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Manufacturer will save our readers money, and should be consulted by them before purchasing.

The Classified Index

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EGERTON R. CAS

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

HEAD OFFICE

TEMPLE BUILDING TORONTO

OFFICES

OTTAWA AND WASHINGTON, D.

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

VOL 47. TORONTO, SEPTEMBER 18, 1903. No. 6

**STEAM BOILERS**  
 FOR ALL PURPOSES  
**ECONOMY DURABILITY SAFETY**  
 HEATERS, SUPERHEATERS, ECONOMIZERS AND STEAM ACCESSORIES  
**BABCOCK & WILCOX LIMITED**  
 NEW YORK LIFE BLDG., PLACE D'ARMES MONTREAL  
 Toronto Office—114 King St. West

**"REDSTONE"**  
 HIGH PRESSURE Sheet Packing  
 MAKES PERFECT JOINTS.  
 Does not blow out and requires no following up.  
 Try a sample lot and be convinced of its merits.  
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**The Gutta Percha & Rubber Mfg. Co. of TORONTO, LIMITED**  
 Head Office and Warerooms:  
 45, 47 and 49 WEST FRONT ST., TORONTO, CANADA

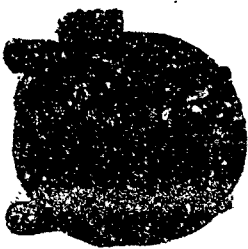
**... Malleable... Iron Castings**  
 XC Plate or Tinned CASTINGS also made to order.  
**McKinnon Dash & Metal Works Co., Limited**  
 ST. CATHARINES, ONT.

**ELECTRIC LIGHT AND POWER CABLES**  
 FOR UNDERGROUND INSTALLATIONS  
**The Wire & Cable Company, - - Montreal**

**"STANDARD of the WORLD"**  
**OTIS ELEVATORS**  
**CANADIAN OTIS ELEVATOR COMPANY, LIMITED**  
 OFFICES  
 TORONTO HAMILTON MONTREAL  
 AND ALL PRINCIPAL CITIES

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

# Floor Space is Valuable!



For Attaching to Wall

## Type 1 B Direct Current MOTORS



For Suspension from Ceiling

### FOR POWER PURPOSES

Substantial, Compact, Practical and Efficient.

The greatest care in design, workmanship and testing is necessary to reach these results.

Our Motors are the Standard of the World.

# CANADIAN GENERAL ELECTRIC CO.,

LIMITED.

HEAD OFFICE  
TORONTO, - ONT.

Montreal, Halifax, Ottawa, Winnipeg, Vancouver, Victoria, Rossland.

## STEEL RAILS

We are now offering Highest Quality

**BESSEMER STEEL RAILS**

made by the

**ALGOMA STEEL CO., Limited**

OF SAULT STE. MARIE, ONT.

**DRUMMOND, McCALL & CO.,**

GENERAL SALES AGENTS

OFFICES:

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

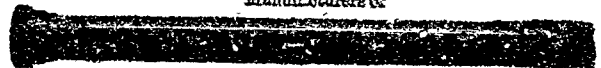
## MONTREAL PIPE FOUNDRY CO...

SUCCESSORS TO (Limited)

**DRUMMOND-McCALL PIPE FOUNDRY CO.**

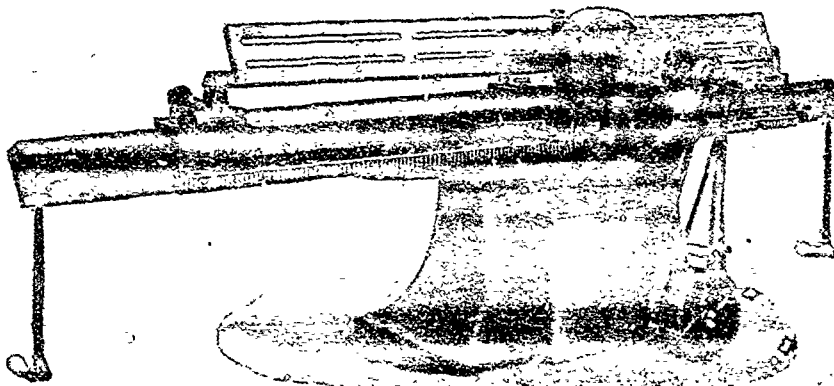
(Limited)

Manufacturers of



"Specials," Hydrants, Valves, Etc.

Offices: - - - Canada Life Building,  
- MONTREAL



## MART CORUNDUM WHEEL CO., LIMITED

(Formerly MART EMERY WHEEL CO.)

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OUR SPECIALTY:—

Craig Mine Crystal Corundum  
Wheels.

Grinding Machinery of every  
description.

WRITE FOR PRICES.

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# FLOUR MILLS

We build Flour Mills, Oat-meal Mills, Corn or other Cereal Mills from basement to attic, and can furnish the power plant as well. Write and ask about the GYRATOR SYSTEM of Milling. Let us know your needs in the mill line and we will furnish you plans and estimates.

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

**THE GOLDIE & McCULLOCH CO.,**  
LIMITED  
GALT, Ont., Canada.

## LEONARD - CORLISS Engines

For all power purposes.

The **CORLISS ENGINE** is without question the most economical. Universally acknowledged as the peer of all slow speed engines. All Engines have multiported valves.

The **PEERLESS Self Oiling ENGINE** is the most perfect high speed engine in existence, there is nothing about the engine which has not been a proved success.

**Boilers** for all powers and purposes. **Heaters, Pumps.**  
CORRESPONDENCE SOLICITED.

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London, Canada

Montreal, P.Q.    Winnipeg, Man.    St. John, N.B.

## THE WELLINGTON MILLS London, England.

### GENUINE EMERY

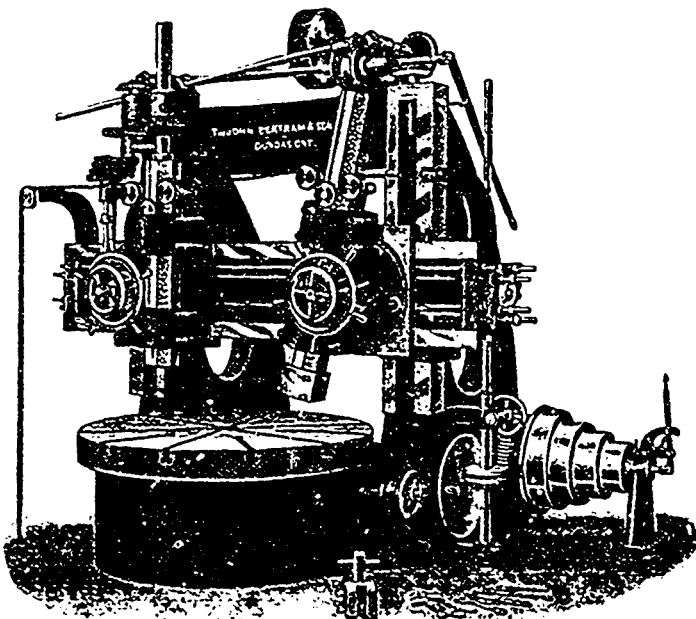
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Oakey's Flint Paper and Glass Paper.  
Oakey's Emery Paper, Black Lead, Etc.  
Prize Medal and Highest Award Philadelphia, 1876, for Superiority of Quality, Skilful Manufacture, Sharpness, Durability, and Uniformity of Grain.

Manufacturers

**JOHN OAKEY & SONS, Limited,** Wellington Mills, Westminster  
Bridge Road, London, Eng.  
Enquiries should be addressed to  
**JOHN FORMAN, - 650 Craig St., MONTREAL**

**ALL THE BEST  
SHOPS ARE  
INSTALLING OUR**

## BORING and TURNING MILLS



This represents our 60 Boring and Turning Mill with one regular head and one special boring head.

THESE shops are then equipped with best facilities for boring and turning a variety of jobs including wheels, pulleys, etc. The shops best equipped to handle work are the ones that are getting the work.

If any manufacturer thinks he can get along by doing all his boring and turning on a lathe he is making a costly mistake. It may have worked all right in his grandfather's time, but the shop owner of to-day is bucking up against a harder proposition than his grandfather's competitors.

If you are interested enough in your own progress to write for further information on this subject, we will tell you all about our line of Boring and Turning Mills.

**THE JOHN BERTRAM & SONS CO.**  
LIMITED  
DUNDAS, - ONTARIO

# WIRE ROPE

FROM STOCK,  
ANY LENGTH.

*SPECIAL ROPES TO ORDER.*

*BEST QUALITY. BEST PRICES.*

**The Dominion Wire Rope Co., Limited, Montreal**

# THE NOVA SCOTIA STEEL & COAL CO.

MANUFACTURERS OF

LIMITED

## BRIGHT COMPRESSED STEEL SHAFTING

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

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

**RAILWAY AND ELECTRIC RAILWAY CAR AXLES**

**FISH PLATES, SPIKES AND TRACK BOLTS**

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

**..HEAVY FORGINGS A SPECIALTY..**

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

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

Head Office—NEW GLASGOW, NOVA SCOTIA

# GALT Machine Knife Works

**PETER HAY,**

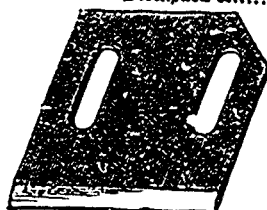


**GALT, ONT.**

Manufacturers of Every  
Description of.....

## KNIVES,

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



BARK  
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Etc., Etc.



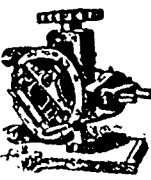
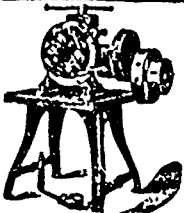
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Straw Knives,  
Paper Knives,  
Etc., Etc.



Quality Guaranteed. Special Knives Made to Order. Send for Price List

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**ARMSTRONG'S PIPE THREADING AND CUTTING OFF MACHINES,**  
 For Hand or Power.  
 Save Time and Labor. Capacity from 1/4 to 6 inches.  
 Armstrong's Genuine Stocks and Dies, THE BEST WATER, GAS, AND STEAM  
 FITTERS' TOOLS  
 ARE MANUFACTURED BY  
**THE ARMSTRONG MFG. CO., - BRIDGEPORT, CONN.**  
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**MARYLAND CASUALTY CO.**  
 OF BALTIMORE, MD.  
**CAPITAL, - \$750,000**  
 AGENTS WANTED

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 ONTARIO GENERAL  
 AGENT  
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FIRE INSURANCE ONLY  
**NATIONAL ASSURANCE CO.**  
 OF DUBLIN, IRELAND  
**CAPITAL, - £1,000,000**  
 AGENTS WANTED

**M<sup>C</sup>CULLOUGH-DALZELL CRUCIBLE CO.-PITTSBURG, PA. USA**

From 1872 to 1903 is quite a stretch—but it has been 31 years of Crucible improvement here, and we have reached the apex of manufacturing perfection.  
 Ask for Booklet.



# PIG IRON.

**M. & L. SAMUEL, BENJAMIN & CO., 27 Wellington St. W., Toronto.**  
 ENGLISH HOUSE—SAMUEL, SONS & BENJAMIN, LONDON, E.C.

# IRON and STEEL

All goods for import at close prices to wholesale buyers.

**A. C. LESLIE & CO., - MONTREAL.**

**CANADA IRON FURNACE CO., Limited**  
 Manufacturers of the well-known *Montreal, Radnor and Three Rivers*

**"C.I.F." THREE RIVERS CHARCOAL PIG IRON**  
 UNSURPASSED IN STRENGTH BY SWEDISH, RUSSIAN OR AMERICAN CHARCOAL IRON.  
 Suitable for Car Wheels, Cylinders and Fine Castings, where the utmost strength is required.  
 Offices: CANADA LIFE INSURANCE BLDG., - - MONTREAL.

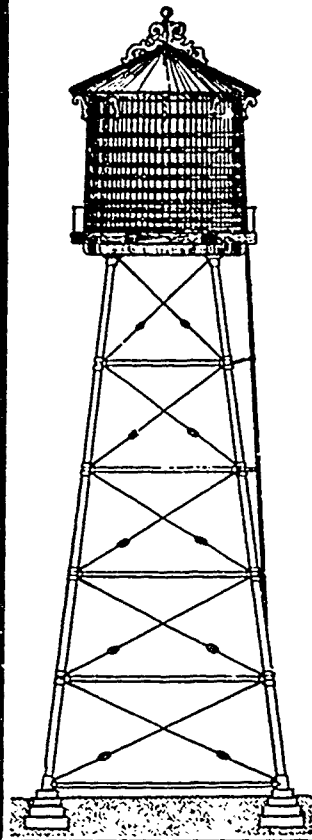
**COAL** **JAS. H. MILNES & CO.** **COKE**  
 WHOLESALE DEALERS IN  
 Best Grades of STEAM COALS.  
 Best Grades of BLACKSMITHS' COALS.  
 Best Grades of FOUNDRY COKES.  
 Shipments made direct from Mines to any point in Canada. Write for quotations.  
 Head Office: 86 KING ST. EAST TORONTO. Docks: Esplanade, Foot of Yonge

**W-H-F-U-G-O**  
**SCAIFE** Water Softening and Purifying Systems  
 FOR STEAM BOILERS AND ALL INDUSTRIAL USES.

**SCAIFE SAND AND CHARCOAL FILTERS...**  
 FOR DOMESTIC AND INDUSTRIAL PURPOSES.  
 Filters and Filtering Systems of any Size and Capacity.

**WM. B. SCAIFE & SONS CO., (FOUNDED 1802), PITTSBURG, PA.**

"Absolutely safe and reliable. Ask your friends."



## Is it Economy

To buy a water tank and tower that needs continual tinkering to keep it in repair? Or is it economy to buy a

**Caldwell Cypress Tank**  
and a

## Caldwell Steel Tower

that will last a lifetime without repairs? The first cost is the only cost and is not greater than that asked for inferior grades.

May we send our catalogue and price list?

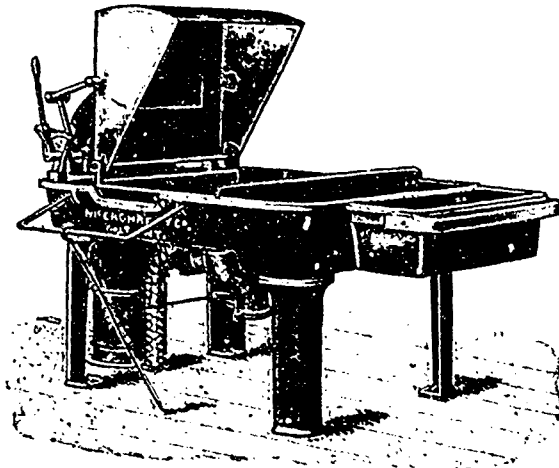
**W. E. Caldwell Co.**  
LOUISVILLE, KY.

## Down Draft FORGES

— FOR —

**BLACKSMITH and CARRIAGE**

**SHOPS . . .**



Have your forge room clear of smoke by installing our **DOWN DRAFT SYSTEM.**

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**McEACHREN HEATING and VENTILATING CO.,**  
GALT, - ONTARIO

## WIRE DOOR MATS

The most durable, cleanest and perfectly sanitary Mat made.

Has been on the market for 20 years.

All sizes and shapes made to order.

For stock sizes, see catalogue.

**THE B. GREENING WIRE CO., Limited,** HAMILTON, - ONT.  
MONTREAL, QUE.

## THE DAY OF JUDGMENT IS COME AFTER ALL

And the jury have unanimously agreed that all the manufacturers in Canada who are looking out for their interests, are duty bound to protect themselves by using "SYRACUSE BABBITT METAL" only, the manufacturers to decide what grade of babbitt they want to purchase.

For high speed and heavy pressure machinery they may choose such as Aluminum Genuine, Government Genuine, Hard Genuine and Dynamo; for medium speed Special, Manganese, Car Box and Extra; for slow speed No. 1, 2, 3, and 4.

The Syracuse Smelting Works shall have their name on every bar as a guarantee for the quality. Price is to be the lowest in Canada. Also every plumber or manufacturer who has any use whatever for any kind of solder must use the Syracuse Smelting Works' for their own protection.

### THE VERDICT.

Everybody who is not using "Syracuse" Babbitt Metal or Solder, in fact any metals they manufacture, is working against their own interests. A word to the wise is sufficient.

## SYRACUSE SMELTING WORKS

MONTREAL, CAN.

NEW YORK, U.S.A.

SEATTLE, WASH.

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# THE CANADIAN PORTLAND CEMENT CO. LIMITED

MANUFACTURE "RATHBUN'S STAR" BRAND

**THE LEADING CANADIAN PORTLAND CEMENT**

Capacity of Works—500,000 Barrels per Year

THE RATHBUN COMPANY,  
310-312 Front Street West,  
TORONTO, ONT.

SALES  
AGENTS

ST. LAWRENCE PORTLAND CEMENT CO.,  
101-102 Board of Trade Building,  
MONTREAL, QUE.

**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**

Works—SHALLOW LAKE, Ont. Head Office—OWEN SOUND, Ont.

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

Correspondence invited.

## Albert Manufacturing Co.

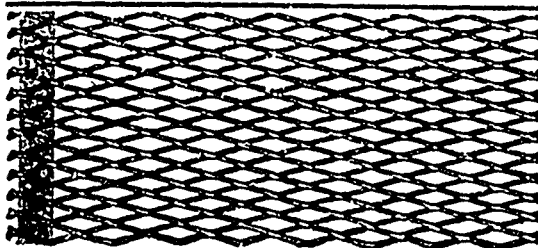
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"Hammer Brand" **Calcined Plaster**

AND

**PATENT ROCK WALL PLASTER.**

HILLSBOROUGH, N.B., CANADA.



**EXPANDED METAL** and FIRE PROOFING  
COMPANY, Limited

CHEAP FIREPROOF CONSTRUCTION

SUITABLE FOR FACTORIES

Write for Booklet and Prices.

Offices, 100 KING ST. WEST, TORONTO.

**"SCIOTO" FIRE BRICKS**

Are the best that money can buy for  
BLAST FURNACES, STEEL WORKS and  
ROLLING MILLS.

Manufactured and Sold Direct by

LET US TELL YOU ABOUT THEM.

WE HAVE NO MIDDLE MEN.

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

## "Beech Creek" FIRE BRICK

STRICTLY HIGH GRADE

MADE ONLY BY

**PENNSYLVANIA FIRE BRICK CO.,**

LOCK HAVEN, PA., U.S.A.

Special Mixtures for use in Rolling Mills,  
Malleable Iron Works, Steel Works, Blast  
Furnaces, Glass Tanks, Cement Kilns,  
Locomotive Blocks, and all  
High Grade Uses.

*Difficult Shapes a Specialty.*

Send for Catalogue and Prices.

BRANDS: BEECH CREEK, BEECH CREEK ROOF, BEECH CREEK BUNG.

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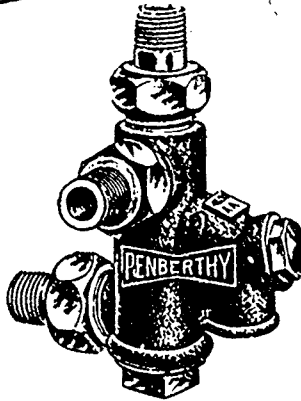
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ASK FOR BULLETIN



**"PENBERTHY"**  
**LOW PRESSURE INJECTOR**  
 FOR WATER PRESSURE.

WORKS LOW AT 10 LBS. PRESSURE.  
 WORKS HIGH AT 175 LBS. PRESSURE.

MADE IN CANADA

**"PENBERTHY"**  
**HIGH PRESSURE INJECTOR**  
 THE "AUTOPOSITIVE"

WORKS HIGH AT 200 LBS.  
 WORKS LOW AT 18 LBS.

MADE IN CANADA

## AUTOMATIC INJECTORS

RANGE 22 to 150 LBS., GUARANTEED.

Also a Full Line of Oil and Grease Cups, Water Gages, Gage Cocks, Etc., Etc.

MADE IN CANADA.

**PENBERTHY INJECTOR CO., LIMITED, WINDSOR, ONT.**

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In the purchase of an incandescent lamp economy is best exemplified by the value that is returned for the purchase price of a lamp.

In buying Packard Lamps you buy lamps of a maximum uniform service and sustained candle power—lamps which will return a greater value for the cost than any other lamp made or sold in the Dominion.

Packard Lamps will meet your specifications accurately.

Send us an order for a barrel of Packards—compare the service rendered—the power required—the length of life—the uniform efficiency—and you will always be a Packard Lamp user.

Send us your order to-day.

The **Packard Electric Co., Limited**

ST. CATHARINES

MONTREAL

Makers of Lamps, Transformers, Meters, Hilo Lamps.

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(American Branch of Leopold Cassella & Co.)

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A Complete Assorted Stock of the above always on hand.

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48% and 58% (Light and Heavy)

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

35% to 37% (Hardwood Cases)

**CAUSTIC SODA**

60% to 77%.



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MONTREAL,

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Lump and Crushed. Brls. and Bags.

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DOUBLE STRENGTH

**BICARBONATE SODA**

ABSOLUTELY PURE

Also for Mineral Water Manufacturers.

**BELLHOUSE, DILLON & CO.**

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**DYESTUFFS and CHEMICALS**

Sole Agents for the SOCIETY OF CHEMICAL  
INDUSTRY IN BASEL, SWITZERLAND.

**FAST COLORS FOR WOOL and COTTON**

ALSO FULL LINE OF DIRECT COTTON COLORS

BRANCHES—BOSTON, 233-5 Congress St. PHILADELPHIA, 50-52 N. Front St.  
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## YOU MAY NOT NEED A LATHE OR PLANER NOW

But in the near future a machine, as above, with all modern improvements, will be required. On request we will furnish you full particulars of points of merit which you will demand on next tools you buy. *ش* *ش*

WRITE US AND BE CONVINCED.

**The R. McDOUGALL CO., Limited, - Galt, Canada**

## THE IMPERIAL OIL COMPANY, Limited

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

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

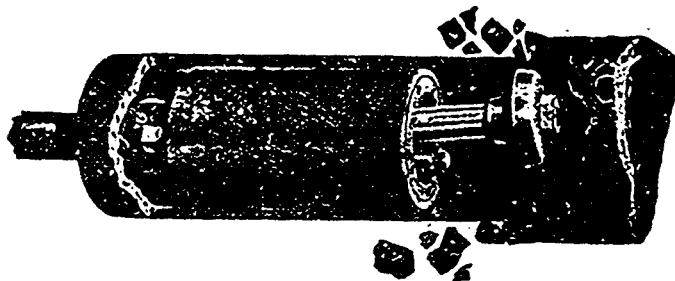
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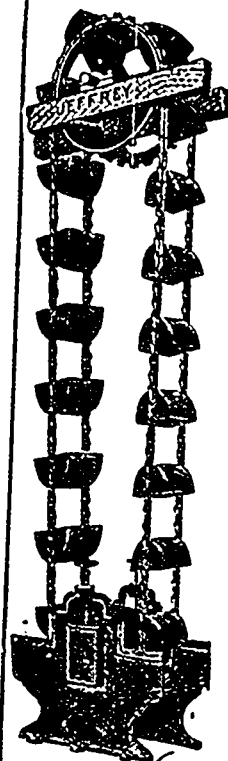
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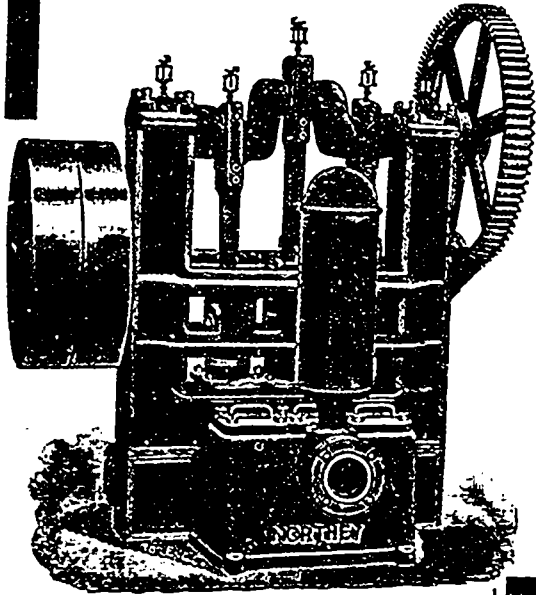
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J. J. CASSIDY,

Editor and Manager.

## THE CANADIAN MANUFACTURER

Reaches all the Blast Furnaces, Iron and Steel Works, Rolling Mills, Manufacturers of Iron and Wood-Working Machinery, Steam Engines and Boilers, Pumping and Mining Machinery, Electric Machinery, Textile, Pulp and Paper Mill Machinery, Water Power Plants, Cement, Sewer Pipe and Terra Cotta Works, Dealers in Steam Fitters' and Plumbers' Supplies, and all Hardware Merchants in Canada.

### THE DOMINION EXHIBITION.

The twenty-fifth annual exhibition of the Toronto Industrial Exhibition Association, this year known as the Dominion Exhibition, enjoyed a most successful season beginning August 27 and closing September 12, during which time about a half-million people paid admission fees. The fact that the Exhibition of this year was specially recognized by the Dominion Government to the extent of \$50,000 permitted the directors to greatly increase the amount of the prizes in almost every department, and thus to attract an unusual number of exhibitors. In fact, the general exhibition of staples, such as manufactures, live stock, and agricultural products, far exceeded the best of any other year, while as a special exhibit there was a collection of Queen Victoria's Jubilee presents sent as a special compliment to Canada, by His Majesty the King. This display of the incalculable riches of the Empire, as well as of the great and deep-seated love felt by the peoples and races of Greater Britain for Queen Victoria, was visited by nearly every one who entered the Exhibition grounds, and the priceless carved ivory, the exquisitely graven gold and silver, and the shimmering precious stones, will long linger in the memory of those who were privileged to see the display.

The educative value of the displays made in the different buildings, particularly those devoted to manufactured products, cannot be over estimated. One of the most attractive features, never before so systematically and extensively displayed, being the processes of manufacture of many articles of common use, was carried on in the Process Building. The opening of the new Manufacturers Building, the Process Building, the Stove Building, and the Dairy Theatre wherein were made demonstrations of cheese and butter making, provided a great and much needed additional accommodation for exhibits. The old and unsightly buildings which blocked the entrance to the grounds were removed, and a broad avenue with paved roadway and concrete sidewalks met the view of visitors entering from Dufferin street, affording easy access to Machinery Hall. In the big Manufacturers' Building and elsewhere the "Made-in-Canada" label gave a capital idea of the country's resources, and commendation is due to the Canadian Manufacturers' Association for the very successful working out of the idea.

The Exhibition was well managed in every particular and in all departments, thanks to the president, Mr. McNaught, the directors, the secretary and manager, Dr. J. O. Orr, and the assistants under their charge. They are to be congratulated upon the splendid success achieved by their exertions.

### THE LABOR VOTE.

At a recent meeting of the Toronto Trades and Labor Council it was announced that at the next meeting of the Congress of Labor, to be held at Brockville, Ont., special provision would be made for combatting the growing hostility of the Canadian Manufacturers' Association and the Employers' Association. It was also announced that arrangements had been made for a meeting of organized labor in Toronto for the selection of candidates for the coming municipal elections.

With regard to the Brockville convention we are told that "with the Farmers' Associations and the labor organizations pledged to co-operate with each other on a political platform embracing public ownership of public utilities, the merit system in reforming the public service, and direct legislation through the initiative and referendum, the old-time political parties will have to shift their sails considerably to make the old ports."

Labor organizations imagine that to will is to do; and that because they include a very considerable portion of the voting strength, it is possible for them to carry elections and elect their own candidates. Such results may be judged by past occurrences. As officially reported by Mr. McMakin, Labor Commissioner of the State of New York, the total number of labor unions in that state on March 31, 1903, was 2,365, having an aggregate membership of 357,234. There was, he states, between September 30, 1902, and March 30, 1903, a net increase of 136 in the number of these unions, with a net gain of about 28,000 in membership.

The New York Commercial analyzing the labor vote in that state, showing why in the last presidential election, it amounted to practically nothing, says:

We hear a good deal about the "labor vote" in these times—more especially when labor-unionists are making "demands" on their employers just prior to national, state, or municipal elections, or when they are trying to enforce boycotts on individuals, firms or companies that insist on doing business in their own way. What relation does this vote—if there is any such thing as a "labor vote"—bear to the whole mass of voters? To what extent is it a vote en masse? In other words, how far must it be reckoned with, in a general way, in getting at the possible or probable results of a popular election here in New York? Let us take the presidential election of 1900 as presenting the latest instance of an occasion that brings out generally the largest number of voters:

McKinley received 821,902 votes in this state at that election; Bryan 678,386, Wooley 22,043, Debs 12,869, Malloney 12,622—a total of 1,547,912 votes. There were not, of course, as many labor-unionists in the autumn of 1900 as there are now. But suppose there were as many? And suppose, also, that they were all duly registered voters, and that all of them

actually went to the polls and voted? In that event they cast only about 23 per cent. of all the votes polled. The great bulk of them must have voted for either Bryan or McKinley, for Debs, the candidate of the so-called Social Democrats, got only 12,869 votes, and Malloney, the candidate of the Socialist Labor party, even less—only 12,622. The two candidates who stood most closely for labor "principles" got about 25,000 votes between them—almost exactly 7 per cent. of the liberally conceded "labor vote," and less than 2 per cent. of the entire vote cast! As a matter of fact, the "labor" candidate, in 1900 received only about 1 per cent. of the entire vote thrown.

Really, there is no such thing as the "labor vote." Labor-unionists, as a general thing, vote for one or another of the leading political candidates. Their votes are not thrown in bulk. It is only on the very rarest occasions that they can influence the result of an election. And yet candidates for office stand in fear of that mythical "labor vote" and perform all sorts of political contortions in order not to "offend" it! And men in business are sometimes seen supporting this or that candidate because he is said to be acceptable to "labor."

#### MUST BE MORE CAREFUL.

In a report from Australia, Mr. J. S. Larke, the Canadian trade commissioner, again emphasizes the fact that Canadian manufacturers and shippers generally are not sufficiently careful in packing goods for shipment to foreign countries.

In this connection he cites a recent case in which the goods sent were not up to the sample, and as a result they were thrown back on the hands of the importing trader, who had to suffer the loss. "On examination of these goods," says Mr. Larke, "I found that they were soiled by smoke and dust to such an extent that the purchaser thought it useless to write to the firm as he considered that a house that would ship such goods could not do business in Australia."

In another case which Mr. Larke inspected he found the following letter returned with a quantity of goods which had been shipped to Melbourne: "These goods have been returned as second-hand goods, and are not wanted."

Speaking with regard to the class of goods required for the trade in Australia, Mr. Larke says that they should be so manufactured as to be packed in the smallest possible space, as the freight rates on Canadian goods have in some cases put them out of the market entirely. He instanced the case of a bookcase which had been shipped from New York. This had been manufactured by an American firm so that it packed into half the space that a Canadian case which competed with it on the Australian market took, and the result was that the American article sold at from \$6 to \$8 less than the Canadian.

The American goods were delivered in first-class shape while the Canadian goods, taking up three times the space, were in very poor condition when they reached the market port. If Canadian manufacturers intend to compete in these markets, Mr. Larke says that they must show more enterprise both in the manufacture of their goods and in their shipment.

#### TORONTO TELEPHONE FACILITIES.

A few days ago a number of Chicago aldermen were in Toronto looking into the operation of the street railway, telephone and other public conveniences, and they expressed their surprise very freely regarding the low charges of the local telephone company. When informed that an unlimited service is given to business men for \$45 a year and in residences for \$25 they were greatly surprised. The citizens of Toronto, who have been agitated more or less on this subject, have not been very enthusiastic over the low rate,

and have been prepared to welcome a competing company at any time. If they had to meet the Chicago charges the majority of them would probably dispense with 'phones altogether. In that city an unlimited service costs \$175 a year, which Toronto citizens get for \$45. The result is that there are comparatively few who patronize that department of the business. The popular service is what is called the nickel service, to which there are at present in round numbers, 30,000 subscribers. This is the metallic circuit system, similar to that in operation in Toronto. The subscribers guarantee twenty cents a day or \$72 a year, for which they are entitled to two local messages daily, for each additional message a fee of five cents is collected; so that if a subscriber had six messages a day his 'phone would cost him \$144 a year. A business man who finds occasion to use his 'phone, say, twenty times daily, can figure for himself what the Chicago plan would mean to him.

Another kind of service is what is called a party wire, there being two subscribers on the one wire, the guarantee being ten cents a day and five cents a message. In addition to these plans there is the four-party wire, and the ten-party wire, which of course are cheaper, but not very satisfactory, as only one subscriber can use the wire at a time.

These prices look extortionate to Toronto subscribers, and no doubt they are. It is some satisfaction to citizens to know that, as compared with American cities, they are well off in the matter of telephone service, though willing, of course, to accept reductions if such can be secured.

#### A GLEAM OF LIGHT.

A movement has been inaugurated in certain labor circles intended to put a stop to the strike epidemic which has for several years so disastrously affected the industries of the world, particularly those of the United States and Canada, and Mr. T. W. Banton, a writer whose articles in labor matters so frequently appear in a Toronto paper, explains the movement and gives his views regarding it.

There is no denying, says Mr. Banton, that not a little harm has been done to the cause of trades unionism in the past year or so by what may be called, without undue exaggeration, the widespread strike epidemic from which it has, and is now, suffering. The strike epidemic originated most probably in the too rapid growth of the unions. The extraordinary gains in membership made by some of the leading trades unions in the country, concurrently with the organization and springing into life of dozens of new bodies of workers, has led to results which again exemplify the old saying that it is possible to make haste too fast. Had the unions been of a little slower growth it is possible that many of the mistakes which they have run into would have been avoided. It is no use crying over spilt milk, perhaps, but there is nothing to be gained by ignoring the fact that the milk, or some of it at all events, has been spilt, and by taking no steps towards the procuring of a new pitcher. In other words, it is the opinion of a good many of the "older heads" in the trades unions that ground has been lost in the past few months, and that it is time the young bloods in the movement "took a tumble" to the fact that the universe was not made for them to run just as they in their young enthusiasm imagine it could be run, if only they were given a chance to show what they could do.

Animated with some such idea as regards the power of unionism, a number of new hands at the job have taken hold and have succeeded in some cases in pretty nearly running their own particular unions to death. They have, at all

events, played pretty straight into the hands of the opponents of unions. Just at the very time that a widespread and vigorous campaign against unionism was started, when the Parrys, the Kirbys, and fighters of their calibre were being put into the field, charged to the muzzle with their red hot shot to hurl at the unions, accusing them of being industry wreckers, the unions themselves are seized with a most violent strike epidemic, as if to give point and confirmation to all the pleasant things said about them by their detractors.

Fortunately there are not wanting signs that the disease has about run its course, and that the mischief it has caused is not beyond remedy. When the unions have fully recovered their senses and cry a halt to the mad-headed career which threatened their destruction, there will be hopes for the re-inauguration of a steady and progressive policy, which in past times has done so much towards advancing the best interests of the wage earners.

One of these signs of a return to a more rational policy on the part of the trade union leaders appears in what many might think the most unlikely of spots, that spot being Chicago. It is in fact reported from that large field of trade union activity that a number of the more thoughtful and conservative among the unionists have at last decided to take a strong stand against the reckless policy of seizing upon every possible pretext for declaring a strike, often following up the first wrong move by making a second and more serious one in the form of a sympathetic strike. The Chicago Federation of Labor, in fact, has seen enough of the mischief which is being done to the labor movement in general by the many ill-advised strikes which have from time to time been brought about, and as often brought nothing but humiliating defeat to the unions engaging in them. It is perfectly true that there has been too much of the non-conciliatory spirit shown on the side of the employers. That, however, was all the more reason for being careful not to play into the hands of the enemies of organized labor, by making "demands" faster and thicker than they could be enforced, even where the unions are much stronger than they have ever yet been in their palmy days.

As a result of the action of the "peace party," as it may be called, though not by any means a "peace at any price" party, of the Federation of Labor in Chicago, there are good prospects, it is reported, of a combined movement of a number of large employers of labor, along with leaders in the labor movement, for the purpose of encouraging the settlement of all labor disputes by conciliation and arbitration, in preference to the clumsy and disastrous methods of the strike, at least in such cases where it is at all possible to avert a strike by first of all bringing the parties to a dispute together, with a view to friendly conference.

In general terms, that is the object of the movement at Chicago. In particular, the movement aims at limiting the powers of the "walking delegate," which in many cases are admittedly too great under existing conditions; and especially to discourage the practice of ordering the "sympathetic strike," without first consulting through the means of the referendum the members of those bodies which it may be proposed to call out in sympathy. In the light of experience as regards sympathetic strikes, the wisdom of the movement for the prevention of such tactical blunders as nearly every sympathetic strike has proved to be is very apparent. As for the conciliation part of the movement, every reasonable man, whether he be employer or laborer, must acknowledge that it is infinitely preferable in every possible case to the semi-barbarous methods of the strike.

When employers absolutely refuse to be conciliatory, or when employes assume the same unreasoning attitude, no one should be made to suffer but those directly responsible for the trouble which follows.

#### EDITORIAL NOTES.

Manufacturers introducing new machinery and appliances are invited to send advance information and description thereof to the editor for publication in this journal.

Canada's foreign trade during the fiscal year ending June 30, 1903, exceeded all previous records, and the current fiscal year has opened most auspiciously. For the two months ending August 31, the imports totalled \$42,843,306, an increase of \$9,890,192 compared with the same period of last year. The exports of domestic produce aggregated \$39,855,302, an increase of \$3,108,448. For the month of August only there was a gain of \$4,487,831 in imports, and of \$2,364,814 in exports. The following is a comparative statement of the imports and exports for the two months:

	IMPORTS—JULY AND AUGUST.	
	1902.	1903.
Dutiable goods.....	\$21,124,285	\$24,890,146
Free goods.....	11,327,545	16,141,793
Total.....	\$32,451,830	\$41,031,929
Coin and bullion.....	501,284	1,811,367
Totals.....	\$32,953,114	\$42,843,306
Duty collected.....	5,626,141	6,720,777

#### EXPORTS, DOMESTIC ONLY—JULY AND AUGUST.

	1902.	1903.
The mine.....	\$6,009,404	\$7,184,115
The fisheries.....	1,658,588	1,086,158
The forest.....	8,478,376	8,034,548
Animals and their produce	14,056,621	13,883,144
Agriculture.....	3,956,652	5,974,701
Manufactures.....	2,570,144	3,087,505
Miscellaneous.....	17,069	4,831
Totals.....	\$36,746,854	\$39,855,502

The credit of having the first fair ever held in Canada for the display of manufactured goods "Made in Canada" only, belongs to Hamilton, Ont. Such an enterprise was put in motion in that city this week, and is now in operation under the supervision of Mrs. P. D. Crerar, Regent of the Hamilton Chapter of the Imperial Order of Daughters of the Empire, who originated it and is carrying it on with most unbounded success, assisted by the business men of Hamilton. The exhibition is being held in the military drill hall, the limited space of which makes it necessary to confine the exhibits to small articles. The original purpose was to show to the women of Canada the excellence and variety of the goods made in Canada with a view to inducing them to confine their purchases, as far as possible, to Canadian made goods. It deserves every possible success.

The monthly collections of duty at the port of Toronto continue to show a remarkable increase over previous records, an indication of the growing commercial importance of the city. The total duty collected in August 1903 was \$786,282, as against \$664,100 in August, 1902, an increase of \$122,182. The amount collected in 1902 showed an increase of \$77,617 over August 1901, making the collection this year \$99,799 greater than two years ago. The amount collected in August,



1896, was \$359,564, so that the increase since that date has been \$426,718, or more than 116 per cent. in the seven years.

The customs receipts at the port of Montreal continue to increase. During August 1903 \$1,200,000 was collected, an increase of \$61,733 over the same month of last year. During the months of June, July and August 1903 the collections amounted to \$3,700,000, which is far the largest ever received in that port. Since July 1, the beginning of the fiscal year, there were 35,834 duty-paid entries.

A few days ago in Montreal Arthur McHaud, nineteen years of age, pleaded guilty of petty theft and was sentenced to serve three months in jail. As he was about to leave the court room, accompanied by an officer, he stopped and addressed the judge. His plea was that he was young, but never seemed able to pursue a right course, having no trade nor anything by which he could ever hope to gain an honest livelihood, so he asked to be sent to the penitentiary where he would be confined long enough to enable him to learn a trade, after which he hoped to be able to face the world and live by honest endeavor. Judge Lafontaine hesitated, and then asked for the prisoner's record. The record was sufficiently bad to permit of a term in the penitentiary, so the sentence of three months was changed to two years and six months. The youth thanked the judge, and remarked, as he left the court, that, at the expiration of the term he would come out a full-fledged tailor.

Mr. G. W. Ross in a magazine article makes the proposition that the Canadian preference on British goods should be given to such goods only as come by British ships to Canadian ports. This proposal issued with a flourish of trumpets has not, however, the merit of originality. It was borrowed from Mr. McNaught, the president of the Industrial Exhibition Association, who presented it fully a year ago.—The Mail and Empire.

The putting in force of such a proposition would work more injury to the importers in Ontario, Manitoba and the North Western Territories than they would willingly submit to. The tariff preference on British goods imported into Canada has been overworked, resulting in incalculable damage to some of our industries; but the proposition to make it applicable only to imports entered at Montreal and the Maritime Provinces would create most unfair and unjust discriminations against other parts of the country.

There is but one New Ontario, and Port Arthur and Fort William are its only twin cities. New Ontario has a great and only head pusher, and that is D. F. Burk, and there is but one Burk in all that great expanse of wonderful advantages of land and water. Burk is a man of action—quick on the trigger and realistic in results. Toronto's great fair would not have been the unbounded success it proved to be had not Burk been a constant and ubiquitous attendant at it, and now Port Arthur and Fort William are to have an "exposition," Sept. 29-30 to Oct. 1-2, 1903. An "exposition" is a bigger thing than a "fair," and Burk says that the New Ontario concern will throw Toronto into the shade. Burk has an able adjutant in R. A. Burriss, of Port Arthur, who can give further information.

The Toronto street railway carried 324,419 passengers (not counting transfers), on Labor Day. That was 60,625 more than was ever carried in one day before. The increase in the day's business represented the carrying of more than the

entire population of the city of Hamilton, while the gross traffic was greater than the total population of Montreal and its suburbs. If every resident of Toronto—man, woman and child—rode on the cars once that day, 113,000 visitors would be required to make up the total for the day. The receipts were \$13,939, almost as much as the company averaged per week during the first year of its franchise (1892), when the average for a week was \$15,707. Every day is not a 300,000 day, but these figures give some idea of the growth of the city, as well as of the prosperity of the people, and the success of the Dominion Exposition which was then in operation.

The National Association of Agricultural Implement & Vehicle Manufacturers of the United States will hold its annual convention at Cleveland, Ohio, October 21, 22, and 23. This association represents in its membership a capital actually engaged in manufacturing, of \$300,000,000, an annual product of \$400,000,000, and 150,000 employes. The tonnage of freight received and shipped annually is estimated at 8,000,000. The concerns represented in this association sell to Canadian consumers several millions of dollars worth of their products annually.

The annual meeting of the Canadian Manufacturers' Association began its sessions in Toronto this week. The programme included a reception on Wednesday evening to the visiting members in the Legislative Building; an afternoon garden party on Thursday on the grounds of Government House, tendered to the members of the Association, their wives and daughters, by the local Chapter of the Daughters of the Empire; and a theatre party in the evening; and on Friday a drive around the city, a compliment tendered by the Toronto City Council. Meanwhile the business meetings of the Association were held in the King Edward Hotel.

The Provincial Secretary has prepared, and is sending out to the municipal corporations of the cities, towns and villages throughout the province of Ontario, a number of blank forms for the purpose of making returns to the department in respect to reproductive undertakings, such as water works, gas, etc. These returns will include a statement showing the position of the undertakings on December 31, 1902, in regard to capital, together with the average annual income for the four years preceding that date, and the rates charged to consumers. This information is being obtained for the assistance of the Select Committee appointed at the last session of the Ontario Legislature to consider the question of municipal ownership. The committee will probably meet in October.

Messrs. Theodore Smith & Sons, boiler makers of Jersey City, N.J., recently asked for police protection of non-union employes. Mr. Charles Smith, one of the firm, said the strike presented a novel feature, the movement being practically an effort to bring about lower wages. The firm, he said, had always paid union rates, but they had also established the plan of paying extra wages to men who proved to be expert workmen. The union rate, he said, was \$3 a day, but the firm had several men to whom they paid \$3.75 a day in recognition of the better work done by them. When the International Machinists' Union learned this the firm were notified that they must establish a uniform rate of \$3 a day or a strike would be ordered. The firm refused to comply with the demand and the strike followed. The men who were getting \$3.75 a day went out with the others, thus protesting against the higher wages they received. Since then the firm have employed non-union labor.

The Dominion Government have issued a proclamation fixing Thursday, October 15, as Thanksgiving Day.

When Alaska was ceded to the United States by Russia in 1867 for \$7,200,000, he would have been deemed a rash prophet who would have predicted that within forty years the value of the salmon exported annually from Alaska to this country would exceed the entire purchase-money paid for the possession. And yet the figures of the Federal Bureau of Statistics already show an annual shipment of canned salmon from Alaska valued at upward of \$8,401,124. Says the Philadelphia Public Ledger :

The total value of the Alaskan shipments to the United States during ten months of the current fiscal year was \$10,101,060, exclusive of gold exports valued at \$1,369,496. During the interval, merchandise valued at \$6,831,070 has been imported into Alaska from the United States, and it is estimated that the value of the American shipments to Alaska during the fiscal year will be between \$10,000,000 and \$12,000,000. The total trade interchange between the possession and the United States for the year will exceed \$20,000,000 in value. The Alaskan trade with Canada and other countries is also becoming important. It is valued at nearly \$2,000,000 a year at present. . . . The discovery of gold in the Territory in 1887 worked a marvellous transformation, but the prosperity of the region does not rest wholly upon the supply of the yellow metal.

Mr. George E. Drummond, President of the Canadian Manufacturers' Association, stated in the annual meeting of the Association that one of the most pleasing things that had just been brought to his attention was the resolution unanimously adopted at the annual convention of the National Trades and Labor Congress of Canada, then in session in the city of Quebec. The resolution was as follows :

Whereas the most important benefit by a Canadian customs tariff is to raise the standard of living among Canadian wage-earners; and, whereas, the existing tariff exposes some lines of industry to an unwholesome and unwarranted competition with the low-priced labor industries of European countries and other lines, to the slaughter tactics of the United States producers, thus endangering the stability of the Canadian labor market.

Therefore, be it resolved that the Dominion Government be respectfully urged to make a thorough revision of the tariff, with the object of safeguarding and forwarding Canadian interests and of transferring to Canadian workshops and mines the production of many of the commodities consumed by the Canadian people, but which are now imported.

The National Trades and Labor Congress of Canada, now in session in the city of Quebec, represents two phases of the labor movement in the Province of Quebec which are but little understood in other provinces. It is almost entirely a French-Canadian movement. It is diametrically opposed to the Dominion Trades and Labor Congress, which meets in Brockville, Ont., next week, and which represents the English speaking workers of Canada; and it represents, it is said, the attempt of the Roman Catholic Church to secure that influence in labor circles which is denied it by the branches of the International Unions. The aims of the Congress as set forth by President Brunet, are to organize real Canadian unions in one national body. He claims that the action of the Dominion Labor Congress at Berlin, Ont., last year, made it a rule that only trades and labor organizations having their headquarters in the United States, and submitting to the authority and control of such organizations, shall in future be entitled to representation in the Dominion Congress. Nothing was left, therefore, to the delegates who

remained true to the interests of Canadian labor but to submit to dictation from international officials, or form a federation of Canadian labor organizations co-equal with the American Federation of Labor, the British Trades and Labor Congress and the labor federations of other countries. We are convinced, says Mr. Brunet, that his organization will thereby better conserve and advance the interests of the workers of Canada by having a Canadian federation that shall be directed by labor men in our midst, who understand the needs of our labor unions, and who will therefore be able to make adjustments between employer and employe, more quickly, more satisfactory, and therefore more permanently. A strong Canadian national organization will undoubtedly have greater sympathy and support from the public, in time of trouble, than would be the case with an outside body. The great objection to international organizations in Canada that strikes are fomented and carried on by labor officials from the United States to the disadvantage of Canadian enterprise and Canadian labor would be removed, and the settlement of all disputes rendered more amenable to arbitration and satisfactory adjustment.

The tariff committee of the Canadian Manufacturers' Association presented the following recommendations regarding the tariff which were adopted by the Association :

(1) That we reaffirm the tariff resolution passed at the last annual meeting in Halifax, as follows :

"Resolved, that in the opinion of this Association the changed conditions which now obtain in Canada demand the immediate and thorough revision of the tariff upon lines which will more effectually transfer to the workshops of our Dominion the manufacture of many of the goods which we now import from other countries.

"That, in any such revision the interests of all sections of the community, whether of agriculture, mining, fishing or manufacturing, should be fully considered, with a view not only to the preservation, but to the further development of all these great natural industries.

"That, while such a tariff should primarily be framed for Canadian interests, it should nevertheless give a substantial preference to the Mother Country, and also to any other part of the British Empire with which reciprocal preferential trade can be arranged, recognizing always that under any conditions the minimum tariff must afford adequate protection for all Canadian producers."

(2) That, except in very special cases, we are opposed to the granting of bounties in Canada as a substitute for a policy of reasonable and permanent protection.

(3) That we are strongly opposed to any reciprocity treaty with the United States affecting the manufacturing industries of Canada.

(4) That we recommend the establishment in Canada of a permanent Tariff Commission of experts, who, under the direction of the Dominion Government, shall have constant supervision of tariff policy and changes, and shall follow closely the workings of the Canadian tariff, with a view to making such recommendations to the Government as will best conserve and advance the interests of the Dominion.

A suit for damages against trade unionists for boycotting a hat manufacturer shows that legislation is rapidly encroaching on personal liberty.—Toronto Globe.

The Globe says that if trade unionists damage a manufacturer by doing illegal acts, and the manufacturer brings a suit for damages, as he has a right to do, the bringing of the suit by the manufacturer is an encroachment on the personal liberty of the trade unionists. This is supposed to be good Presbyterian doctrine as viewed from the pulpit of the Globe.

## CAPTAINS OF INDUSTRY.

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

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

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

The Trans-Continental Exploration Syndicate with a capital of \$100,000 has been formed at Ottawa to develop timber and mineral lands in British Columbia and the North-West Territories. Sir Adolph Caron, Sir Frederick W. Borden, and H. A. Ward, Port Hope, Ont., are among the promoters.

The Owen Sound Distillery & Cattle Feeding Co., Owen Sound, Ont., will erect a distillery, and in connection therewith cattle feeding yards, including a wharf and a grain elevator, which will occupy about 25 acres of land. The distillery will have a capacity to manufacture 500,000 gallons of spirits, and the feeding yards will turn out about 1,000 head of fat cattle per year.

Mr. Charles H. Vogel, consulting engineer, Ottawa, is engaged on preliminary work looking for the improvement of a water power in the Lake of the Woods district, and the erection there, within a year or so, of a large paper and pulp mill. The water power at the point is estimated at 15,000 h.p., and there is practically no danger of drought. The surveys have been made, and it is expected that the buildings will be under way before the end of another year. The plant is to cost in the neighborhood of one million dollars, and will manufacture news print paper.

The report of the special committee favoring the installation of a civic lighting plant for the city of Ottawa has been unanimously adopted by the council.

A company whose name has not yet been announced has been formed in Woodstock, Ont., to manufacture automobiles, etc.

The announcement of the discovery of high grade Bessemer ore at the mines of the Loon Lake Iron Co., 21 miles from the Sault, on the line of the Algoma Central Railway, has just been made, and as this is the only known deposit of this ore in Canada, the effect of the discovery upon the Canadian iron and steel industry will be of great importance. Mr. E. A. Sjostedt, chief metallurgist of the Consolidated Lake Superior Co., and F. S. Lewis, steel works superintendent, have made a thorough examination of the property, and arrangements are being made to use the ore at the Sault furnaces. The

newly discovered ore is similar to that of the Mesaba range on the American side.

The International Harvester Co. will begin at once the erection of a large binder twine factory in connection with its plant at Hamilton, Ont.

The town of Renfrew, Ont., have voted a loan of \$18,000 to the Cumming Mfg. Co., who will at the start give employment to 50 hands, in the manufacture of woodenware, etc.

It is probable that the Concentrated Flake Potato Co., Janesville, Wis., will establish branch works at Stratford, Ont., with a capital of \$125,000.

The Westport, Ont., Milling Co., has let a contract for \$7,000 for a stone addition, and will install new machinery throughout for their roller mill. They will also improve their water power, and generate electricity.

The George E. Tuckett & Son Co., Hamilton, Ont., have decided to establish a cigar factory in Montreal, and have leased the Robillard building for a term of years. Men are now at work installing the plant, and it is expected that the factory will be in full operation in a few weeks time. The Montreal factory will employ about 300 men at the start.

The Ottawa Milling Co., Ottawa, Ont., has recently installed additional machinery and their mill now has a capacity of 100 barrels per day.

A new flour mill of large capacity is projected at Keewatin, Ont.

The Ontario Government will erect a steel bridge over the Winnipeg river at Rat Portage.

The Ontario Department of Public Works has called for tenders for the new Asylum for Epileptics at Woodstock, Ont.

The Wheaton Mfg. Co., have located their works at 117 Bay street, Toronto, and will manufacture a line of plated goods. Mr. E. G. Gooderham, of the Toronto Silver Plate Co. is interested in the company.

The Bradley, Levy & Weston Machinery Co., Toronto, have purchased the Canadian patents of the Automatic Smoke

Prevention Co., and will immediately begin the manufacture of this new device. A battery of two boilers at the M. McLaughlin & Co. Flour Mills, Toronto, is at present equipped with this smoke preventer. Messrs. Bradley, Levy & Weston exhibited the appliance at the Toronto Exhibition.

The Ontario Bureau of Mines has received letters of enquiry recently regarding the possible existence of coracite in Ontario. This is one of the minerals in which radium is found, and it is not thought improbable that it exists in Ontario.

The Kipp Oil Co. has been formed at Johnstown, Pa., with a capital of \$100,000, for the purpose of taking over and developing the oil properties of the Chatham Oil Co., Chatham, Ont.

The works of the Ontario Tack Co., Hamilton, Ont., which were recently destroyed by fire, are to be rebuilt immediately on enlarged and improved plans, and will be equipped with the latest up-to-date machinery.

The trustees of the Collegiate Institute at Galt, Ont., will call for plans for a new school building.

Mr. E. J. Chamberlin, Ottawa, Ont., of the Canada Atlantic Railway Co., has made an announcement regarding the establishment of a line of passenger steamers by the Canada Transit Co. on the upper lakes. He says that such a line and the establishment of hotels for the accommodation of the great and ever-increasing tourist traffic pouring into the Georgian Bay, Muskoka, and Algonquin Park regions will be inaugurated by the Canada Atlantic Railway in the not far distant future, or as soon as the requisite financial arrangements can be made.

The Union Stock Yards Co., Toronto Junction, will invite tenders for the erection of a new hotel building.

The Hamburg Felt Shoe Co., Stratford, Ont., will enlarge their factory with a two-storey addition 60x32 feet.

R. Dodge will erect five brick houses at Hamilton, Ont., at a cost of about \$6,000.

The Federal Life Assurance Co., Hamilton, Ont., will erect a three-storey building 80x40 feet of pressed brick and cut stone.

The Sturgeon Falls Pulp Works, Sturgeon Falls, Ont., will be ready for operation in a few weeks, and paper will be made this month. The officials of the company are Mr. C. W. Rantoul, managing director, and the Hon. Charles Russell, London, England, solicitor.

Mr. Chris Moore, Orillia, Ont., is inviting tenders for the steam heating of the Grand Central Hotel, Orillia, and the hot water heating of his residence. Plans and specifications may be seen at W. H. Croker's office, Orillia.

The township of Chatham, Ont., will build an iron bridge across the Sydenham River at an approximate cost of \$15,000, plans for which have been prepared by W. G. McGeorge, C.E., Chatham, Ont.

The Richmond Conduit & Mfg. Co., Toronto, will build a factory at Niagara Falls, Ont., 150x150 feet.

J. C. Foster, architect, Owen Sound, Ont., is preparing plans for the erection of a new town hall 60x40 feet at Dundalk, Ont.

The Hamilton, Ont., Street Railway Co. will extend their line from Barton Street to the International Harvester Works, at a cost of about \$185,500.

The Victoria Wheel Works, Galt, Ont., which were recently destroyed by fire, will be rebuilt at once.

The Sarnia, Ont., Board of Education are considering the erection of a new public school building at that place.

The township councils of North Sherbrooke and Dalhousie will erect a steel bridge at the head of Dalhousie Lake, near Perth, Ont.

The Grand Trunk Railway Co. will erect a new station at Brantford, Ont., to be 200x60 feet.

A. O. Graydon, London, Ont., is inviting tenders for the erection of a Nurses' Home in that city.

A new town hall and public library building will be erected at Bowmanville, Ont.

Messrs. Schetagne Bros., L'Original, Ont., will erect a large stone and brick hotel next spring at that place.

The J. E. Murphy Lumber Co., Milford Haven, Ont., have been incorporated with a capital of \$100,000, to manufacture lumber, etc. The provisional directors include J. E. Murphy, H. F. Murphy and O. A. Murphy, Meaford, Ont.

The Russell Lithia Water Co., Ottawa, Ont., have been incorporated with a capital of \$75,000, to manufacture mineral and aerated waters. The provisional directors include O. J. Rochon, W. Thivierge, Clarence Creek, Ont., and N. A. Belcourt, Ottawa.

The Home Furnishing Co., Ottawa, Ont., have been incorporated with a capital of \$20,000, to carry on a general wholesale furniture business. The provisional directors include C. A. Douglas, H. F. Hardy and W. H. Craig, Ottawa.

The H. A. Clemens Co., Guelph, Ont., have been incorporated with a capital of \$50,000, to acquire the business of H. A. Clemens & Co., that place, and to manufacture woodenware, building materials, etc. The provisional directors include J. S. Clemens, Waterloo, Ont., H. A. Clemens and Wm. G. Field, Guelph.

The Vera Mining Co., Limited, Sault Ste. Marie, Ont., have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include P. J. Finlan, D. B. MacDonald and P. Robinson, Sault Ste. Marie.

The Farrar Transportation Co., Collingwood, Ont., have been incorporated with a capital of \$250,000, to operate and construct elevators, steamships, wharves, etc. The provisional directors include C. A. Farrar, Meaford, Ont., F. A.

Bussett and Wm. Carmichael, Collingwood.

The Lucinda Gold Mining Co., Sault Ste. Marie, Ont., have been incorporated with a capital of \$100,000, to carry on a mining, milling and reduction business. The provisional directors include F. M. Dole, C. M. Dysinger and A. E. Sharpe, Sault Ste. Marie, Mich.

A. J. Stewart, Limited, Toronto, has been incorporated with a capital of \$50,000, to manufacture confectionery, biscuits, jellies, etc. The provisional directors include A. J. Stewart, J. F. Roelofson and Wm. B. Close, Toronto.

The Stratford Improvement Co., Stratford, Ont., have been incorporated with a capital of \$50,000, to construct buildings, etc. The provisional directors include A. J. McPherson, W. J. Mooney and Geo. McLagan, Stratford.

The Cornwall Paper Mfg. Co., Cornwall, Ont., have been incorporated with a capital of \$250,000, to manufacture paper, etc. The provisional directors include R. R. McLennan, S. Greenwood and R. J. Pitts, Cornwall.

The American Seeding Machine Co., Springfield, Ohio, have been licensed to do business in Ontario with a capital of \$200,000.

The Iron & Steel Co. of Canada, Belleville, Ont., have been incorporated with a capital of \$300,000, to carry on a mining, milling and reduction business. The provisional directors include J. F. Wills, Belleville, H. T. Wills, Dawson City, Y.T., and C. E. Carboneau, Paris, France.

The Wallaceburg Sugar Co., Wallaceburg, Ont., will increase their capital from \$350,000 to \$500,000.

The Hart Emery Wheel Co., Hamilton, Ont., have changed their name to The Hart Corundum Wheel Co., Limited.

Mr. L. J. Moore, jr., formerly of the Carter-Crume Co. of Toronto, is now manager for the Morton Co. of this city, who are large manufacturers of shipping tags, duplicating books, etc.

In addition to the two 500 h.p. B. & W. boilers recently installed by Babcock & Wilcox for the Toronto Street Railway Co. a similar battery will be installed for the same company shortly. Messrs. Babcock & Wilcox have also installed a 750 h.p. boiler for the King Edward Hotel, Toronto.

The Maitoulin Portland Cement Co., with head offices at Windsor, Ont., has been incorporated with a capital of \$1,000,000. Wm. Sherwood, Toronto, T. G. Ellis and R. F. Sutherland, Windsor, are interested. H. G. Field, Detroit, is consulting engineer.

The Ava Chemical Co., New York, in which John D. Rockefeller is interested, will establish a branch plant at Hamilton, Ont.

Briggs & Sons, sash and blind manufacturers, Brockville, Ont., are making additions to their plant which will more than double their output.

A joint stock company, with a share capital of \$100,000, is being organized in Stratford, Ont., to manufacture lager beer, ale and porter. Most of the capital has been provided for, and a plant costing \$70,000 will be installed.

The Town Council of Peterborough, Ont., have assented to a by-law granting a 30-year franchise to the Peterborough Radial Railway Co., which is practically the American Cereal Co., to build, equip and operate upon the streets of that town an electric railway, which is to be running by July 1 next. The company is granted exclusive right of the streets for that purpose, the intention being to run lines to Lakeside, Chemong and other outlying villages. The route of the old street railway is to be first put into shape. Mr. Robert Stuart, managing director of the American Cereal Co., and Senator Cox, are at the head of the project.

By the spring of next year the Canadian Pacific Railway Co. will start to build one of the finest combined hotels and stations in the Dominion. The plans have already been prepared and have been passed by the Board of Directors.

The Mohawk Institute building, which was recently destroyed by fire at Brantford, Ont., will be supplanted by a new \$30,000 building.

The works of the Westinghouse Co. at Hamilton, Ont., will be enlarged at a cost of about \$1,500,000.

The Co-operative Harvester Mfg. Co., Toronto, are negotiating for the purchase of a suitable location at Whitby, Ont.

The Rainy River Pulp & Paper Co., of which the Hon. G. E. Foster, Toronto, is a director, has secured a timber concession of 270 square miles, in the Rainy River district, from the Ontario government. The company is making preliminary surveys for flumes, dams and mills, and intends erecting a 30-ton mechanical pulp mill and a 15-ton chemical mill. A sawmill to do general lumbering business will also be erected. It is expected that the sawmill will be in operation next spring and the pulp mill by the spring of 1905. The area of the concession is covered with banksian pine, poplar, spruce, tamarac and cedar.

Mr. J. M. Bell, who is in Northern Ontario with the exploration party looking for coal, has reported to T. W. Gibson, director of the Bureau of Mines, from Moose Factory. He had just returned from Kesagami Lake, which is some distance, about 50 miles, south-east of Moose Factory, and has hitherto been little visited. He reports large quantities of lignite, or, more correctly, much carbonized and very fine peat, occurring on the lake shore as cliffs from 12 to 16 feet in height. The deposit runs for several miles. The lake is 24 miles long by about 8 wide.

Messrs. F. S. Dow, Chicago, Ill., and Wm. Richmond, Hamilton, Ont., are interested in a new company for the manufacture of farm implements, which will likely locate at Woodstock, Ont.

A new eight-room brick school building will be erected at Hintonburgh, Ont.

Mr. John Wilson is preparing plans and specifications for a new furniture factory at Collingwood, Ont. The first building, to be erected immediately, will be 200x60 feet, and the second, 165x60 feet. The power house will be 40x40 feet, and a large dry kiln will also be erected.

The Non-Such Mfg. Co., Toronto, are erecting a three-storey factory in Pearl Street at a cost of \$8,000.

The Pure Gold Mfg. Co., Toronto, are making alterations in their factory at a cost of \$3,500.

The success which has already been obtained by the Canadian Casualty & Boiler Inspection Co. of Toronto is due to the fact of the businesslike methods adopted by this corporation. The importance to manufacturing concerns of knowing that their steam plants are under the competent care of skilful engineers cannot be overestimated. This company have the care of many of the largest steam plants in Canada, which have been entrusted to them because of the competent services of their engineers and the thoroughness of their methods. The protection afforded is recognized as important to steam users. The insurance policies issued by the company are reported to be especially favorable to insurers.

The work on the buildings of the Imperial Steel & Wire Co., Limited, Collingwood, Ont., is being rushed, and it is expected that they will be completed and ready for operation before the end of the year. When completed the new plant will be, it is claimed, one of the largest and most modern wire plants in America. The ground floor area of the buildings will cover a space of about five and a quarter acres. The plant will accommodate the galvanizing plant, fence wire mill and the rod mill. The buildings will be of brick, except the rod mill, which will be of iron. The company will secure its supply of wire rods from the Cramp Steel Co. until such time as it has its own rod mill established. Billets and small ingots will also be obtained from the Cramp Steel Co., and rolled into rods on a continuous mill. The rods will be drawn into the various sizes of wire required for an output of a hundred tons of wire and wire products daily. The buildings are so located that, should it become necessary, by making a few extensions the capacity could be doubled. The company contemplate the manufacture of all kinds of wire products, from steel billets down, through the various processes, to the finished merchantable product.

The Montreal City Engineers' Department have begun work on the sewer that will drain the big Canadian Pacific Railway shops in Hochelaga. It will be over a mile in length and will cost in the neighborhood of 10,000.

A company has been formed in Montreal to take over and carry on in that city on a large scale the manufacture of apparatus for the generation of Acetylene gas under the Siche patents.

The Star Mantle Mfg. Co., Montreal, have been incorporated with a capital of

\$10,000, to manufacture mantles, cloaks, etc. The provisional directors include Wm. R. Lee, V. E. Mitchell, Montreal, and A. W. Dewey, of Jamaica Plain, Boston, Mass.

The Arthabaska Chair Co., Victoriaville, Que., have been incorporated with a capital of \$12,000, to manufacture chairs, furniture, etc. The provisional directors include J. E. Alain, M. Rouseau and P. H. Walsh, Victoriaville.

W. A. Morehouse, Sherbrooke, Que., is inviting tenders for the erection of a Methodist parsonage.

La Societe Anonyme de Construction, Montreal, have been incorporated with a capital of \$20,000, to erect buildings, etc. The provisional directors include J. A. Godin, C. A. Milette, Montreal, and A. B. Champagne, Lachine, Que.

The Richelieu & Ontario Navigation Co., Montreal, have decided to build a new steamer for the passenger trade between Montreal and Quebec. Work will be started shortly on the vessel which is expected to cost \$400,000.

The Royal Canadian Cement Co., capitalized at \$600,000 has secured a suitable site at Longue Pointe, Montreal, and will establish a plant there.

The Swan Electric Co., with headquarters in Montreal, has registered to do business in Canada. F. W. Williams and A. E. Paterson are at the head of the company.

The European Importing Co., has registered in Canada and opened headquarters in Montreal.

Improvements being made by the city of Montreal at the lower end of the Lachine Canal will cost \$250,000.

The Alza English Sash & Lock Hardware Co., Montreal, has registered to do business in Canada.

The Wighton Morrison Co., builders and contractors with headquarters in Montreal have registered to do business in Canada.

The city of Sherbrooke, Que., will install a new water power system. It is proposed to develop 1,000 h.p. by the construction of a dam at Westbury at a cost of \$277,000.

A new telephone system is to be established in Montreal by the Bell Telephone Co., at a cost of \$1,000,000.

The Montreal Street Railway Co., will buy a large number of new cars.

The town of Villersy, Que., will construct a water system at a cost of \$12,500.

The Caledonian Iron Works, Montreal, will install a Worthington pump for North Sydney at a cost of \$6,950.

All machinery for the equipment of the Ross rifle factory at Quebec, has arrived and the plant will be put in operation at once.

The American Locomotive Co., Montreal, whose Canadian works are at Longue Pointe, near that city, are considering the establishing of a large ship building and

bridge and structural steel works at that place.

The tar paper plant of McArthur & Co., in Montreal was burned last week. Loss \$10,000.

The contract for new seven storey building to be erected in Montreal by the Metropolitan Bank has been awarded to Louis Beaudry of that city.

The dam at Two Miles Falls, near Sherbrooke, Que., which supplies power to the Royal Paper Mills and the Brompton Pulp & Paper Co. will be repaired.

The Canada Paper Co., has installed at its Windsor Mills, Que., plant, what is said to be the largest paper machine in Canada.

The Capell Mine Fan Co., Jeannette, Pa., have recently supplied the Nova Scotia Steel & Coal Co. works at Sydney Mines, N.S., with a 20-foot Capell fan. The engine is direct connected with the fan, and will run 150 revolutions per minute, the fan supplying 200,000 cubic feet of air at 5½ water gauge. The high pressure cylinder is 16 inches in diameter. low pressure cylinder 32 inches, stroke 24 inches, and the weight of the engine 40,000 pounds. The engine is designed for heavy working and calculated to stand heavy and continuous running.

The No. 1 colliery, formerly Princes pit, of the Nova Scotia Steel & Coal Co., New Glasgow, N.S., is to be equipped with endless haulage. The installation of the system means the employment of a very great length of rope. The distance from the bottom of the shaft to the extreme length of the mainway is about 1½ miles, which, doubled gives 18,480 feet; then the depth of the shaft say 800 feet gives 1,600 feet, and then from the mouth of the shaft to the engine above ground, 400 feet doubled, 800 feet, giving a total length of 20,880 feet. The system is expected to be put in operation at a very short time.

The Mabou & Gulf Railway, which is being constructed in Cape Breton to open up the Mabou coal fields, has been completed, and the mine is to be put in operation at once. A new shipping pier with coal pockets has also been erected at Mabou Harbor.

The output of the mines of the Dominion Coal Co. for August shows quite a decrease from the output of the preceding month. This is largely attributed to the scarcity of labor and its irregularity during the month. The miners are strong on picnics, preferring a day's picnicing to a day's pay at any time, and this year the month of August was prolific in picnics. This is the cause blamed for the falling off. Dominion No. 1 mine, which was the scene of a fire a few months ago, and the subsequent flooding, shows the gratifying output of 5,546 tons. Next month the Hub colliery will be put in operation.

The output of coal from the mines of the Nova Scotia Steel & Coal Co., Sydney Mines, N.S., for August, shows an increase of 3,022 tons as compared with the output of the previous month. The output of the respective mines was as follows:

Sydney No. 1, 21,275; Sydney No. 2, 11,961; Sydney No. 3, 8,540; total, 41,776 tons. The company are installing an electric lighting plant in order to supply the machine shops, the general offices and blast furnaces, with electric lights.

The Acadia Coal Co. of Stellarton, N.S., will erect a coal shipping pier at Pictou Landing, N.S.

The F. B. Dunn Packing Co., St. John, N.B., are applying for incorporation with a capital of \$100,000, to carry on a packing, tanning and warehousing business and to erect factories, cold storage houses, etc. The applicants include Jas. F. Robertson, J. H. Thompson and A. T. Dunn, St. John.

The Imperial Packing Co., Woodstock, N.B., have been incorporated with a capital of \$45,000, to carry on a packing and canning business and to acquire the business of the Meductic Meat Co. The provisional directors include A. W. Hay, Woodstock, D. McQueen, St. John, and J. H. Hay, of Millville, N.B.

Mr. Alfred Harmsworth, proprietor and publisher of the London Daily Mail and a number of leading English periodicals, has completed arrangements for the purchase of the extensive timber limits of the Newfoundland Timber Estate Co. The mills secured by the English publisher are situated at Millertown, on a branch of the Reid Railway line, and all the timber limits are tapped by the railway. Two pulp mills will be erected.

Steady progress is being made at Dominion No. 1 mine, in Cape Breton, N.S., and the daily output is now in the vicinity of 500 tons. Sixteen pumps are at work busy discharging from the mine. Four hundred men are employed and the number is being increased as the progress of getting the mine free from water is progressing.

Messrs. A. N. Whitman & Co., Canso, N.S., will rebuild their warehouse, which was destroyed by fire some time ago.

The Dominion Iron & Steel Co. has commenced operations on its rod mill. The steamer Pandosia recently arrived from Antwerp with a cargo of the necessary machinery. The installing of the machinery has commenced, and it is expected that it will be in full operation in about four months' time. The rod mills

will mean a great saving to the company, besides giving them a more saleable article than steel billets.

The management of the Blockhouse & Gowrie Colliery Co., Cape Breton, N.S., propose installing an endless haulage system in a short time. They also contemplate the extension of their shipping facilities, including an additional shipping pier. The company intend shortly to strike the main body of coal, and operations will then be conducted on a larger scale. It is stated that they intend sinking their shaft to the eight-foot seam, which is underneath the scain that they are now operating.

An exceedingly valuable discovery of a superior seam of hematite iron ore was made a few days ago at Long Island, Cape Breton, N.S. Specimens assayed were as follows:—Iron 67; silica, 7.27; phosphorous, .014. It is a form of hematite called specular iron, black in color, with a brilliant metallic lustre.

The casket and trunk factory of Christie Bros. at Amherst, N.S., was destroyed by fire September 11. Loss about \$30,000.

The Royal Bank, Londonderry, N.S., are considering erecting a new banking building at that place.

The New Brunswick Petroleum Co., have decided to sink 100 wells in the St. Joseph district and also to build a large refinery.

The Commissioner of Public Works, Fredericton, N.B., will receive tenders for the erection of the following bridges: French Fort Cove bridge, Bathurst Basin bridge, Dow bridge, and Northdale bridge, N.B.

The Halifax, N.S., Electric Tramway Co., is spending about \$200,000 in improvements. The machinery and fittings are being removed from the works at the Northwest Arm to the gas works property on the harbor front.

The Union Foundry & Machine Works of St. John, N.B., will be re-organized as a joint stock company. Jas Manchester, William Bruckhof and Geo. H. Waring, of St. John, are interested.

A charter has been issued to Murray & Gregory, Limited, of St. John, N.B., with a capital of \$100,000, to acquire and conduct the manufacturing and mercan-

tile business formerly conducted by Murray & Gregory.

American capitalists interested in oil developments near Sydney, N.S., will build an electric railway.

The Beersville Coal & Railway Co., has been incorporated in New Brunswick.

Most of the machinery has been installed in the new pulp mill of J. R. Booth & Co., at Chaudiere Falls, near Ottawa, and operations will be begun in a short time.

The Nova Scotia Steel & Coal Co., have some 2,700 names on their pay roll at Sydney Mines. The present daily output of their collieries is nearly 2,000 tons. The new collieries are being rapidly developed and their output fast increasing. Their output for the year will be about 500,000 tons.

The Cape Breton Silicate Brick Co., North Sydney, N.S., have an excellent exhibit of their brick at the Provincial Exhibition at Halifax. In addition to their ordinary brick they have different colored and shaped brick, also photographs of different buildings built of their brick.

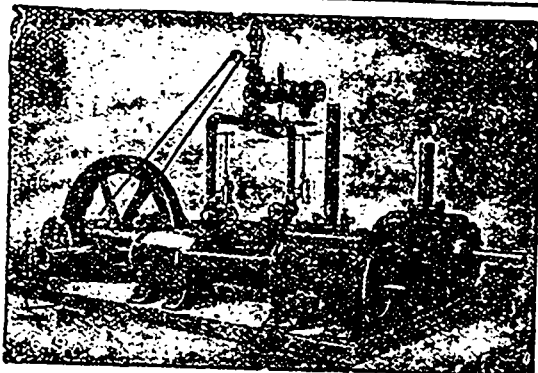
The Robb Engineering Co., Amherst, N.S., has secured a contract from the city of North Sydney for two 100 h.p. boilers for use at the water pumping station.

The Dominion Linen Mills Co., of which J. H. Pauley, of Halifax, N.S., is president, which company propose to establish a plant at Orillia, Ont., have about completed their plans. The directors of the company are: Edwin J. H. Pauley, president, Halifax; A. W. Redden, Halifax; Max. Ungar, secretary, Halifax; William N. Silver, Halifax; T. S. Bowser, Halifax.

The Victoria mill property at Fredericton, N.B., has been sold to J. M. Scott, W. J. Scott and J. S. Scott, of Fredericton, who will operate sawmills.

The St. George Pulp & Paper Co., have completed their plant at St. George, N.B., and will begin operations soon.

Reports from Christiania, Norway, state that it has been decided to construct a new dry dock at Arendal, costing over \$80,000. Its dimensions will be 500 feet in length, 73 in width and 30 in depth.



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WORKMANSHIP AND EFFICIENCY

OUR BOAST.

THE JAMES COOPER MFG. CO., LIMITED

299 ST. JAMES ST., MONTREAL.

The steam laundry in connection with the Home of the Good Shepherd, at Halifax, N.S., was destroyed by fire September 16. Loss about \$25,000.

The Imperial Dry Dock Co., will build a new dry dock at St. John, N.B.

Plans have been completed for the new Canadian Pacific Railway combined station and hotel at Winnipeg, Man., and the work of construction will, it is understood, be begun next spring. The entire cost will be in the neighborhood of \$300,000.

The John Currie Pump Mfg. Co., Winnipeg, Man., have been incorporated with a capital of \$20,000, to manufacture pumps, windmills, agricultural implements, etc. The provisional directors include John Currie, G. F. Munroe and T. H. Maxwell, Winnipeg.

The Jobin Marrin Co., Winnipeg, Man., will add another story to their warehouse.

The town council of Strathclair, Man., have decided to erect a town hall.

The Lac du Bonnet Power Co. offer to sell to the city of Winnipeg, Man., for the sum of \$1,500,000, all rights and privileges necessary for the complete development of the Lac du Bonnet water falls, near that city, together with an installation of 10,000 h.p. of electric energy, delivered at transforming station, within the city limits, within two years from date of contract.

St. Paul, Que., capitalists, will erect a linseed oil mill and elevator at St. Boniface, Man.

St. Boniface, Man., will install a system of waterworks to cost \$80,000, the water to be obtained from artesian wells.

According to a report issued by Grain Inspector Horn, Winnipeg, Man., that city handles more export wheat than either the Duluth-Superior ports or Chicago. From September 1, 1902, to August 31, 1903, a total of 51,833,000 bushels of wheat were inspected at Winnipeg and sent through to Fort William, Ont., or shipped to other ports for export. The total quantity of wheat shipped from the combined ports of Duluth and Superior for same period was 42,406,923 bushels, and from Chicago, 37,940,953.

Gardner Bros. & McConnell, manufacturers of stackers, etc., Neepawa, Man., have bought a building at that place which they will convert into a machine shop. A foundry building will be erected nearby, enabling them to greatly extend their business.

The Canadian Northern Railway Co. have received thirty-one new locomotives from the Kingston Engine Works, Kingston, Ont. These locomotives are of the most powerful description, and in addition the company have 1,300 new box cars, each capable of carrying 1,000 bushels of wheat. With this increased equipment and with the new elevator at Port Arthur, Ont., the company will be able to effectively handle all grain along the company's route.

The Echo Milling Co., Gladstone, Man., has let the contract for the machinery for a 200-barrel flour mill and a feed mill plant.

The Arrow Milling Co., Birtle, Man., has started up its new 150-barrel Ultimater Mill at that place. The machinery was furnished and the mill built by the Canadian Ultimater Co., of Peterboro, Ont.

The Minnedosa Milling Co. has been chartered at Minnedosa, Man., with \$25,000 capital, to build and operate elevators and to carry on a general milling business.

The Sutcliffe-Muir Milling Co., Mossomin, N.W.T., has let the contract for a 300-barrel flouring mill.

The Canadian-American Coal & Coke Co., whose mines are at Frank, N.W.T., are now prepared to ship 800 tons of coal per day. Improvements at the Lillie collieries near Frank include the construction of 50 Belgium coke ovens at a cost of about \$200,000. The International Coal & Coke Co., whose collieries are near Frank, have commenced the construction of 100 coke ovens.

The Brackman-Ker Co. will enlarge their lumber mill at Strathcona, N.W.T.

N. Bawlf, Winnipeg, will erect an elevator at Edmonton, N.W.T.

The Medicine Hat Woolen Mills Co., Medicine Hat, N.W.T., has been incorporated.

The Indian Head Machine Works Co., Indian Head, N.W.T., has been incorporated.

The Calgary Gas Co., Calgary, N.W.T., has been incorporated.

The Edmonton Industrial Agency, Edmonton, N.W.T., has been incorporated.

The lumbering industry of British Columbia is in a prosperous condition. Exports of sawed lumber from that province to the United States during the fiscal year ended June 30, 1903, amounted 719,135,000 feet, valued at \$10,569,000, or at the rate of \$14.91 a thousand. In 1902 the exports amounted to 664,751,000 feet, valued at \$9,228,970, or \$13.95 a thousand. In 1901 the exports amounted to 490,571,000 feet and the valuation \$6,343,865. The lumber consists predominantly of pine and spruce.

The first hematite or bog iron to be discovered in British Columbia has just been made in the neighborhood of Quatsis Sound. Analyses have been made at the government office and in Pittsburg and the fact established that it is actually hematite. The absence of this has always been urged against establishing steel works in British Columbia. Magnetite exists in abundance.

The International Coal & Coke Co., of which Mr. A. C. Flumerfelt, of the Grandy Consolidated Mines of British Columbia is president, and who own ex-

tensive bituminous deposits in Alberta, N.W.T., on the line of the Crow's Nest Pass Railway, have secured the services of Mr. G. S. Baton, of Pittsburg, Pa., to design a coal mining plant capable of producing 2,000 tons per day, to be later increased to a much larger capacity.

The Oriental Pulp & Paper Co., Vancouver, B.C., has been bought by a syndicate of English capitalists.

A zinc smelter with an annual capacity of 50,000 tons will be installed on Burrard Inlet, B.C.

Mr. Sherwood, an English mining engineer, now residing at Vancouver, B.C., is endeavoring to interest capitalists in a project to establish a lead refinery and corrodng works at that city, says a Vancouver exchange. The matte to be used in the production of the lead would come from the Hall mines and Trail smelters. The refining would be done by the electrolytic process. Once the plant has been started, it could be enlarged, and Mr. Sherwood thinks that the industry could not only supply the Canadian market, which consumes about 11,000 tons annually, but could also find a sale in China. At present the Asiatic market for pig, tea and sheet lead is largely held by San Francisco smelters and a good deal of the lead exported by these smelters is Canadian, imported into the United States and manufactured in bond.

The Pingston Creek Lumber Co., Revelstoke, B.C., will build a water-power sawmill with a capacity of 20,000 feet a day. J. A. Kirk is managing director.

The British Columbia Government is inviting tenders for the erection of a new school building at Chilliwack, B.C.

A new post-office building will be erected at Hanover, B.C., next spring.

It is expected that the contract for the new Canadian Pacific Railway tourist hotel to be erected at Victoria, B.C., at a cost of about \$750,000, will be awarded shortly.

The Elk Lumber & Mfg. Co., Fernie, B.C., will erect a sawmill at Hosmer.

The Westminster Bridge Co., will apply to the parliament of Canada for incorporation with power to acquire from the British Columbia Government the bridge now in course of construction across the Fraser River at New Westminster, B.C., and also to construct other bridges, etc.

Messrs. Cowan & Co. will erect another saw-mill at Trout Lake, B.C.

W. Suthers, will erect a residence in Vancouver, B.C., at a cost of about \$50,000.

The Okanagan Lumber Co., Enderby, B.C., have been incorporated with a capital of \$100,000, to acquire the business of S. C. Smith and to manufacture lumber, etc.

The Mountain Lumber Co., Morrissey, B.C., have been incorporated with a capital of \$20,000, to take over the saw

mill and planing mill business of G. H. Gilpin and to manufacture lumber, and erect other saw and planing mills.

Thos. Foster will erect a residence in Vancouver, B.C., at a cost of about \$7,500.

The Pacific Bottling Works, Vancouver, B.C., have been incorporated with a capital of \$50,000, to acquire the business of the Pacific Bottling Works at Vancouver and Victoria, B.C., and to carry on the business of brewers and maltsters.

The Wattsburg Lumber Co., Wattsburg, B.C., have been incorporated with a capital of \$10,000 to acquire the business of A. E. Watts and to manufacture sashes, doors, lumber, etc.

The British Columbia Permanent Loan & Savings Co., will erect a large stone building in Vancouver, B.C., at a cost of about \$100,000.

Messrs. Grant & Henderson have submitted plans for the erection of the new general hospital at Vancouver, B.C., and tenders for the construction of same will be invited at once.

Messrs. Hooper & Watkins, have prepared plans for the library building to be erected at Victoria, B.C., at a cost of about \$45,000. Tenders are being invited.

W. H. Fraser, Grand Forks, B.C., has been awarded the contract for the construction of a new converter for the smelting works of the British Columbia Copper

Co., at Greenwood, B.C. A spur line to the works will be put in by the Canadian Pacific Railway Co.

The Pennsylvania Fire Brick Co. are making extensive additions to their plant at Beech Creek, Pa., and will have the same completed by October, which will double their present capacity to fifty thousand brick per day. As this is a plant that uses no machinery, it will be probably the largest high grade strictly hand made fire brick plant in Pennsylvania; it being the second time this company has doubled their capacity within the past two years.

The American District Telegraph Co., controlled by George J. Gould of New York, will extend their service into Canada.

Messrs. William Jacks & Co., London, England, under date September 3, write as follows:

Dear Sir,—Since writing you last, prices of iron have remained steady, and the demand to both home and export continues large:

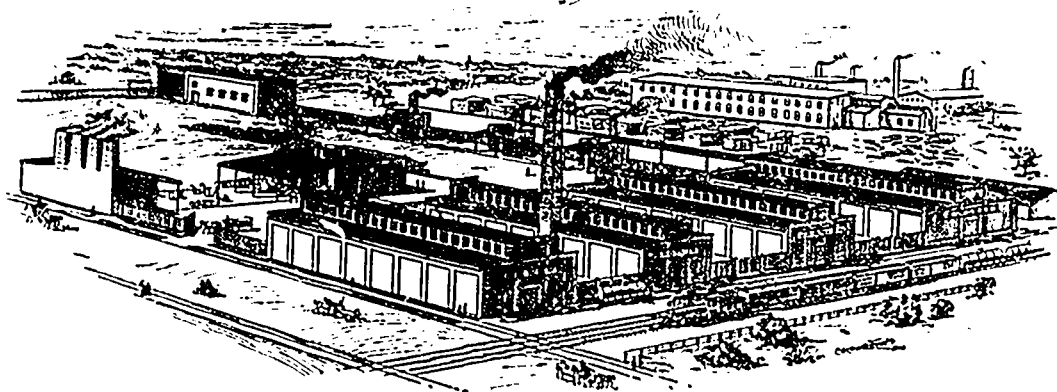
- No 1 Gartsherrie.... 63/3 per ton, f.o.b. Glasgow.
- No 3 " .... 57/- per ton, f.o.b. Glasgow.
- M/Nos. Cumberland Hematite ..... 63/- per ton f.o.b. Liverpool.
- No. 3 G.M.B. Mid-dlesbro ..... 47/6 per ton f.o.b. maker's wharf, including dues.

F. Buckstege, of Evansville, Ind., is considering the erection of a large furniture factor at Sault Ste. Marie, Ont.

The returns of the Soo canal for the month of August show considerable increase in the amount of traffic over August last year. The total amount of freight handled by the Canadian canals in August was 879,420 tons compared with 659,858 tons in the same month last year; in the United States canal the total freight handled in August was 4,524,388 tons compared with 4,430,633 tons in August of last year. There is a remarkable increase in the quantity of grain handled for the East through the Canadian canal in August. Last year the total was 57,072 bushels compared with 607,149 this year.

Liquid air is delivered in Berlin two litres (0.528 gallons) at a time for about 1s. 3d. It is stated that the receptacles are made of glass with double walls, the space between the walls being filled with an insulating material, the walls being silvered to prevent radiation of heat, and the whole enveloped in an insulating material. They retain their temperature for fourteen days. Several drops in a glass of water produce freezing, and it is intended for such uses as refreshing drinks and improving the condition of the air in sick rooms.

J. G. Speidel, Reading, Pa., manufacturer of the Speidel travelling crane and the Speidel improved economic hoists, reports unwonted activity in his business.



# It is nearly Half a Century

since we commenced to make Varnish. During this period we have acquired a knowledge not only of Varnish, but of the varied needs of varnish consumers that nothing but time can impart, and have also learned how to cater successfully to every varnish want.

Our experience belongs to those who use and sell Berry Brothers' Varnishes. Safest goods to handle, surest and most reliable goods to use.

WRITE FOR CATALOGUE.

**BERRY BROTHERS, Limited - Walkerville, Ont.**



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The George A. Fuller Construction Co., of New York and Chicago, said to be the largest builders and contractors in the United States, will extend their business to Canada, the company having just received the contract for the erection at Winnipeg of a new eleven-story structural steel office building for the Union Bank at that place. This company, who have constructed many large buildings in the United States, are allied with the United States Realty & Construction Co., which is capitalized at \$30,000,000. It is quite likely that a Canadian branch of the big construction company will be organized. Messrs. Darling & Pearson, of Toronto, are the architects for the new Union Bank building to be erected in Winnipeg.

Iron and steel are now consumed in large quantities in all sections of the country. Canadian developments furnish markets for a great proportion of the iron and steel now being manufactured, and those who are assisting in supplying the trade find a steady increase in business here. The Bourne-Fuller Co., Cleveland, Ohio, has a large Canadian trade, and invites further inquiries from iron and steel buyers in this section. The company's facilities are of the best character, and enable it to furnish the requirements of specifications.

#### NATURE'S SHORT-ROUTE GRAIN-CARRYING WATERWAY.

##### TRENT VALLEY CANAL.

Editor THE CANADIAN MANUFACTURER.

SIR.—It is an astonishing fact that at the present time Canadian people know so little about that great projected national grain-carrying waterway, the Trent Canal, now about two-thirds completed, and which was at one time more sensibly named the "Trent Valley Canal," the intention of which is to connect the North American upper lakes at the city of Midland on Georgian Bay, where the great ocean-like steamers, after having carried the grain across the upper lakes from "Britain's Granary" in the Canadian Northwest, will discharge it into the Trent Canal barges, and after passing on through this Trent Valley waterway, will enter Lake Ontario at its eastern end, either at the town of Port Hope or Trenton, and from thence proceed by way of the St. Lawrence river canals to the seaport city of Montreal, where the barges will discharge direct into the great ocean-carriers for Europe.

These Trent Canal barges will have a capacity of 25,000 bushels each, and will be hauled, several in consort, by steam tugs from Georgian Bay to Montreal, and will there be discharged directly by means of floating elevators into the ocean steamers, thus relieving the immense outlay for elevator charges at Montreal.

The Trent Valley route is "Nature's short-route grain-carrying waterway," and how ungrateful it would be were we not to utilize that with which she has endowed us. It was the route travelled by that great pioneer, Champlain.

Years ago a canal route by way of the Trent Valley was decided upon by the Imperial Government to be the most economical waterway between the upper lakes and the seaport city of Montreal; the money was voted for part of the work, and in fact several of the locks were constructed, but the MacKenzie rebellion breaking out, the money was appropriated for the purpose of suppressing it.

In 1880 the attention of the Minister of Railways and Canals was directed to it, and the Canadian Government was so impressed with the advantages of the route as an internal waterway that later on, in 1887, the Government appointed a commission to consider the advisability of continuing the work. This commission was composed of Judge Weller, of Peterborough, John Kennedy, C. E., of Montreal, (now harbor master), and Frank Turner, C. E., of Toronto, in his day a railway builder of world wide reputation, who took evidence at the chief ports of the great lakes as well as on the sea-board, and from the evidence adduced, they reported favorably advising completion of the canal.

Next summer construction work will be so far completed that a stretch of 160 miles of inland navigation will be opened between Lakes Couchiching and Simcoe on the north, and Rice Lake on the south, and there will only be two short sections remaining to be finished. The northern section will either cut across country a distance of twelve miles, following the Nottawasaga Valley, or else will follow the Severn River, which will require to be canalized by means of dams, which would cause some of the navigable reaches of the river to become flooded.

The completed section in the south between Rice Lake and Lake Ontario, further surveys of which are now being made, will cost two and a half million dollars or less, and efforts are now being made to induce Parliament to commence construction and thus give seaboard communication to an extent of country having a coast line of about one thousand miles, and having an urban population alone of nearly 50,000 people located on the shores of this navigable waterway. The work now done would then be of value.

The route of this proposed southerly section will either pass south across Rice Lake and across the isthmus 12 miles wide, following the Smith Creek valley, and enter Lake Ontario in a good harbor at the town of Port Hope, thence along the shore of the lake some twenty-five miles, passing several towns with good harbors, and into the Bay of Quinte through the five-mile Murray Canal, thence through the St. Lawrence River canals to Montreal. Otherwise the route will pass east through Rice Lake and follow the Trent River Valley to the town of Trenton, on the Bay of Quinte, a distance of some fifty-eight miles, over half of which is already navigable, the canal route using the river at times and in other portions cutting across country, thus saving both in cost and distance.

The middle stretch of the canal of 160 miles, spoken of as being about com-

pleted, between Lake Simcoe and Rice Lake, is composed of delightful stretches of navigable lakes and rivers, which for the most part lie transversely to the line of canal, and which are linked together by means of locks. One stretch of lakes alone, now navigable, and upon which there is already a large fleet of steamers and launches, extends for a distance of 70 miles, and are known as the "Kawartha Lakes," a summer resort now rapidly outrivalling the famed Muskoka Lakes, and also noted for its black bass and lunge fishing. They commence at Balsam Lake on the north and extend to Lakefield, near Peterborough on the south, the lakes passed through being Balsam, Camerou, Sturgeon, Pigeon, Buckhorn, Deer, Lovesick, Clear and Katchawanooka, while the locks are Rosedale, Fenelon Falls, Bobcaygeon, Buckhorn Falls, Lovesick, Burleigh Falls and Young's Point. The biggest drop is at Burleigh Falls, the difference in levels there being nearly thirty feet, these falls having a reservoir or mill pond covering some fifty square miles.

The country north-east, and contiguous to the canal, has enormous quantities of hardwoods, suitable for furniture manufacturing purposes, and is at present only waiting until the canal barges can receive it at the mouths of the streams tributary thereto. Of course millions of dollars' worth of pine timber have already been floated out through this waterway. The middle and southern portions of central Ontario are a grain-growing district, in fact the largest cereal company in the world has recently erected mills at Peterborough, ("The Waterpower City") having a capacity of manufacturing ten million bushels of grain per annum, chiefly for European trade, and one reason for its location there was that an assurance was given that the Trent Valley Canal would be soon completed.

Already this whole district has felt the benefits of the canal, notably at Peterborough, where three of the largest factories of their kind in Canada have recently been located. In fact a member of the great Rothschild banking house, when visiting this section a few years ago stated that the district was destined to be one of the great manufacturing centres of the continent.

The great hydraulic lift-lock, the largest in the world, located at Peterborough, which will be completed in a few weeks, will lift the 25,000 bushel barges from the lower level of the canal, to the upper, or vice versa, by means of pontoons or water-tight steel boxes 140 feet long by 33 feet wide with a depth of 8 feet in the clear. These pontoons are closed at the ends by means of gates hung on the lower edges, and gates are also used to close the ends of the reaches of the canal on the upper and lower levels. These chambers, guided between three high towers built of concrete, are carried by means of heavy trusses supported on top of two pistons or rams, 7 1/2 feet in diameter, which work in two steel water-tight wells, one under each chamber. The chambers are alternately up or down, and barges or vessels are

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hauled in or out by means of hydraulic capstans, about twelve minutes being sufficient to cage, lift and liberate the enclosed vessels, whereas it would take about one-and-a-half hours to do a like lockage on the old-fashioned system, such as on the Welland or Erie Canals.

Four of these great lift-locks will be used on the Trent Canal, the second one to be located at the height of land near Balsam Lake, being now nearly finished. These four lift-locks will save altogether about six hours in time over the old system of lockage, as well as a great saving in cost.

It is well to mention that these Trent Canal barges will have a capacity of 25,000 bushels, whereas the Erie Canal barges running between Buffalo and New York have only a capacity of 8,000 bushels; and also that the Trent Valley route is some 750 miles shorter than the Erie route between the North American Upper Lakes and Liverpool, a total saving of about 1,500 miles in the round trip. In comparison with the Welland Canal route, between Sault Ste. Marie and Montreal, the Trent Valley route will be some 250 miles shorter, or about 500 miles in the round trip.

People have asked why this great work has been so delayed, and the answer has been given, because it has been made a political football. Both parties are committed to it, but a great deal of prejudice has been engendered against this Trent Valley Canal undertaking because members of parliament and the public gener-

ally are lamentably ignorant as to its capacity, utility and purposes.

I repeat again—let the Trent Valley Canal be completed without further delay. The grain-hooper is full, but the present spouts are small.

J. ALEXR. CULVERWELL,  
PETERBOROUGH, Sept. 17, 1903.

**PENBERTHY INJECTORS**

The Penberthy Injector Co., Detroit, Mich., recently placed the number 300,000 on one of their "Penberthy" automatic injectors, having completed this number of injectors in just a little over sixteen years. They rightly consider that this is a most remarkable record, especially when it is taken into account that it took nearly ten years of hard work to convince engineers that an automatic injector was a practical device, and to manufacture and sell the first 100,000 machines. It is somewhat difficult to comprehend what is meant by 300,000 injectors. Possibly the following facts may help to an understanding of the subject. Basing the figures on the average capacity of the injectors sold during the past twelve months, the 300,000 "Penberthy" automatic injectors on the market will handle in one hour 109,500,000 gallons of water. This amount of water, if pumped into an upright tank 50 feet square, would require the tank to be over a mile high, or to put it in another way, if the output of these 300,000 injectors were combined into one stream, they would supply a

river 10 feet deep and 250 feet wide, and keep up a steady flow of water at the rate of a little over a mile per hour. If the 300,000 injectors were all connected to one source of water supply, they would in ten hours completely drain a lake 10 feet deep, one mile long and a half mile wide. The "Penberthy" injector is acknowledged as the standard among automatic machines everywhere, and has never been surpassed in its working qualities by any injector retaining the automatic feature until the same company placed on the market a few years ago their Auto-Positive, hot-water, high pressure, restarting injector, information regarding which they will be glad to furnish any enquirer.

**FORT FRANCIS WATER POWER**

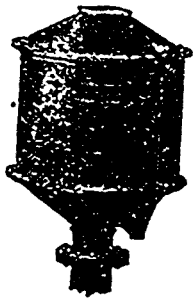
After a long delay it looks now as though the water power at Fort Francis, on the Rainy River, will be developed. A conference has been held between Hon. E. J. Davis, Ontario Commissioner of Crown Lands; E. W. Bachus, of Minneapolis, and H. V. Winchell, who is associated with him; Senator McMullen; R. P. Ormsby, representing Mackenzie & Mann; John H. Moss, representing Fort Francis, and Allan C. Royce, representing G. Seaman & Co., who are applicants for the right to develop the Canadian side of the power in case the Backus negotiations should fall through. It has been agreed that the Bachus Co. shall develop one-half of their power on the Canadian

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is reliable—as good to you as your money.

We place an unconditional guarantee on every

**BURT EXHAUST HEAD**



that goes out of our factory. You can rely on its being in perfect condition when it reaches you. We are not infallible, however, and if you should find anything wrong with one, we want to know about it. We will either replace it, or refund the money without comment.

As a matter of fact, we seldom hear anything but praise about our goods. This is a fair sample:

"We have other makes of Exhaust Heads in use, but think yours the best we have."

WESTERN AUTOMATIC SCREW CO.,  
Elyria, Ohio.

**THE BURT MFG. CO.,**

Largest Mfrs. of Oil Filters in the World.

AKRON, OHIO, U.S.A.

A complete stock carried by the  
**FAIRBANKS CO., - Montreal.**

**Everything in Steel.**

Bars. Plates. Shapes.

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Etc.

Bessemer and Open Hearth.

**THE BOURNE-FULLER CO.**

**IRON, STEEL**  
and  
**PIG IRON.**

**Cleveland, O.**

side of the river. They already have the right to develop the American power.

Should anything intervene to prevent Mr. Bachus from agreeing, the other companies will step into the field, and the prospect for having the power developed in the near future is most promising. The Government's computation is that there is 16,000 horse-power awaiting development at Fort Francis.

### The Dominion Exhibition Exhibits.

Many of the friends of THE CANADIAN MANUFACTURER presented excellent displays of their products at the recent Dominion Exhibition in Toronto, which we have pleasure in making brief mention of.

#### CANADA FOUNDRY CO.

The Canada Foundry Co. occupied a space 128x12, showing a line of gasoline engines, water pipes, valves, hydrants, ornamental iron work, etc. The exhibit included three centrifugal pumps in operation, mining pumps, and many other lines of power machinery and appliances. A Curtis electric truck was also shown. The exhibit was lighted by the Canadian General Electric Co. with their latest type of multiple A. C. Arc lamps.

#### BABCOCK & WILCOX BOILERS.

Babcock & Wilcox, Limited, Montreal and Toronto, showed one of their well known B. & W. water tube boilers of 20 h.p. capacity to carry 130 lbs. steam pressure. The boiler was exhibited as installed ready for operation and gave a good idea of the appearance of this type of boiler as in operation in nearly every part of the world.

#### THE GOLDIE & McCULLOUGH CO.

The Goldie & McCullough Co., Galt, Ont., occupied considerable space in Machinery Hall. The shafting on the north side of the hall was driven by a 100 h.p. Wheelock engine, while that on the south side by a 90 h.p. "Ideal" engine. Their company exhibited a number of iron and wood working machines, including planers, moulders, railway cut-off saw, gyrators, matcher heads and other flour making machinery.

#### DODGE MFG. CO.

The exhibit of the Dodge Mfg. Co., Toronto, included a large line of power transmission machinery, including the well-known Dodge wood-split pulleys, shafting, hangers, clutches, etc.

#### GOOLD, SHAPLEY & MUIR.

Goold, Shapley & Muir, Brantford, Ont., made an extensive exhibit of their well-known line of gas engines, occupying considerable space in the north side of Machinery Hall, where the efficiency of their engines were fully demonstrated. One of these engines was fitted so as to be readily changed from gas to gasoline, or vice versa, without stopping the engine.

#### RIDER ERICSSON ENGINES.

R. H. Buchanan & Co., Montreal, agents for the Rider Ericsson Co., New York, had a number of these gas engines on display. The Siche Gas Co. furnished the gas for the operation of one of them.

#### GAS AND GASOLINE ENGINES.

Messrs. McQuain & Parkinson, Toronto, exhibited a line of Ohio gas and gasoline engines, for which they are Canadian agents. The advantages claimed for these engines is that either gas or gasoline can be used, and their mobility and adaptability to all kinds of power generation.

The Gasoline Engine Co., Toronto Junction; Walter Dean, Toronto; the Canada Launch Works, Toronto; and Sylvester Bros., Lindsay, Ont., also made fine exhibits of gas and gasoline engines.

#### SINGLE CYLINDER ENGINE.

William Bennett, Sunderland, Ont., showed a one-cylinder engine, claimed to be the only engine of this type in successful operation in the world. The steam is compounded in high pressure temperature, high and low pressure steam being used in the one cylinder continuously and alternately.

#### BRASS GOODS.

The James Morrison Brass Mfg. Co., Toronto, showed a number of lines of brass goods, such as injectors, steam traps, inspirators, gauges, valves, electric fixtures, etc.

#### STOUFFVILLE BRASS & STEEL CO.

An interesting exhibit in Machinery Hall was that of the new Crown valve, made by the Stouffville Brass & Steel Co., Stouffville, Ont. While this company has been in operation several years, it recently began the manufacture of this new line. The Crown valve has a number of claims to superiority, among which may be mentioned that of a central or direct pressure.

#### DRAPER MFG. CO.

The Draper Mfg. Co., Port Huron, Mich., and Petrolca, Ont., exhibited their line of ball check valves, valve-facing tools, etc., and several McGrath pneumatic welders.

#### BRADLEY, LEVY & WESTON MACHINERY CO.

The Bradley, Levy & Weston Machinery Co. of Toronto exhibited a number of iron and wood working machine tools, also a line of "Crown" valves manufactured by the Stouffville Brass & Steel Co. The company also showed one of the new automatic smoke preventers which they are about to manufacture.

#### UNITED ELECTRIC CO.

The United Electric Co., Toronto, exhibited a 40 k.w. 250 volt dynamo, a 30 k.w. multipolar 250 volt machine, two bipolar machines, one 25 and the other 15 k.w., 125 volts, a 75 k.w. "Superior type" induction alternator, a 25 h.p. in-

duction motor, and several bipolar and multipolar motors, together with complete switchboard equipment, including Whitney instruments and standard high tension switches. A special feature of the exhibit was a switchboard for an engine room of a steam yacht, fitted with seven distribution switches, two 3-pole main switches, Ward-Leonard Electric Co. rheostats and Whitney instruments.

#### JONES & MOORE ELECTRIC CO.

Messrs. Jones & Moore Electric Co., Toronto, showed two 125 volt generators, one of 10 h.p. and the other of 75 h.p., both operated by a Goldie & McCullough "Ideal" engine. This firm which supplied the arc and incandescent lighting for Machinery Hall, also showed a line of multipolar and bipolar machines connected up, arc lamps, telephone instruments, electric fans, etc.

#### TORONTO & HAMILTON ELECTRIC CO.

The Toronto & Hamilton Electric Co. exhibited several of their well known T. & H. dynamos and motors, also switchboards, arc lamps, etc. They also exhibited their new type of two and three phase motors, recently placed on the market, and which are meeting with great success.

#### ROGERS ELECTRIC CO.

The Rogers Electric Co., Toronto, exhibited a line of electric fixtures, electric fans, telephone supplies, etc.

#### "KING EDWARD" DYNAMOS & MOTORS.

The Consolidated Electric Co., Toronto, showed a line of "King Edward" dynamos and motors.

#### THE HART CORUNDUM WHEEL CO.

One of the very attractive and interesting exhibits in Machinery Hall was that of the Hart Corundum Wheel Co., Hamilton, Ont. This well-known company, formerly the Hart Emery Wheel Co., showed one of the best line of abrasives and grinding machinery ever made in Canada. The exhibit included samples of Craig Mine Crystal Corundum in all forms from the raw material as it comes from the mines to the finished product in form of corundum wheels. These were shown in all sizes suitable for all purposes. A number of improved grinding machines were shown in operation.

#### BELTING.

The Dominion Belting Co., of Hamilton, Ont., a new concern in the manufacture of cotton duck belting, made a very attractive exhibit of their "Maple Leaf" brands of belting and belt dressing.

D. K. McLaren, Montreal, had a fine line of English oak-tanned leather belting, balata and rubber belting, belt hooks, card cloth and textile mill supplies.

Another exhibitor of belting was the J. C. McLaren Belting Co., Montreal.

While the well known belting firm of Sadler & Haworth, Montreal and Toronto,

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made no special exhibit, their Main Driving belts were to be seen in operation on much of the machinery employed in distributing power in Machinery Hall and other buildings.

#### FOUNDRY SUPPLIES.

A. C. Anderson, Toronto, agent for the Turner Brass Works and the Hanna Engineering Works, Chicago, made a display of gasoline blow pipes, carburetor valves, porcelain furnaces, etc., manufactured by the former company, and the Hanna Pneumatic Screen Shaker and the Hanna Quick Acting Vise manufactured by the latter company.

#### WHITE METAL.

The Canada Metal Co. of Toronto showed their various grades of babbitt metals, also wire solder, battery zinc, antimony, phosphor tin and fuse wire.

#### EUREKA MINERAL WOOL & ASBESTOS CO.

The Eureka Mineral Wool & Asbestos Co. of Toronto, displayed samples of mineral wool in all stages from the crude to the finished product.

#### MICA BOILER COVERING CO.

The Mica Boiler Covering Co. of Montreal and Toronto showed samples of their boiler covering and covering for steam and cold water pipes.

#### PHILIP-CAREY MFG. CO.

The Philip-Carey Mfg. Co., Toronto, exhibited their magnesia pipe and boiler covering as well as asbestos packing and magnesia roofing.

#### HAMILTON MFG. CO.

The Hamilton Mfg. Co. of Toronto had on exhibition a full line of metallic packings, flue blowers, "Never Slip" pulley covering and "Perfect" oil filters.

#### CONCRETE MACHINERY.

The Jarvis Concrete Machine Co. of Toronto exhibited several of their machines in Machinery Hall, and The Roman Stone Co. of Toronto had an exhibit of their artificial stone in the Implement Building.

#### PEAT FUEL.

The exhibit of peat in the Implement Building and in the New Ontario Building was of particular interest in view of the importance of the fuel question. The exhibit was of peat manufactured at Beaverton, Ont., by the Dobson process, and the use of this new fuel for domestic purposes was demonstrated. The promoters now have plants in operation at a number of points in Ontario, and the product is for sale by the Mann Coal Co. and D. B. Jacques, Toronto.

#### ANTI-FRICTION BEARINGS.

The shafting in Machinery Hall was equipped throughout with Chapman double ball bearings manufactured by the Chapman Double Ball Bearing Co. of Toronto. This company made an attrac-

tive exhibit of their improved bearings as applied to the various purposes where the highest efficiency along this line is requisite.

Another exhibit along this line was that of the Henderson Roller Bearing Co. The Canadian Bearings, Limited, showed the Wright taper roller bearing, which is adapted to all the varied uses of bearings, and will be manufactured at Hamilton, Ont.

#### THE SICHE GAS CO.

The exhibit of the Siche Gas Co. in the New Ontario Building attracted much attention, the company showing several of their machines and equipments for lighting residences, club houses and public buildings. At the southern entrance to the building was located the Siche generator, which furnished the light for the building, which was equipped throughout with the Siche light.

#### OTHER ACETYLENE EXHIBITS.

Among the other exhibitors of acetylene lighting apparatus may be mentioned the St. Thomas Acetylene Mfg. Co. of St. Thomas, Ont.; the Bracebridge Acetylene Gas Co. of Bracebridge, Ont.; the Kurtz Acetylene Co. of Kingsville, Ont.; Keith & Fitzsimmons and the Permanent Light Co., Toronto.

#### EMPIRE MACHINE & METAL STAMPING CO.

An interesting exhibit in the Womens' Building was that of the Empire Machine & Metal Stamping Co. of Toronto, who showed three patterns of the Stanyon hygienic steel folding couch; also Stanyon springs and mattresses. The Stanyon couch can readily be transformed into a bed.

#### HEATING AND VENTILATING.

The following well known firms exhibited in the Stoves Building: The Dominion Radiator; the Gurney Foundry Co.; Pease Furnace Co.; Wrought Iron Stove Co.; and the Canada Malleable Steel Range Mfg. Co., Toronto; the Canada Radiator Co., Port Hope, Ont.; Clare Bros. Co., Preston, Ont.; Doherty Mfg. Co., Sarnia, Ont.; Telephone City Stoves, Limited, Brantford, Ont.; Western Foundry Co., Wingham, Ont.; and the Moffat Stove Co., Weston, Ont.

#### SHEET METAL GOODS.

A number of well-known Canadian manufacturers made exhibits in the Metallic Goods and Paint Section of the Manufacturers' Building which were exceedingly interesting. Of these the Metallic Roofing Co., of Toronto, was prominent and in their exhibit were shown the various styles of ornamental and architectural iron and metal work which they manufacture. The factory of this well-known company is located near the exhibition grounds and many interested in this line of work took the opportunity to visit it.

The Metal Shingle & Siding Co., of Preston, Ont., also made an attractive exhibit.

#### THE QUEEN CITY OIL CO.

The exhibit of the Queen City Oil Co. in the Manufacturers' Building, was made up of a pleasing array of bottles, large and small, with all grades and colors of illuminating and lubricating oils, also various other products in wax, candles, petroleum, mica, axle grease, etc.

The Ontario Lead & Wire Co., and the Standard Ideal Mfg. Co., both of Toronto, exhibited fine lines of plumbers' and sanitary supplies.

Among the many Canadian paint manufacturers who showed their goods were the Canada Paint Co., Henderson & Potts and A. Ramsey & Sons, of Montreal; the Imperial Varnish & Color Co., and Globe Paint Co., of Toronto.

The Grant Hamilton Oil Co., of Toronto, made an attractive display of lubricating oils, Sterling prepared paints, etc.

The Spramotor Co. of London, Ont., showed a full line of their well known painting machines in the Implement Building.

A. W. Spooner, of Port Hope, showed a line of Spooner's Copperine, Spooner's lace leather, etc.

The Gutta Percha & Rubber Mfg. Co. exhibited in the Process Building as well as in the Manufacturers' Building.

An interesting exhibit was made by the Dominion Oil Cloth Co. of Montreal.

The United Typewriter Co., made a fine exhibit of Underwood machines. A canvass of the exhibitors in the Manufacturers' Building shows that out of 226 firms represented there, 151 of them use the Underwood Typewriter. This speaks volumes for the Underwood.

Among the other writing machines exhibited were the Oliver, Remington and Fox. The Office Specialty Mfg. Co., of Toronto, showed an extensive line of office furniture, labor-saving devices and office supplies, while Brown Bros. of Toronto showed a line of ledgers, loose leaf and books.

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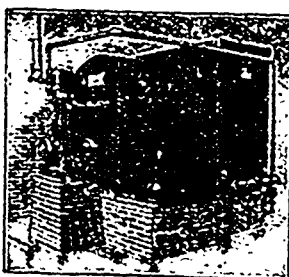
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### PROPOSED NEW STEEL PLANT

Information from New York is to the effect that a syndicate is being formed in that city to secure Canadian concessions to construct several large waterpower electric plants to develop and convert into steel the vast beds of magnetic ore in Ontario and Quebec by the new electrolytic processes of reduction. The recent investigation and report of Dr. Haanel, Superintendent of mines for the Dominion, at Ottawa, who recently inspected the new plant operated by the Canadian Niagara Power Co., and visited the Lockport reduction plant, is the basis of the syndicate's movement. It is stated that Sir William Van Horne, Sir Thomas Shaughnessy, the Westinghouse interests, and John Charlton, M.P., are among the Canadian interests concerned with the Morgan-Schwab and the United States Steel Corporation in the new enterprise.

It is claimed that heretofore the scarcity of a nearby supply of fuel has prevented the developing of the rich beds of magnetic ore, particularly adapted to steel conversion, but now, under the plans of the syndicate, unlimited water power to produce electricity for the new process of electrolytic steel production can be obtained by concessions, and the syndicate expects to furnish ten millions of capital at once for the work, increasing as necessity in developing demands.

The investigations of Superintendent of Mines Haanel, who has just reported an official inspection of the new plant at Chippewa, shows enormous possibilities, as the experimental plant is an unquestioned success, demonstrating that electrical treatment of magnetic ore produces cheaply the finest grades of steel, which the market now demands.

### PROSPERITY IN BRITISH COLUMBIA.

Mr. Robert Jaffray, Col. James Mason and Mr. G. G. S. Lindsey, returned to Toronto a few days ago from the Pacific coast, where, as directors of the Crow's Nest Pass Coal Co., they inspected its proper-

ties. To a reporter Mr. Jaffray, on being asked about the condition of affairs at the mines, said:

We were very pleased with the conditions of the mines, which we inspected thoroughly. We found five seams of coal being mined by separate and distinct tunnels at Coal Creek, five seams at Michel (at which point two more seams are being opened up), and five at Morrissey, the total present output being a little in excess of 3,000 tons a day. There has been a large amount of money expended in opening up and developing this property, and the time is quickly coming when the output will demonstrate the wisdom of the expenditure. In every case since the new manager took charge more than a year ago the development has proceeded with a view to insure large returns in coal and economy in its production.

The original main entries have been widened, and in every case now there are three main levels, one to take care of the water, one to take care of the return air for ventilation, and one as an intake; all kept driven well ahead of the rooms turned off them and from which the coal is mined. I look for a steadily and permanently increasing output, and quite expect that before the end of the year the mines will be on a production basis of not less than 5,000 tons a day. The tipples, hoisting and other machinery, power plants, water supplies, fans and other mechanical necessities are provided for a larger output than 5,000 tons a day, and the question of a largely increased output for 1904 will be entirely one of how far the directors will feel justified in going.

The coke supply has never been better attended to, and so satisfactory has it been that the two chief smelters, Northport and Granby, have been forced to ask a temporary cessation of shipments. The American market for coke is unlimited, and with the 500 new ovens, the construction of which will be completed this year, bringing our total up to 1,136, we will be able to continue to take care of the British Columbia demands under all circumstances, and ship a considerable quantity to the great smelters of Montana and to the neighboring States. The excellence and high standard of the coke continues.

I think I am safe in saying that the establishment of the coal industry of this company has brought into the valley of the Elk River a population of not less than 20,000 people. Fernie is now a substantial town of three or four thousand inhabitants, and beginning to feel its responsibility so far as to request incorporation, with which movement we are in entire sympathy.

To give you an idea of how quickly population comes where there is a large pay-roll and big industrial enterprise, I would instance the case of Morrissey Mines townsite laid out by the company this year at the junction of the Great Northern Railway with the Canadian Pacific Railway. On the opening day of the sale in the latter part of May we sold \$30,000 worth of lots, and now there is a thriving town built up and rapidly increasing.

Is British Columbia prosperous?

Yes. I believe it is now doing business on a thoroughly sound basis. The old-time mine and stock boomer is never heard of, but all energy is bent, so far as mining is concerned, in the direction of producing, and the assistance to the lead industry has revived work to some extent, but not yet to the extent that is to be expected, among the silver-lead miners. Extraordinary finds of gold are reported in the Lardeau district, and seem to be well authenticated. The timber resources of British Columbia are inexhaustible. The great influx of population to the North-West Territories has caused numerous saw-mills to spring up, all busy making lumber for the newcomers, while the great export lumber trade of Vancouver Island and the shingle mills are filled up with orders away ahead of their capacity.

### NEW MALLEABLE IRON CO.

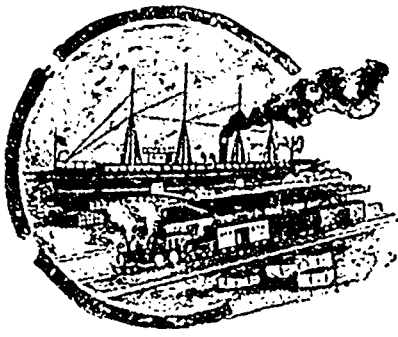
The Tavistock, Ont., Malleable Iron Co., an organization composed almost entirely of Tavistock capitalists, is receiving tenders for the construction of an improved and extensive plant to be located in that town. The cost of the building alone will exceed \$40,000. This includes the erection of the following structures: a coal and a furnace room, and the foundry, 200 feet long by 80 feet wide, with walls 16 feet high; carpenters' shop and engine and boiler room, 88 feet by 40 feet; the annealing room, 90 by 90 feet two stories high; the curing and shipping room and warehouse, 100 by 100 feet with 18 foot walls and four immense chimney stacks. The foundations are to be of stone and concrete, the walls of brick and the inside construction of steel beams and trusses. It is the intention of the company to equip the works with the most modern machinery.

### THE LAKE NEPIGON DISTRICT.

Mr. D. F. Burk, of Port Arthur, Ont., recently made a trip of exploration through the Lake Nepigon District in New Ontario regarding which he says:

We cruised about Lake Nepigon and its tributaries for seven days and during that time never got out of sight of the spruce forests. The lake is fully the size of Lake Erie and several of its tributaries are large enough to navigate with a steam yacht for several miles. Nepigon River, a large stream running into the lake of the same name, has several big tributaries and along them all the spruce grows dense, and of good girth. The Nepigon Pulp & Paper Co., has the exclusive right to cut the pulp wood in this large territory. The supply is simply enormous, and there is sufficient to supply ten mills, let alone one mill, indefinitely.

According to Mr. Burk the company is building a large mill about fourteen miles up the Nepigon River, on Alexandria portage. A saw mill has been built, and equipped, and it is now turning out dimension timbers for the larger pulp mill. The company has a 20,000 h.p. proposition right at the mill site, and this will solve the power problem. The chief



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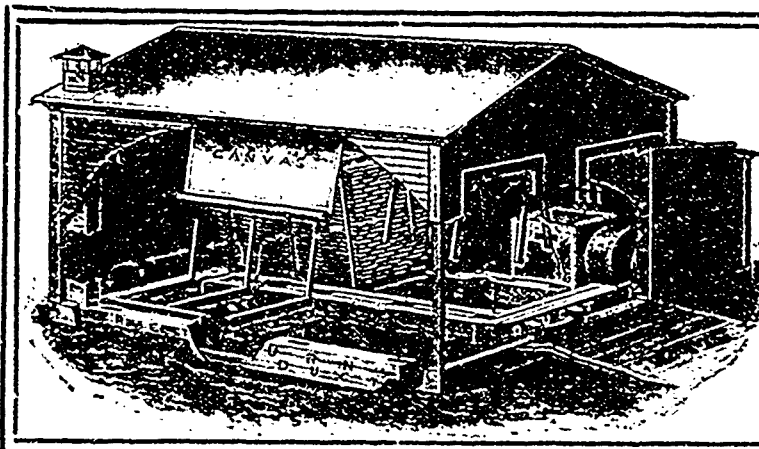
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factors in the Nepigon Pulp & Paper Co., are John R. Barber, Toronto, and Paul Weidner, Detroit, Mich. As all the streams are tributary to either Lake Nepigon or the Nepigon River, there will be comparatively little trouble in getting the logs down to the mills.

Asked about the extent of the other spruce lands in New Ontario, Mr. Burk said: There's any amount of spruce in the district suitable for pulp wood. Spruce occupies a large clay belt running from Lake St. Joe to Lake Nepigon. This belt is 600 miles long and in some places 100 miles in width. The Route of the Grand Trunk Pacific Railway will carry it right through this clay belt. It is safe to say that there will be millions of cords of pulp wood along the line of that road in Ontario alone. In some places the spruce will turn out pulp wood at the rate of 100 cords to the acre, but, of course, the average is much below this.

#### COPPER IN NEWFOUNDLAND.

At York Harbor, on the west coast of Newfoundland, the Humber Consolidated Mining & Mfg. Co. own copper areas of great value. The York Harbor mine is 1,000 feet above the sea level, and the yield is 20 per cent of copper to the ton. The Blowmenot Mountain range, which is thought to be rich in copper, is the seat of the mine. From the base of the mountain, where the shipping piers are situated, to the mine the company has a tram line with the endless haulage system 5,300 feet long. Although the company has been working only since last October, in addition to their tram line they have built a shipping pier 300 feet long, and have installed a complete system of mine telephones and electrical signals. The mine is 190 feet deep, with a drift 200 feet long and 30 feet wide. York Harbor, which is said to be accessible to the largest ships afloat, is 18 miles from Bay of Islands. The company is also preparing to open another mine at Chrome Point, 38 miles distant from the Bay of Islands and 18 miles distant from the Newfoundland Railway. A line of railway is being built to Chrome Point, and a large pier for shipping is in course of construction. So confident and sanguine are the business people of Newfoundland and various parts of Canada, of the success of the mines, because of the great abundance of first class copper, that the Bank of Montreal has opened a branch at Bay of Islands.

#### PERSONAL

Mr. W. S. Weatherston of Johannesburg, South Africa, is in Toronto on a business trip with a view to extension of trade with South Africa. Mr. Weatherston has been connected with import trade in South Africa for the past four years.

Mr. R. L. Broadbent, of the Geological Survey, has been appointed by Mr. William Hutchinson, Dominion Commissioner of Exhibitions, to take charge of the Canadian mineral exhibit for the Louisiana Purchase Centennial Exhibition at St. Louis next year.

The Andrews & Johnson Co., heating

and ventilating engineers, of Chicago, have been awarded the contract for remodeling the ventilating plant of the King Edward Hotel, Toronto. Fred Armstrong, 277 Queen street west, is their Toronto representative.

Chas. E. Heys, of Messrs. Thos. Heys & Son, the well-known chemists and assayers of Toronto, has returned from a business trip to New York.

Mr. J. B. Wilson, Canadian Manager for the Chicago Pneumatic Tool Co., with headquarters in the Temple Building, Toronto, left this week for the Maritime Provinces in the interests of his company.

At a meeting of the Engineers' Club of Toronto on September 17, in the lecture hall of the society's quarters, 94 King street west, Mr. C. W. Dill, of the City Engineers' Department, read an interesting and instructive paper on "City Pavements," after which a discussion took place, the following members taking part:—Major H. A. Gray, C. H. Rust, F. L. Somerville, Wm. Spry, R. F. Tate, and J. Alex. Culverwell. The president, C. H. Rust, City Engineer, was in the chair, and some two dozen members were present. The membership of the society is now 120 engineers, residing in different parts of the province. This was the first regular meeting this season, and the regular Monday luncheons will commence in October.

#### INDUSTRIAL PUBLICATIONS.

The Canadian Department of the United States Fidelity and Guarantee Co., in charge of Messrs. Kirkpatrick & Kenard, Toronto, have issued a series of booklets on stocks and bonds.

Messrs. Fisk and Robinson, fiscal agents of the Buffalo & Susquehanna Iron Co., have issued a second edition of an interesting booklet entitled "Concerning Iron Making" with special reference to the Buffalo & Susquehanna Iron Co.

The Green Fuel Economizer Co., of Matteawan, N.Y., have issued a new illustrated catalogue which contains information of interest to all power users. Since this company begun business it has supplied its apparatus to 300,000 boilers, representing 30,000,000 indicated h.p.

"Coal Tubs and Contractor's Tubs" is the title of a well illustrated leaflet issued by the C. W. Hunt Company, 45 Broadway, New York.

The American Gasoline Motor Co., of Chicago, has issued circulars telling all about their improved transmission gear.

The August number of "Power Transmission Economics" published by the Dodge Mfg. Co., of Toronto, contains much information along the lines indicated by its title, and gives particular mention of the different lines manufactured by the company.

"A perfect packing" is the claim of the American Metallic Packing Co. for their mica metal packing, which they are about to introduce to the marine trade of the country on account of its special advantages in marine practice. The packing is not new, but the company have just changed their headquarters to

Cleveland, Ohio, and will have their principal factory in that city, with Mr. L. B. Kennedy as general manager.

The Packard Electric Co., of St. Catharines, Ont., have issued a handsome folder which tells something about the economic features of Packard incandescent lamps.

The latest edition of "Crane's List," issued by A. M. Crane & Co., Chicago and New York, is a larger publication than previous issues. "Everything in Iron and Steel" is its motto, and the cover bears the notation that billets and rivets are in stock. Within its 64 pages are condensed a large amount of information concerning the 150 metal products which are indexed.

Labor-saving machinery is always an interesting subject to manufacturers and other industrial operators who desire to keep fully posted on the most modern ways of saving time, labor and money. New situations are constantly suggesting improvements to old equipment, and new equipments to meet the new conditions, and the Jeffrey Manufacturing Co., of Columbus, Ohio, keeps always abreast of the times. Jeffrey machinery is used extensively throughout the modern industrial world. The company's circular No. 73 tells briefly about its labor-saving machinery. Inquiries for copies are solicited.

The Butler Chuck Company, Greenfield, Mass., have just issued a four page circular which is devoted to their Butler drill chuck, which, it is claimed, will hold without a wrench. Copies will be sent on application.

"Canada's Mineral Wealth," published by the Mines Contract & Investigation Co., of Toronto, gives an interesting bird's-eye glance at the mining possibilities of the Rocky Mountains, Laurentian Mountains and Maritime Provinces, etc.

The Wisconsin Graphite Co., North Side, Pittsburg, have sent out folders to the trade dealing with pipe joint sealing, setting forth the superiority of Wisconsin graphite pipe joint paste, a security against heat, cold, acids and alkalis. The paste has found a very ready sale wherever tested, and the company is gratified with the popularity which its material has gained.

#### OPPORTUNITIES.

**NOTE.**—Those who may wish to correspond with any of these enquirers can obtain the names and addresses by applying to the CANADIAN MANUFACTURER, Toronto. No charge for giving information. When writing refer to the numerals opposite the enquiries, and enclose 2c. postage stamp for reply.

1093. A Manchester firm asks to be placed in touch with Canadian producers of Graphite of good quality.

1094. A house in Newcastle-on-Tyne wishes to hear from Canadian manufacturers of closet seats.

1095. A firm of linen manufacturers is prepared to appoint as resident Canadian agents a firm possessing both experience and connection. References required.



THIS TRAIN COULD NOT CARRY THE SHIPMENTS FOR ANY ONE MONTH DURING 1902.

IN 1903 THIS TRAIN COULD CARRY OUR ENTIRE OUTPUT OF ONE YEAR.

**THE EASTERN GRANITE ROOFING CO.**  
IRVING BUILDING  
NEW YORK.

THE ENORMOUS INCREASE SHOWN HERE PROVES THAT PERFECTED GRANITE ROOFING IS THE ROOFING TO USE.

THE MOST PROMINENT COAL OPERATORS AND RAILROADS TESTIFY TO THIS BY ADOPTING IT AS THEIR STANDARD.

Write for testimonials, photo pamphlet and samples.  
DEPARTMENT D.

**KERR'S "WEBER" Valves**

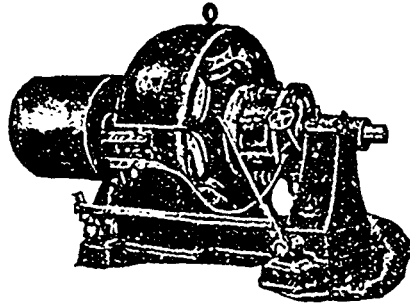
ARE THE GENUINE VALVES OF THAT NAME.

ALL OTHERS ARE IMITATIONS.

BE SURE AND GET THOSE MADE BY

**The Kepp Engine Co. Limited**  
WALKERVILLE, - ONT.

**The Jones & Moore ELECTRIC CO.**  
**ELECTRICAL CONTRACTORS**

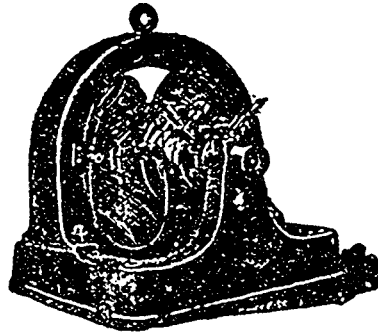


DYNAMOS, TELEPHONES, SLOW SPEED MOTORS, MOTORS, SUPPLIES, DIRECT CONNECTED DYNAMOS.

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

**20 and 22 ADELAIDE W., TORONTO.**

**TORONTO and HAMILTON ELECTRIC CO.**



**MOTORS and DYNAMOS**

MODERATE and SLOW SPEED OF HIGH EFFICIENCY. EITHER BELTED OR FOR DIRECT CONNECTION.

REPAIRS PROMPTLY EXECUTED ON ALL ELECTRICAL APPARATUS.

**T. & H. ELECTRIC CO.**  
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**WORMER'S LIST OF SECOND-HAND MACHINERY Bargains**

In stock for immediate delivery. This list is only partial—Write us your Wants.

- |   |  |
|---|--|
| <p><b>Lathes</b></p> <ul style="list-style-type: none"> <li>12 x 5 Reed</li> <li>12 x 6 Prentice</li> <li>13 x 6 P. &amp; W. with taper</li> <li>13 x 5 Blissell</li> <li>13 x 6 Sebastian</li> <li>13 x 6 Ames</li> <li>14 x 6 Bogart</li> <li>16 x 6 Porter</li> <li>16 x 6 Perkins</li> <li>16 x 10 Bridgeport</li> <li>18 x 6 Perkins with chuck</li> <li>18 x 6 New Haven</li> <li>18 x 8 Lodge &amp; Shipley</li> <li>18 x 10 Lodge &amp; Davis</li> <li>20 x 8 Lathes &amp; Morse</li> <li>21 x 8 Blissell</li> <li>25 x 20 Blissell</li> <li>28 x 12 Wood Light</li> <li>48 in. Pulley Latho</li> </ul> <p><b>Turret Lathes</b></p> <ul style="list-style-type: none"> <li>14 in. Pratt &amp; Whitney</li> <li>16 x 6 Universal, Lodge &amp; B.</li> <li>16 in. Warner &amp; Swasey</li> <li>16 in. Jones &amp; Lamson</li> <li>16 in. Pratt &amp; W.</li> <li>18 in. Hensley</li> </ul> <p><b>Screw Machines</b></p> <ul style="list-style-type: none"> <li>14 in. Garvin</li> <li>15 in. Garvin</li> <li>14 in. Warner &amp; Swasey</li> <li>No. 2 Pratt &amp; Whitney</li> </ul> <p><b>Boring Mills</b></p> <ul style="list-style-type: none"> <li>60 in. Bickford, 3 heads</li> <li>60 in. Siles, 1 head</li> </ul> <p><b>Drills</b></p> <ul style="list-style-type: none"> <li>No. 5 Plain Rad., Alfd Box</li> <li>15 in. Lauer, adj. table</li> <li>12 in. two-spindle adj., Footc-</li> <li>Burt</li> <li>25 in. Snyder</li> </ul> <p><b>Planers</b></p> <ul style="list-style-type: none"> <li>21 x 24 x 5 ft. Genera M-</li> <li>chico Co.</li> <li>14 ft. Plate Planer, Sellers</li> <li>16 in. x 12 in. x 21 in. Brad-</li> <li>ford</li> <li>22 x 18 x 5 Planer</li> <li>30 x 39 x 10 ft. Gilson</li> </ul> <p><b>Milling Machines</b></p> <ul style="list-style-type: none"> <li>No. 2 Lincoln, P. &amp; W.</li> </ul> | <p><b>Shapers</b></p> <ul style="list-style-type: none"> <li>6 in. Boynton &amp; Plummer</li> <li>13 in. dhd lat. tray Sellers</li> <li>18 in. Travers-Hd Shaper</li> <li>15 in. H-nidey</li> <li>30 in. Fox</li> <li>10 in. Fitchburg</li> </ul> <p><b>Hammers</b></p> <ul style="list-style-type: none"> <li>25 lb. Popplet Drop</li> <li>25 lb. Stanton, power</li> <li>50 lb. Baudry</li> <li>No. 300 Triloway</li> <li>250 lb. Bell steam</li> <li>100 lb. Board Drop Hammer</li> <li>Merrill, steam</li> </ul> <p><b>Presses</b></p> <ul style="list-style-type: none"> <li>125 ton Wheel Press</li> <li>P 222 Foot Ferris-ite</li> </ul> <p><b>Miscellaneous</b></p> <ul style="list-style-type: none"> <li>No. 3 Clement vert. Wood</li> <li>Boring Machine</li> <li>2 in. Swaging Machine, Good-</li> <li>year, also Dayton</li> <li>11 in. Keyseater, Mitts &amp;</li> <li>Merrill</li> <li>No. 1 L. X. L. Pipe Cutter</li> <li>1 to 1 in. Power Pipe Cutter.</li> <li>Armstrong</li> <li>32 in. Foot Power Squaring</li> <li>Shear, Niagara</li> <li>42 in. Powersquaring Shears,</li> <li>Niagara</li> <li>12 in. Double Head Bolt Cut-</li> <li>ter, Adams</li> <li>Wire Former</li> <li>Horizontal Keyseaters</li> <li>59 in. Auto Gear Cutter</li> <li>No. 1 Universal Grinder</li> <li>Diamond</li> <li>14 in. Power Riveter, Adt.</li> <li>14 in. Schlonker Bolt Cutter</li> <li>16 in. x 7 ft. 6 in. Lead Rolls</li> <li>5 in. Whitton Centering Ma-</li> <li>chines</li> <li>No. 1 Garvin Hor. Tapping</li> <li>Machine</li> <li>25 in. Semi-Automatic Gear</li> <li>Cutter, G. &amp; E.</li> <li>4 in. Cutting-off Machine,</li> <li>with 4 inch specd. Hur-</li> <li>lurt &amp; Rogers</li> <li>Cock Grinder, Warner &amp; S</li> <li>No. 4 Fox Multiple Tube</li> <li>Cutter</li> <li>Power Marking Machine</li> </ul> |
|---|--|

SEND FOR NEW STOCK LIST No. 13.

**G. C. WORMER MACH'Y CO.**  
68 Woodbridge St.,  
DETROIT, MICH.

**TO CANADIAN CAPITALISTS**

An English corporation having acquired vast holdings of high-grade canal coal in the United States, being in a position to deliver same to the market at a rare profit, having in fact a monopoly of the canal coal in the United States, invite Canadian capitalists to join their enterprise on a fair basis of representation. An extensive market has been established for this coal, and preparations are being made to export it to Great Britain and Europe. The construction of a short line railroad is necessary to reach through this entire survey, and they will consider a Canadian contract for this work.

From this property we are able to deliver at tide-water high-grade coals for a century at a price not to exceed 86 cents per ton inclusive of all charges. This will put them in absolute control of the proposed Isthmuth canal trade and dictate the coal prices of the Southern Atlantic seaboard.

SHIP BUILDER, care CANADIAN MANUFACTURER, Toronto.

**OPPORTUNITY FOR INVESTMENT.**

A Scotch gentleman largely interested in the United States, wishes to float the bonds of a small railroad in Canada, or have some reliable institution to guarantee to take these bonds upon completion of the road, and with this in view, is desirous of opening up correspondence with some reliable broker or financial agent.

If, however, a contractor could arrange part of the finances of the line in Canada, he could secure the construction of this road. The branch road connects with the largest trunk system in America, and passes through a thickly peopled country, opening up the largest known beds of coal and iron on the continent.

Investigation will show that the road can be sold for twice its cost the day it is completed.

Half of the road is at present graded and one-fifth of the rails laid, all of which would be to the estimated benefit of the contractor.

Address: GLASGOW, care Canadian Manufacturer, Toronto, Canada, or Room 40, 130 Broadway, New York City.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

### GOLD AND MANGANESE MINING IN BRITISH COLUMBIA.

United States Consul Dudley, Vancouver, writes as follows:—I have recently visited Atlin, British Columbia, and vicinity. This district is very rich in gold, and there are large hydraulic plants being established there, some of which are already producing gold in very considerable quantities. There is one dredging plant in process of construction; it is expected that it will be in operation before the close of the present season. This dredging plant is the first that I have seen building in the interior. It is quite a different operation from dredging work on the bars of rivers which I have seen heretofore. A large basin is excavated, in which the dredge is built. A ditch, 7 miles long, brings water with which to fill this basin and float the dredge when completed. This will also furnish power to develop electricity to operate the machinery on the dredge. The advocates of the dredge proposition think it superior to the ordinary hydraulic work, for the earth that has been washed fills up the space immediately in the rear and is not thrown down into the stream, as is the case with the hydraulic companies. This dredge is expected to dig into the benches and make its way, leaving the ground very much as it found it, except that it will have extracted the gold.

The Atlin gold is generally not as fine as is found in the beds of streams in other districts. There are some individual miners who seem to be doing well in this district, but it does not appear to me to be a country in which men with small capital can do very much, but at the present time wages are very high. The ordinary pick-and-shovel men are paid \$3.50 per day and board, and their expenses into the country in the spring of the year and out again in the autumn are paid by their employers, and they can save nearly everything they earn if they are pleased to do so. Returning to Atlin after a visit to one of the creeks, I noticed a great bank, which at first seemed like snow; upon a little further examination I thought it was alkali, such as I have often seen in New Mexico and other places in the Southwest. On inquiry I found it was manganese. One gentleman told me that he had investigated this great deposit and had dug down 15 feet through a pure body of manganese. It appears almost like potter's clay of the finest quality. I was assured that there is unlimited quantities of this mineral in the vicinity of Atlin, but the present freight rates make it impossible to deliver this to the iron manufacturers at a profit. I have very little doubt that the time will soon come when this will be a very valuable deposit, one to be developed at great profit; to-day it appears to be val-

ueless. It is my opinion that some of our manufacturers of steel in the United States would do well to investigate this large deposit of manganese.

There are new mines being discovered in the vicinity of Atlin constantly, and I believe that this will eventually become one of the largest mining districts on this coast, but, as I have previously said, it will require large capital for its development. At the present time there are five hydraulic propositions under development. Three of these are now sending out gold frequently, which I am informed is secured at a price which yields good profit on the investments. There are others under process of development that are expected to be in operation before the end of the present season or, at least, early next year.

### \$62.50 TO CALIFORNIA AND RETURN

Via Chicago & North-Western R'y. From Chicago to San Francisco and Los Angeles, daily, October 8 to 17. Correspondingly low rates from all points. Three fast daily trains, with magnificent equipment through to the coast, including the famous electric-lighted daily Overland Limited; less than three days en route, over the only double-track railway, between Chicago and the Missouri river. All agents sell tickets via this line. Send for illustrated booklets, maps and full information to R. H. Bennet, 2 East King St. Toronto, Ont.

### THE ONTARIO AUTOMOBILE LAW.

Every automobilist in Ontario must now display upon the back of his vehicle a number, indicating that he has obtained a permit from the Provincial Secretary to run an automobile, and serving also as an easy means of identification in case of accidents resulting from reckless driving. The leather tags issued by the Provincial Secretary, which bear the number in aluminum figures three inches high, are to be obtained from Mr. Black of the Provincial Secretary's Department.

The law includes in its application all vehicles propelled otherwise than by muscular power, excepting the cars of electric and steam railways and other motor vehicles running only upon rails or tracks. It is held that this will include motor cycles, and, if so, the little red motor machines of the post-office will have to obtain a permit to deliver his Majesty's mails on his Majesty's highways. Whether traction engines, road rollers and steam threshers must also be licensed does not seem to have been discussed as yet, though the wording of the law would probably include them.

The act requires that every motor vehicle shall be equipped with a proper alarm bell, gong or horn, and a lamp to be lighted after dusk, which will display prominently the number of the permit.

Motors must not run faster than ten miles an hour in cities, towns or villages, and fifteen miles an hour on a public highway in the country. Any city, town, township or village may set apart any public street or part thereof on which motors may be driven at any specified rate for testing purposes.

No person, according to the new law, will be allowed to drive a motor vehicle on any public street, highway, park, road or driveway in the Province in a race or on a bet or wager.

When a driver of a frightened horse signals a motorist to stop the law says he must do so.

At crossings and bridges motorists are required to slow up.

Violation of any provision of the act renders a person liable to a penalty not exceeding \$25 for the first offence and a similar fine for any subsequent offence, or the Magistrate may imprison him for a term not exceeding one month.

### PUBLIC WORKS IN ONTARIO.

At the present time there are no less than one thousand men in New Ontario busily at work under the Public Works Department of the Province building colonization roads. The Government is pushing the work of road-building vigorously this year in an effort to keep pace with the influx of new settlers into Ontario's fertile hinterland. In the Temiskaming district 250 men are at work on the new roads opening up the surrounding townships; there are 200 men in the Rainy River district, 100 men in the Thunder Bay district and 500 men in the districts of Parry Sound, Muskoka, Nipissing, and Algoma. Altogether, the Department will spend a quarter of a million dollars on colonization roads and bridges this year. Last year 200 miles of new roads were built and some 700 miles of partially constructed roads were finished. This year the season has been dryer and the Department expects to accomplish considerably more work than last year. The work of construction will be actively pushed forward for two months yet. As men come in from the harvest fields they are employed by the Government, and the staff of road-makers is steadily increasing.

The roads are all being well constructed. They are graded, drained and finished up in a thorough manner and the new roads are equal to anything in York County. They are meant to be permanent. Many of the men now working on the roads are, of course, settlers in the vicinity, to whom the money earned thus is a very material assistance in tiding them over the first year's financial difficulties in the new country. Others who have not already taken up land will do so as soon as they finish road-building.

The Department is just starting work on a new bridge on an arm of the Lake

**CORUNDUM WHEELS,  
EMERY WHEELS and  
GRINDING MACHINERY**

**CANADIAN CORUNDUM  
WHEEL CO.**

**HAMILTON, - ONT.**

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THE REASON WHY

## *Manufacturers Locate*

AT

# PETERBOROUGH.

An American manufacturing concern recently erected in Peterborough a Canadian branch factory—having a capacity of 800 hands—for export and Canadian trade.

**The following letter,** addressed to the “Peterborough Examiner” gives the reason why.

“We notice in your issue of Saturday, September 27th, 1902, a statement by Mr. \_\_\_\_\_ at the meeting of the Peterborough Board of Trade, that we were induced to locate here through the influence of one man.

“Please permit us to state that Mr. \_\_\_\_\_ is incorrect in making a statement of this kind, privately or publicly, and evidently speaks without full knowledge, or, in fact, without any knowledge whatever on the matter, and in correcting this mis-statement permit us to assure you and the public that our Company came here on account of the natural advantages of Peterborough, which are the geographical location, rail-ways, the water power, and the Trent Canal, which, we were assured would be shortly completed, and which, when finished and in operation, will in our opinion secure to Peterborough all the industries that your city can comfortably take care of.”

Peterborough now offers in addition FREE FACTORY SITES AND LOW TAXATION.

## ELECTRIC POWER—LOWEST RENTALS.

Peterborough is located on the Canadian Pacific Railway, Grand Trunk Railway and the Trent Canal and has a population of 15,000.

APPLY TO—

**THE CENTRAL ONTARIO POWER CO., Limited**

**J. ALEXR. CULVERWELL, Managing Director,**

Head Office—Cor. George & Hunter Sts., PETERBOROUGH.

ADDRESS BRANCH OFFICE—9 Toronto Street, TORONTO

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

of the Woods to connect two settlements. There will be three spans, each 142 feet long, with concrete piers and steel superstructures. The whole will cost \$25,000.

#### THE BURT MFG. CO.

The Burt Mfg. Co., manufacturers of Cross Oil Filters and Burt Exhaust Heads, Akron, Ohio, inform us that they have received orders and shipped goods as follows:—

Cross Oil Filters:— To Witten, Germany, 18. Tennessee Coal, Iron and Railroad Co. fourth order. Cleveland Electric Illuminating Co., Cleveland, Ohio, a duplicate order for a 200 gallon filter with automatic water-separative device. American Sheet Steel Co., New York City, their 21st order. Buenos Aires, Argentine Republic, 4. Baldwin Locomotive Works, Philadelphia, Pa., their 13th order.

Burt Exhaust Heads:— The Baldwin Locomotive Works now have 39 Burt Exhaust Heads in use in their works. The plant of the Utah Light & Power Co., Salt Lake City, Utah, has just been equipped with Burt Exhaust Heads. The American Steel & Wire Co., Worcester, Mass., have just installed two 15-inch and one 12-inch Burt Exhaust Head. A recent shipment to London, England, included 16 Burt Exhaust Heads.

#### THE C. A. S. E.

The fourteenth annual convention of the Canadian Association of Stationery Engineers concluded their two days session in Berlin, Ont., on August 26.

The report of the Committee on Ways and Means was received and discussed. The report recommended as follows:— That 25 questions be formulated by a special committee and submitted to the

members of the Association, and that cash prizes be given to the persons making the most correct answers: that Secretaries of the different subordinate lodges report to each other regarding the progress and work of their respective lodges: that where possible fraternal meetings be arranged between lodges in towns and cities at frequent intervals; that \$10 be given to any member organizing a new lodge or reorganizing a defunct lodge; and that lodges make a special effort to secure new members. The report was adopted.

The election of officers resulted as follows:—President, H. E. Terry, Toronto, No. 1; vice-president, J. R. Uttley, Waterloo; secretary, W. Inglis, Toronto; treasurer, J. M. Rixon, Toronto; conductor, F. W. Scalthorpe, Hamilton; doorkeeper, J. Ogle, Brantford.

The next place of convention will be Hamilton, Ont.

#### THE LONDONDERRY IRON WORKS.

Furnace "A" of the Londonderry Iron and Mining Co. has been remodelled and rebuilt on modern lines. Its present dimensions are; height, 75 feet; bosh, 17 feet; hearth, 10 feet; stock line, 11 feet. The cubical contents below the stock line are 9,158,723 cubic feet. The shell is 25 feet in diameter and is built of ½-in., ¾-in. and 5-16 in. iron, with a heavy wrought-iron mantle, resting on ten new heavy cast-iron columns.

A new bell and hopper have been added, which are of heavy design and suitable for the new furnace lines. The bell is controlled by the usual steam cylinder appliance. Its diameter is 7 feet, 9 inches; while the capacity of the hopper is 456.23 cubic feet.

The hot-blast stoves are of the Cowper make, and are 24 feet in diameter and 51 feet in height. They belong to the old plant, but have been repaired by the

addition of new crowns. The old gas valves have also been replaced by modern valves in order to secure better combustion. Modern air valves have also been installed in place of the old ones, and the stoves and entire equipment connected therewith have been placed in first-class condition.

Six Galloway boilers have been placed in position. These are 7 feet in diameter, 28 feet in length, and their steam pressure is 85 pounds. They belonged to the old plant, but they have been entirely stripped, tested, and put in first-class condition throughout. They have also been provided with an additional chimney, which is 5 feet in diameter and 100 feet high. The feed pump which supplies the water is of the Cameron type. All the boilers are fitted to burn either gas or coal, as the occasion may demand.

The crushing plant will consist of one No. 5 Gates gyratory crusher, and one large Blake crusher. The combined capacity will be 300 to 400 tons per day, of ten hours. There is a special mixing plant in close proximity to the base of the furnace elevator.

For the preparation of their fuel supply the company have 97 coking ovens, with a capacity of 150 tons per day, and also two Robins washers, with a capacity of 400 tons per day of ten hours. Only one of these washers is erected. The plant is complete with boiler, engine, pumps, elevators and Jeffrey crusher. It is modern and all the buildings are new. —Mining Record.

The system of penalties to be inflicted on manufacturers who grant more than the regular scale of discounts to customers (as fixed by the British Tube Association) is restricting the operations of certain British tube manufacturers, who are not anxious to incur fines of one or two thousand dollars, by breaking the rules of the combination.

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

MACHINIST TOOLS, PIPE FITTINGS,

COMPLETE STOCK OF STOCKS AND DIES. PIPE VICES.

STILLSON AND TRIMO WRENCHES.

STEAM PIPE.

CORNER KING AND VICTORIA STREETS,

TORONTO.

## TO BUILD A HOME

Is one of the first ambitions of the successful manufacturer or business man. When you are ready to plan call or write

R. J. EDWARDS, Architect

Canada Permanent Chambers

18 TORONTO STREET, TORONTO

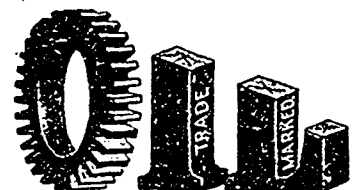
## "Capitol" Cylinder

"RENOWN" ENGINE

"ATLANTIC" RED

Reliable Well-Known Brand

ALL ORDERS PROMPTLY FILLED

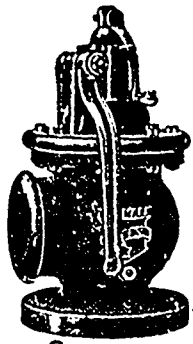


THE QUEEN CITY OIL CO., Limited

TORONTO, CANADA

SAMUEL ROGERS, PRESIDENT

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A VALVE YOU CAN RELY ON — SEND FOR PRICES

## CROSBY STEAM APPLIANCES EXCEL

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



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

**CROSBY STEAM GAGE and VALVE CO.**  
BOSTON, NEW YORK, CHICAGO, LONDON

A TRUTHFUL GAGE IS THE ONLY GOOD GAGE



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

Linen Fire Hose,  
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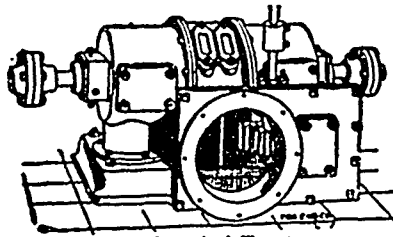
Cottonades, Tickings, Denims,  
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...FOR ALL PURPOSES...

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

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**RAILWAY FEEDER and TROLLEY WIRE**

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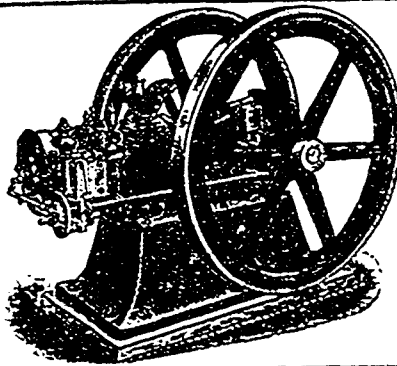
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Write for prices and descriptive matter.

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HAMILTON, ONTARIO

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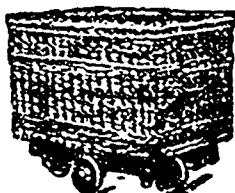
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NOTHING BUT THE BEST

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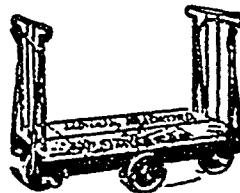
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Runs either way.

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**Abrasives.**

Canadian Corundum Wheel Co., Hamilton, Ont.  
Hart Emery Wheel Co., Hamilton, Ont.  
Hico Lewis & Son, Toronto.  
Williams, A. R., Machinery Co., Toronto.

**... Compressors**

American Steam Pump Co., Battle Creek, Mich.  
Canadian Hand Drill Co., Sherbrooke, Que.  
Cooper, James, Mfg. Co., Montreal.  
Darling Bros., Montreal.  
Jenckes Machine Co., Sherbrooke, Que.

**Air Reservoirs.**

Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

**Aluminum**

Syracuse Smelting Works, Montreal.

**Angles, Beams and Girders**

Bourne-Fuller Co., Cleveland, Ohio.  
Leslie, A. C. & Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

**Annealing Boxes.**

Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

**Annealing Muffles and Furnaces.**

Turner, Vaughn & Taylor, Cuyahoga Falls, Ohio

**Antimony**

Samuel, M. & L. Benjamin & Co., Toronto.  
Syracuse Smelting Works, Montreal.

**Anvils and Vices.**

Leslie, A. C. & Co., Montreal.

**Architects**

Parke, R. J., Toronto.  
Vogel, C. H., Ottawa.

**Assayers.**

Metallurgical Laboratory, Pittsburg, Pa.  
Wentz, R. F. Engineering Co., Toronto.

**Axles**

Nova Scotia Steel & Coal Co., New Glasgow, N.S.

**Babbitt Metal**

Samuel, M. & L. Benjamin & Co., Toronto.  
Syracuse Smelting Works, Montreal.

**Bar Iron and Steel**

Bourne-Fuller Co., Cleveland, Ohio.  
Leslie, A. C. & Co., Montreal.  
Hico Lewis & Son, Toronto.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

**Bolt Dressing.**

Rosendale Belting Co., Toronto.  
Williams, A. R., Machinery Co., Toronto.

**Bolt Fasteners.**

Bristol Co., Waterbury, Conn.  
Rosendale Belting Co., Toronto.  
Williams, A. R., Machinery Co., Toronto.

**Bolting (Cotton.)**

Dominion Belting Co., Hamilton, Ont.  
Fleming, W. A., & Co., Montreal.  
Rosendale Belting Co., Toronto.

**Bolting (Leather.)**

McLaren, D. K., Montreal.  
Rice, Lewis & Son, Toronto.  
Williams, A. R., Machinery Co., Toronto.

**Bolting and Supplies**

Bristol Co., Waterbury, Conn.  
Carrier, Laine & Co., Lewis, Que.  
Dominion Belting Co., Hamilton, Ont.  
Fleming, W. A., & Co., Montreal.  
Jeffroy Mfg. Co., Columbus, Ohio.  
McLaren, D. K., Montreal.  
Rice, Lewis & Son, Toronto.  
Rosendale Belting Co., Toronto.  
Smith, N., Toronto.  
Williams, A. R., Machinery Co., Toronto.

**Bobbins**

Wilson Bros. Bobbin Co., Liverpool, England.

**Boiler Tube Cleaners**

Pierce, Wm. B. Co., Buffalo, N.Y.

**Bolt Taps**

Butterfield & Co., Rock Island, Que.

**Brass**

Samuel, M. & L. Benjamin & Co., Toronto.

**Brass Founders**

Hamilton Brass Mfg. Co., Hamilton, Ont.  
Meadows, Geo. B. Wire, Iron & Brass Works Co., Toronto.

McDougall, R. Co., Galt, Ont.  
McKinnon Dash & Metal Works Co., St. Catharines, Ont.

**Bridges.**

Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

**Building Iron and Steel.**

Canada Foundry Co., Toronto.  
Expanded Metal & Fireproofing Co., Toronto.  
Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

**CLASSIFIED INDEX.**

(CONTINUED).

**Builders' Materials**

Albert Mfg. Co., Hillsboro, Ont.  
Buffalo Forge Co., Buffalo, N. Y.  
Canada Foundry Co., Toronto.  
Canadian Oils Elevator Co., Toronto.  
Canadian Portland Cement Co., Deseronto, Ont.  
Dominion Radiator Co., Toronto.  
Eastern Granite Roofing Co., New York City.  
Expanded Metal & Fireproofing Co., Toronto.  
Gartshore, John J., Toronto.  
Metallic Roofing Co., Toronto.  
McEachron Heating & Ventilating Co., Galt, Ont.  
Owen Sound Portland Cement Co., Owen Sound Ont.

Rice Lewis &amp; Son, Toronto.

**Canada Plates**

Leslie, A. C. & Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Samuel, M. & L. Benjamin & Co., Toronto.

**Canoes**

Peterborough Canoe Co., Peterborough, Ont.

**Caps**

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

**Cast Iron Pipe**

Canada Foundry Co., Toronto.  
Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.  
Rice Lewis & Son, Toronto.  
Montreal Pipe Foundry Co., Montreal.

**Castings (Iron and Brass.)**

Toronto Iron &amp; Brass Bedstead Co., Toronto.

**Cement**

Canadian Portland Cement Co., Deseronto, Ont.  
Owen Sound Portland Cement Co., Owen Sound, Ont.

**Cement Machinery.**

Wentz, R. F. Engineering Co., Toronto.

**Chain Making Machinery**

Turner, Vaughn &amp; Taylor, Cuyahoga Falls, Ohio.

**Channels**

Bourne-Fuller Co., Cleveland, Ohio.  
Leslie, A. C. & Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

**Charcoal Pig Iron**

Canada Iron Furnace Co., Montreal.  
Deseronto Iron Co., Deseronto, Ont.

**Chemicals and Dye Stuffs**

Bellhouse, Dillon & Co., Montreal.  
Benson, W. T. & Co., Montreal.  
Brunner, Mond & Co., Northwich, England.  
Cassella Color Co., New York City.  
Geigy Aniline & Extract Co., New York City.  
Klipstein, A. & Co., New York City.  
McArthur, Cornelle & Co., Montreal.  
Winn & Holland, Montreal.

**Chemists**

Archbold, Dr. Geo., Prescott, Ont.  
Hors, Thos. & Son, Toronto.  
Metallurgical Laboratory, Pittsburg, Pa.  
Wentz, R. F. Engineering Co., Toronto.

**Clay Working Machinery.**

Turner, Vaughn &amp; Taylor Co., Cuyahoga Falls, Ohio.

**Coal and Coko**

Milnes, James H., &amp; Co., Toronto.

**Coal Cutting Machines**

Jeffrey Mfg. Co., Columbus, Ohio.

**Coal Tippers.**

Jeffrey Mfg. Co., Columbus, Ohio.  
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

**Coil Chains.**

Greening, B. Wire Co., Hamilton, Ont.  
Lallo, A. C. & Co., Montreal.

**Conveying Machinery**

Dodge Mfg. Co., Toronto.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Perrin, William H., & Co., Toronto.  
Stevens, Alfred J., Toronto.

**Copper Materials**

Greening, B. Wire Company, Hamilton, Ont.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Syracuse Smelting Works, Montreal.  
Wire & Cable Co., Montreal.

**Corrugated Iron and Steel.**

Scaife, Wm. B. &amp; Sons Co., Pittsburg, Pa.

**Corundum.**

Canadian Corundum Wheel Co., Hamilton, Ont.  
Hart Emery Wheel Co., Hamilton, Ont.

**Corundum Wheels.**

Canadian Corundum Wheel Co., Hamilton, Ont.  
Hart Emery Wheel Co., Hamilton, Ont.  
Rice Lewis & Son, Toronto.

**Combines the Best Qualities of Other Boilers**

The Munnford Standard internally-fired boiler combines, to a remarkable extent, the best features of the Scotch and English types of internally-fired boilers, together with the lighter weight, less floor space, and more perfect circulation of the best boilers of the American water tube type.

The construction throughout, except the tube sheets, is cylindrical and spherical—requiring no stays. The boiler is supplied with an outer steel casting, or for brick setting, as desired by the customer.

The steam and water space is divided between two cylindrical shells. The thickness of plate is not so great as in the Scotch marine type, and the expensive and troublesome rear combustion chamber is avoided.

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**The Ball Check**

Enables you to get **More Light** with either Mantle or Open Flame burners, than any device ever brought out.

They are pronounced "alright" by everyone using them.

Only 25c. each postpaid.

**Best Ball Check Mantle Burners**

Complete with Ball Check, \$1.00.

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18 Patterns—7 Styles.

These, too, are "alright." Send for Booklet.

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

Limited



3 in. to 60 in. diameter.

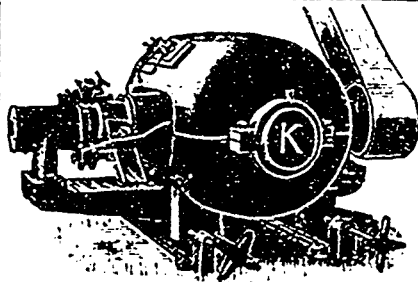
**For Water, Gas, Culverts and Sewers**

Special Castings and all kinds of

FLEXIBLE AND FLANGE PIPE.

**WATER WORKS SUPPLIES**

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Special Attention Given to Electrical Repairing.

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MULTI-POLAR MOTORS.

BI-POLE MOTORS

ALTERNATING CURRENT MOTORS.

INDUCTION MOTORS.

DYNAMOS for Incandescent and Arc Lighting.

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ELECTRIC CONTROLLERS for Elevators.

ELECTRIC ORGAN BLOWERS.

**CLASSIFIED INDEX.**

(CONTINUED).

**Covers.**

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

**Crayons**

Lowell Crayon Co., Lowell, Mass.

**Crucibles**

Dixon, Joseph, Crucible Co., Jersey City, N.J.  
McCullough-Dalzell Crucible Co., Pittsburg, Pa.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Syracuse Smelting Works, Montreal.

**Crucible Caps and Nozzles**

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

**Crucible Covers and Stoppers**

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

**Detective Agencies**

Noble's Dominion Detective Agency, Toronto.

**Dies**

Hamilton Stamp & Stencil Works, Hamilton, Ont.

Dies (Socket, Sower Pipe and Tile-Clay.)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

**Directories**

Dean & Son, London, E. C., England.

Kelly's Directories, Limited, Toronto.

**Draw Benches (Wire.)**

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

**Drills**

Bertram, John, & Sons Co., Dundas, Ont.

Canadian Hand Drill Co., Sherbrooke, Que.

Cooper, James, Mfg. Co., Montreal.

Jeffrey Mfg. Co., Columbus, Ohio.

London Machine Tool Co., London, Ont.

**Dry Kilns.**

Buffalo Forge Co., Buffalo, N.Y.

McEachren Heating & Ventilating Co., Galt, Ont.

Stevens, Alfred J., Toronto.

Sturtevant, B. F. Co., Boston, Mass.

**Dust and Shavings Separators**

Buffalo Forge Co., Buffalo, N.Y.

McEachren Heating & Ventilating Co., Galt, Ont.

Sturtevant, B. F. Co., Boston, Mass.

**Electric Mine Locomotives**

Jeffrey Mfg. Co., Columbus, Ohio.

**Electrical Supplies**

Canadian General Electric Co., Toronto.

Electrical Construction Co., London, Ont.

Forman, John, Montreal.

Jones & Moore Electric Co., Toronto.

Kay Electric Dynamo & Motor Co., Toronto.

Packard Electric Co., St. Catharines, Ont.

Phillips, Eugene F., Electrical Works, Montreal.

Toronto & Hamilton Electric Co., Hamilton, Ont.

United Electric Co., Toronto.

Worth & Martin, Toronto.

**Electro-Plating**

Brantford Plating Co., Brantford, Ont.

**Elevators**

Canadian Otis Elevator Co., Toronto.

Darling Bros., Montreal.

Jeffrey Mfg. Co., Columbus, Ohio.

**Emery and Emery Wheels.**

Canadian Corundum Wheel Co., Hamilton, Ont.

Forman, John, Montreal.

Hart Emery Wheel Co., Hamilton, Ont.

**Employers' Liability Insurance**

Maryland Casualty Co., Toronto.

**Engineers (Cement).**

Wentz, R. F. Engineering Co., Toronto.

**Engineers (Chemical.)**

Heys, Thos. & Son, Toronto.

Metallurgical Laboratory, Pittsburg, Pa.

**Engineers (Civil)**

Parke, R. J., Toronto.

Vogel, C. H., Ottawa.

**Engineers (Consulting)**

Electrical Construction Co., London, Ont.

Parke, R. J., Toronto.

Perrin, Wm. R. & Co., Toronto.

Simpson, T. T., Deschenes, Que.

Vogel, C. H., Ottawa.

Wentz, R. F. Engineering Co., Toronto.

**Engineers (Contracting)**

Darling Bros., Montreal.

Electrical Construction Co., London, Ont.

**Engineers (Electrical)**

Canadian General Electric Co., Toronto.

Electrical Construction Co., London, Ont.

Electric Engineering & Supply Co., Montreal.

Jones & Moore Electric Co., Toronto.

Kay Electric Dynamo & Motor Co., Toronto.

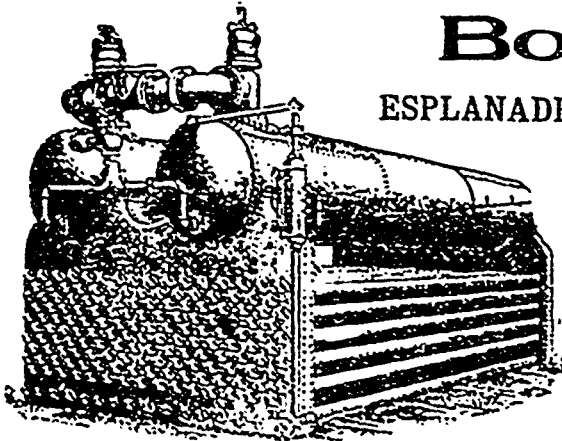
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**The Canadian Heine Safety Boiler Co.**

JOHN J. MAIN,  
President and  
Manager.



ESPLANADE (Opp. Sherbourne St.)

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**Water Tube Steam Boilers..**

FOR ALL PRESSURES  
DUTIES AND FUEL

From 75 to 600 H.P. Each

**REFERENCES :**

N.B.—We do not make small Boilers

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# CLASSIFIED INDEX.

(CONTINUED).

## Engineers (Mechanical)

Carrier, Laine & Co., Levis, Quebec.  
Darling Bros., Montreal.  
Electrical Construction Co., London, Ont.  
Kerr Engine Co., Walkerville, Ont.  
McEachron Heating & Ventilating Co., Galt, Ont.  
Northey Co., Toronto.  
Robb Engineering Co., Amherst, N.S.  
Wentz, R. F. Engineering Co., Toronto.

## Engineers (Mill and Hydraulic)

Vogel, C. H., Ottawa.

## Engineers (Mining)

Hoys, Thos. & Son, Toronto.  
Metallurgical Laboratory, Pittsburg, Pa.  
Mills, S. D., Toronto.

## Engineers and Contractors.

Jeffrey Mfg. Co., Columbus, Ohio.  
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

## Engines and Boilers

Babcock & Wilcox, Limited, Montreal.  
Buffalo Forge Co., Buffalo, N.Y.  
Canadian Heino Safety Boiler Co., Toronto.  
Cowan & Co., Galt, Ont.  
Goldie & McCulloch Co., Galt, Ont.  
Hydo Bros. & Co., Pittsburg, Pa.  
Leonard, E. & Sons, London, Ont.  
McDougall, R. Co., Galt, Ont.  
Robb Engineering Co., Amherst, N.S.  
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.  
Stratford Mill Building Co., Stratford, Ont.  
Williams, A. R., Machinery Co., Toronto.

## Engravers

Canadian Manufacturer, Toronto.  
Jones, J. L., Engraving Co., Toronto.

## Exhaust Heads

Burt Mfg. Co., Akron, Ohio.  
Darling Bros., Montreal.

## Factory Sites

Central Ontario Power Co., Peterboro, Ont.  
Sweeney, James Jr., North Tonawanda, N.Y.  
Walshaw, J., Bolton, Ont.

## Filts

Spence, R. & Co., Hamilton, Ont.

## Financial

Bradstreet's, New York City.  
Dun, R. G. & Co., Toronto.  
Neff & Postlethwaite, Toronto.

## Filters

Burt Mfg. Co., Akron, Ohio.  
Darling Bros., Montreal.  
Perrin, Wm. H. & Co., Toronto.  
Rota Filters, Limited, Windsor, Ont.  
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

## Fire Brick

Hamilton Facing Mill Co., Hamilton, Ont.  
Pennsylvania Fire Brick Co., Lock Haven, Pa.  
Scioto Fire Brick Co., Sciotoville, Ohio.

## Fluo Cleaners

Pierce, Wm. B. Co., Buffalo, N.Y.

## Founders

Buffalo Forge Co., Buffalo, N.Y.  
Canada Foundry Co., Toronto.  
Cowan & Co., Galt, Ont.  
Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.  
Karch, H. W., Hespeler, Ont.  
McDougall, Tho R. Co., Galt, Ont.  
Northey Co., Toronto.

## Foundry Facing

Hamilton Facing Mill Co., Hamilton, Ont.

## Galvanized Iron and Steel.

Leslie, A. C. & Co., Montreal.  
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

## Galvanizing

Brantford Plating Co., Brantford, Ont.  
Ontario Wind Engine & Pump Co., Toronto.  
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

## Galvanizing and Tinning Machinery and Furnaces (Clay.)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

## Gas and Gasoline Engines

Dominion Motor & Machine Co., Toronto.  
Goldie & McCulloch Co., Galt, Ont.  
Morrison, T. A. & Co., Montreal.  
Northey Co., Toronto.  
Stratford Mill Building Co., Stratford, Ont.

## Gas Plants

Siche Gas Co., Toronto.

## Gas Producers.

Smythe, S.R. Co., Pittsburg, Pa.

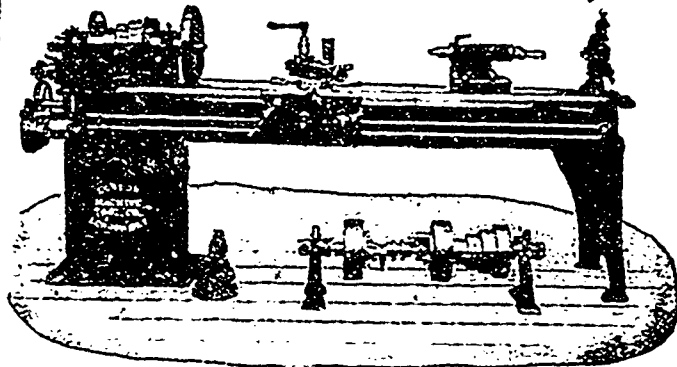


If you have any problem in connection with lubrication which you cannot solve to your own satisfaction, we are willing to put our time against yours to prove that Dixon's Flake Graphite is the solution.

Ask for booklet 33-c.

JOSEPH DIXON CRUCIBLE COMPANY, JERSEY CITY, N.J.

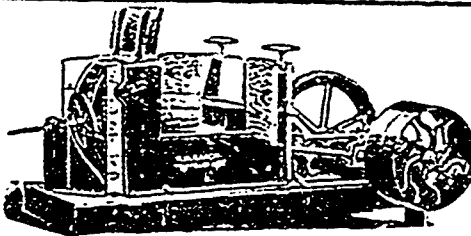
## The London Machine Tool Co., LONDON, ONT.



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LATHES  
PLANERS  
DRILLS  
SHAPERS  
HAMMERS  
BULL DOZERS  
PUNCHES  
PRESSES



## H. W. KARCH

HESPELER, ONT.

## IRON FOUNDER and MACHINIST

Manufacturer of

## WOOLEN MACHINERY,

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FULL STOCK CONSTANTLY ON HAND.

## “GENUINE OAK” BELTING

— MILL SUPPLIES —

D. K. McLAREN, - 751 Craig Street, - MONTREAL  
132 Bay Street, - TORONTO

# MOTORS For All Circuits.

DIRECT OF ALTERNATING.

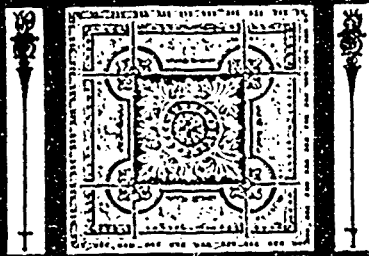
Phone Main 4227.

The Electric Engineering and Supply Co., MONTREAL, CANADA.

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**OUR METALLIC  
CEILING AND WALLS**

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



Easily applied—most moderate in cost—fire-proof, sanitary and wonderfully durable—with countless designs to select from. Write us for booklet telling all about them.

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

## Hyde Water Tube Safety Boiler

The modern boiler for  
Rolling Mills, Blast  
Furnaces, and general  
power purposes.

In successful operation  
in every state from  
Atlantic to Rockies.

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## CLASSIFIED INDEX.

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### Generators

Canadian General Electric Co., Toronto.  
Electrical Construction Co., London, Ont.  
Forman, John, Montreal.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Jones & Moore Electric Co., Toronto.  
Kay Electric Dynamo & Motor Co., Toronto.  
Phillips, Eugene F., Electrical Works, Montreal.  
Toronto & Hamilton Electric Co., Hamilton, Ont.

### Government Notices

Factory Inspectors.  
Minister of Agriculture.

### Grinding Machinery

Hart Emery Wheel Co., Hamilton, Ont.

### Hardware

Butterfield & Co., Rock Island, Que.  
Cooper, James, Montreal.  
Empire Machine & Metal Stamping Co., Toronto.  
Gartshore, John J., Toronto.  
Morrow, John, Machine Screw Co., Ingersoll, Ont.  
Hisco Lewis & Son, Toronto.  
Samuel, M. & L. Benjamin & Co., Toronto.

### Heating and Ventilating

Buffalo Forge Co., Buffalo, N.Y.  
Darling Bros., Montreal.  
Dominion Radiator Co., Toronto.  
Leonard, F. & Sons, London, Ont.  
McEachren Heating & Ventilating Co., Galt, Ont.  
Stevens, Alfred J., Toronto.  
Sturtevant, B. F., Co., Boston, Mass.

### Hydraulic Machinery

Darling Bros., Montreal.  
Jencks Machine Co., Sherbrooke, Que.  
Northey Co., Toronto.  
Perrin, Win. R. & Co., Toronto.  
Smythe, S.R. Co., Pittsburg, Pa.  
Wilson, J. C., & Co., Glenora, Ont.

### Iron and Steel Specialties

Armstrong Mfg. Co., Bridgeport, Conn.  
Bourne-Fuller Co., Cleveland, Ohio.  
Brown & Co., Paris, Ont.  
Dodge Mfg. Co., Toronto.  
Karch, H. W., Hespeler, Ont.  
Meadows, Geo. B., Wire, Iron & Brass Works Co., Toronto.  
McDougall, R. Co., Galt, Ont.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Rice Lewis & Son, Toronto.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Sealife, Wm. B. & Sons Co., Pittsburg, Pa.  
Smythe, S.R. Co., Pittsburg, Pa.

### Japans.

Berry Bros., Walkerville, Ont.

### Lamps—Electric

Forman, John, Montreal.  
Packard Electric Co., St. Catharines, Ont.

### Lathes

Bertram, John, & Sons Co., Dundas, Ont.  
London Machine Tool Co., London, Ont.  
McDougall, R. Co., Galt, Ont.  
Williams, A. R., & Co., Toronto.

### Leather Belting

Fleming, W. A. & Co., Montreal.  
McLaren, D. K., Montreal.  
Smith, N., Toronto.

### Machinists.

Worth & Martin, Toronto.

### Machinists' Supplies

Armstrong Mfg. Co., Bridgeport, Conn.  
Butterfield & Co., Rock Island, Que.  
Cooper, James, Montreal.  
Goldie & McCulloch Co., Galt, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Morrow, John, Machine Screw Co., Ingersoll, Ont.  
Worth & Martin, Toronto.

### Machine Tools

Bertram, John, & Sons Co., Dundas, Ont.  
Darling Bros., Montreal.

### Malleable Iron Castings

McKinnon Dash & Metal Works Co., St. Catharines, Ont.  
Ontario Malleable Iron Co., Oshawa, Ont.  
Smith's Falls Malleable Castings Co., Smith's Falls, Ont.  
Walkerville Malleable Iron Co., Ltd., Walkerville, Ont.

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# CLASSIFIED INDEX.

(CONTINUED).

## Metal Stamping

Empire Machine & Metal Stamping Co., Toronto.

## Metallurgists.

Metallurgical Laboratory, Pittsburg, Pa.  
Mills, S. D., Toronto.  
Wentz, R. F. Engineering Co., Toronto.

## Mill Machinery and Supplies

Armstrong Mfg. Co., Bridgeport, Conn.  
Cooper, James, Montreal.  
Cooper, James Mfg. Co., Montreal.  
Cowan & Co., Galt, Ont.  
Darling Bros., Montreal.  
Fleming, W. A., & Co., Montreal.  
Gartshore, John J., Toronto.  
Goldie & McCulloch Co., Galt, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Hamilton Brass Mfg. Co., Hamilton, Ont.  
Hay, Peter, Galt, Ont.  
Jenckes Machine Co., Sherbrooke, Que.  
Karch, H. W., Hespeler, Ont.  
Leonard, E. & Sons, London, Ont.  
London Machine Tool Co., London, Ont.  
McDougall, R. Co., Galt, Ont.  
Morrow, John, Machine Screw Co., Ingersoll, Ont.  
Rice Lewis & Son, Toronto.  
Robb Engineering Co., Amherst, N.S.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Smythe, S. R. Co., Pittsburg, Pa.  
Spence, R. & Co., Hamilton, Ont.  
Stratford Mill Building Co., Stratford, Ont.  
Wilson, J. C. & Co., Glenora, Ont.

## Mining Machinery

Canadian Rand Drill Co., Sherbrooke, Que.  
Cooper, James, Montreal.  
Cooper, James Mfg. Co., Montreal.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Jenckes Machine Co., Sherbrooke, Que.  
Perrin, Wm. R. & Co., Toronto.  
Williams, A. R. Machinery Co., Toronto.

## Motors and Dynamos

Canadian General Electric Co., Toronto.  
Electrical Construction Co., London, Ont.  
Forman, John, Montreal.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Jones & Moore Electric Co., Toronto.  
Kay Electric Dynamo and Motor Co., Toronto.  
Toronto & Hamilton Electric Co., Hamilton, Ont.  
United Electric Co., Toronto.

## Novelty Manufacturers.

Worth & Martin, Toronto.

## Nozzles.

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

## Office Furniture and Supplies

Canadian Office & School Furniture Co., Preston, Ont.  
Morton Co., Toronto.

## Oils and Lubricants

Dixon, Jas., Crucible Co., Jersey City, N.J.  
Fleming, W. A. & Co., Montreal.  
Imperial Oil Co., Petrolia, Ont.  
Queen City Oil Co., Toronto.

## Oil Filters

Burt Mfg. Co., Akron, Ohio.  
Darling Bros., Montreal.

## Paints and Colors

Bellhouse, Dillon & Co., Montreal.  
Berry Bros., Walkerville, Ont.  
Fleming, W. A., & Co., Montreal.  
Geigy Aniline & Extract Co., New York City.  
Kilbstein, A., & Co., New York City.  
McArthur, Cornelio & Co., Montreal.

## Paper Manufacturers

Barber, Wm., & Bros., Georgetown, Ont.  
Toronto Paper Mfg. Co., Cornwall, Ont.

## Patents

Budden, Hanbury A., Montreal.  
Case, Egerton H., Toronto.  
Fetherstonhaugh & Co., Toronto.  
Patent Exchange & Investment Co., Toronto, Ont.

## Perforated Metals

Greening, B. Wire Co., Hamilton, Ont.

## Phosphorizers.

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

## Pig Iron

Bourne-Fuller Co., Cleveland, Ohio.  
Canada Iron Furnace Co., Montreal.  
Deseronto Iron Co., Deseronto, Ont.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Syracuse Smelting Works, Montreal.

## Pipe Threading Machines

Armstrong Mfg. Co., Bridgeport, Conn.  
Rico Lewis & Son, Toronto.

## Pipe (Riveted Iron and Steel.)

Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

## Pipes and Tubes

Bourne-Fuller Co., Cleveland, Ohio.  
Candry Foundry Co., Toronto.  
Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.  
Montreal Pipe Foundry Co., Montreal.  
Rice Lewis & Son, Toronto.  
Samuel, M. & L. Benjamin & Co., Toronto.

## Plaster

Albert Mfg. Co., Hillsborough, N.B.

## Plates

Bourne-Fuller Co., Cleveland, Ohio.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Rico Lewis & Son, Toronto.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

## Plating

Brantford Plating Co., Brantford, Ont.

## Plumbago

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

## Pneumatic Tools

Cooper, James, Mfg. Co., Montreal.  
Jenckes Machine Co., Sherbrooke, Que.

## Pointers (For Rods and Wire.)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

## Portland Cement

Canadian Portland Cement Co., Deseronto, Ont.  
Owen Sound Portland Cement Co., Owen Sound, Ont.  
Rathbun Co., Toronto.  
St. Lawrence Portland Cement Co., Montreal.

## Power—Electric and Water

Central Ontario Power Co., Peterboro, Ont.

## Power Plants—Equipments

American Steam Gauge & Valve Mfg. Co., Boston, Mass.

Buffalo Forge Co., Buffalo, N.Y.  
Canadian General Electric Co., Toronto.  
Cooper, James, Mfg. Co., Montreal.  
Darling Bros., Montreal.  
Electrical Construction Co., London, Ont.  
Goldie & McCulloch, Galt, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Jenckes Machine Co., Sherbrooke, Que.  
Jones & Moore Electric Co., Toronto.  
Kay Electric Dynamo & Motor Co., Toronto.  
Leonard, E. & Sons, London, Ont.  
Northey Co., Toronto.  
Perrin, Wm. R. & Co., Toronto.  
Phillips, Eugene F. Electrical Works, Montreal.  
Hebb Engineering Co., Amherst, N.S.  
Smythe, S. R. Co., Pittsburg, Pa.  
Stevens, Alfred J., Toronto.  
Sturtevant, B. F., Co., Boston, Mass.  
Toronto & Hamilton Electric Co., Hamilton, Ont.  
United Electric Co., Toronto.  
Wilson, J. C. & Co., Glenora, Ont.

## Presses (Tilt, Sower Pipe, Nozzles and Sleeves.)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

## Pulleys

Darling Bros., Montreal.  
Dodgo Mfg. Co., Toronto.  
Goldie & McCulloch Co., Galt, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Wilson, J. C. & Co., Glenora, Ont.

## Purifiers

Cowan & Co., Galt, Ont.  
Goldie & McCulloch Co., Galt, Ont.  
Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

## Purifying System (Water.)

Darling Bros., Montreal.  
Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

## Railroads

Chicago & North-Western Ry., Toronto & St. Paul, Minn.

## Railway Supplies

Algoma Steel Co., Sault Ste. Marie, Ont.  
Cooper, James, Montreal.  
Gartshore, John J., Toronto.  
Greening, B. Wire Co., Hamilton, Ont.  
Montreal Steel Works, Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
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Persons having business with any of the Inspectors will find them at the above address.

JOHN DRYDEN, Minister of Agriculture.

## CLASSIFIED INDEX.

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### Rivets

Bourne-Fuller Co., Cleveland, Ohio.

### Roofing

Eastern Granite Roofing Co., New York City.  
Metallic Roofing Co., Toronto.  
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

### Rubber Goods

Gutta Percha & Rubber Mfg. Co., Toronto.

### Scale Removers

Pierce, Wm. B. Co., Buffalo, N.Y.

### Second-Hand Machinery.

Wormer, C. C., Machinery Co., Detroit, Mich.

### Shafting

Bourne-Fuller Co., Cleveland, Ohio.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

### Shear Knives

Hay, Peter, Galt, Ont.

### Shoots (Iron and Steel.)

Bourne-Fuller Co., Cleveland, Ohio.  
Leslie, A. C. & Co., Montreal.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

### Shoelac Gums.

Berry Bros., Walkerville, Ont.

### Smoke Stacks.

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

### Softening Systems (Water.)

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

### Solder

Syracuse Smelting Co., Montreal.

### Stamps & Stencils

Hamilton Stamp & Stencil Works, Hamilton, Ont.

### Stand Pipes,

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

### Steam Gauges

American Steam Pump Co., Battle Creek, Mich.  
Crosby Steam Gauge & Valve Co., Boston, Mass.  
Northey Co., Toronto.  
Williams, A. H., Machinery Co., Toronto.

### Steam Pumps

American Steam Pump Co., Battle Creek, Mich.  
Darling Bros., Montreal.  
Goldie & McCulloch Co., Galt, Ont.  
Leonard, E. & Sons, London, Ont.  
Northey Co., Toronto.  
Williams, A. H., Machinery Co., Toronto.

### Steam Separators

Darling Bros., Montreal.

### Steam Specialties

Darling Bros., Montreal.

### Steam Valves

American Steam Pump Co., Battle Creek, Mich.  
Crosby Steam Gauge & Valve Co., Boston, Mass.  
Darling Bros., Montreal.  
Kerr Engine Co., Walkerville, Ont.  
Williams, A. H., Machinery Co., Toronto.

### Steel Rails

Algoma Steel Co., Sault Ste. Marie, Ont.  
Cooper, James, Montreal.  
Drummond, McCall & Co., Montreal and Toronto.

### Steel Shafting

Darling Bros., Montreal.  
Dodge Mfg. Co., Toronto.  
Leslie, A. C. & Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Wilson, J. C., & Co., Glenora, Ont.

### Stocks and Dies

Armstrong Mfg. Co., Bridgeport, Conn.  
Butterfield & Co., Rock Island, Que.  
Hicc Lewis & Son, Toronto.  
Worth & Martin, Toronto.

### Stoppers.

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

### Structural Steel.

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

### Tags

Morton Co., Toronto.

### Tanks (Iron and Steel.)

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

### Tees

Bourne-Fuller Co., Cleveland, Ohio.

## CLASSIFIED INDEX.

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### Textile Manufacturers

Canadian Colored Cotton Mills Co., Montreal.  
Cantile, James, A., Montreal.  
Dominion Oil Cloth Co., Montreal.  
Hamilton Cotton Co., Hamilton, Ont.  
Morrice, D., Sons & Co., Montreal.  
Reiche & Co., Bradford, England.  
Smith Wool Stock, Toronto.  
Storey, W. H., & Sons, Acton, Ont.

### Tin

Leslie, A. C. & Co., Montreal.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Syracuse Smelting Works, Montreal.

### Tin Plates

Leslie, A. C. & Co., Montreal.  
Samuel, M. & L. Benjamin & Co., Toronto.

### Tool Steel

Bourne-Fuller Co., Cleveland, Ohio.  
Leslie, A. C. & Co., Montreal.

### Trucks

Slingsby, H. C., Montreal.

### Trucks (Wiro Mill)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

### Tubs (Cleaning and Coating Wiro)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

### Turbines

Jencke's Machine Co., Sherbrooke, Que.  
Wilson, J. C., & Co., Glenora, Ont.

### Typewriters and Supplies

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### Valves

American Steam Pump Co., Battle Creek, Mich.  
Canada Foundry Co., Toronto.  
Hamilton Brass Mfg. Co., Hamilton, Ont.  
Kerr Engine Co., Walkerville, Ont.  
Williams, A. H., Machinery Co., Toronto.

### Varnishes.

Berry Bros., Walkerville, Ont.

### Ventilators

Buffalo Forge Co., Buffalo, N.Y.  
Darling Bros., Montreal.  
McEachern Heating & Ventilating Co., Galt, Ont.  
Sturtevant, B. F. Co., Boston, Mass.

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### Water Softening and Purifying Systems.

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

### Water Tanks

Caldwell, W. E. Co., Louisville, Ky.

### Water Towers

Caldwell, W. E. Co., Louisville, Ky.

### Weaving Machinery

Karch, H. W., Hespeler, Ont.

### Wiro and Wiro Rope

Dominion Wiro Rope Co., Montreal.  
Greening, B. Wiro Co., Hamilton, Ont.  
Leslie, A. C. & Co., Montreal.  
Samuel, M. & L. Benjamin & Co., Toronto.  
Wiro & Cable Co., Montreal.

### Wiro Cloth

Greening, B. Wiro Co., Hamilton, Ont.

### Wiro Drawing Machinery

Turner, Vaughn & Taylor, Cuyahoga Falls, Ohio.

### Wiro Specialties

Empire Machine & Metal Stamping Co., Toronto.  
Meadows, Geo. B. Wiro, Iron & Brass Works Co., Toronto.

### Wood-Working Machinery

Carrier, Laine & Co., Levis, Que.  
Cowan & Co., Galt, Ont.  
Karch, H. W., Hespeler, Ont.  
London Machine Tool Co., London, Ont.  
McEachern Heating & Ventilating Co., Galt, Ont.  
Wormer, C. C., Machinery Co., Detroit, Mich.

### Zinc

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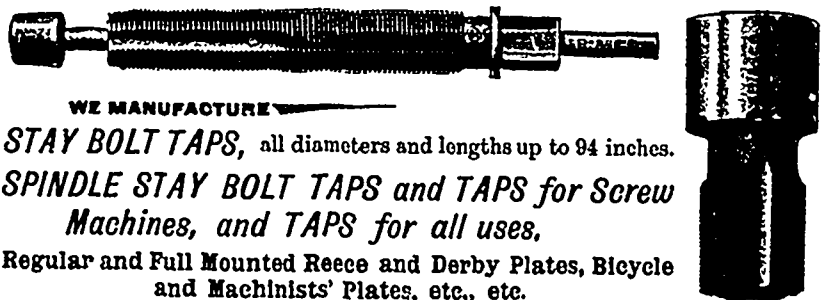
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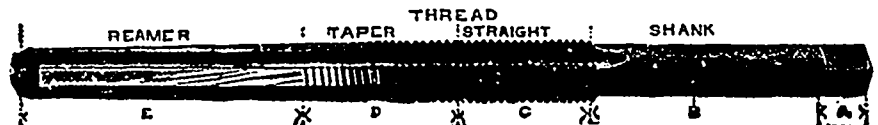
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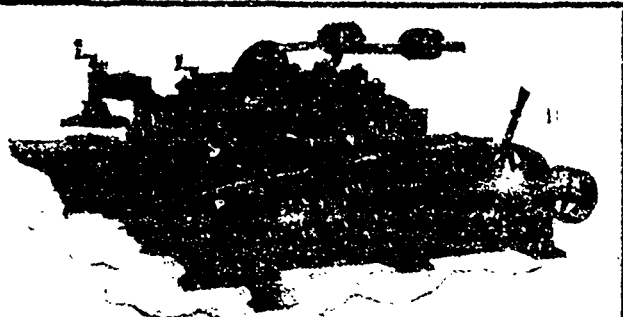
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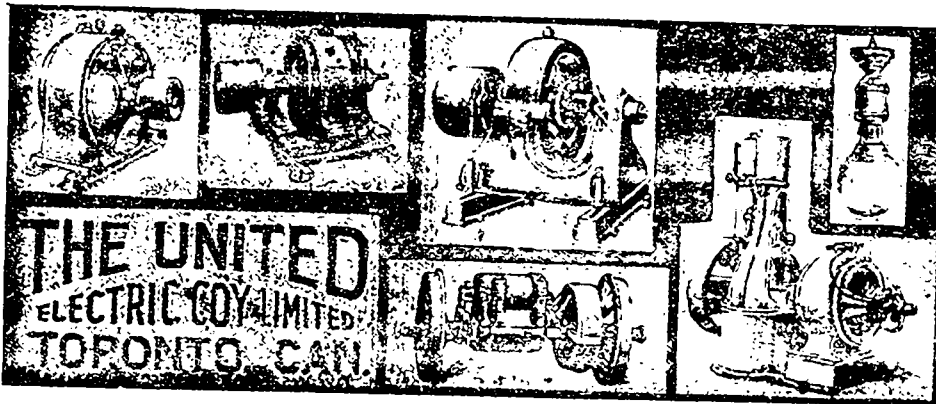
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