding American exports to South Africa are not available for so recent a date, but for the last month on which returns have been issued the exports were £314,152, as compared with £257,412 for the corresponding month a year ago, a gain of £56,742, or 23.5 per cent.

A commission has been appointed to inquire into the validity of every concession granted by the late South African Republic. The commission began its sittings October 1, and will include in the scope of its inquiries, manufacturing, importing, trading, banking, railway, tramway, water and lighting concessions.

The Indwe Railway, Colliery & Land Co., Cape Colony, are soon to expend a considerable sum on new machinery.

The directors of the Wanderer gold mine, Rhodesia, are contemplating the purchase of a dry-crushing and cyanide plant; also of three high-pressure water-tube boilers.

A large pumping plant will soon be ordered for the Primrose gold mine, Rhodesia.

Orders will soon be given for a 5-stamp battery for the Camperdown gold mine, Rhodesia, and for a complete milling plant for the Doomsday gold mine Rhodesia.

The Alice Proprietary gold mines, Rhodesia, is soon to purchase additional hauling engines and cages to avoid the rehandling of ore, together with considerable other mining equipment.

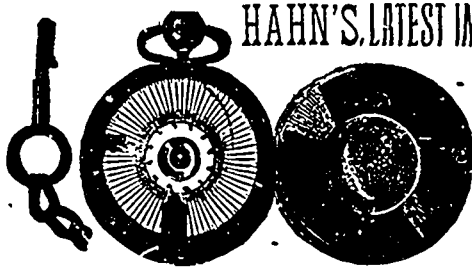
The Town Council of Indwe, Cape Colony, are contemplating the raising of a loan of \$25,000 for the establishment of a water supply and other improvements.

Among the items comprised in the extensive scheme of harbor improvements are £168,463 for cranes and other appliances, etc., at Table Bay; £126,798 for facilities for handling coal, including railways, railway cranes, electric lighting, roads, etc.; and £25,000 for additional trucks, special 9-ton carriers, etc., for Port Elizabeth, and £3,000 for additional locomotives. As already stated, the total amount to be expended is £1,291,000, and improvements are contemplated not only at Table Bay and Port Elizabeth, but at East London and Mossel Bay.

The Maritzburg Town Council have decided to have the proposed electric tramways at that place built and operated by the municipality. The feed wires are to be

The Diamond Machine Screw Co. Limited, Toronto

MANUFACTURERS OF
MACHINE SCREWS and MILLED WORK
OF EVERY DESCRIPTION
COLD PRESSED NUTS SEND FOR CATALOGUE AND PRICE LIST



HAHN'S LATEST IMPROVED WATCHMAN'S TIME DETECTOR

This Clock is adapted for six or twelve stations, and the keys are all different, ranging from 1 to 6, and 1 to 12, instead of as in the old style Time Detectors, which mark either by holes or an impression on the dial, being the same for all stations.

For circulars, prices and further information address

A. NANZ & CO., Room No. 45, Graham Building, 127 Duane St. NEW YORK

This Clock received the First Prize at World's Fair

GARFIELD OIL COMPANY

BRANCH: WINDSOR, ONT. GENERAL OFFICES: CLEVELAND, O.
SOLE MANUFACTURERS U. S. A.

Zanzibar Anti-Rust Paint

NEVER BLISTERS. NEVER CRACKS.
NEVER PEELS-OFF.

Some who use it:

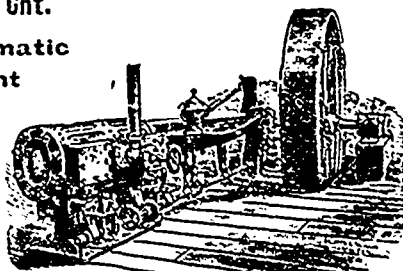
- CONSUMERS' GAS COMPANY Toronto.
- TORONTO STREET RAILWAY CO. "
- TORONTO INDUSTRIAL EXPOSITION "
- GRAND TRUNK RAILWAY SYSTEM Montreal.
- MICHIGAN CENTRAL R. R. CO. Detroit.
- HAMILTON COTTON CO. Hamilton.
- OWEN SOUND GAS, LIGHT and FUEL CO Owen Sound.
- PARKER & CO. "
- WINDSOR SCHOOL BOARD Windsor.
- RIDDLE & SON St. Thomas.

Write for Prices and Booklet, "A STUDY IN BLACK."

THE SMART-EBY MACHINE CO. LIMITED.

191 Barton Street East, Hamilton, Ont.

High Speed Engines, Brown Automatic Engines, Boilers, Rogers' Patent Shaking and Dumping Grate Bars, Pumping Machinery, Electric and Hand Power Travelling Cranes, Shafting, Pulleys, General Machinery, Etc.



Western Office—435 Ross Av., Winnipeg.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

partly overhead and partly underground, and the cars, a number of which have already been ordered, are to be double-deckers, with roofs over the upper deck. This type may prove to be the one generally adopted in South Africa. Power for the new system will be supplied from the existing electric light plant. Particulars regarding tramway equipment may be obtained of the Borough Electric Engineer, Maritzburg, Natal.

The Ladysmith Town Council have selected electricity as the lighting medium for the town and specifications for a suitable plant are now invited.

Tenders were recently invited by the leading Rand mines for fifteen 69-ton locomotives and 200 trucks. The entire order amounts to over £160,000.

In connection with the purchase of the Indwe Colliery line an extension is soon to be begun, carrying the line from Indwe to Riverside Station, between 283 and 330 miles according to route selected, and the cost will be about £7,000 per mile.

New buildings to the value of about £200,000 are in course of erection at Maritzburg, Natal.

MEXICO.—The following concessions for manufacturing have recently been granted to parties proposing to erect plants at

Monterey, in the state of Nuevo Leon; Srs. Mondirichaga and Trevino, capital \$100,000, clothing; Sr. Jose Maquenza, capital \$120,000, bricks; G. F. Muhan, capital \$20,000, brass foundry; Srs. Farios & Padilla, capital \$10,000, steam laundry; Vincento Farrara and associates, capital \$10,000,000, steel rolling mill; Juan R. Suarez, capital \$70,000, woolen mill; Antonio V. Hernandez, capital \$20,000, flour mill; Monchoca, Sanchez & Montemayor, capital \$30,000, last factory; G. J. H. Goehler and associates, \$455,000, steel plant.

The British Vice-Consul at Monterey points out in a recent report that Monterey is a large mining and manufacturing centre, but the supply of mining and manufacturing tools is singularly deficient. The remedy, which has been repeatedly suggested, is that several British wholesale houses should combine to establish a general warehouse in a central locality, which would be well supplied with all such articles as are required in mining, agriculture, smelting, manufacturing, etc., under the management of a competent man having had special experience in these lines. Until some such method be adopted it will be difficult for English houses to compete with American, and the difference in trade, which every year seems greater in favor of the United States, will continue to increase. The capital thus in-

vested would not fail to bring good returns, but the management must be competent to know what articles are specially in demand, and what actual advantages over other foreign manufacturers can be proved to purchasers. At present the trade in hardware is exclusively in the hands of the Germans, and it is useless for English firms to send representatives to Monterey to push their manufactures through those German houses. They buy only the cheaper grade of goods, and as their profits in the still inferior grade of German goods is so much greater, the sale of the British product is not pushed, but such manufactures are merely kept as a reserve for those who should insist on getting a superior article. The immense increase in mining and smelting operations opens up a large field for such goods as are essential to these operations.

The Camanea Consolidated Copper Co., of Hermosillo, has been granted a concession to build a railway from Naco, on the United States frontier, to La Camanea, in the State of Sonora. Materials will be wanted in December.

There is reported to be a steady demand at Monterey and vicinity for a variety of manufactured articles, including good steel hoes, steel shovels, electric feed wire, telephone and telegraph wire, etc., steel rails, fire brick, cast iron pipe, Portland and

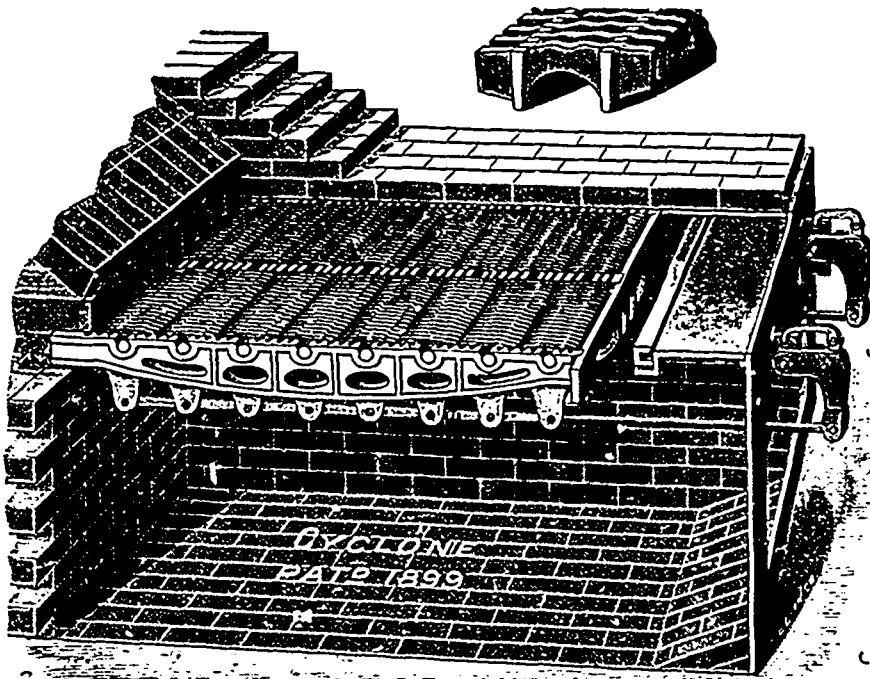
THE CUMMER DRYERS. FOR **Mechanically Drying Everything**
THE F. D. CUMMER & SON CO.,
HUNDREDS IN OPERATION. **CLEVELAND, OHIO.**

John R. Barbor, President.

Geo. E. Challos, Sec.-Treas.

Henry Truesdell, Bus. Man.

THE CYCLONE GRATE BAR



Simplicity, Durability, Economy.

FIRST TEST at Hamilton Asylum was reported as follows: Was taken with the Grate Bars put in by Waterous Engine Co. of Brantford.

People's Coal used.....	1,950 lbs.
Water Evaporated.....	18,400 "
Weight of ash remaining.....	552 "
Test commenced.....	at 9 a.m. April 17th.
Ended.....	at 5 p.m.

SECOND TEST was made with Cyclone Grate Bar of Toronto, with the following results:

People's Coal used.....	1,850 lbs.
Water Evaporated.....	20,608 "
Weight of ash remaining.....	315 "
Test was made.....	April 21th.
Test commenced.....	at 9 a.m.
Ended.....	at 5 p.m.

These tests were made under 75 horse power Boiler in west boiler house main building.

(Sgd.) **J. W. MARTER,**
Chief Engineer.

TESTIMONIAL

MESSRS. THE CYCLONE GRATE BAR CO.,
 Limited, Toronto.

GENTLEMEN,—Replying to yours of recent date, we are pleased to state that the Grate Bars put in some months ago are giving splendid satisfaction. Would not do without them.

Yours truly,

SCHAFFER, KILLER & CO.

August 10th, 1900.

W. G. BLACKGROVE,

Gen'l Agent for Ontario,

Office, 10 KING ST. WEST,
 TORONTO, CAN.

Manufactured by... **Cyclone Grate Bar Co. Limited,**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Roman cement, calcium carbide, barbed wire fencing, typewriters, leather belting, china and porcelain ware, windmills, liquors, horse-shoes and carpets.

THE CANADIAN MANUFACTURER is in receipt of a letter from a party in the city of Mexico who desires to be placed in communication with parties who would supply as follows:—

A steel hull river steamer which can also be used for towing purposes; length 65 feet, breadth 15 to 18 feet, powerful machinery, speed 12 to 14 miles per hour, two decks—one for accommodation of second class, and upper deck for first-class passengers with awning and ladies' room to contain four beds. Boiler for wood fuel. Draft of water not exceeding 20 inches when carrying 15 tons of cargo and 30 passengers.

A stern wheel steel hull steamer 60 feet long maximum draft of water 24 inches. Boiler for wood or coal fuel. Power sufficient to tow a barge of 25 tons cargo capacity at the rate of five miles per hour against a five mile current.

A complete outfit of machinery for an extensive tanning establishment upon which about \$100,000 gold is to be expended.

Further particulars may be had upon application to THE CANADIAN MANUFACTURER, Toronto.

UNITED STATES.—For the past two years the domestic Portland cement industry has been overtaxed with orders far in excess of the capacity of the mills to supply, and at the same time about 2,000,000 barrels were annually imported. This enabled American mills to dictate high prices, and thus com-

pensate for a long previous period of depression, during which American Portland cement was under the ban of prejudice. This era of high prices stimulated production; old mills were enlarged, new mills were projected and built. In the State of Michigan, alone, fifteen new plants have been erected or are under construction, not counting numerous projects under consideration. There are fully eighty plants in being, or under way, in the United States and Canada, that will in the near future compete for trade in the two countries. The present decline in prices must be regarded as legitimate and based upon the law of supply and demand.

The effect of the decline in price of American Portland upon imports is uncertain; there is still a considerable import and export traffic of cement between England, Germany and Belgium, notwithstanding that each country named is a large producer. It is therefore reasonable to assume that the high grade European cements will still find a market in the United States, especially along the Atlantic coast line. Rates from German ports have already been cut to America, while another project has been canvassed to ship in bulk from the German mills to American ports, and repack for distribution after American methods.

The imports of Portland cement into Canada in 1899, and the value thereof, were:

Great Britain.....	\$124,296
Belgium	232,434
Germany	72,495
United States	42,701

Total\$471,926

EUROPEAN COUNTRIES.—The street railway from Naples, Italy, to Caivano is to be converted to electricity.

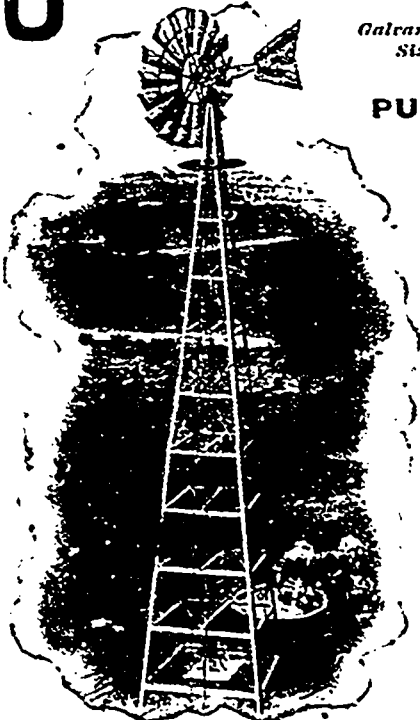
In response to a recent Department instruction United States consuls in Europe have sent a number of reports regarding the opportunities for the sale of typesetting machinery there. The consuls in Germany report that machines of domestic manufacture at present comprise all that are in use, many being, however, of American design but made in Germany by a licensed agent of the American proprietors of the original patents. In France no typesetting machines are at present in use except in Paris, but Messrs. Moullot fils aîné, of Marseilles, one of the largest printing establishments in the country, offer to undertake the agency for American machinery of this class in France. In Belgium, no American typesetting machines are in use, and the same is true of Italy, the few that are in operation being of German or English origin.

A large agricultural machine works is being established at Szent-Lovincez, near Budapest, Austria-Hungary, to employ 500 men. Considerable improved machinery may be imported for this plant. A tool factory is to be built at Essegg, Austria-Hungary. Particulars of the Secretary of the Chamber of Commerce, Essegg.

THE PACIFIC CABLE.—Mail advices from Australia convey the intelligence that the Government of New South Wales is taking prompt steps to carry out the Pacific cable scheme so far as the contribution of that colony is concerned. As stated recently, the lowest tender for the line is £1,886,000.

STAR WIND MILLS

FOR PUMPING OR POWER PURPOSES



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

PUMPING MILLS

FURNISHED WITH OR WITHOUT TANK ELEVATED IN TOWER.

GALVANIZED

Steel Towers

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

TANKS

Any Capacity, Any Purpose

Made in Pine, Cypress, Fir or Galvanized Steel.

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

"Hoosier" IRON AND "Fast Mail" PUMPS

Designs and Prices Furnished. Write for Catalogue.

Address **FLINT & WALLING MFG. CO.**

"STATION A"

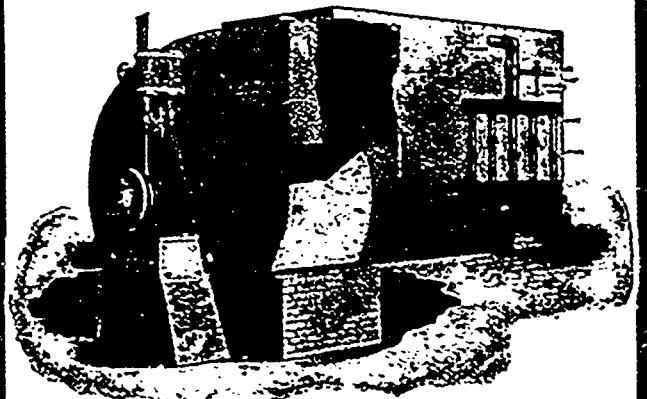
KENDALLVILLE, IND.

Buffalo Fan System

- OF -

HEATING

and VENTILATING



Type of Apparatus for Single Duct Installation.

BUFFALO FORCE COMPANY, BUFFALO, N.Y.

CANADIAN REPRESENTATIVE:

E. A. WALLBERG, 410 Temple Building, Toronto

but from reliable information it appears that, including extras, the total cost of the cable will be £2,066,000, whereas the original estimated cost was £1,730,659. The contributors to the cost of construction are Great Britain and Canada, each of which pay one-third of the cost, and the four Australasian colonies, New South Wales, Victoria, New Zealand, and Queensland paying the remaining third.

Some difficulty has arisen in regard to the appointment of a successor to Sir Julian Salomons on the Pacific cable board, and until this appointment is settled it is not likely that the contract for constructing the cable will be awarded. It is officially estimated that the cable will take eighteen months to lay.

DENMARK—When the Free Port of Copenhagen was opened five years ago, says the Journal des Transports, the detractors of the movement predicted that it was a business which would never show any profit, or be of any use to the country. Experience, however, has not justified these unfavorable views.

The following table shows the number of sail and steam ships that entered the Free Port in the years indicated :

	No.	Tons.
1895	2,329	260,117
1896	2,485	322,200
1897	3,351	502,890
1898	4,560	786,622

In the interior of the Free Port industrial and commercial business has considerably developed.

According to official statistics, in 1895 there were 187,000 tons of goods landed at

the Free Port; in 1896, 199,000 tons; in 1897, 464,000 tons; in 1898, 607,000 tons; and in 1899, more than 800,000 tons.

If the development of the Free Port continues to show the proportionate increase annually, the area which at present is about 148 acres, will soon have to be increased.

GUATEMALA.—American Consul McNally, in reply to inquiries as to the introduction of American goods into Guatemala, has forwarded a report on the subject. He says the first consideration is to learn the wants of the people and cater thereto, which is not done by distributing catalogues of goods. Experienced travellers, having a speaking knowledge of the language, and carrying a full line of samples, must be sent to the country, fully prepared to demonstrate the superiority of their goods. It is a rare thing to see an American representative in Guatemala, while German, English and French drummers are always in evidence. Foreign houses send men specially to ascertain the wants of the people and the classes of goods desired, and then they manufacture to suit the trade. Indians form the bulk of the purchasing population of Guatemala, and articles of superior quality, but, of course, dearer, are laid aside for the cheaper article glossed over with a veneering pleasing to the eye. "An English firm is at present manufacturing a hoe, advantageously titled the 'Guatemala hoe,' which sells in this market for 13s. (\$3.26) per dozen, enormous quantities being sold. The American hoe, of better finish, but in no way better adapted for the purpose, commands \$3.50 per dozen." Generally speaking, an inferior article of bright and lurid finish will find a ready sale. Guatemala imports from Germany en-

amelled kitchen ware, musical instruments, umbrellas, cheap hats, leathers, shoe elastics, crockery, hardware and cutlery, paper, cheap cloths, beer and wine. From England: quantities of white goods, prints, threads, cashmeres, cheap haberdashery and farming implements. From France: perfumery, drugs, silk goods, wine and liquors. From China: silks, rice, cinnamon and tea. From Chili: wines, flour and beer. Spain has recently obtained recognition by shipping a cheap grade of blankets, underwear, revolvers, cigarette paper and wine. The United States rules the market in flour and groceries.

In the introduction of goods into Guatemala, shipping is an important factor. Goods from New York via the Isthmus of Panama take one month to arrive in Guatemala city, the freight being \$22 per ton of 2,000 pound. Cargo is carried from Europe via the Straits of Magellan at a cost of 22s. (\$5.34) per ton of 2,240 pounds, and reach in about seventy-five days.

Short credits are an obstacle to the extension of trade with South and Central American Republics. European houses give six months from the date of the invoice, and are not unduly excited if the account is a little overdue.

The method of packing is one of the drawbacks to trade. With foreign business houses packing is a fine art. Seldom does an article come broken or damaged, and, if this should happen and demand be made for a rebate, the firm would grant it immediately, making apology for the accident.

Foreign firms, particularly Germans, have a power of imitation that helps to increase their business with these countries. They acquire a knowledge of the habits and

THE BEST PIPE THREADING and CUTTING-OFF MACHINES

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

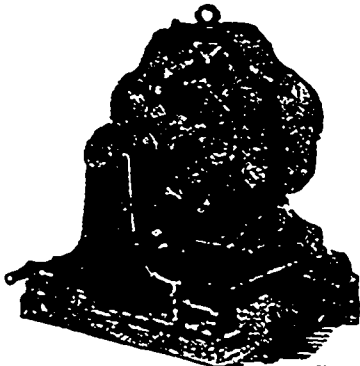
Also Manufacturers of a FULL LINE of **ADJUSTABLE STOCKS and DIES** and Water, Gas and Steam Fitters' Tools.

Send for Catalogue 27.

Factory: BRIDGEPORT, CONN.

New York Office: 139 CENTRE STREET.

Electrical Construction Co. of London, Limited.



MULTIPOLAR MOTORS & DYNAMOS

And Direct Connected Plants for Isolated Lighting.

Repair Work a Specialty.

HEAD OFFICE AND FACTORY:

90 YORK STREET, London, Canada.

760 Main St., Winnipeg.

42 York St., Toronto. 131 Granville St., Halifax.

RICE LEWIS & SON, LIMITED

HARDWARE and METAL

Bar Iron, Steel,
Boiler Plate Tubes.

**MACHINIST TOOLS,
PIPE FITTINGS.**

A COMPLETE STOCK OF

STOCKS and DIES. PIPE VICES.

STILLSON & TRIMO
WRENCHES.

STEAM PIPE.

Cor. King and Victoria, TORONTO

Toronto and Hamilton
ELECTRIC CO.

SECOND-HAND DYNAMOS

IN GOOD CONDITION,
WILL SELL CHEAP.

We have in stock the following Incandescent Dynamos, 110 volts:

- 200 Light Multipolar.
- 120 " Bipolar.
- 60 " Multipolar.
- 80 " Bipolar.
- 16 " Bipolar.


Write us for Prices.

99-103 McNAB ST. NORTH,
'Phone 958 **HAMILTON.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The **BOURNE-FULLER CO.**
IRON, STEEL
 AND
PIG IRON
CLEVELAND, OHIO, U.S.A.

Perfectly Satisfactory.
 THE BURT MFG. CO., Akron, Ohio.
 Gentlemen,—Replying to your letter of the 29th inst., we beg to advise you that the **CROSS OIL FILTER** we have is cleaning the oil and doing its work in a manner perfectly satisfactory to us.
 Very truly yours,
 BURT MFG. CO.,
 Akron, Ohio, U.S.A.
 It will save half your oil bill.
 Catalogue No. The Burt Mfg. Co. Akron, Ohio, U.S.A.




TO EXPORTERS AND IMPORTERS

The Publishers beg to draw attention to the preparation of the 15th edition of the "MERCHANTS, MANUFACTURERS' & SHIPPERS' DIRECTORY OF THE WORLD," containing classified lists of Trades and Tariffs for all countries. Highest award—Gold Medal—Paris, 1900. For further particulars, charges for advertisements, etc., apply

Dominion Branch, Kelly's Directories Ltd.

71 Victoria St., Toronto, Ont.

Lists of addresses furnished for all trades—all countries.
 W. P. Dent, Manager. Head Office, London, W.C. Eng.

tastes of the people and of the prices they usually pay for certain articles of home manufacture, such as wearing apparel, etc.; they then make the same article, underselling the natives themselves. For instance, the Indians make a certain article called the mountain coat. They spin and weave the raw cotton and wool in the crudest possible way, yet the garment is woven so closely that it is practically waterproof. The Germans imitate this article so closely that the Indians themselves cannot tell the difference; and, to cap the climax, give them to the Indians to sell.

GREECE.—Consul McInley writes from Athens:—

Owing to the tariff troubles between Turkey and Greece, the Greek importers of timber are considering the question of importing from some other country the large quantities of timber, lumber, staves, etc., which they have heretofore annually brought from Turkey, and I think it well to inform American exporters of this fact, that they may have a chance to make a bid for the custom of the Greek market. As Greece does not produce any timber for manufacturing purposes, and very little for any use, she is obliged to import nearly all she consumes. In 1898, the latest year for which Greek import statistics have been published, Greece imported woods for building and manufacturing purposes valued at 7,709,746 francs (\$1,511,710.98) from Austria, Turkey, Germany, Roumania, Russia, Italy, France, United States, Belgium and England, these countries furnishing portions of the whole in the order named. Austria and Turkey produced the largest part of all the woods imported, while the United States furnished a few thousand staves for current barrels.

The demand for woods of all kinds is rapidly increasing in Greece, and the local prices are very high. The great distance will make the freight on timber from the United States much higher than from any other of the countries named; but with a

direct line or lines of steamships connecting Greek and American ports, there would be a good chance to open up the Greek market for our native timbers—a market in which the demand for good qualities will annually increase.

THE FAIRBANKS CATALOGUE.

The Fairbanks Co., of Montreal, have just issued their new supply catalogue, and to whom we are indebted for this opportunity of reviewing it.

It is a large and handsomely bound volume of a thousand pages, containing nearly 2000 cuts and photo-engravings. It shows in a most complete manner the large and varied stock this well-known house carries.

Commencing with "The Fairbanks Standard Scales," they show most excellent cuts of their platform, baggage and railway scales. These cuts have been executed with the greatest care and fidelity, and give a most comprehensive idea of the most intricate weighing machines.

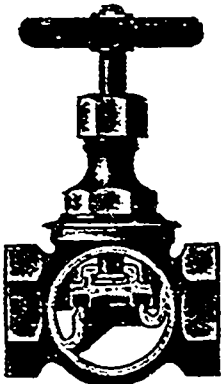
Then follows a most complete catalogue with large electros of the Fairbanks asbestos disc valves, and asbestos packed cocks, also complete pipe lists, and pipe fittings, and a large and varied line of pipe tools, all illustrated in the most complete manner.

Then follows a large assortment of steam specialties, such as the Foster pressure regulating valves, in which they are doing a large and increasing trade.

They are also showing a complete catalogue of their pipe treading machines, emery wheel grinders, and emery wheels, with price lists complete. The drill and reamer department seems particularly complete and is illustrated with the same attention to detail, which is in fact a characteristic of the entire catalogue.

Trucks of all descriptions and mining barrows are also given a liberal space, as well as many other articles too numerous to mention.

FAIRBANKS VALVES



A. D. GLOBE.

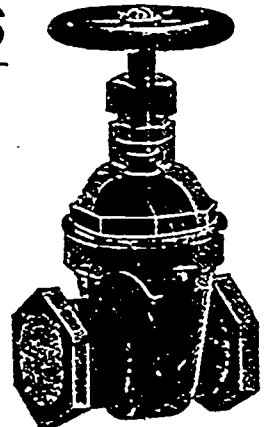
The Globe Valve

Has enough metal to stand the strain of expansion and contraction; has the best and simplest renewable disc made; stuffing boxes all packed with "VULCABESTON."

ASBESTOS HAND

The Gate Valve

Has two renewable seat rings VULCABESTON or BRONZE, as desired; Renewable Wedge; Double seated. Made in all sizes in Brass or Iron.



A. S. GATE.

THE FAIRBANKS COMPANY, 749 Craig St., Montreal.

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



Wire Screens for Every Class of Material.

Perforated Metal of Steel, Copper, Brass, Zinc for all purposes.

Special Attention given to Minors' Requirements.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

We are sure this catalogue will be most gladly welcomed by the trade, as there is a large amount of information to be obtained by studying its contents, and everyone in the hardware, plumbers, and steam fitter lines, should examine for themselves.

A photographic reproduction on a smaller scale is being prepared for general distribution.

ALUMINUM TRANSMISSION CABLES.

The Niagara Falls Power Co., Niagara Falls, N. Y., are erecting a new transmission line to Buffalo along the right of way already owned by the company. The poles are not so large as the poles of the original line. On the cross arms three cables of aluminum are being strung. These cables are bare and of much larger diameter than the copper cables on the old pole line, but their capacity will be equal to that of the copper cables.

This is the first time that the Niagara Falls Power Co. has put aluminum cables in use, and the result will be watched with much interest. One reason for this will be that the aluminum is manufactured on the lands of the Niagara Falls Power Co. and another that the voltage on the transmission line to Buffalo is to be increased from 11,000 volts to 22,000. Aluminum transmission lines are in use in other places and all of them are giving the best of satisfaction.

Regarding the use of aluminum as a substitute for copper, Prof. Trowbridge, Director of the Jefferson Physical Laboratory in Harvard University, led by the rise in the

price of copper to discuss in the current Independent the question whether a substitute for that metal can be found. Aluminum is the metal selected for consideration, a natural choice enough when regard is had to its growing use in industry. The price of aluminum has steadily declined. In 1859 it cost \$90 a pound and thirty years later it had declined to \$2, while to-day aluminum castings can be procured for 65 cents a pound. The metal is being employed in the making of kitchen utensils, and a great number of small articles are made from it. In France it is used experimentally in the making of camp utensils, apparently with satisfactory results.

Aluminum is generally commended for its lightness, strength and comparative freedom from oxidization. At the same time it has certain defects which it is well to bear in mind. These defects are largely due to the presence of impurities, a particular in which, however, commercial aluminum has much improved of late. Still the fact remains that commercial aluminum is generally impure and it is acted upon by moisture, especially if there is salt present. In regard to weight and strength, it cannot compete in price with various kinds of wood. It is not so easily worked, and is not made so homogeneous as steel. It does not enter yet into carriage manufacture or bicycle industries, or rolling stock in general, but in the electrical industries its prospects appear to be brighter than in other directions. Occasionally we hear of the employment of aluminum on a large scale in such industries. At Niagara Falls, for example, great conductors of aluminum are used to transmit electrical

Toronto Woolen Machinery Co.

MACHINERY WANTED and FOR SALE

For Immediate Delivery.

- Two 18x18 Iron fr. Cards, D. & F. make, clothed.
- One 18x18 " "
- Two Self Operators, D. & F. make good order
- Two 20 Spindle Hand Jacks, cheap, D. & F. make.
- One 18in. G. & McC. iron frame Wool Picker.
- One 24in. " " Roll Card, clothed, cheap, st. fr.
- One " " " " " " " " wd. fr.
- Four 22in. Row Jack, 4x1 Box, Crompton Looms.
- Two 18in. D. & F. Double Cam Looms, good as new
- Four 13in. 4x1 Box Crompton Looms.
- Three Spoolers, 48 Spindles.
- Two 11 Spindle, 2in., D. & F. Ring Twisters.
- Two 7 1/2 " " 3in. " " " "
- One 7 1/2 " " 3in. " " " "
- One 6 1/2 " " 3in. Fly Twister.
- One 3 D. & F. Double Cloth Brush.
- One 3 G. & McC. Single " "
- One Rotary Felling Mill.
- One 2-String Cloth Washer, Karch make.

A lot of Second-hand Card Clothing, good as new.
Lot of Steam Piping, Shafting, Dye Tanks, Boiler and Engine, etc., etc.

We also are Builders of the **EMPIRE BALING PRESS** for baling paper, rag, shoddy or wool.

TORONTO WOOLEN MACHINERY CO.
118 DUKE ST., TORONTO.

The Wm. Hamilton Mfg. Co.

Peterboro, Ont., Can.

Acting as the Patentee's Licensee,
Are prepared to manufacture and supply

SAVERY'S PATENT SHAKE FRAMES

FOR
FOURDRINIER PAPER MACHINES.
As Described in
CANADIAN PATENT No. 57,519.

Protection Against Fire

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

AUTOMATIC SPRINKLER SYSTEM

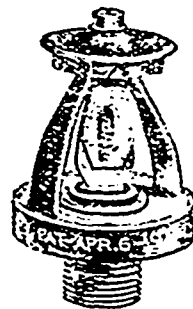
From 40 to 70 per cent. of cost of insurance saved by putting in an

AUTOMATIC SPRINKLER EQUIPMENT

Over 3,990 Fires—
—NO FAILURES

No charge for estimating

Endorsed by Insurance Companies



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

YOU ONLY GET BRILLIANT MOUNTINGS

—BY THE USE OF—

TRIPLE EXTRACT

Sutton Polishing Compound

FOR SALE BY ALL THE LEADING GROCERS, HARDWARE AND HARNESS SHOPS OR THE MANUFACTURERS

The Wm. Sutton Compound Co.
of Toronto, Limited.

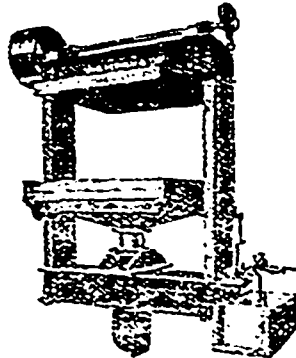
WM. R. PERRIN & CO.

122 Church St., Toronto.

MANUFACTURERS

**Hydraulic Presses,
Screw Presses,
Filter Presses.**

SEND FOR CATALOGUE.



currents from the power house to the works. The amount of aluminum in the conductors weighs 22,000 pounds. The same work in

E. B. THOMPSON,
CUSTOM HOUSE BROKER
 GENERAL FORWARDING
 and TICKET AGENT,
 Correspondence
 Solicited. **38 YONGE ST., TORONTO.**

SOUTH AFRICA.

Messrs. Kelly's Directories Limited, (London, Eng.,) beg to announce that a new edition of the **General Directory of South Africa** is now in course of preparation and desire to draw the attention of Canadian Manufacturers to the importance of the work as an advertising medium for making their goods known to buyers in South Africa. Being the Standard Work it reaches the very people whom manufacturers desirous of opening up or extending their export trade with South Africa, would desire to get in touch with, **THE ACTUAL BUYERS THEMSELVES.**

For further particulars, charges for advertisements, etc., apply to
 Dominion Branch, Kelly's Directories Ltd.
 71 Victoria St. Toronto, Ont.
 W. P. DEER, Manager.
 Highest award—Gold Medal—Paris, 1900.

copper would require 48,000 pounds. The conductivity of the aluminum as compared with copper is sixty-three per cent., but for the same weight it is more than double. Aluminum cables require more insulation, but enable longer spaces to be used, thus reducing the number of poles and insulators.

One important obstacle to the use of aluminum as a substitute for copper exists, however, in the difficulty of soldering and brazing two pieces of the metal together. Many solders or fluxes are described for accomplishing this connection, but they cannot be said to be commercially practicable, and the necessity of such an art of connection is imperative in electrical industries. Professor Trowbridge suggests that although aluminum may be used for overhead telegraph lines, it seems to be effectually barred from competition with copper in cable work for the reason that, in order to compete in electrical conductivity with copper, an aluminum wire must have nearly twice the section of a copper wire of the same conductivity. This increases the size of the cables and also increases the electrical capacity, which is detrimental to the speed and proper transmission of electrical waves. In general, it is suggested that the use of aluminum wire instead of copper would lead to a greater size of apparatus, since the conducting parts would have to be approximately twice as big. So also the element of labor in working the material in comparison

with a similar employment in the case of copper and brass would have to be considered, for no mechanic would work with aluminum if he could take copper or brass.

WOMEN AS INVENTORS.

The world now realizes that there are female geniuses in our midst as well as male geniuses; that they are to be found not alone in the literary world, but likewise in the world of art and mechanics, and, of course, invention. Their achievements in the last mentioned sphere have already been considerable, and they are destined to accomplish much greater things therein than has yet fallen to their lot. The world will thus be greatly enriched and mankind ought to be grateful.

The assignment division of the United States patent office evidences the fact that out of the mechanical devices, not a few women have realized fortunes and earned fame.

Mr. Edison, the great inventor and electrician, has a high opinion of women as machinists. He says that women acquire more fine sense about machinery in one minute than most men do in a lifetime. The distinguished mechanic, it is explained, supports the theses in a practical way in that he employs about 100 women workers, for he prefers them as machinists for the delicate details of his electrical inventions.

THE BEST IS NONE TOO GOOD

**SYRACUSE
 BABBITT**

**BEATS
 THEM
 ALL**

The largest machinery builders in Canada and United States use our Babbitt Metal.

Is this not sufficient proof of its superiority over other anti-friction metals?

If the largest users are satisfied with our Babbitt Metals, why should it not suit you?

We can furnish you with numbers of testimonials.

Importers and Dealers in

FIG TIN
 ANTIMONY
 INGOT COPPER
 ALUMINUM

NICKEL
 BISMUTH
 IRON AND STEEL
 SCRAP



Manufacturers of

BABBITT METALS
 SOLDER
 TYPE METALS

COLUMBIA
 PHOSPHOR TIN
 AND ALL OTHER
 WHITE METALS

SYRACUSE SMELTING WORKS,

WILLIAM and ST. THOMAS STREETS,

MONTREAL

Shafting—Hangers—Pulleys

FRICION CLUTCH PULLEYS AND COUPLINGS

Rope Transmission of Power.

HANDSOME ILLUSTRATED CATALOGUE ON APPLICATION.

DODGE MANUFACTURING CO. OF TORONTO, Limited, - - TORONTO.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

SHUTTING DOWN BOILERS.

Speaking of the care of boilers, pumps, etc., just previous to shutting them down for any length of time, an engineer, quoting an expert who said that it is easier to wipe off water than rust, said recently that every engineer has his choice in the matter, though one would hardly think so from the amount of rubbing and scrubbing and hurry which frequently takes place when the heating system is needed again. After a pump, for instance, has stood for several months just as it was shut down it is the exception where it does not require a few hours, at least, of hard, dirty and frequently unsatisfactory work, to say nothing of the liberal use of emery cloth and oil, to put it in good working condition again. It is safe to say that fifty per cent. of the usual amount of work when everything is left can be saved by doing it as soon as the machine is stopped.

There is no instance in which the truthfulness of the old adage "an ounce of prevention is worth a pound of cure," is more fully realized than in a plant where these matters are neglected. An engineer who is willing to have good machinery deteriorate as rapidly as it will when standing idle and neglected, certainly takes no interest in his work, nor is he working for the interest of his employer. To put machinery in proper condition for a long standstill is not a difficult thing to do.

The principal thing is deciding upon what course is best to pursue and what needs attention. As one must first know

how a machine should work when in good order to be able to tell when it is out of order, it will not take many minutes for an engineer to decide which of the several machines need repairs and which do not.

The worst job is nearly always to be found at the boiler. Suppose that we allowed the fire to go out two or three days ago. The boiler and setting will now be cold, and will afford excellent opportunity for working in and around it. Before disturbing anything it will be well to inspect the boiler externally first, in order to locate small leaks which may have started and which escaped detection while the boiler was in operation. These small leaks, which would lead to larger ones if neglected, can now be located after brushing the bottom and sides of the boiler, and after the deposits back of the bridge-wall, have been removed. Even a small leak can be located at this time by a

white wedge-shaped stain on the rivet head which marks the path of the escaping water and steam. A very light rubbing will render this white spot invisible, and it is for this reason that the work of inspection should come first.

While in the furnaces the girth and longitudinal seams must be carefully examined for leaks, running the lamp or torch close to the rivets and the edge of the lap. If a leak is discovered, instead of calking it then and there it is a good plan to mark the rivet or the point in the seam with a piece of chalk, so as to avoid jarring the boiler until all the leaks have been discovered. When using a poor grade of soft coal this is the better plan, for in many cases the black dust and soot adhering to the plates have been loosened by the blows and fallen over a small leak, covering it so that it has escaped detection. —Commercial Bulletin.

The Underwood Typewriter



Visible Writing from start to finish.

The descriptive pamphlet, or any stenographer using the Underwood Typewriter, will explain why 1,000 of these machines have been sold in Canada in one year—more than all others put together.—Visible writing and the tabulator are winners.

SOLE CANADIAN AGENTS,

Creelman Bros. Typewriter Co.,

15 Adelaide St. East, TORONTO, ONT.

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

Established 1849.

BRADSTREET'S

Capital and Surplus, \$1,500,000

Offices Throughout the Civilized World.

EXECUTIVE OFFICES,

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

Correspondence Invited.

OFFICES IN CANADA:

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

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

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

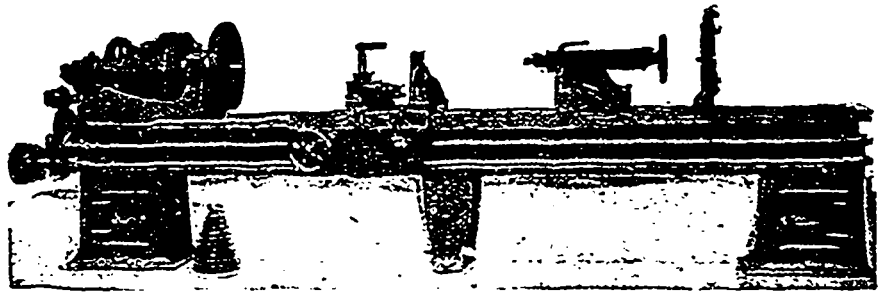
The London Machine Tool Co., LONDON, ONT.

LATHES,
PLANERS,
DRILLS,
SHAPERS,

MANUFACTURERS OF

General Machinery

HAMMERS,
BULL DOZERS
PUNCHES,
PRESSES.



There is only one Profitable Plan—BUY NORTHROP LOOMS

With them the Future is Assured.
They are no Experiment.

Thousands have been running in the United States, and a large number are now in Canada. Sales steadily on the increase.

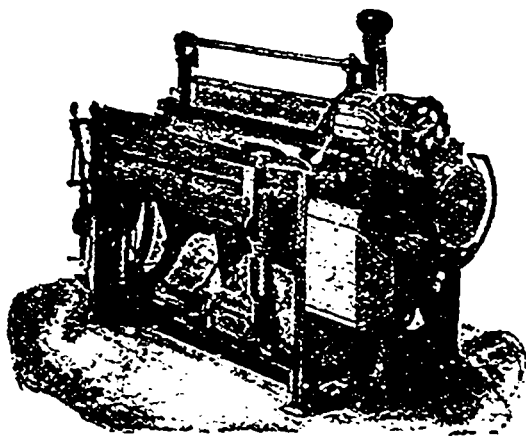
"The Mills that refuse their opportunities will find their future utility serving as picturesque ruins in the landscape."

We also Manufacture the Best Warper at present Known—also Spoolers.

Write for particulars and quotations. Address

The NORTHROP LOOM CO. OF CANADA, Ltd.

VALLEYFIELD, P.Q.



THE NORTHROP LOOM.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

BELTING

EXHIBITED BY

D.K. Mc LAREN

MONTREAL &
TORONTO.

AWARDED

SILVER MEDAL

PARIS EXPOSITION

1900



IMPERIAL PURCHASES IN CANADA.

The boot is not always on the wrong foot regarding British-Canadian trade, as witness the following :

Orders from the Imperial Government filled in Canada during 1900 :

3,076 sets of saddlery.....	\$118,463
5,114 numnahs	16,109
2,000 numnah panels.....	4,410
40,000 greatcoats.....	180,180
50,000 pairs trousers, khaki.....	95,020
50,000 serge frocks, khaki.....	130,725
10,000 tent-pin bags.....	5,460
50 transport wagons.....	18,375

\$568,742

For the Indian Government, China expedition.

33,675 greatcoats.....	\$268,341
43,300 pairs long stockings	23,841
29,000 leather moccasins.....	82,737
1,320 fur caps	3,118

\$379,077

The above are all of Canadian material, manufactured and shipped from Vancouver on October 3. Grand total, \$947,819.

Negotiations are going on for the following supplies :

2,200 wooden huts for South Africa	\$2,650,000
110 wooden huts for China.....	132,000
2,000 tons firewood for China.....	4,000
300 transport wagons	105,000

\$2,881,000

Tents and boots—Samples have been submitted to the War Office, and large quantities will be required.

There has been also supplied, through the Agriculture Department, hay, oats, jam, etc., to the value of about half a million of dollars.

TO BE TAKEN ON TRIAL.

The Pusey & Jones Co., of Wilmington, Del., who have the exclusive control of the Bertram economizer (Fullner patents) in the United States and Canada, are now taking a very practical and commendable way of convincing paper mill owners of the intrinsic value of these pulp savers. They have decided upon a plan, the originality of which commends itself to all interested parties. It is perhaps the first instance on record where a manufacturer of paper machinery has proposed to furnish free of charge, a paper machine to mill owners for experimental purposes.

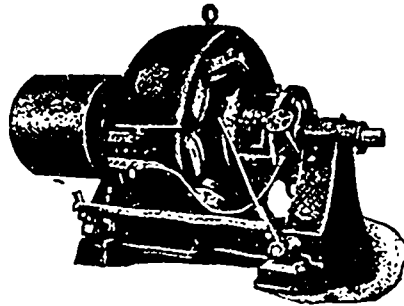
The managers of the company, says The Paper Mill, are now building a small portable paper machine which will be loaned to paper mill owners who desire to make thorough and accurate tests of the merits of Bertram's patent economizer, an apparatus which is now in successful operation in many first-class paper mills in Europe.

The portable paper machine can be easily transported to and erected in any paper mill and the material which may be saved by the economizer will be run over the machine and accurately weighed. Every pound of material collected by the pulp saver will thus be brought to the attention of the interested parties.

In this way any paper mill owner can ascertain every day, or every hour, the exact character and amount of stock and clay being saved by the economizer, and arrive at a correct conclusion as to the value of the apparatus to him. Having ascertained the number of pounds of material which the apparatus will recover from the slowage of

**The Jones & Moore
ELECTRIC CO.**

ELECTRICAL CONTRACTORS



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

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

20 and 22 ADELAIDE W., TORONTO.

ROBERTS & CO., PATENT SOLICITORS

PROPRIETOR BANK BUILDING, MONTREAL.
Twelve Years' Examiner in U. S. —No PATENT Patent Office. Write for Red Book. —No PAY.

TALISMANIC BELT DRESSINGS WILL INCREASE YOUR POWER



Prevents Belts Slipping.

Prolongs Life of Belts.

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

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

**JOHN W. BOWDEN & CO.
67 Adelaide St. E. Toronto, Ont.**

**RICHARD SCHOFIELD,
TORONTO**

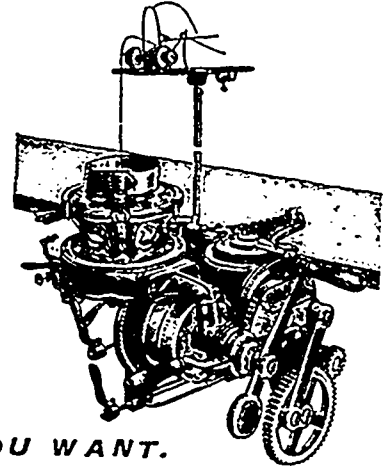
Sells "BRANSON THREE-QUARTER AUTOMATIC"

KNITTING MACHINES

AND ALL OTHER KINDS OF

Hosiery and Underwear MACHINERY

ASK US FOR WHAT YOU WANT.



Paper Mills and Pulp Mills

And all Users of ENDLESS FELTS get the Best Value by ordering from

**Hamelin & Ayers,
LACHUTE MILLS, QUE.**

We are now prepared to make all grades, from the finest Bristol Board to the coarsest Sulphide Fibre. With our 24 looms, and all other machinery to match, we are in a position to fill all orders promptly.

When ordering state kind of Paper or Board made, and speed of machine.

You will not be asked to pay for Felts that are not satisfactory. Every Felt is tested in our factory, and is shipped with our guarantee.

CAPACITY 1,000 SQUARE YARDS DAILY.

ADDRESS

HAMELIN & AYERS, Lachute Mills, Quebec, Can.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

water from the paper machine, it will be an easy matter to make an estimate of its worth and value to the mill owner.

THE TRADE JOURNAL.

The trade journal is not a newspaper, as the term is generally understood. It is strictly business. It is a purveyor of industrial information, and of all things related thereto. Every class of industry has its representative paper. The shoemaker, the boiler-maker, and the candlestick-maker; the cotton spinner, the glass manufacturer, the architect and the engineer, the man who handles jewelry; and he who makes pig iron, tin plates, or horse shoes, and all the way along the line from a pocket knife to a locomotive,

can put his finger on what he wants to know in his particular trade journal, as easily as he puts on his gloves or his hat. Nothing can take the place of the trade paper in this matter. The average newspaper has neither room or inducement to specialize on strictly technical matters. The general public demands something more savory and sensational, and has no direct interest in what is being done in a machine shop or a shipyard. The taste for spiced viands has to be gratified, and a yacht race or a prize fight, a sensational crime or a malodorous scandal, is a raker in of shekels and a feeder of popular patronage. The trade journal is not a garden of garlic, or a laundry for politicians, and its patrons are restricted to industrial circles. In this lies its special

virtue. It has one object and it sticks to it. If a manufacturer wants a machine or a mechanic, or latest improved tool, he has but to consult his trade journal to get in its pages what he cannot get elsewhere. He can make his comparisons of costs and efficiency, can place his orders at the price of a postage stamp, and with a pen or a typewriter can in a few minutes make and close important transactions. It is the trade journal that makes this possible. *Otherwise the sales agent or the vagrant circular, and a mail bag of inquiries would be the time-eating and money-eating conditions of locating a manufacturer, and getting a full text of his specialties.* It is this feature of the trade journal that makes it the best advertising medium of modern times. It brings buyer and seller in closer contact. The arrow goes straight to the mark. If a pump is needed, or a windlass, a lathe, or a drop hammer, an anvil or an iron bridge, the advertising of the same in the trade journal is frequently the only up-to-date directory of places and persons where such can be had. It goes without the telling that most of the sales of machinery, tools and related equipment, are brought about by advertising literature in trade journalism. This fact in many instances ought to be more appreciated than it sometimes is, at the selling end of modern business.—The Age of Steel.

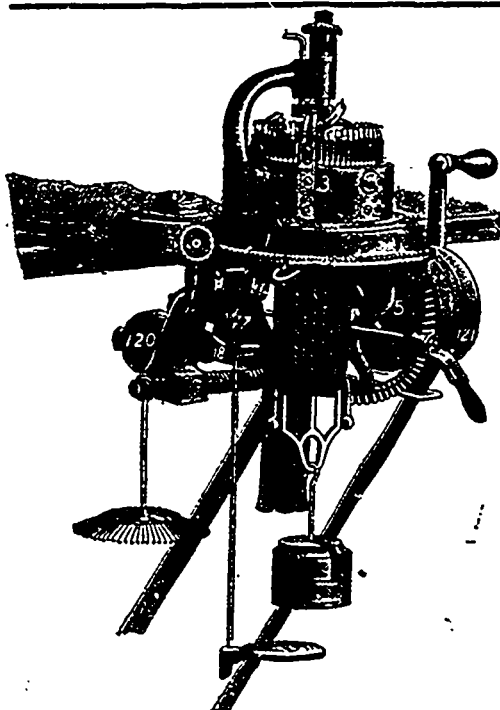
McLaehlan Electric & Gasoline Motor Co., LIMITED.
94 ADELAIDE ST. WEST.
TORONTO
MAKE Gas or Gasoline Engines from 1 h.p. to 6 h.p.
 Stationary or Marine and Electric Motors from ½ h.p. up.
 Motor Carriages for Pleasure or Business. One cent spent for a postal will bring you any information you wish.

The Packard Electric Co., Limited.

ST. CATHARINES, CANADA,

Makers of **Lamps,**
Transformers

Sole Agents for Canada for SCHEEFFER RECORDING WATT METERS,
 D. & W. ENCLOSED FUSES, and DIAMOND C.P. ELECTRICAL SUPPLIES.



Seamless Hosiery KNITTING MACHINES

WE have been hard at it for nearly
 1/3 of a Century.

We have had Success.

Our Customers have had Success.

Why? MERIT and SUPERIORITY
 in our Machines tells the story.

CATALOGUE FREE.

CREELMAN BROS.,

Manufacturers,

GEORGETOWN, ONTARIO, Canada.

ON A FROG RANCH.

Frog farming has become an important business, especially near the large cities. At Stege, a small station about twenty miles from San Francisco, is a famous frog farm. It is on a ranch that extends along the shore of San Francisco Bay, and it comprises about a dozen acres of land and water. In the low ground, near the bay, many springs of water bubble up out of the soil. These were surrounded by a hedge of cypress, and the water was confined as to form three big ponds.

Around each of these ponds is a fence of wire netting, high enough to keep the frogs from escaping, and the ponds are filled with aquatic plants, moss, and everything necessary to make the croakers feel contented. When the ponds were first stocked with frogs, only a few hundred were put in the enclosure; but since that time, the population has grown so rapidly that thousands of frogs are captured, and sent to market every year, without apparently diminishing the supply.

One of the first things that the frog-raiser has to learn, is to separate the "yearlings" from the full-grown ones, or "four-year-olds," else the youngsters will be eaten by their ferocious elders. A frog four years old is considered "ripe for the market," but the average bullfrog will grow steadily larger and more important, both in voice and bearing, until his twelfth year, when he is ready to croak for the last time and die of old age. At the Stege farm are several twelve-year-olds. They are monsters, fourteen inches in length, and weighing four pounds each.

When the winter approaches, the frogs bury themselves in the mud at the bottom of the pond and sleep till spring. They reappear, looking nearly starved to death. At this time the keeper feeds them with a mixture of oatmeal and blood; but this is continued, only until the frogs get in good condition, when they are left to take care of themselves. Many of the older frogs of the Stege farm are quite tame, and allow their keeper to handle them.

COAL JAS. H. MILNES & CO. COKE

WHOLESALE DEALERS IN
Best Grades of STEAM COALS.
Best Grades of BLACKSMITHS COALS.
Best Grades of FOUNDRY COKES.

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

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

THE LABOR GAZETTE.

The October number of the Labor Gazette published monthly by the Department of Labor of the Dominion Government, contains quite a number of items of general interest.

Mr. James Phair, correspondent at Halifax, N.S., speaking of the condition of labor in his district, says:—

Shipwrights and caulkers say the past season has been the best for years.

The printing trade has been brisk, the publishing of the Revised Statutes of Nova Scotia—some 3,000 pages—furnishing considerable work. The printing of the local government blue books will soon be begun.

Mr. W. H. Coates, correspondent at St. John, N.B., says:—

The lumber mills in this district are running steadily, giving employment to a large number of hands.

The clothing manufacturers are very busy, and require their hands to work overtime.

The tinsmiths and sheet iron workers are doing splendid business.

Since the decline in the building of wooden ships, sailmakers, riggers and caulkers have very little to do.

Mr. Edward Little, correspondent at the city of Quebec, writing of the different private and public works now being carried on, mentions the erection of the Great Northern Railway elevator; new Protestant Hospital, Quebec; bridge across the St. Lawrence, etc. Mention is also made of the proposed extension of the Chateau Frontenac which will give employment to a large number of hands during the coming winter. The proposed annex will contain 250 rooms, and afford accommodation for 1,000 additional guests.

The work of extending the graving dock at Levis, Que., is progressing rapidly. The excavations are completed, the masonry well advanced, it being expected that the whole work will be completed about Christmas.

A company has been organized in the city of Quebec with a capital stock of \$50,000 to manufacture paper boxes of all kinds, such

as jewel, candy, medicine, corset, glove, etc. It was expected that the factory would be in operation in October.

Mr. Phillips Thompson, correspondent at Toronto, reports continued activity in all branches of the printing trade, some of the printing offices being pushed beyond their capacity.

Mr. Robert Glockling, Secretary of the Ontario Labor Bureau, has issued to the labor organizations of the Province a schedule of questions with reference to strikes and lock-outs which have occurred in the province during 1899 and to September 1, 1900.

A prominent Toronto printing house has issued a circular to their employees in which they say that in order to create and maintain among their employees a lively interest in their work, and to stimulate thought and inventive skill in connection with both the manufacturing departments and the warehouse, they have determined to offer for competition a series of prizes, open to every employee. For this purpose the business will be divided into two departments, the manufacturing department to include the bindery, envelope room, printing room and book department, the warehouse department to include all the rest of the business. In each of these two departments three prizes are offered twenty-five dollars, fifteen dollars and ten dollars, to be awarded for the three best inventions or suggestions. In the manufacturing department the invention must be such as will have the effect of reducing the cost of production, either by improving the machinery, expediting the turning out of the goods, increasing the output or utilizing the raw material to best advantage. In the warehouse the suggestions may cover all the work of that department, and must be of some practical value in carrying on the operations of the concern.

Mr. Alexander Callander, correspondent at Guelph, Ont., says:—

The Raymond Mfg. Co. have in course of construction a new factory to enable them to meet their increasing demands for sewing machines and cream separators. The factory will cost about \$50,000. They have

also enlarged and improved their foundry, to which has been added another copula.

Mention is made of the Crow Iron Works as being one of the most prosperous in Guelph. Last year an addition was made to these works, and during the past summer further additions were made.

The Bell Organ & Piano Co. said to be the largest of its kind in the British Empire, are running to their full capacity.

The A. R. Woodyatt Co. have occupied their new factory.

A little more than a year ago the Guelph Carpet Mills began the manufacture of Brussels carpet, and fifteen weavers and twelve looms were brought from Philadelphia. The men allege that they were given to understand that they would always be paid the Philadelphia rates, but owing to a lower price being paid to weavers at Sherbrooke, Que., the wages of the Guelph workers were made to conform thereto, whereupon they quit work. The strike is against their reduction in wages.

Mr. James T. Burke, correspondent at Stratford, Ont., says:—

The condition of wage-earners in that locality is generally satisfactory. Men or women without employment are scarce.

The Whyte Pork Packing Co. are now employing about sixty hands. There is a bright prospect for this industry and its employees.

The local foundries and agricultural implement works are doing a fair business.

Mr. A. Wootton, correspondent at London, Ont., says:—

Business in London at the present time is very prosperous, almost every trade reporting plenty of work and all hands engaged. All through the past summer it was of the same character.

Mr. A. E. H. Spencer, correspondent at Vancouver, B.C.:—

Quartz mining is developing on the West coast of Vancouver Island, but as yet is not far enough advanced to employ a large number of men. Reports from reliable sources indicate that it will not be long before there will be active development work in Alberni and surrounding districts.

PITT & SCOTT

ESTABLISHED 1876.

Foreign Freight Brokers and Express Carriers TO ALL PARTS OF THE WORLD.

THROUGH BILLS OF LADING ISSUED AND RATES QUOTED TO ALL PARTS OF EUROPE, ASIA AND OCEANICA.

SENDER'S INVOICES COLLECTED AGAINST DELIVERY OF GOODS ANYWHERE ABROAD.

PITT & SCOTT, - - 39 Broadway, NEW YORK.—121 Water Street, BOSTON.

ALSO AT..... LONDON, LIVERPOOL; PARIS, HAMBURG.

AND AGENCIES EVERYWHERE ABROAD.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

LIQUID AIR AS AN EXPLOSIVE.

Mr. F. H. Mason, United States Consul General at Berlin, Germany, writes.—

Ever since it was demonstrated that liquid air could be readily produced on a commercial scale, it has been hoped and expected that one of the principal uses to which it would be applied would be that of an explosive material for blasting purposes, particularly in mines where the new explosive would have the important advantage of safety in handling and of not vitiating the air like gunpowder or dynamite, by the gases of ignition.

Some months ago a newspaper report announced that liquid air had been formally adopted for blasting purposes in the government coal mines of Germany, but inquiry proved that this announcement was at least premature. The fact appears to be that experiments—more or less successful—have been made, especially by Professor Linde, of the Polytechnic High School at Munich, but no formal adoption of the new explosive by the government bureau of mining indus-

tries has yet taken place. Among the most systematic and interesting practical experiments thus far made in this direction has been the series of tests lately undertaken by the Vienna Crystal Ice Co. in the presence of experts from the Austrian technical committee for the War Department. The liquid air used in these tests was obtained from the Linde Co., at Munich, and shipped to Vienna in open flasks, provided with the Dewar vacuum jacket and packed with felt and cotton wrappings in wooden cases, with a loose cap of felt over the open mouth of each flask. When put up at the laboratory for shipment the liquid contained seventy five per cent. oxygen to twenty-five per cent. nitrogen; but before it had reached Vienna and was used in the experiments, it had lost about half its bulk by evaporation, and what remained contained eighty-five per cent. oxygen to fifteen per cent. nitrogen. The absorbents used in preparing the cartridges were silicious marl (Kieselguhr) and solar oil, and, according to the report, two methods of preparation were employed. By one process the marl and oil were mixed in a wooden vessel and the liquid air grad-

ually added until a stiff paste was formed, which was packed in paper cartridge shells covered with abestos. By the other plan, the mixture of marl and oil was put into the cartridge, which was enclosed in a lead case with a layer of felt between, and the liquid air then poured in until the paste was completely saturated. The cartridges prepared by both methods were safe and readily transportable, and their explosive power was tested by firing at the bottom of deep holes bored in rock. The results showed that while liquid air is an efficient explosive, it is less effective than dynamite, gun cotton, explosive gelatin, or giant powder.

The consul says further:—

The conclusions of the military experts were concisely as follows: Both methods of preparing the cartridges were pronounced wasteful, and in consequence of the rapid evaporation of the liquid air they must be used immediately after being prepared; beyond fifteen minutes the evaporation will so effect the cartridge that it is likely to miss fire, and its strength cannot be even roughly guaranteed. On the other hand, the cartridges, when freshly prepared, are powerful and well adapted to coal and other mining, and, while the large amount of oxygen set free by the firing of successive charges might increase the danger of explosion in the air and gases of the mine itself, the quality of the air for breathing purposes would be definitely improved.

The net conclusion to be derived from these and preceding experiments in Europe is that, notwithstanding the obvious advantages of liquid air as an explosive for mining purposes, the rapid deterioration of the cartridges and their varying and uncertain strength are obstacles so serious that, until they can be overcome, its value and application to that use will remain experimental and comparatively limited.

The Thorold Pulp Co., Thorold, Ont., recently incorporated, have let the contracts for the construction of new mills at that place, which will be pushed to completion as rapidly as possible. The water will be taken from the old Welland Canal.

D. CAMPBELL DAVIES & CO.,

—REPRESENTING—

The Largest European and American

MANUFACTURERS OF

MILLS, MINES AND SMELTING MACHINERY SUPPLIES

EXPORT TRADE A SPECIALTY.

Apartment No. 83, - - DURANGO, MEXICO.

JOHN J. KELLER & CO.

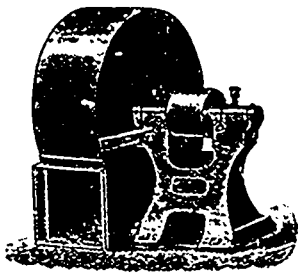
104 and 106 MURRAY ST.
NEW YORK

220 Church St., Philadelphia.
135 Pearl St., Boston.
18 Pryor St., Atlanta, Ga.

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

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

MANUFACTURED BY
JOHN R. GEIGY & CO.
BASEL, SWITZERLAND.



PLANING MILL STEEL PLATE EXHAUST FANS

For removal of refuse from Wood-Working Machinery.

CYCLONE DUST SEPARATORS

Made of Galvanized Steel. All Sizes for Fans from 30 inches and up.

Estimates cheerfully given for Complete Installations of Fans, Piping, Gates, Hoods and Separators, with or without Shavings Feed Attachment to Boiler Fires.

McEACHREN HEATING AND VENTILATING CO.,

GALT, - ONT.

WE MAKE—
Forge, Cupola and Disc Fans, Electric Fans, Heaters and Fans for Lumber and Wool Drying, etc., and for Heating of Factories.

STEAM TRAPS, OIL SEPARATORS, ETC.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER

THE COST OF POWER.

A suggestive paper on the comparative cost of generating power by the steam engine, water turbine, and gas engine was read before a Mechanical Science section of the British Association, recently, by Mr. J. B. C. Kershaw, and the opinion was expressed that water, when developed, without excessive capital expenditure, is the cheapest source of mechanical or electrical energy. The supremacy which the steam engine so long enjoyed, it was pointed out, was now assailed by the water turbine and the gas engine. Two years ago the aggregate amount of power generated from falling water was estimated to be between 236,000 and 350,000 h.p. Gas engines up to 650 h.p. had been built, and worked smoothly and economically, and blast-furnace gases were now utilized in many places for driving the engines which supplied the blast.

The question which the engineer had now to settle when deciding upon the site and locality for a new factory was no longer so simple as when only one method of power generation in large units was open to him. In all cases where purely local considerations did not settle the matter, the most economical source of power could only be determined after an exhaustive study of comparative cost. Mr. Kershaw gave a table of comparative costs which, he said, supported the opinion now generally held, that water, when developed without excessive expenditure, was the cheapest source of mechanical or electrical energy. Electrical energy generated by falling water was costing more at Rheinfelden, at Zurich, and at Buffalo than it would cost in South Lancashire if

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

(Limited)

Head Office, - SOHO MACHINE WORKS, TORONTO

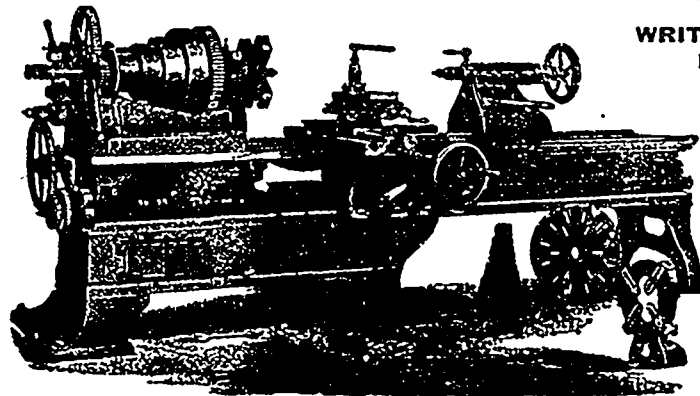
Manufacturers of and Dealers in

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



WE ARE THE EXCLUSIVE AGENTS OF THE **McGregor-Gourlay Co. Limited,** GALT, ONT.

IRON WORKING MACHINERY.



WRITE TO US FOR PRICES.

BRANCHES
193 Colborne St.,
BRANTFORD
345 and 347
St. James St.,
MONTREAL

Send for Circulars,
Referring
to this Advt.

Manufacturers of

**Phosphor
Bronze**

FITTINGS

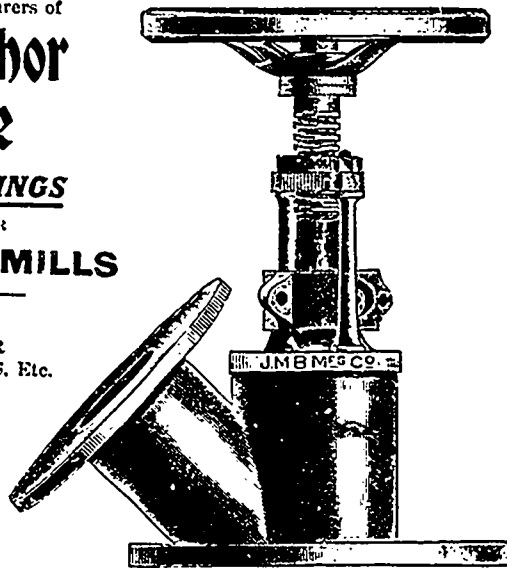
FOR

PULP MILLS

Y VALVES,
DIGESTER
COCKS, Etc.

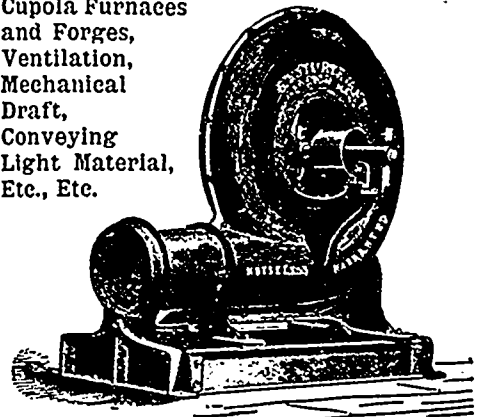
THE JAMES
MORRISON
BRASS MFG.
CO., Limited

TORONTO.



**STURTEVANT
BLOWERS**

For Cupola Furnaces
and Forges,
Ventilation,
Mechanical
Draft,
Conveying
Light Material,
Etc., Etc.



B. F. STURTEVANT CO.

BOSTON, MASS.

New York. Philadelphia. Chicago. London.

127

ADVERTISE IN

**THE
CANADIAN
MANUFACTURER**

SEND FOR RATES

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

generated by steam-power in large units, and the margin between the actual charge of power at Niagara and the estimated cost of steam power in large generating stations in South Lancashire was only 12s. 1d. per e.h.p. year.

Turning to the relative position of gas power, Mr. Kershaw hinted that large gas engines, in conjunction with coke ovens and blast furnaces, might entirely alter the present position of affairs. It had been calculated that two million h.p. was annually wasted in the gases issuing from blast furnaces of the United Kingdom. If these waste gases could be industrially utilized we should be to a large extent compensated for our lack of natural water power. But blast furnaces demanded coke, and coal beds were exhaustible, so that even if this source of mechanical and electrical energy were warned it could only postpone, and not avert, the final triumph of the waterfall and of the turbine.

THE STURTEVANT ENCLOSED ELECTRIC MOTOR.

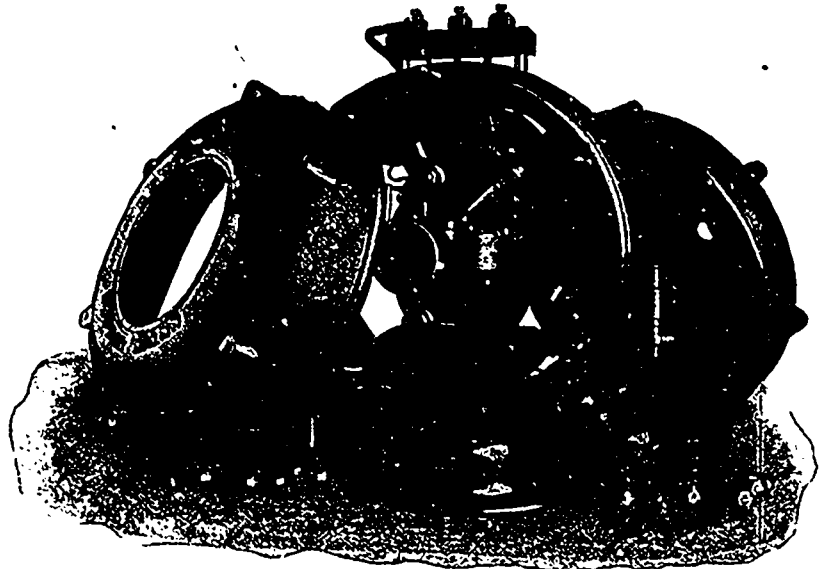
The bi-polar type of enclosed motor the internal construction of which is illustrated in the accompanying engraving, is manufactured both as a motor directly connected to a propeller fan and as an independent machine. For the former purpose it is used on all sizes of fans up to and including the 54-inch. For larger sizes the four and eight-pole types are employed.

The motor is entirely enclosed, and thereby protected from dust, a most important element in a machine used under these conditions. In order to avoid the excessive temperature which is incident to the operation of most enclosed motors, this type has

been very carefully designed, so that a low temperature rise can be maintained without greatly increasing the size and weight above that of the ordinary open type. This machine is capable of continuous operation for ten hours, with a maximum

can be reached by simply removing the caps in the centre of the casings.

The brushes are of hard carbon, in holders of a modified reaction type, which allows of easy adjustment when it becomes necessary to reverse the direction of rotation of the



temperature rise not exceeding 60 deg. F. Yokes extending out from the field ring support the armature shaft. The end casings are entirely independent and can be instantly removed to give access to the entire interior. The bearings and brushes

motor. The bearings are self-oiling and self-aligning, and fitted with composition sleeves, which are removable from the outer ends of the boxes. These motors, in sizes from 1-6 to 5 h.p., are built by the B. F. Sturtevant Co., Boston, Mass.

The cost of Advertising is probably not so much as you may have thought. Plans and Prices will be cheerfully submitted by the E. DESBARATS ADVERTISING AGENCY, MONTREAL.

THE ABBEY IMPROVED OILLED SHOT COMPANY, Limited, Newcastle. What better testimonials do Sportsmen require than the following, viz.:

Output of Shot in 1899 exceeded 1897 by 5,040 cwt., or equal to the loading of (at 1 oz. per load) 9,031,680 Cartridges. The winner of the All-England Championship Cup in December, 1898, fired with our shot, and speaks highly of it.

F. W. Hore's Sons, HAMILTON, ONT. Manufacturers of *Wheels, Wheel Materials, Shafts, etc.*

PATENTS, TRADE MARKS, CAVEATS, ETC.
EGERTON R. CASE,
Registered Solicitor of Patents. Notary Public.
TEMPLE BUILDING, - TORONTO, ONT.

GALVANIZING

We are prepared to attend to all orders **Promptly and Economically.**
WINDMILLS, PUMPS, TANKS, Etc.
ONTARIO WIND ENGINE and PUMP CO. LIMITED,
95 ATLANTIC AVE., TORONTO.

WILSON & BURNIE,

FLOUR, OATMEAL, and COMMISSION AGENTS.
Also at **GLASGOW, SCOTLAND. LEITH.**
Advances on Consignments.



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

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. Limited



For Water, Gas, Culverts and Sewers

Special Castings and all kinds of **WATER WORKS SUPPLIES** FLEXIBLE AND FLANGE PIPE. **HAMILTON, ONT.**

SOMETHING GOOD

Who Wants it?

A prominent American Typewriter Manufacturing Company desires to establish connections with a first-class party, with the purpose of placing their machine upon the Canadian market.

Must have knowledge of the business and able to show a first-class record. All answers treated strictly confidential.

Address, with details of experience,

VISIBLE WRITING,

Care of **CANADIAN MANUFACTURER, TORONTO, CANADA.**

A NEW CANADIAN WATER POWER.

The Shiels Island dam at the foot of the Longue Sault Rapids in the St Lawrence River, ten miles west of Cornwall, Ont., is to be harnessed, and before summer comes again the water from the dams will be rushing through turbines and turning electric machines, which will transform the hitherto wasted energy into power that will light the Cornwall Canal and drive a good deal of the machinery in Cornwall that is now operated by isolated steam plants or in other ways. Mr. M. P. Davis, the well known contractor, will construct the works. He has the contract for lighting the canal and will provide plenty of power while he is at it. The plans for the development were prepared by T. Pringle & Son, of Montreal, who had charge of the installation at the Lachine Rapids and at Shawinigan Falls, the latter one of the largest electric powers in the world. Temporary buildings for housing the men and materials are already in course of erection. The work in hand includes the cutting of a short canal about 200 feet long and fifty feet wide at the bottom, and twenty-one feet deep from near the end of the rap on the south side of the dam to the bank, the building of a breast wall, the erection of a power house and the installation of turbine wheels, generators, exciters, and other necessary machinery. There will be three twin turbines of 1,000 horse power each directly connected to the generators. The power house will be of brick with stone foundations, 60x60, and will be placed in the bed of the old Chenaille.

The work throughout will be of the most massive description, and the machinery will be of the very latest design. At first the machinery for only 1,000 horse power will be installed, but the power house, dams, head race, etc., will admit of a development up to 4,000 horse power.

In the opinion of Mr. Bishop the spot is an ideal one for electrical development, the conditions being exceptionally favorable, and there is no doubt that the ability to procure cheap power will very speedily lead to the establishment of new industries in Cornwall. Actual work will begin at once, and it is expected that by the beginning of next week 100 or more men and a large number of carts will be employed. Operations will be continued all winter, as Mr. Davis is under contract to have the light ready to turn on by April 15, 1901.

UNSURVEYED WEALTH OF ONTARIO.

All that has been said of the hidden and unsurveyed wealth of the far northern part of Ontario seems to be vindicated so far as was found by the first of the surveying parties to return. This party, No. 4, conducted by Alex. Baird, of Leamington, who had as companions Wm. Laidlaw, of Guelph, farm expert; G. M. Stewart, Toronto, geologist; John McConachie, Huntsville, timber estimator; Miles Grimshaw, of Leamington, and three Indians. The party has reported the results of the season's work to the Department of Crown Lands.

Mr. Baird and Mr. Laidlaw, when seen, were enthusiastic over the wealth of the country. They started from Grassett, near Missanabie, on the C. P. R. main line, and travelled north and east through the Magpie River, Lake Esnogami, Lake Kabinakagami, the river of the same name, then Mattawishiquia River, to the Missanabie. They travelled about 200 miles in that direction, and were headed for Moose Factory, but had

to return before reaching that point, owing to the low water. The party found an abundance of excellent farming land of a sandy clay nature, and in that neighborhood found a Hudson Bay post, where all kinds of vegetables, barley and oats and strawberries, currants and raspberries grow to perfection. The land was all forested, except in some marshy spots. There was a fine lot of pine in one locality, but everywhere pulpwood, particularly spruce, was to be found in abundance. Mr. Baird was of opinion that there was a great future for the country if it once had railroads and proper

drainage. Being above the height of land the pulp could not be floated southward. There were, however, many water-powers throughout the tract covered. There was evidence of plenty of game, and the fishing was unsurpassed. Rocks were scarce and there was little evidence of mineral deposits. The climate was very healthy, the air being clear and bracing.

One of the errors on current maps corrected by this party's work was the discovery that the River Kabinakagami empties northward into the Albany, instead of eastward into the Moose River.

What the Trade Wants

YOUR OWN PAPER MADE INTO ENVELOPES ANY SIZE OR SHAPE.

WE SELL TO THE TRADE ONLY.

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

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

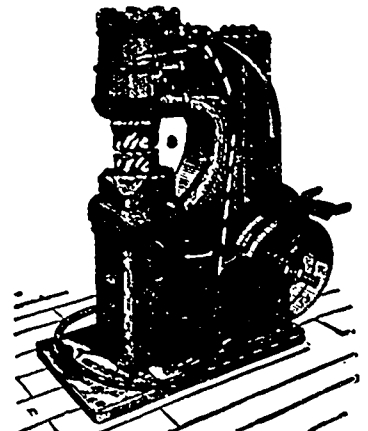
L. P. BOUVIER, Envelope Manufacturer, 31 Lombard St., TORONTO.

The Yeakley Vacuum Hammer.

Canadian Patent November 9, 1897.

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

George Brush
EAGLE FOUNDRY,
MONTREAL.



ESTABLISHED 1823.

Telegrams:—"WILSONS, CORNHOLME."—A.B.C. Code Used.

WILSON BROS. BOBBIN CO.

(LIMITED)

CORNHOLME MILLS, TODMORDEN, ENGLAND.

BOBBIN AND SHUTTLE MANUFACTURERS.

FORTY PRIZE MEDALS AWARDED.

HIGH-CLASS WORKMANSHIP. SEVENTY YEARS' REPUTATION.

LARGEST BOBBIN MAKERS IN THE WORLD—(Over 1,400 Workmen).

ADDRESS—

CORNHOLME MILLS, TODMORDEN, ENG.

BRANCH ESTABLISHMENT:

ATLAS BOBBIN WORKS, GARSTON, LIVERPOOL.

OFFICE AND SHOWROOMS:

14 MARKET PLACE, MANCHESTER.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

A. C. NEFF
CHARTERED ACCOUNTANT
 Room 600 McKinnon Bldg.,
 Tol. 1330. — TORONTO.
 Audits and Investigations a Specialty.

THK.....

Toronto Paper Manufacturing Co.,
Cornwall, Ont.

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

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

W. F. SCOTT,
Architect - Engineer.

Domestic, Devotional, Civil and Memorial Architecture.

Specialty: STEEL & FIRE-PROOF CONSTRUCTION
 410 MCKINNON BUILDING,
 MELINDA STREET, - TORONTO, ONT.

Chemistry of the Arts and
 Manufacturers.

DR. GEO. ARCHBOLD,

A.M., Ph.D.,

CONSULTING CHEMIST,

(Formerly Chief Chemist, Ordnance Dept.,
 U.S. Navy Yard, Washington, D.C.)

Gives expert technical advice in all matters relating to chemical arts and manufactures. Thirty years practical experience in Great Britain, Europe and the United States.

409 Temple Building, Toronto, Ont.
 TELEPHONE 5017.

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

CANADIAN OFFICE & SCHOOL FURNITURE CO. LIMITED
 PRESTON ONT.
 FINE BANK OFFICE COURT HOUSE & DRUG STORE FITTINGS.
 OFFICE, SCHOOL, CHURCH & TRICE FURNITURE
 SEND FOR CATALOGUE

G. H. Adams & Co.

MANUFACTURERS'
AGENTS AND
COMMISSION
MERCHANTS.

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

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

THE TORONTO PALACE HOTEL.

Messrs. Aemilius Jarvis & Co., the architects, have issued the following circular. —

"We beg to advise you that the aggregate amount of Toronto Hotel Company bonds that have been underwritten by the syndicate formed by us now exceeds \$450,000, consequently your underwriter's letter is operative."

A call of twenty-five per cent. has been made, and a contract for the erection of the hotel has been arranged and will probably be signed by the company in a few days. The hotel is to be ready for the tourist season of 1902. The extension of Victoria street to Scott is a part of the project, and the City Council has pledged itself to help in this. The directors of the company, who have for two years worked upon the project, are, George Gooderham, President; Edward Gurney, First Vice-President; Robert Jaffray, Second Vice-President; W. R. Brock, T. G. Blackstock, Duncan Coulson; L. J. Forget, Montreal, Z. A. Lash, Q.C., Andrew S. Irving, Aemilius Jarvis, A. E. Kent, J. W. Langmuir, W. D. Matthews, J. Herbert Mason, E. B. Osler, H. M. Pellatt, B. E. Walker and Frederick Wyld. Mr. Jarvis has been chief promoter.

The new palace hotel will front on King street, Victoria street as extended, and on Colborne street. The building is of stone for the first floor, then stone and buff brick, and the designs show a plain common-sense elevation without unnecessary ornamentation. It is entirely and absolutely fireproof, having no wood except that used in decoration. Upon the ground floor the floors are of marble, with colored pattern laid in mosaic; the other floors are of concrete, with carpets laid directly on top.

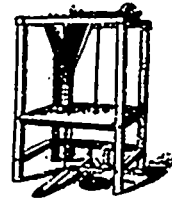
The main entrance is off King street, with portecochiere from the sidewalk. On either side of the main entrance are spaces for the Grand Trunk and Canadian Pacific Railways to use as ticket offices. The remaining frontage on King street is divided for the use of such shops as usually surround a hotel. There are also several spaces for shops or offices on the Victoria street frontage. There is a handsome entrance from Victoria street. Both entrances open into a rotunda 80x90 feet. On the Colborne and Victoria corner is a restaurant, with buffet and bar on the eastern Colborne street front. In the basement is the Rath-Hanskeller, which is a German cafe, fitted in dark oak and German decorations. This style of cafe is exceedingly popular at the present time in New York. This particular Rath-Hanskeller will be an exact duplicate of that in the Pilsener Building at the corner of 42nd street and Broadway, New York. The rest of the ground floor is devoted to the administration offices, etc.

Upon the next floor is the general dining-room, banqueting room, assembly hall and state apartments, the next five stories are all of exactly the same plan, showing sixty bedrooms to the flat, with forty-two bathrooms. Many of these bathrooms are "showers," similar to those in the new Herald Square Hotel in New York.

The hotel will be run upon both the European and American plans, and will be operated in conjunction with a series of hotels now being constructed in other cities. The standard of the hotel is the Manhattan of New York. The total cost of the land, building and furniture will be \$1,500,000.

SPECIAL MACHINE

For Packing Soda, Baking Powder,
 Coffee, Chicory and all Powdered or Granulated



Materials,

In Packages of from
 half ounce to six lbs.

For Flour and Other
 Cereals,

Six to fourteen lbs.

Ask us about this Machine.

T. H. & A. H. DRYDEN
 TORONTO

Shipping Tags. Invoice Tags.

DUPLICATING BOOKS

HEAD OFFICE:

AUTOMATIC CHECK BOOK COMPANY

46 & 48 Richmond St. W., Toronto.

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

Branch Office: 270 St. JAMES ST., MONTREAL.

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

H. FAWCETT HARTLAND,

Room 307-310 Merchants Bank Chambers,
 205 St. James Street, - Montreal.
 Correspondence Solicited.

The Rehder Plating & Mfg. Co.,
 THOROLD, - ONT.

Manufacturers of

Stove and Piano Trimmings and Novelties

Fine Grey Iron Castings a Specialty.

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

TORONTO MACHINE SCREW CO.

Manufacturers of



Hexagon
 AND
 Square
 Head Cap
 Screws.

Steel and Iron
 Set Screws,
 Hanger and
 Planer Bolts,
 Studs, etc.

Send for Price List
 and Discounts.

109 Adelaide St. W. - TORONTO.

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

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

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

A. S. PARKER, NEW TORONTO



Dealer in Woolen Waste. Carpeting a Specialty

PENMAN MANUFACTURING CO.:
PARIS, ONT. LIMITED.

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

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

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

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

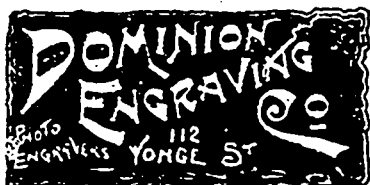
LEITCH & TURNBULL, Canada Elevator Works,
Queen and Peter Sts.,
HAMILTON, ONT. Patent Safety Hydraulic,
Hand and Power ELEVATORS.
.....Telephone Connection.

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

WM. BARBER & BROS.
Georgetown, Ont.

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

Reproductions Made for Eight
Cents per Square Inch.



Half Tones Made Direct from
Photos.

PHENIX ASSURANCE COMPANY

OF LONDON, ENGLAND.

ESTABLISHED 1782.
AGENCY ESTABLISHED IN CANADA, 1803.

PATERSON & SON, GENERAL AGENTS FOR THE
DOMINION.

London and Lancashire Insurance Buildings, } - - MONTREAL, QUE.
164 St. James Street,

Agent at Toronto, - 20 Toronto Street.

**BELL
PIANOS and ORGANS**

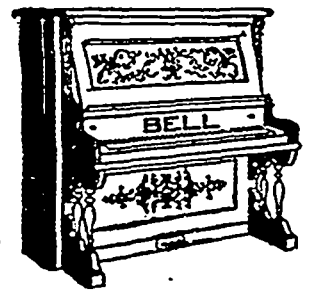
BUILT TO LAST A LIFETIME
AND USED THE WORLD OVER

Send for Catalogue No. 47 to

THE BELL ORGAN AND PIANO CO., LIMITED

QUELPH. - - ONTARIO.

LARGEST MAKERS IN CANADA.



**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 Sar-
rent's Electrical Attachment; Crosby Improved Steam
Gages, Recording Gages and Patent Gage Testers.
Original Single Bell Chime Whistles.

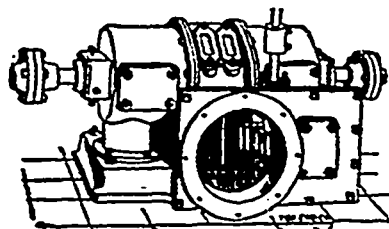
*BRANDEN PATENT PUMP VALVES
CLARK'S LINEN FIRE HOSE AND ADJUSTABLE COUPLINGS

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.

Underwriter



Horizontal Type.

**"LITTLE GIANT"
TURBINE**

....FOR ALL PURPOSES....

HORIZONTAL AND VERTICAL
BUILT IN 44 SIZES.

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

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

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

ROLLED-THREAD MACHINE SCREWS

Equal
to CUT
THREAD



COST LESS.
HARVEY HUBBELL, BRIDGEPORT, CONN.

WELLAND VALE MANUFACTURING CO.

Limited, ST. CATHARINES, ONT.

Manufacturers of....
**Axes, Edge Tools, Saws,
Farming implements
and Bicycles.**

The Firstbrook Box Co. Limited

**PACKING CASES.
DOVETAIL BOXES.
Bottlers' SHIPPING CASES.
BOX SHOOKS, Etc.**
TOP PINS, SIDE-BLOCKS & CROSS-ARMS
Write for prices. **TORONTO, Canada.**

CARBONIZER

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

PATENTS

Write for "Inventor's Help"—FREE.

Marion & Marion, MONTREAL and WASHINGTON
ENGINEERS AND EXPERTS.

KEYSTONE BRAND
One Pound will do more and better work than two or three gallons of any other lubricating Oil on the Market.

McARTHUR,
CORNEILLE & CO.,

OFFICES:
310 to 316 St. Paul Street.

WAREHOUSES:
147 to 151 Commissioners Street.

...MONTREAL...

AGENTS FOR . . .

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



The Ontario . . .
Malleable Iron Co.

(Limited)

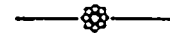
...Manufacturers of ..

MALLEABLE IRON Castings to Order for all kinds of

AGRICULTURAL IMPLEMENTS .

....AND....

Miscellaneous Purposes



OSHAWA, - - ONT.

REDUCTION OF EXPENSES
ECONOMICAL
BETTER SERVICE

THE UNITED ELECTRIC CO.

SUCCESSORS TO

Limited.

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

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

ARE PREPARED TO CONTRACT FOR COMPLETE INSTALLATIONS.

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

CANADA LUBRICATING CO., TORONTO, CAN.
80 Confederation Life Building,

THE CANADA SWITCH & SPRING CO., LIMITED.

Manufacturers of
..... SPECIALTIES FOR

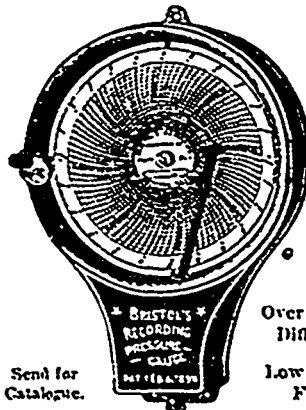
Steam and Electric Railways,
SPRINGS, STEEL CASTINGS,
FROGS, FORGINGS,
TRUCKS FOR ELECTRIC RAILWAYS, ETC.

INTERLOCKING SWITCH and SIGNAL PLANTS,

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

CANAL BANK, POINT ST. CHARLES,
MONTREAL.

BRISTOL'S
Recording Instruments



Send for Catalogue.

For
Pressure,
Temperature and
Electricity.

Over One Hundred Different Varieties.

Low Prices and Fully Guaranteed

Silver Medal, Paris Exposition

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

SMITH'S FALLS

Malleable Iron
Works . .

00000

CAPACITY 3,000 TONS.

00000

WILLIAM H. FROST

PROPRIETOR,

SMITH'S FALLS,
ONTARIO, CANADA.

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

ENGINEERS, FOUNDERS, MACHINISTS,
BOILER MAKERS AND
GENERAL CONTRACTORS.

Montreal Branch....
147 St. James St.
Quebec Branch....
263 St. Joseph St.