

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- |   |  |
|---|--|
| <input type="checkbox"/> Coloured covers/<br>Couverture de couleur  | <input type="checkbox"/> Coloured pages/<br>Pages de couleur   |
| <input type="checkbox"/> Covers damaged/<br>Couverture endommagée   | <input type="checkbox"/> Pages damaged/<br>Pages endommagées   |
| <input type="checkbox"/> Covers restored and/or laminated/<br>Couverture restaurée et/ou pelliculée   | <input type="checkbox"/> Pages restored and/or laminated/<br>Pages restaurées et/ou pelliculées                    |
| <input type="checkbox"/> Cover title missing/<br>Le titre de couverture manque  | <input checked="" type="checkbox"/> Pages discoloured, stained or foxed/<br>Pages décolorées, tachetées ou piquées |
| <input type="checkbox"/> Coloured maps/<br>Cartes géographiques en couleur  | <input type="checkbox"/> Pages detached/<br>Pages détachées  |
| <input type="checkbox"/> Coloured ink (i.e. other than blue or black)/<br>Encre de couleur (i.e. autre que bleue ou noire)  | <input checked="" type="checkbox"/> Showthrough/<br>Transparence   |
| <input type="checkbox"/> Coloured plates and/or illustrations/<br>Planches et/ou illustrations en couleur   | <input checked="" type="checkbox"/> Quality of print varies/<br>Qualité inégale de l'impression                    |
| <input checked="" type="checkbox"/> Bound with other material/<br>Relié avec d'autres documents   | <input type="checkbox"/> Continuous pagination/<br>Pagination continue   |
| <input checked="" type="checkbox"/> Tight binding may cause shadows or distortion along interior margin/<br>La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure   | <input type="checkbox"/> Includes index(es)/<br>Comprend un (des) index  |
| <input type="checkbox"/> Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/<br>Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées. | Title on header taken from: /<br>Le titre de l'en-tête provient:   |
| <input type="checkbox"/> Additional comments: /<br>Commentaires supplémentaires:  | <input type="checkbox"/> Title page of issue /<br>Page de titre de la livraison                                    |
|   | <input type="checkbox"/> Caption of issue /<br>Titre de départ de la livraison                                     |
|   | <input type="checkbox"/> Masthead /<br>Générique (périodiques) de la livraison                                     |

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

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

**Pages Missing**

# BOILERS

We are now in our new Boiler Works and with new and modern equipment we are in a position to turn out the best products at short notice. In addition to Boilers we can supply Engines, Heaters, Pumps, Condensers, Piping, and all requisites for complete steam plants.

SEND FOR ESTIMATES.

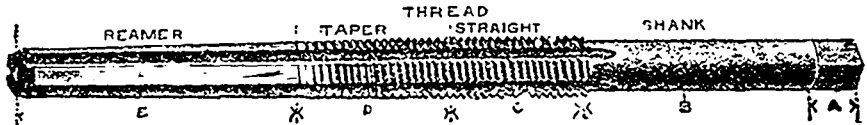
**THE GOLDIE & McCULLOCH CO., Limited**  
 GALT, ————— Ontario ————— Canada.

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

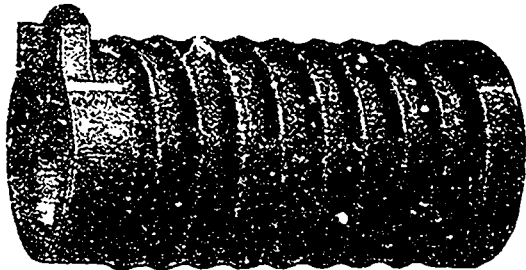


WE MANUFACTURE  
**STAY BOLT TAPS**, all diameters and lengths up to 94 inches.  
**SPINDLE STAY BOLT TAPS** and **TAPS** for Screw Machines, and **TAPS** for all uses.  
 Regular and Full Mounted Reece and Derby Plates, Bicycle and Machinists' Plates, etc., etc.

**BUTTERFIELD & CO.,**  
 Rock Island, Que.



# MORISON Suspension Furnaces

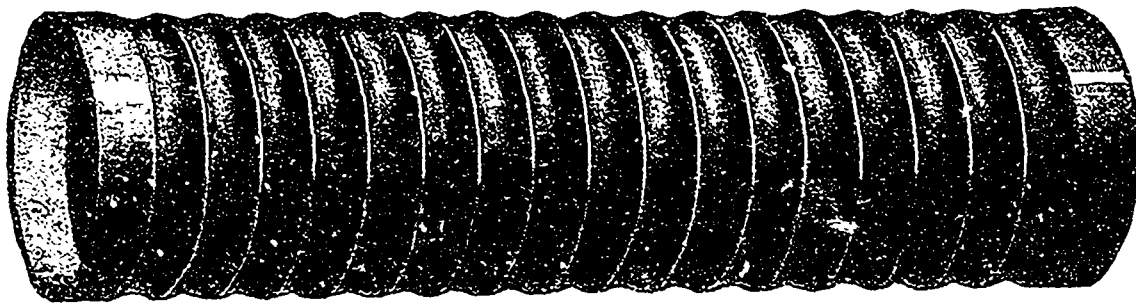


**For Land and Marine Boilers**

With Plain Ends or Flanged to any required shape.

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

*The universally satisfactory record of "THE MORISON" proclaims it the best furnace made.*



MANUFACTURED BY

**THE CONTINENTAL IRON WORKS,** WEST AND CALYER STS., BOROUGH OF BROOKLYN, New York  
 Near 10th and 23rd Street Ferries  
 Sole Canadian Agent—MR. GEORGE HOLLAND, M. C. Soc. C. E., P. O. Box 529, MONTREAL

## THE ALCOMA STEEL CO., Limited

SAULT STE. MARIE, ONT.

is now booking orders for

# STEEL RAILS

for late Summer 1905 and early Spring 1906 delivery. Parties intending purchasing will find it to their interests to let us have their specifications at an early date as to ensure desired deliveries.

**DRUMMOND, McCALL & CO.,**

OFFICE: General Sales Agents.  
Canada Life Building, MONTREAL.

## CANADA IRON FURNACE CO., Limited

Montreal, Radnor and Three Rivers

Manufacturers of the well-known

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

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

**Pig Iron**

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

Offices: Canada Life Insurance Building, MONTREAL.

### JUST ADDED:

New sizes of Plates.

$\frac{1}{2}$  and  $\frac{3}{4}$  thick, 48" to 72" wide, 120" to 144" long, for immediate shipment from our stock.

THE  
BOURNE-FULLER CO.  
IRON, STEEL,  
PIG IRON,  
COKE.  
Cleveland, Ohio.

# 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  $\frac{1}{32}$  OF AN INCH.

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

**RAILWAY AND ELECTRIC RAILWAY CAR AXLES**

**FISH PLATES, SPIKES AND TRACK BOLTS**

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

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

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

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

Head Office—NEW GLASGOW, NOVA SCOTIA

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# NORTHERN ALUMINUM CO., LIMITED

Shawinigan Falls, P.Q. Business Office Pittsburgh, Pa.

## ALUMINUM

INGOTS—SHEETS—TUBING, ETC.

*Aluminum Stamped, Cast, Spun Articles of any Description to Order.*

ALUMINUM WIRE and CABLES (BARE OR INSULATED) for Electrical Conductors.

## NICKEL

THE CANADIAN COPPER COMPANY.

# NICKEL FOR NICKEL STEEL

THE ORFORD COPPER COMPANY.

**WRITE US FOR PARTICULARS AND PRICES.**

General Offices: 43 Exchange Place, NEW YORK.

It is no trouble to us to help you out of your Babbitt Metal difficulties. We have expert metal men in our works who know in metals and machinery, and atmospheric conditions to a nicety; what's more our special method of mixing is what gives

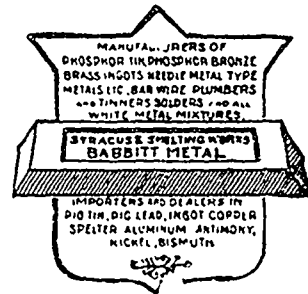
**MANGANESE ANTI-FRICTION METAL**  
its superior wearing qualities.

## Syracuse Smelting Works

Montreal

New York

Seattle



## Canadian White Company, Limited

SOVEREIGN BANK BUILDING, - MONTREAL, CANADA

# ENGINEERS and CONTRACTORS

- FOR -

Steam and Electric Railroads; Electric Light and Power Plants; Building Construction; Water and Gas Works; Docks, Harbor Works, etc., etc.

### CORRESPONDENTS

J. G. WHITE & COMPANY, INC.,  
New York City.

J. G. WHITE & COMPANY, LIMITED  
London, England.

WARING-WHITE BUILDING CO.,  
London, England

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# PITTSBURGH COAL COMPANY

**Miners and Shippers**

OF

**YOUGHIOGHENY  
GAS and PITTSBURGH  
STEAM COAL**

Manufacturers of

**HIGH GRADE COKE**

Loading and Fueling Docks at all Ports on the  
Great Lakes.

GENERAL OFFICES:

**PITTSBURGH, PA.**

JOHN BYRNE, Chairman of the Board.  
FRANK SULLIVAN SMITH, Acting President. H. S. HASTINGS, Auditor.  
G. H. JONES, Genl. Sales Agent.

## THE SHAWMUT COAL & COKE CO.

**BITUMINOUS COAL  
COKE**

General Office, ANGELICA, N.Y.  
C. L. LATHROP, Agent.

Pennsylvania Office: **ST. MARYS, PA.**

Sales Office: J. D. FERGUSON,  
1110 Prudential Building, Canadian Sales Agent.  
BUFFALO, N.Y. HAMILTON, ONT.

Annual Capacity of Mines  
1,500,000 tons.

Annual Capacity of Coke Ovens  
100,000 tons.

Operating 2,500 Coal Cars.

Old Colony  
Coal and Coke Company  
Pittsburgh, Pa., U.S.A.

Miners and Shippers  
... of ...

Ligonier Steam Coal  
Moundsville Gas Coal  
Connellsville Coke

Mines { Ligonier, Pa., P. R. R.  
{ Moundsville, W. Va., B. & O. R. R.

**E. A. SKAE**  
MINER AND SHIPPER  
COAL AND COKE

**Pocahontas**  
**West Virginia** (Thacker)  
**Empire** (Best product of the Pittsburg Field)

Cars of each grade always on track for reconignment  
to Canadian points.

Hammond Bldg., DETROIT, MICH.

H. K. WICK, President. W. D. WARD, Secy. and Treasurer

**H. K. WICK & CO.**  
(INCORPORATED)

Miners and Shippers of  
**Bituminous Coals**

Pittsburgh, Rooms 64 and 65  
Youghiogheny, Erie County Savings Bank Bldg.  
Brier Hill, Smithing.  
Mercer & Butler County Coals. **BUFFALO,**  
N.Y.

400 Individual Cars.

H. T. WILSON, Manager.

R. J. SINCLAIR, Sales Agent.

THOS. CHRISTIE, Canadian Sales Agent.

# THE H. T. WILSON COAL COMPANY

1321-1322 Majestic Building, - DETROIT, MICH.

## "Red Jacket" Coal

MINED IN WEST VIRGINIA.

The Best Bituminous Coal for Steam and Domestic Purposes.

Has a tough and blocky structure  
Smallest percentage of fine coal.  
Low in ash and sulphur and no clinkers.  
Not subject to spontaneous combustion.  
Nothing better for malleable iron works.  
One of the strongest steam coals.

R  
E  
D  
J  
A  
C  
K  
E  
T

### COMPARATIVE HEAT UNITS PER POUND OF COAL.

Anthracite - See "Steam," published by Babcock & Wilcox Co., 13,985.  
"RED JACKET" Determined by 50 weeks' test at Cincinnati Edison Plant, in 1902, the daily use of the coal tested being two hundred tons, 13,600.

### BOILER TEST OF THE CINCINNATI EDISON CO., OF CINCINNATI.

Water apparently evaporated under actual conditions per pound of coal, 10 1/2 lbs.  
Equivalent evaporated from and at 212 degrees per pound of combustible pounds, 12:33.

We also handle Pocohontas Coke. Correspondence solicited.

<b>COAL</b>	<b>JAS. H. MILNES &amp; CO.</b>	<b>COKE</b>
	<p>WHOLESALE DEALERS IN Best Grades of STEAM COALS. Best Grades of BLACKSMITHS' COALS. Best Grades of FOUNDRY COKES.</p> <p>Shipments made direct from Mines to any point in Canada. Write for quotations.</p>	

Head Office: 62 KING ST. WEST

TORONTO.

Docks: Esplanade, Foot of Yonge

<b>COAL</b>	<u>Highest Quality</u>	EGG, - STOVE, - CHESTNUT,
-------------	------------------------	---------------------------

Car Load Lots Direct from Mines.

Prompt Shipment.

Close Prices for Cash.

Pittsburg Lump, Mine Run, Slack,  
Smithing Coal,  
American Gas House Coke,  
Prepared Coke,

HAMILTON, ONT. THOS. MYLES' SONS EGG, - STOVE, - CHESTNUT.

<b>COAL</b>	<b>EDWARD T. SAWYER</b>	<b>COKE</b>
	<p>MINER &amp; SHIPPER</p> <p>STEAM &amp; GAS COALS</p> <p>From Kanawha, Hocking and Fairmont Mines</p> <p>PURITAN SMITHING COAL</p> <p>Shipments direct from mines to all points in Canada</p> <p>Write for Prices</p> <p>COLUMBUS, OHIO.</p>	

During the year ending June 30, 1904, Canada imported **2,496,068** tons of Anthracite Coal and Coke, valued at **\$11,226,346** and **4,661,941**, tons of Bituminous Coal, valued at **\$9,652,331** and Charcoal valued at **\$22,224**, upon which duties were paid to the amount of **\$2,211,864**, there being no duty on Hard Coal or Coke.

EVERY STEAM POWER PLANT IN CANADA USES COAL.

EVERY FOUNDRY USES COKE.

The CANADIAN MANUFACTURER

Reaches Them.

Party familiar with the whole-sale coal markets in Ontario desires to correspond with soft and hard coal operators requiring the services of a Canadian travelling representative.

ADDRESS—

THE CANADIAN MANUFACTURER

TORONTO, CAN.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

## FIRE INSURANCE

**The Inter-Insurers  
of America**

**HON. EDWARD C. STOKES, (Gov. New Jersey)  
President**

**SAVE AT LEAST 20 Per Cent. IN THE COST**

For full particulars apply to

**JAMES R. SKINNER, Att'y.-in-fact, . . . 50-52 PINE STREET, N Y. C.**

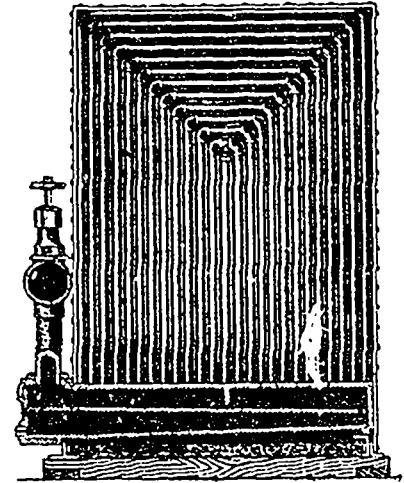
### Improved Hot Blast Heating and Ventilating System (Patented 1904)

FOR DRY ROOMS OF EVERY DESCRIPTION, BUILDINGS OF ALL SIZES AND FOR ALL PURPOSES, but chiefly used at present in **Factories, Hospitals, Churches, Theaters, etc.**

This Heater will give **50% more heat with a given heating surface than any other on the market.**

—For prices and particulars write—

**McEachren Heating & Ventilating Co.,  
GALT, ONT., CANADA.**



# RANSOME MIXERS

for Concrete or Mortar

**LARGEST OUTPUT**

**ARE THE MOST EFFICIENT**

**LOW FOR CHARGING**

— as —

Ransome Mixers produce the highest grade of Concrete with the least possible expenditure for labor and the contents of the mixing drum can be totally discharged, or wheelbarrow by wheelbarrow, as desired, without delaying the mixing operation—saving time and materials. Ransome Mixers will save money as they mix better, quicker and cheaper than any other mixer. They are built to last. All sizes and capacities. Write for Catalogue and Prices.

**F. H. HOPKINS & CO., - Canadian Sales Agents, - Montreal**

## HOISTING ENGINES

The cut shows our 14" x 20" Double Drum Hoisting Engine.

This is one of many styles and sizes, both Hoisting and Winding Engines.

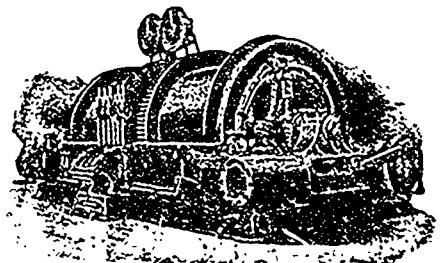
We contract for complete Hoisting Plants.

Let us send you our Catalog 700.

**THE JENCKES MACHINE CO., LIMITED**  
52 LANSDOWNE ST., SHERBROOKE, QUE.

Cables:  
CHALLENGE.

Codes: LIEBER'S, ABC,  
4TH ED., PRIVATE.



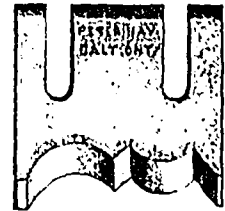
Branch Offices from Ocean to Ocean.



**THE PETER HAY KNIFE CO., Limited**



**GALT, ONT.**



Manufacturers of

**MACHINE KNIVES**

For WOOD-WORKING,  
PAPER CUTTING and LEATHER SPLITTING  
MACHINES.



Quality Warranted.

Send for Price List.

SHEAR BLADES,

BARK and RAG KNIVES,

Etc., Etc., Etc.

**THE WELLINGTON MILLS,**

**Genuine EMERY**

**LONDON, ENGLAND**

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

Manufacturers

John Oakey & Sons, Limited, Wellington Mills, Westminster Bridge Road, London, England.

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

Enquiries should be addressed to

**JOHN FORMAN, - 650 Craig St., MONTREAL**

**Albert Manufacturing Co.**

MANUFACTURERS OF THE WELL-KNOWN

"Hammer Brand" **Calcined Plaster**

AND

**PATENT ROCK WALL PLASTER.**

HILLSBOROUGH, N.B., CANADA.

**DUNBAR FIRE BRICK CO.**

Manufacturers of High Grade FIRE CLAY and SILICA BRICK for Heating and Malleable Iron Furnaces, Glass Works, Cement Works—also Bee Hive and By-Product Coke Ovens, Brick and shapes of all kinds.

Pittsburgh Office: 1504 Arrott Building.

Office and Works: Dunbar, Pa.

**Quality, Price, Delivery**—These are the questions considered in the purchase of your supplies of Fire Brick, not only for new construction, but for repairs as well. We are prepared to furnish the very highest grade of silica and fire brick for all furnace practice, coke ovens, lime and cement kilns, boiler settings, and for every other purpose requiring a highly refractory material. We have seven plants operating in four counties of two states on three competing Trunk lines, with a daily capacity of a quarter of a million, and are better prepared to serve your wants than any other manufacturers in the business. Our quality is unsurpassed, our prices reasonable, and we are in position to make prompt shipment over any line at low rates. Your patronage is respectfully solicited.

General Office—**BOLIVAR, PA.**  
Pittsburg Office—912 Park Bldg.

**REESE-HAMMOND FIRE BRICK CO.,**

Works—Curwensville and Bolivar, Pa.  
Fairmont, West Virginia.

**"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.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**C. H. VOGEL**

A. M. Can. Soc. C. E. ENGINEER  
OTTAWA, CAN.  
Surveys, Plans, Specifications and Supervision  
**WATER POWER**  
PAPER, PULP and SULPHITE FIBRE MILLS

**K. L. AITKEN**

*Consulting Electrical Engineer.*  
161 Bay Street, TORONTO.  
Long Distance Phones { Office, Main 1482.  
{ Res., Main 481.  
Successor to  
THE ELECTRICAL SUPERVISION SOCIETY

**T. A. MORRISON & CO.**

203 St. James Street. MONTREAL

Now and Second Hand Contractor's Plant.  
Stone Crushers, Concrete Mixers, Rock Drills,  
1 Baldwin I.C.R. Standard Gauge Locomotive,  
33 tons, cylinder 14 x 22, 110 S.P.  
30 Dump Cars, Narrow Gauge, 24 yards  
Boilers, Engines, Steam Shovels, etc.

**C. J. FENSOM, B. A. Sc.**

*Consulting Engineer*  
ABERDEEN CHAMBERS, TORONTO  
Phones { Office, M. 1923  
{ Residence, N. 2967  
Machinery Designed, Supervised, Inspected and  
Contracted for Tests, Reports, Electric Light  
Plants, Power Plants, Pumping Plants.

**DR. GEO. ARCHBOLD, M. A.,****TECHNICAL CHEMIST**

PRESCOTT, ONT.

Dr. Archbold is technical adviser to three of the  
oldest firms in U.S.A. Terms on application.

**THE LOCKE ADDER**  
Only \$5  
The Modern Business Necessity  
CAPACITY 999,999,999  
The famous Calculating Machine. Enthusiastically endorsed the  
world over. Rapid accurate simple durable. Two models of  
lined copper finish \$3.00, oiled silver finish \$10.00 prepaid in  
U.S. Write for Free Booklet and Special Offer. Agents wanted.  
C. E. Locke Mfg. Co. 147 Walnut St., Kenseit, Iowa

**RODERICK J. PARKE**

A.M. AMER. INST. E.E.  
A.M. CAN. SOC. C.E.

**CONSULTING ENGINEER**

Janos Building, TORONTO  
Long Distance Telephone.

**TO MANUFACTURERS:**—Advice and specifications covering Industrial Applications of Electricity—Lighting—Power Transmission—Factory Power Distribution—Steam Plants.

TESTS—REPORTS—VALUATIONS.

**The Howe-Buller Co.**  
CLEVELAND, O.

**FIRE BRICK** SILICA FIRE CLAY  
ALUMNITE  
SILICA CEMENT

MACHESITE BURNT MACHESITE

Our factories are the most complete in the country. Located in Pennsylvania, Ohio, and Kentucky—and controlling the largest known bodies of Refractory materials for different work. Operated by experienced managers. We manufacture material for all heat work—second to none.  
Capacity over 200,000 Brick and Special Shapes per day. Write for catalogue.

**Keystone Engineering Co.**

Limited  
94 Adelaide St. West, TORONTO, CAN.  
Consulting and Contracting Electrical Engineers.  
Complete Power Plants Designed and Equipped.  
National Electric Code Standard Wiring.  
Advisory Reports. Repairs, Alterations, Etc.  
Phone, Main 3021.

**ROBERT W. HUNT & CO.**

*Bureau of Inspection, Tests and Consultation.*  
66 Broadway, New York; 1121 The Rookery,  
CHICAGO; Monongahela Bank Bldg., PITTSBURGH;  
Norfolk House, Cannon St., E.C. LONDON  
Inspection of Rails and Fastenings, Cars, Locomotives, Pipe, etc.; Bridges, Buildings and other Structures. Chemical and Physical Laboratories. Reports and estimates on properties and processes.

**JOHN J. GARTSHORE**

88 Front St. W., Toronto.

**Rails and SUPPLIES,**

New and Secondhand,  
For RAILWAYS, TRAMWAYS, Etc.  
Old material bought and sold.

**Do You Use CRAYONS?**

Ours are made by Cotton Mill Men, who know what the ingredients should be.  
Ours will wash off the goods in process of manufacture without leaving a stain.

**LOWELL CRAYON CO., - LOWELL, MASS.**  
Original Makers. Samples Sent.

**E. VON DER OSTEN & CO.**

*Consulting Engineers*  
Industrial Plants. Waterworks.  
Lighting and Power Plants.  
Sewerage and Sewage Disposal.  
Garbage Reduction Plants.  
Municipal Improvements.  
Roucesvalles Ave. and High Park  
Boulevard,  
TORONTO, ONT.

**HORACE F. EVANS****EXPLORER and GEOLOGIST**

Having made a careful examination of the Thompson, Bonaparte and Nicola divisions of Yale District, British Columbia, is prepared to furnish investors and intending investors with reliable reports on the occurrence of metalliferous ores, also Coals, Lignite Coal and Lignite within the district indicated.

Having made a careful examination of the Cold Water Coal Beds of the Nicola Valley and Hat Creek Country, very dependable reports on the character of these Coals and Lignites will be furnished to investors and others. These examinations have extended over many years and the value as well as extent of the coal measures will be given.

Regular Address, ASHCROFT, B.C.  
Cable and Tel. Address, "Callor," Ashcroft, B.C.

**You Should Insure  
Your Boilers**

In The  
**Canadian Casualty  
and Boiler  
Insurance Company**

TORONTO.

**Because**

the utmost care is exercised in making inspections, fullest reports made and highest engineering service is given.

Established 1873. Telephone Main 1889

**THOMAS HEYS & SON**

CHARLES H. HEYS, Manager.  
**CHEMICAL and MINING EXPERTS.**  
Analyses of all commercial products, etc. etc. and reports on mines and mining localities.  
114 Bay Street, TORONTO, ONT.

**THE DELANO-OSBORN ENGINEERING Co.****Consulting Engineers**

Civil, Mechanical and Electrical Engineering, Power Plants, Manufacturing Establishments. Inspections, Tests and Reports.  
Manning Chambers, TORONTO, ONT.

**HERBERT J. ARMSTRONG****Mechanical Engineer.**

Steam Plants. Manufacturing Plants. Power Distribution. Special or General Machinery Designed. Steel Plate and Structural Work.

43 Victoria St., TORONTO.

**H. D. PETRIE**

Barrister, Solicitor, Notary

Spectator Building,  
HAMILTON, ONT.

Companies Incorporated.  
Commercial Law and Collections.

**NEFF & POSTLETHWAITE****CHARTERED ACCOUNTANTS**

26 Wellington St. East, TORONTO

Phone Main 1880.

Audits and Investigations a Specialty

**PATENTS**

TRADE MARKS, Etc.

**HANBURY A. BUDDEN**

NEW YORK LIFE BUILDING  
MONTREAL.

**S. DILLON - MILLS****MINING EXPERT**

Mining Properties examined and developed. Reports furnished. Twenty years experience in Furnace and Mining Work.

658 HURON STREET. TORONTO

**Special Machinery**

Do You Make

**- - WIRE - -**

We build machinery to help you draw it right

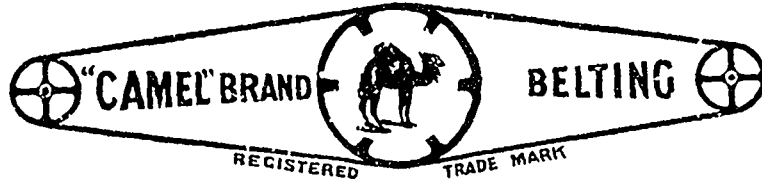
Save time and stock by using our machinery.

WRITE US—

The TURNER, VAUGHN & TAYLOR CO.

CUYAHOGA FALLS, O., U.S.A.

# "CAMEL HAIR BELTING"



**NOTICE**—The business established by us in Canada in 1886, and transferred to W. A. Fleming & Co. in 1903, has, owing to the ill-health of Mr. Fleming, been taken over again, and will be carried on in our name.

CAMEL HAIR BELTING  
 CAMEL BRAND BELTING  
 CANVAS HOSE  
 PAPER MAKERS' FELTS  
 PRINTING PADS

Full stocks of our manufactures as above are held in Montreal, and all enquiries and orders directed as below will receive immediate attention.

**F. REDDAWAY & COMPANY, LIMITED**

771 Craig St., MONTREAL

**Works and Head Offices: MANCHESTER, ENG.**

# Hot Blast Heating Systems

— FOR —

Factories, Mills, Schools,  
Colleges, Hospitals, Etc.

PERFECT VENTILATION AT AN EVEN TEMPERATURE.

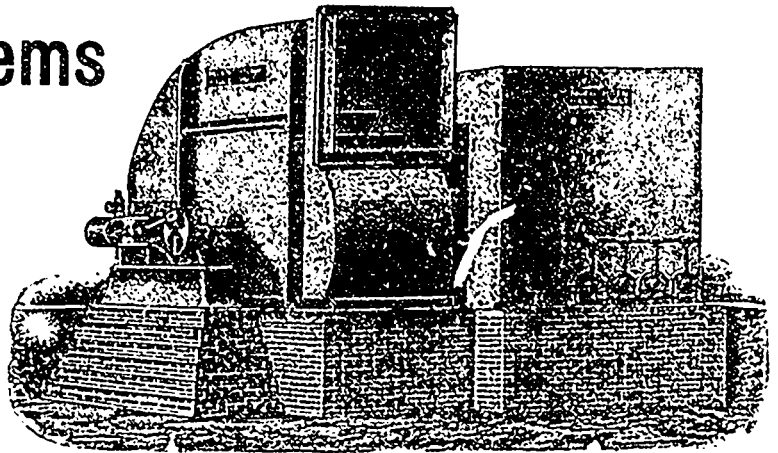
Write for prices and particulars to

## SHELDON & SHELDON

GALT, - - ONT.

FORMERLY

McEachren Heating & Ventilating Co.



# Petrie's Machinery Depot

**ENGINES AND BOILERS**

**MACHINE TOOLS**

**WOOD-WORKING MACHINERY**

**SAW MILLS**

**ENGINEERS' AND MILL MEN'S**

**SUPPLIES**

UP-  
TO-  
DATE

NEW STOCK  
LIST  
Issued  
Monthly.  
Ask for one.

**AGENTS FOR**

London Machine Tool Co.  
Cincinnati Milling Machine Co.  
Cincinnati Planer Co.  
Cincinnati Shaper Co.  
Cincinnati Upright Drills.  
Lodge & Shipley Lathes.  
Bickford Radial Drills.  
Sebastian Lathe Co.  
B. F. Barnes & Co.  
Automatic Machine Co.  
Cathin Keyseater.  
Brenner Punch & Shears.  
The National Machinery Co.  
Schuchart & Schutte.

American Grinding Machines.  
Morris Machine Works.  
C. H. Dutton Co.  
Taber Pump Co.  
Sturtevant and Buffalo Blower-  
and Fans.  
American Machinery Co.  
Fox Machine Co.  
West Side Band Saw.  
Dan Hay Presses.  
The Cleveland Automatic Ma-  
chine Co., Cleveland, Ohio.  
The Laurie Engine Co., Montreal.  
Potter & Johnson.

**H. W. PETRIE**

Adjoining  
Union Station.

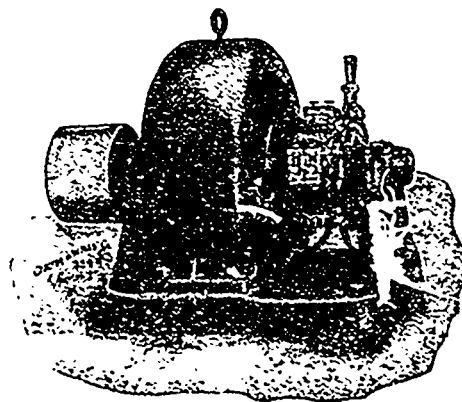
**TORONTO**

Prices and Descriptions of NEW AND SECOND-HAND  
MACHINES on Application.

# CROCKER-WHEELER COMPANY

MANUFACTURERS AND ELECTRICAL ENGINEERS.

Direct  
and Alternating  
Current  
Apparatus.



Send Us  
Your  
Specifications.

Address all Communications to

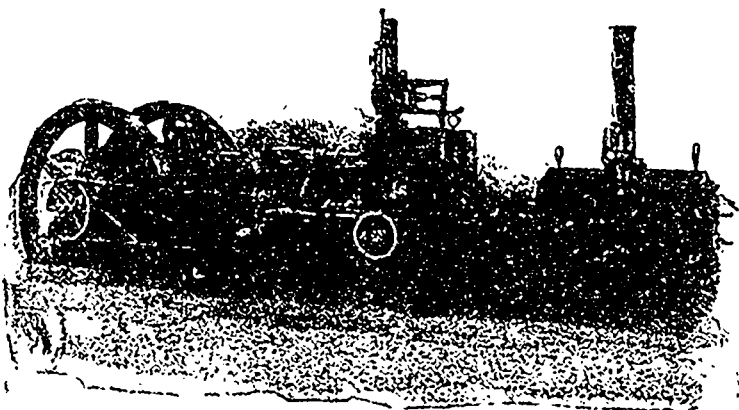
## THE PACKARD ELECTRIC CO., Limited

MONTREAL.

ST. CATHARINES.

WINNIPEG.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



### CANADA AIR COMPRESSORS

FOR ALL SERVICES IN

MACHINE SHOPS, FOUNDRIES,  
MINES, REFINERIES, Etc.

### CANADA FOUNDRY CO., Limited

Head Office, - TORONTO

MONTREAL HALIFAX OTTAWA WINNIPEG  
CALGARY VANCOUVER ROSSLAND

## THE EUGENE F. PHILLIPS ELECTRICAL WORKS

MONTREAL, - CANADA LIMITED

TORONTO STORE, 50 Adelaide Street West

# Bare Copper Wire Weatherproof Wire

LONG DISTANCE PHONE 1108.

The Electrical Construction Company of London, Limited  
32-40 Dundas St., London, Can.

## Perfection TYPE DYNAMOS and MOTORS

Multipolar or Bipolar, Direct-connected or Belted.

OVER 1500 OF OUR MACHINES IN USE

We contract for complete installations, including wiring of factories.  
We repair machines of any make.

Descriptive matter and estimates furnished on application.

Branches at Vancouver, Winnipeg, Toronto, Montreal, Halifax

WE can supply you with Metals of all kinds.

We also buy Metals of all classes.

Consult us before buying or selling.

### SYRACUSE SMELTING WORKS

MONTREAL.  
NEW YORK. SEATTLE.

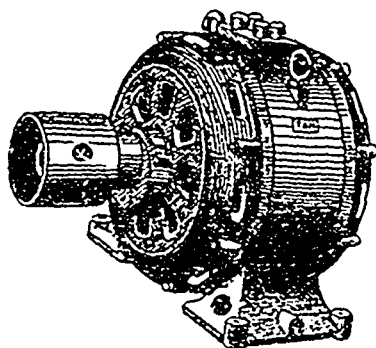
## KERR'S "WEBER" Valves

ARE THE GENUINE VALVES OF THAT NAME.

ALL OTHERS ARE IMITATIONS.

BE SURE AND GET THOSE MADE BY

The Kerr Engine Co.  
Limited  
WALKERVILLE, - ONT.



### Induction Motors

of one, two and three phases

HIGH POWER FACTOR and EFFICIENCY

- ALSO -

### A. C. Generators

IN ALL SIZES.

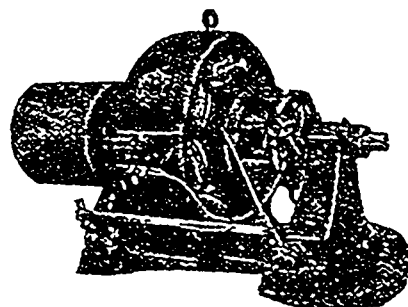
TORONTO & HAMILTON  
ELECTRIC CO.

99-103 McNab North. HAMILTON, ONT.

## The Jones & Moore

ELECTRIC CO., Limited

ELECTRICAL CONTRACTORS



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

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

196 ADELAIDE WEST,  
TORONTO.

- Give us a chance to bid -

TEXTILE SUPPLIES

Cotton and Woollen Machinery, Mill Supplies

CALL UPON US.

Belt  
Banding  
Vin  
Leather  
Gums  
Paste  
Cements  
Starch  
Oils  
Grease  
Packings  
Ball  
Bearings  
Shafting  
Hangers  
Couplings  
Collars  
Pulleys  
Etc.

PHONE US.

ALFRED HAWKSWORTH & SONS CO., Limited

351 ST. JAMES STREET.

Phone—Main 2295.

MONTREAL, QUE.

Upon your requirements.

## EXPANDED

The highest type of modern fireproof construction is  
Concrete reinforced with EXPANDED METAL.

FLOORS -- ROOFS -- WALLS

Write for Catalogue and Prices.

EXPANDED METAL AND  
FIREPROOFING CO., LIMITED

100 King Street West, TORONTO.

## METAL



## WE CAN PUMP YOUR LIMIT

Manufacturers, Tanners, Brewers,  
Cold Storage Plants

Are you getting your water from an artesian well?

If so, we want you to investigate our

## AIR LIFT SYSTEM

We Absolutely Guarantee

To deliver all the water your well will yield.

We claim for our system both

Efficiency and Economy.

CORRESPONDENCE SOLICITED.

The CANADIAN RAND DRILL CO.

Room 7, Imperial Bank Building, MONTREAL, QUE.

Booklet on Request.

The NATIONAL SUPPLY CO. Ltd.  
LEAMINGTON, ONT.

CARRIES A COMPLETE STOCK OF  
OIL AND GASWELL SUPPLIES : BOILERS AND ENGINES  
DRIVE PIPE, CASING, TUBING AND LINE PIPE  
PIPE LINE SUPPLIES, ETC.

THE  
**JEFFREY LOG HOIST**

SHOWN IS A  
PROFIT PRODUCER FOR LUMBERMEN



For other illustrations of  
**ELEVATING, CONVEYING, POWER  
TRANSMITTING MACHINERY**

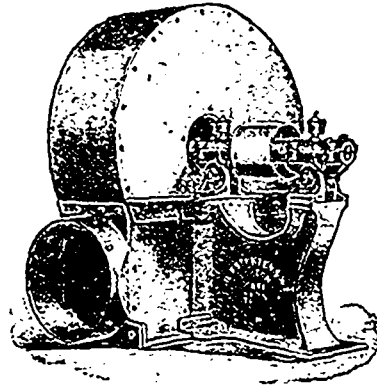
Ask for Catalogues 72A and 57A Free.

**THE JEFFREY MFG. COMPANY**  
COLUMBUS, OHIO, U.S.A.

Toronto Agents—A. R. WILLIAMS MACHINERY CO.  
Montreal Agents—WILLIAMS & WILSON.

**IT'S EASY TO SAVE**

power enough in a single year to pay the full cost of putting in a new fan of larger size in place of one that is already overloaded. It's only necessary to reduce the speed of any fan by 20 per cent. to save half the power.



**B. F. STURTEVANT CO.,**

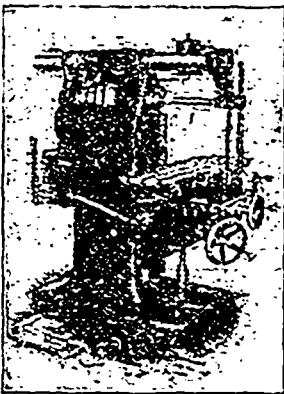
Boston, Mass.

General Office and Works, Hyde Park, Mass.  
New York. Philadelphia. Chicago. London.

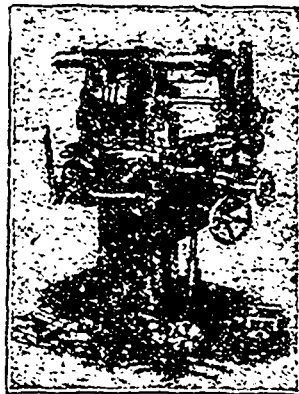
Designers and Builders of Heating, Ventilating, Drying and Mechanical Draft Apparatus, Fans, Blowers and Exhausters, Steam Engines, Electric Motors and Generating Sets, Fuel Economizers, Forges, Exhaust Heads, Steam Traps, etc.

**BECKER-BRAINARD  
MILLING MACHINES**

FOR RAPID PRODUCTION.



No. 3 Plain Gear Feed Milling Machine.



No. 2 Universal Gear Feed Milling Machine.

Complete line of Horizontal and Vertical Millers to meet every requirement.

WRITE FOR CATALOGUE.

**BECKER-BRAINARD MILLING MACHINE CO.,**  
HYDE PARK, MASS. U.S.A.

Branch Office: THE BOYSSÉ, PHILADELPHIA, PA.

*The*  
**McNaull Economic  
Water Tube Boiler**

Is adapted to every purpose requiring a boiler.

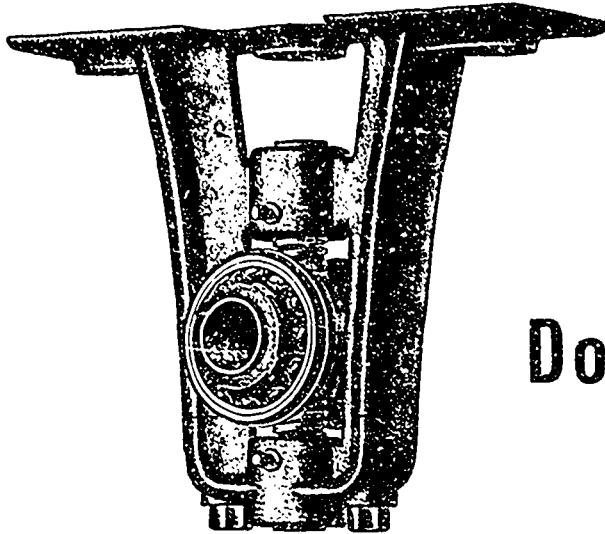
It is very economical in fuel, and will save its cost in a very few years, in this one particular.

The floor space occupied is small compared to other boilers.

It possesses absolute safety, is simple of construction, and the cost for repairs is practically nothing.

Write Dept. M. for catalogue.

**THE WM. HAMILTON MFG. CO., Limited**  
Peterborough, Ont.



"Have found it a very satisfactory bearing, in fact it saves us from 25% to 35% power, and one great beauty about it is, there is no dripping from the bearing as by the old fashioned way."

THE WILLIAMS PIANO CO., LIMITED.,

G. A. WILLIAMS, Secretary-Treasurer.

Oshawa, Ont.

## THE CHAPMAN Double Ball Bearing

A BEARING THAT SAVES POWER

How much power are you wasting on your line shafting?  
 Are you using the old-fashioned journal bearings?  
 Then from 15% to 50% of your entire power is wasted in friction on your shafting.  
 The average cost of steam power is \$50 per h.p. per year.  
 A 20% loss on a 100 h.p. plant means a loss of \$1,000 per year.  
 We have shown an average saving of 20% of the entire power.  
 150 Canadian factories are now equipped with CHAPMAN DOUBLE BALL BEARINGS.

Catalogues and Full Information Furnished on Request.

THE CHAPMAN DOUBLE BALL BEARING CO. OF CANADA, LIMITED

Office—89 Scott St., Factory—89 Pearl St., TORONTO.

**IRON**

Bars in Flats, Rounds, Squares,  
Ovals, Half-Ovals, Half-Rounds  
and Bands.

Also Wrought Washers.  
Good Quality—Prompt Shipment.

LONDON ROLLING MILL CO.

LIMITED

LONDON, CANADA.

**STEEL**

When you are wanting any Electrical Supplies

Such as **TELEPHONES,**

**ARC LAMPS,**

WRITE

**DYNAMOS, Etc.**

**JOHN FORMAN, - 708-710 Craig Street, Montreal**





ESTABLISHED IN 1880.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

**The Canadian Manufacturer Publishing Co., Limited.**

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

Cable address: "CANAMAN." Western Union Telegraphic Code used.

**SUBSCRIPTIONS:**

Canada and United States \$1 50 per year. All other Countries in Postal Union ten shillings sterling, including postage.

J. J. CASSIDY, Editor and Manager

Classified Index ..... Page 41

Index to Advertisers ..... Page 49

**NO BOUNTY ON STEEL RAILS.**

The Dominion Government have passed an order-in-council providing that the bounty on steel manufactured in Canada shall not apply to steel rails. This action was taken because the Algoma Steel Co. at Sault Ste. Marie, Ont., made, and successfully sustained, the contention that under the previous regulation they were entitled to the bounty on steel rails they manufactured as well as on structural steel.

Two sessions ago Parliament authorized the payment of a bounty to help in the establishment of a structural steel industry in Canada. The tariff protection on this material is only 10 per cent., and it was represented that, with a little more encouragement, a stable industry could be built up. Some time afterwards the Algoma Steel Co., which has begun the manufacture of steel rails at Sault Ste. Marie, claimed that it was entitled to the bounty on the rails it was turning out.

The matter was referred to Mr. A. B. Aylesworth, K.C., for a legal opinion, and after the latter had admitted that under the wording of the Act the Algoma Steel Co. claim was valid, the latter were paid \$60,000. As the Government had never intended that the bounty should apply to rails at all, an order-in-council has since passed, making this point clear, and shutting off any further claims of a like nature. The Canadian rail mills enjoy a tariff protection which the Government considers high enough.

Steel rails made in Canada enjoy advantages of two kinds: (1) The duty of \$7 a ton on foreign rails; (2) the several bounties which are paid for the manufacture of the material from which they are made. Prior to the recent decision of the Government they enjoyed for a time a third advantage, an additional bounty upon the rail itself.

The bounties granted by the Canadian Government number three. (1) That on pig iron; (2) an additional bounty on the same pig iron when converted into steel ingot; (3) yet another bounty upon certain finished articles, such as structural steel girders, made from the steel ingot.

The Algoma Steel Co. some time ago claimed that

**Another Tariff Edition.**

As soon as the proposed revision of the tariff has been made and adopted by the Dominion Parliament, thus becoming the law of the land, a full and absolutely correct reproduction of it copied from the official document, will be published in the Canadian Manufacturer. It is impossible at this time to say just when that event will occur, probably about the latter part of next year. In the same special edition will be published in full, as heretofore, the tariff of the United States, both under the one cover, a convenience which will be fully recognized by our readers.

steel rails were entitled to the third type of bounty as well as to the first and second. The Government assented with some dubiety, but has decided that this was not intended by the Act and has withdrawn the bounty. Its reason is that the duty in the case of structural steel is low, about \$3 per ton, while that on rails is \$7 per ton.

Up to June 30 last the bounties were: (1) \$3.25 a ton on pig iron manufactured from Canadian ore, and \$1.50 a ton on pig iron manufactured from foreign ore; (2) \$2.25 a ton on steel ingots; (3) \$2.25 a ton on certain articles manufactured from steel ingots. For the current fiscal year the bounties are: (1) \$1.10 and \$1.65 per ton on pig iron, according to the source of the ore; (2) \$1.65 a ton on steel ingot; (3) \$1.65 a ton on the article made therefrom.

During the period when steel rails were allowed the third bounty the total protective advantages enjoyed by the Canadian rail maker who used foreign ore would be:

	Per ton.
Pig iron bounty.....	\$1 50
Steel ingot bounty.....	2 25
Steel rail bounty.....	2 25
Duty.....	7 00
	\$13 00

Or if the ore was Canadian, \$13.75 a ton.

During the current year the Canadian rail-maker, using foreign ore, will be in the following position:

	Per ton.
Pig iron bounty.....	\$1 10
Steel ingot bounty.....	1 65
Duty.....	7 00
	\$9 75

Or \$10.30 per ton if he uses Canadian ore.

The position of the maker of structural steel this year will be:

	Per ton.
Pig iron bounty.....	\$1 10
Steel ingot bounty.....	1 65
Steel article bounty.....	1 65
Duty.....	3 00
	\$7 40

\$7.95 per ton if he uses Canadian ore.

These calculations, of course, are rough and go on the assumption that the weight of the material remains the same through all the process, which it does not.

#### THE MEXICAN TARIFF.

Following is a synopsis of the modified tariff recently enacted by Mexico, and which becomes operative on September 1, prox. Increases have been made on nearly a hundred articles.

The old and the new rates are given—the old rates being in parentheses. The gross kilo includes the entire packing or casing; the net kilo is the goods without packing or casing. The legal kilo is that prescribed in the tariff Act and affected by certain regulations named in the Act. Following are the items:

Apparatus for reproducing manuscript, per gross kilo (5 cents), 6 cents.

Belts of cow-hair felt, for machinery, per gross kilo (10 cents), 11 cents.

Belts, leather, and cables, machinery, per gross kilo (50 cents), 55 cents.

Butter, per legal kilo (20 cents), 25 cents.

Candles, tallow, per gross kilo (18 cents), 20 cents.

Candles, or wax tapers, per legal kilo (60 cents), 70 cents.

Cheese, all kinds, per legal kilo (12 cents), 15 cents.

Coined silver money of Mexican mintage, in pieces of 1 peso, when imported in amounts exceeding 5 pesos, per gross kilo (\$10), \$15.

Clocks for tower and public edifices (unchanged) 2 cents.

Barley, in grain, mashed or germinating, per 100 kilos (5 cents per kilo), \$1.50.

Clocks for house, per legal kilo (75 cents), \$1.

Clocks, mechanism, per legal kilo (60 cents), 70 cents.

Columns, steel or iron, when they have perforation or a special cut, brackets, bed plates for columns, fish plates, braces, with or without bolts, and other pieces of iron or steel for building purposes, not otherwise specified, per gross kilo (3 cents), 4 cents.

Copying apparatus, for reproducing manuscript, per gross kilo (5 cents), 6 cents.

Corn, per 100 kilos (75 cents), 80 cents.

Cotton, unmanufactured and unginned, per gross kilo (3 cents) 3.3 cents.

Cotton, ginned, per gross kilo (7 cents), 7.7 cents.

Cotton, carded, per legal kilo (20 cents), 22 cents.

Cotton waste, per gross kilo (2 cents per kilo), 2.2 cents.

Crackers, all kinds, per gross kilo (15 cents), 16 cents.

Electric lamps, incandescent, commutators, extinguishing devices, circuit closers, with handles, fuses, cut-outs, rossettes and safety pieces, per gross kilo (10 cents), 11 cents.

Electric lamps, arc, per gross kilo (5 cents), 6 cents.

Fish, dried, smoked, or pickled, or fish products, per legal kilo (12 cents), 15 cents.

Fish, fresh and fish products, though preserved in ice, per legal kilo (2 cents), 3 cents.

Foodstuffs, preserved, animal, per legal kilo (15 cents), 18 cents.

Fiber, vegetable, linen, ramie, and others, not otherwise specified, unmanufactured or rasped, per 100 gross kilos (2 cents per kilo), \$2.20.

Fiber, jute, manila, hemp, pita, ixtle, henequen, New Zealand, rasped or unmanufactured, per 100 kilos (50 cents), 55 cents.

Furniture, of ordinary wood, without cushions and without incrustations, ornaments of metal or upholstering, containing silk, per legal kilo, 20 cents.

Furniture of fine woods, or ordinary woods with fine veneering, with cushions, and without incrustations, metallic ornaments, or upholstering, containing silk, per legal kilo, 30 cents.

Furniture of fine woods, or ordinary woods with fine veneer, without metallic ornaments, incrustations, cushions, or upholstering, containing silk, per legal kilo, 35 cents.

Furniture of fine woods, or ordinary wood, with fine wood veneer, with cushions, and without incrustations, metallic ornaments, or upholstering containing silk, per legal kilo, 45 cents.

Furniture, wooden, all kinds, gilded or without incrustations or ornaments, other than precious metals, or with upholstering containing silk, per legal kilo, 70 cents.

Geldings, per head (\$40), \$45.

Girders, iron or steel, not having perforations, nor special cut, per gross kilo (2 cents), 3 cents.

Girders and columns of iron or steel that have perforations or special cut brackets, bed plates, for columns, fish plates, braces, with or without bolts, or other unspecified pieces of iron or steel for building purposes, per gross kilo (3 cents), 4 cents.

Hogs and suckling pigs, per 100 kilo (5 cents) 6 cents

Honey, per gross kilo (5 cents), 6 cents.

Hoops, iron and clasps, for fastening packages, per gross kilo (1 cent), 2½ cents

Meat, fresh, of all kinds, per net kilo (8 cents), 10 cents.

Meat, dried, salted, smoked, or pickled fish or fish products, per legal kilo (12 cents), 15 cents.

Machines of all kinds for industry, agriculture, mining and the arts, not specified, and their loose parts or repair pieces, per 100 kilos (\$1.50), \$1.65.

Oats, in grain, per 100 kilos, (\$1), \$1.50.

Oil, impure mineral, per net 100 kilos, (3 cents per net kilo), \$3.30.

Oil, refined, mineral, benzine, paraffine, and mineral wax, per legal kilo (8 cents), 9 cents.

Paste, Italian, per gross kilo, (8 cents), 12 cents.

Plows and loose parts, or repair pieces, sickles, scythes, and other implements for agriculture and clearings, per 100 gross kilos (\$1.50), \$1.65.

Rails, iron or steel, when the weight of the linear meter does not exceed 10 kilograms, per gross kilo, 2 cents

Rails, iron or steel, when the linear meter does not exceed 10 kilograms and switches, turtles, ties, frogs, spikes and fish plates, for laying rails, per gross kilo, 3 cents.

At present rails pay 1 cent per gross kilo, when the linear meter weighs more than 12 kilos, and are free when the linear meter does not weigh more than 12 kilos.

Silk—Artificial, unmanufactured, per net kilo, 55 cents

Sacks of jute, pita, ixtle, henequen, or hemp, specified in section 382, per gross kilo (11 cents) 12 cents.

Snuff, per legal kilo (\$3), \$3.30.

Steel in bars, of various shapes, per 100 gross kilos (5 cents per kilo), \$5.50.

Tobacco, chewing, per legal kilo, \$1.10.

Tobacco, Virginia, unmanufactured, per net kilo, (50 cents gross kilo), 55 cents.

Tobacco, unmanufactured, not otherwise specified, filling, per gross kilo, 80 cents.

Tobacco, wrappers, per gross kilo, \$2.50.

Tobacco, sifted or cut, for cigarettes, per legal kilo (\$1.50), \$1.70.

Tobacco, manufactured into cigarettes, per legal kilo (\$2), \$2.20.

Tobacco, manufactured into cigars, per legal kilo (\$7), \$7.70.

Tea, per legal net kilo (50 cents), 55 cents.

Toys, automatic, moved by cord, steam or electricity, per legal kilo (60 cents), 80 cents.

Watches, repeating, silver or other material, except gold, or having parts of gold or gold plate, each (\$6) \$6.50.

Watches, non repeating, gold or gold plated, even though set with precious stones, each (\$7), \$8. Watches, repeating, gold or gold plated, set with precious stones, each (\$14), \$16.

Watches, mechanism, for non-repeating, each (\$1), \$1.25.

Watches, mechanism, for repeating, each (\$5), \$6.

Watches, non-repeating of silver or other non-metallic substance, when inlaid with gold or gold plate, each (\$2), \$2.50.

Watches, repeating, of silver or other substance, except gold, each (\$1), \$1.25.

Wax tapers, per gross kilo (60 cents), 70 cents.

Wire, of copper, brass, bronze, or white metal, lined with any substance, per gross kilo (5 cents), 10 cents.

Wire, naked, of copper, brass, or white metal, not exceeding 2 millimeters in diameter, per gross kilo (8 cents), 10 cents.

Wire, naked, of copper, brass, bronze, or white metal, exceeding 2 millimeters in diameter, per gross kilo (5 cents), 6 cents.

Wire, iron or steel, more than 1 millimeter in diameter, per 100 gross kilos (5 cents per kilo), \$5.50.

Wire, iron or steel, 1 millimeter or less in diameter, per gross kilo (8 cents), 9 cents.

Wire for fences, per 100 gross kilos, \$2.50.

The articles placed on the free list are: Apparatus for the extinction of fires, scientific instruments, live animals, not otherwise specified.

Foreign goods will only be subject, on their importation, to the foregoing rates, plus the tax of  $1\frac{1}{2}$  or 2 per cent. collected by the customs houses in behalf of the municipalities, in accordance with the provisions of Article 7 of the general custom house ordinance, and in giving cases the loading and unloading dues instituted by decree of July 1, 1898.

Under the new monetary system of Mexico, which went into operation July 15, the new Mexican peso is henceforth to be the fixed standard of currency, and the value of all foreign coins must be expressed in equivalents of the same. In quoting the values of foreign coins the following arbit-

rary signs have been adopted for expressing the units of such legal currency: \$, signifies standard Mexican peso; \$, American dollar; £, British pound sterling; Frs., French francs; Ms., German marks; P. Spanish peseta; Ks., Austrian crowns.

The foregoing signs are obligatory in all business transactions. The phrase "peso oro," which formerly signified an American dollar must not be used to designate that coin, but instead of it the word "dollar." Exchange formerly quoted at—per cent of the value of the Mexican silver peso must now be expressed in decimal parts of the value of the new Mexican standard peso. Whenever the standard value of a foreign coin is less than that of the Mexican, 3 points decimal will be used in expressing the value in Mexican currency, and on the contrary 4 points decimal may be used.

#### CANADIAN PREFERENTIAL TARIFF.

United States Consul Swalm, writing from Southampton, England, sends his government a suggestive report concerning Canada's preferential tariff, clipped from the financial supplement of the London Times. It says: "Canada has imposed a retaliatory surtax of  $33\frac{1}{3}$  per cent. upon imports from Germany and preferential rates of  $33\frac{1}{3}$  per cent. in favor of Great Britain and its colonies. All the rest of the world has to pay regular rates." Continuing, the consul writes:

Of Canada's imports 42 per cent. enter free of duty. As it is only upon dutiable goods that the surtax, regular and preferential rates, can be laid, a consideration of these is called for. Of these the United States furnished about 40 per cent. in 1893 and a little more than 50 per cent. in 1904, while the share of Great Britain fell off from 45 per cent. in 1893 to a little more than 30 per cent. in 1904. It is interesting to note that since 1897, the last year before preferential rates were established, England's share has remained practically the same. In other words, the rapid decline in its exports to Canada, indicated by 45 per cent. in 1893 and by 30 per cent. in 1897, was checked. All other countries show a slight gain from between 10 and 15 to 20 per cent. Thus preferential rules have partially done that for which they were established—helped Great Britain and its colonies.

Discussing the contest for Canadian trade, the London Times, in a recent issue, said:

The fight for the markets of Canada is between Great Britain and the United States, with preferential rates favoring the former, natural conditions, particularly geographical proximity with a 3,000-mile boundary line with all that that means, favoring the latter. Only exceptional ability, superiority of goods, etc., can succeed in wresting from the United States any of the trade gained.

It is not on dutiable goods alone, however, that a just comparison is to be made. Great Britain is handicapped in many lines by natural conditions. Living animals, fish, breadstuffs, provisions, coffee, tea, sugar, molasses, vegetables, baking powder, green, ripe, and dried fruits, nuts, grease, plants, trees, seeds, fertilizers, petroleum, paraffine, fish oils, turpentine, marble, slate, coal, grasses, wooden ware of all kinds are not in the list of goods in

which Great Britain is ever likely to be able to compete with the United States and others. This list, says the Times, is too short rather than too long. What remains is distinctly competitive; and in these Great Britain has more than 30 per cent. Last year its share was 41.73 per cent. Eliminating the articles enumerated above as non-competitive, from the British point of view, and the two rivals will be found running neck and neck from about \$30,000,000 each, in 1900, to points between \$40,000,000 and \$50,000,000 in 1904.

Digging down into the details of the trade tables, one finds the two great rivals, Great Britain and the United States, occupying the positions indicated by 30 and 50 per cent., respectively. In some lines the Mother Country has been manifestly favored. These are in manufactures of wool, cotton, linen, flax, leather, glass, carpets, curtains, cordage, jams, confectionery, gun-powder, and earthenware. If Canada's importations in these lines are picked out, the showing is decidedly in favor of Great Britain. In these lines it advanced 131 per cent. in the years 1897-1904, while the increase for the United States in these lines was only 52 per cent. The increase in actual value of these imports from Great Britain, says the Times, was about seven times that of corresponding imports from the United States. Put in the form of figures, Great Britain's share in Canada's imports in the lines enumerated, viz., manufactures of wool, cotton, linen, flax, leather, glass, etc., advanced from \$12,000,000 in 1895 to about \$24,000,000 in 1904, while the share of the United States increased from \$3,000,000 to a little more than \$5,000,000.

The above only partly covers the field. In other lines, where the preferential rates were expected to do great things, they failed. In silks, gloves, mitts, perfumery, brass and copper goods, in electrical, optical, mathematical, photographic and musical instruments, clocks, paints, colors, varnishes, aerated and mineral waters the failure is certain. In these lines Great Britain either was not willing or able to take advantage of the opportunities offered by preferential rates. The Times thinks the failure is based upon Great Britain allowing foreigners to surpass it in the novelty of designs, efficiency of construction, economy of manufacture, and selling enterprise. In these last-named lines, silks, gloves, mitts, etc., the United States advanced from a little less than \$1,500,000 in 1895 to \$5,000,000 in 1904, while Great Britain fluctuated around \$2,500,000.

#### NEW ZEALAND INTERNATIONAL EXHIBITION

Mr. G. S. Munroe, the executive commissioner, has favored us with an official circular having reference to the New Zealand International Exhibition, which is to be held at Christchurch, Canterbury, New Zealand, during the months of November and December, 1906, and January, February, March and the early part of April, 1907. The government of New Zealand has decided to hold this exhibition at the time and place indicated, in which all the nations of the world have been invited to participate, the object being educational; and it is intended to demonstrate the resources and possibilities of the colony as one of the world's food producing factors, its vast mineral

resources, and to direct attention to its varied scenery, thermal wonders, etc., and to bring under the notice of the more industrial nations the great field that New Zealand offers as an outlet for enterprise and for the use and consumption of all manner of up-to-date appliances, manufactures, etc. Such an exhibition should command the attention and support of Canada as well as other manufacturing countries; and, if taken advantage of by Canadian manufacturers, cannot but accomplish satisfactory results. New Zealand, being essentially a producing country, not, however, of manufacturers, offers a splendid outlet for the manufactures of other countries which pay more attention to the development of their manufacturing industries, and whose industrial conditions and facilities are better adapted to the promotion of them.

The value of the imports of merchandise into New Zealand last year, about 75 per cent. of which was for manufactured goods, amounted to \$66,460,000, of which the receipt from Canada amounted to about \$565,000. When it is considered that this large expenditure on imports was required for the use and consumption of a colony with a population of 850,000 persons, it can be readily understood what a fine opportunity there is for our manufacturers, for exploiting this rich harvest field. The sparsity of the population provides an exceptional market for all labor-saving machinery in every department of agricultural, pastoral and domestic life.

Applications for space should be addressed to the Agent-General for New Zealand, Westminster Chambers, 13 Victoria Street, London, E.C., England, or to the Secretary, New Zealand International Exhibition, Christchurch, N.Z.

#### DUTY ON WHITE LEAD.

The Canadian government has made known to the paint manufacturers of Canada that their requests with regard to the increased tariff on imports of dry white lead have been granted, and that all white lead coming into Canada up to September 15 next will come in at the old tariff of 5 per cent., provided it was ordered previous to July 6, the date on which the new tariff of 30 per cent. was established.

The new tariff was made in response to an appeal from the recently organized Carter White Lead Co who are about to manufacture in Montreal. Representatives of this company approached the government and pointed out that there were no manufacturers of white lead in Canada, and that provided they could have a sufficiently protective tariff they would set up a manufactory in Montreal. Consequently, on July 6, an order in council was issued raising the tariff from 5 to 30 per cent.

Paint manufacturers, when this increase became known, were much perturbed. Many of them had large shipments of lead on the way, and the increase in the tariff meant a serious expenditure of money. The manufacturers impressed this upon the government, but at first without avail. Finally the minister of finance agreed to accept such shipments as had been ordered previous to the date of the increase, provided the said shipments had also been sold here previous to that date.

This made the situation but very little better for many of the manufacturers who had purchased for their own use, and overtures were again made to the government, with the result that a few days ago the announcement was made that the stipulation respecting the selling of the lead would be removed and that all shipments ordered before July 6 would come at the old rate of 5 per cent. This will mean the saving of many dollars to the paint people.

The imports of dry white and red lead, orange mineral, and zinc white for the year ending June 30, 1904, were upward of 17,000,000 pounds, valued at \$666,365. Of this amount there was imported from the United States 7,617,000 pounds, Germany 5,173,000 pounds, and the United Kingdom 3,494,000 pounds.

The increase of duty on white lead will naturally affect the importations into Canada of paints, which amounted during the year ended June 30, 1904, to 9,338,446 pounds, valued at \$451,481, of which amount 6,278,492 pounds, valued at \$290,130, came from the United States.

#### THE VALUE OF ADVERTISING.

A lecture upon publicity as an aid to industry was recently delivered at the annual dinner of the Manufacturers' Advertising Club, Cleveland, Ohio, by Mr. Arthur Warren, manager of the Allis-Chalmers Co.'s advertising department, who created a considerable stir by his candid remarks upon technical and commercial journalism. Mr. Warren remarked that a department of publicity is a trade scout. It goes out in advance, a long way in advance, of the army of salesmen, and stirs up the possibilities of business. Publicity brings business. Manufacturers who do not buy publicity as liberally as they buy other selling facilities will some day have to take their places at the rear of the procession. The manufacturer who does not provide a publicity department of his own, small or large, and push it and develop it as he does any other branch of his business, is neglecting a great and profitable opportunity. "Everybody, once in a while, is curious," he proceeded, "regarding 'follow-up systems.' I am trying to invent one. It is not perfect, but it has its good points. I have never known a perfect system, whether of 'following-up' or of anything else. No system, whether it be of business, of government, or philosophy, is better than the men who work it. Most 'follow-up systems' are too complicated; they entail too much clerical labor. A 'follow-up system' that produces results without complexity is a good trade-getter. But it must be adapted to the special needs of a business. The reason so many systems break down is because they are imitations of what other people do. No system is effective without brains behind it. You must not only 'follow up' your public, but you must follow up your system." Further advice of the lecturer's was: "Don't take a narrow view of publicity. Don't swamp productive work with clerical work. A general in command cannot fire the guns, cannot count the ammunition used in battle, and cannot tabulate the list of slain and of wounded—on the other side. Ad-

vertising, whether direct or indirect, must be done generously if it is to bring results. The chief thing is to let the world know who you are, where you are, and what you are doing, and you cannot do this on a large scale by stopping to take a census every time you fire a volley." Mr. Warren concluded. "I am a believer in direct advertising as well as in indirect; in the mailing list as well as in the best trade journals. Each does what the other cannot do. Each is essential."

#### EDITORIAL NOTES.

At the Montreal banquet of the Canadian Manufacturers' Association expressions regarding Canadian trade arrangements with other countries were indulged in by prominent gentlemen, including Sir Wilfred Laurier, Premier of Canada, and Hon. G. W. Ross, who, at the time, was Premier of Ontario. Sir Wilfred Laurier said:—

I cannot see that a uniform tariff is desirable for the British Empire. Differences in civilization and climate make it impossible. What I believe is possible is that we can have between the Motherland and the colonies treaties of commerce, if I may so speak, and the expression is not too strong or extravagant, whereby we can sit down and by mutual concessions, by giving and granting to one side and the other, develop the trade of Great Britain and the colonies to the advantage of all.

Hon. Mr. Ross said:—

Do not let me be misunderstood as opposing preferential trade. I believe in it with all my heart, and yet I do not wish to place Canada in such a relation to the Mother Country that by any treaty or obligation we would sacrifice one iota of that principle of self-government so dear to us or enter into any relation by a commercial treaty that would imperil our own interest and the good relations that have for so many years prevailed between Canada and the British Empire.

During the year 1903 not one American ship entered or cleared from a single port in Germany, Russia, Sweden, Norway, Denmark, Austria-Hungary, Greece, or the Netherlands. The United States have the largest navigable coast line of any nation. They have the largest export trade and relatively the smallest merchant marine. Last year that country paid in freights to ocean-going ships \$200,000,000, and carried only 7 per cent. of this in American ships, the balance going to foreigners, or \$186,000,000 in gold going out of the country in one year for that item alone. In 1821 the United States carried 88 per cent. of their own foreign commerce. In 1903 they carried 7 per cent. And yet during that period the total volume of American commerce had increased twenty fold.

At the celebration of the fiftieth anniversary of the opening of the first Sault canal Vice-President Fairbanks of the United States said:—

We cordially welcome our friends from Canada to share in this celebration. The event we commemorate is of mutual interest to the people of the two countries. There, side by side, are the great locks, one constructed by the United States and the other by the Dominion of Canada. Through them passes interchangeably the com-

merce of the two countries. Here they will stand in close fellowship for centuries to come. We trust that they will always be symbolical of cordial relations and neighborly regard of the two peoples, through whose veins flows the blood of a common ancestry. We owe allegiance to different institutions. Above us are different flags, emblems of the mightiest powers upon this earth. We have no sense of rivalry except in those ways which make for a higher and better civilization. There are no fortifications along our common frontier; no battleships upon the waters which divide us. Those are not needed now, and we trust that, in God's providence, they shall never be required. We are the respectors of each other's institutions, of each other's laws, of each other's rights. We are bound to each other by strong social ties and sentiments of mutual respect. The national policies of the United States and Canada may not be in accord. If they be not, it will be due to no unfriendliness of purpose, but to that sense of duty which each primarily owes to its own.

Following the lead of the American Bankers' Association, the Canadian Bankers' Association will endeavor to recover the money order business of Canada, which is now almost entirely done by different express companies and the Dominion Post Office Department. This action will end the practice of banks charging 15 cents on a cheque whether it was for \$3 or \$50, and any amount under \$5 will, according to the new rates agreed on, be put through for a charge of 3 cents; from \$5 to \$10 for a charge of 6 cents; from \$10 to \$20 for 10 cents; and from \$20 to \$50 for 15 cents.

A Melbourne despatch states that the antagonism between Australia and Canada has been rapidly developing during the last few months. During a recent acrimonious debate in the Australian House of Representatives Sir William Lyne, Minister of Trade and Commerce, referring to his reassessment of the value of Canadian harvesters, caused a sensation by producing a letter from the Dominion customs refusing to allow Canadian officers to make inquiries enabling the Commonwealth to ascertain for purposes of taxation the real value of articles sent from Canada to Australia.

It is understood that the Dominion Government has decided to change the fiscal year to end with March instead of June, as at present. This will not only be more satisfactory as regards trade and financial returns, but will permit Parliament to meet at an earlier date. The intention after the next session is to summon Parliament in November, and the department reports will be ready by that time. If the fiscal year ended with June this would not be the case.

The Dominion Government has appropriated \$15,000 for making experiments with the electric process of smelting ores and manufacturing steel at Sault Ste. Marie, and the Consolidated Lake Superior Power Co. will furnish a building and dynamo capable of supplying 400 electric horse power for four months free of charge. All kinds of

ores will be experimented with, and important results are expected to be obtained.

Great possibilities for Canada underlie the inauguration of a cheaper process for manufacturing pig iron and steel than is now in use. Ontario is dotted with ore bodies, the development of which is at present prevented by lack of cheap fuel. There is coal in the eastern and western parts of Canada, but the cost of conveying it to points where coke is needed for smelting purposes is prohibitive. On the other hand, there are a great many water powers throughout the provinces of Ontario and Quebec where electricity can be developed and utilized. If the electric system proves to be commercially feasible Canada is looking for the inflow of a large amount of capital and considerable mining development.

"If I had a bright boy whom I wished to see get along in the world and make a lot of money," said an engineer, "I would enter him in the new profession of automobile engineering. He should begin as a chauffeur—not to be a light-headed speed rivaler and law breaker, but that he might learn to operate a machine well; that he might learn how to operate all sorts of machines. Then he should enter a factory and learn how to make them. Possessed of this knowledge I would have him serve a term on the road as salesman, introducing the machines. After that it would be his business to find a good location and set up for himself as dealer and agent. It is the coming business and there will be a lot of money made in it by men who know how."

A remarkable expansion in the trade of Toronto is shown by the customs returns for the fiscal year. That city, in fact, is responsible for more than the entire increase in the customs returns of the Dominion, for while for the fiscal year the Dominion increase is \$1,025,961, Toronto comes to the front with figures greater by \$1,409,133.22 than those of 1904. June, it is true, showed a slight decrease, both in the Dominion and the Toronto returns, but this was the only decrease noted in the year. The total duty collected at Toronto for the month of June, 1905, was \$745,274.89, as against \$750,322.97 for June, 1904, a decrease of \$5,048.08. The total duty collected for the fiscal year ending June 30, 1905, was \$9,594,392.06, compared with \$8,185,258.84 for the year 1904, an increase of \$1,409,133.22. The total number of entries taken at Toronto during the fiscal year 1905 was 134,661, as against 124,149 for the year 1904, an increase of 10,512. The bank clearings at Toronto for June amounted to \$82,863,625, an increase of \$10,746,149, over June, 1904. For the half year the clearings were \$502,424,003, as against \$380,074,042 for the six months of 1904, an increase of \$122,349,961. Canada's customs revenue shows a decrease of \$12,216 for the month of June, but for the twelve months there was a gain of \$1,025,961. The following are details for the two periods: June—1904-05, \$3,709,656; 1903-04, \$3,721,873; decrease, \$12,216. Year—1904-05, \$4,534,873; 1903-04, \$40,508,912; increase \$1,025,961.



## MACHINERY AND ENGINEERING.

### NAGEL SUCTION GAS PRODUCERS.

Suction gas producer plants are being more and more introduced with great success in this country on account of their simple working and great economy in running and maintaining expenses. They are used in connection with a gas engine for developing power for all kinds of industries and shops.

Such a suction gas producer, as is shown in the cut, is working successfully in the

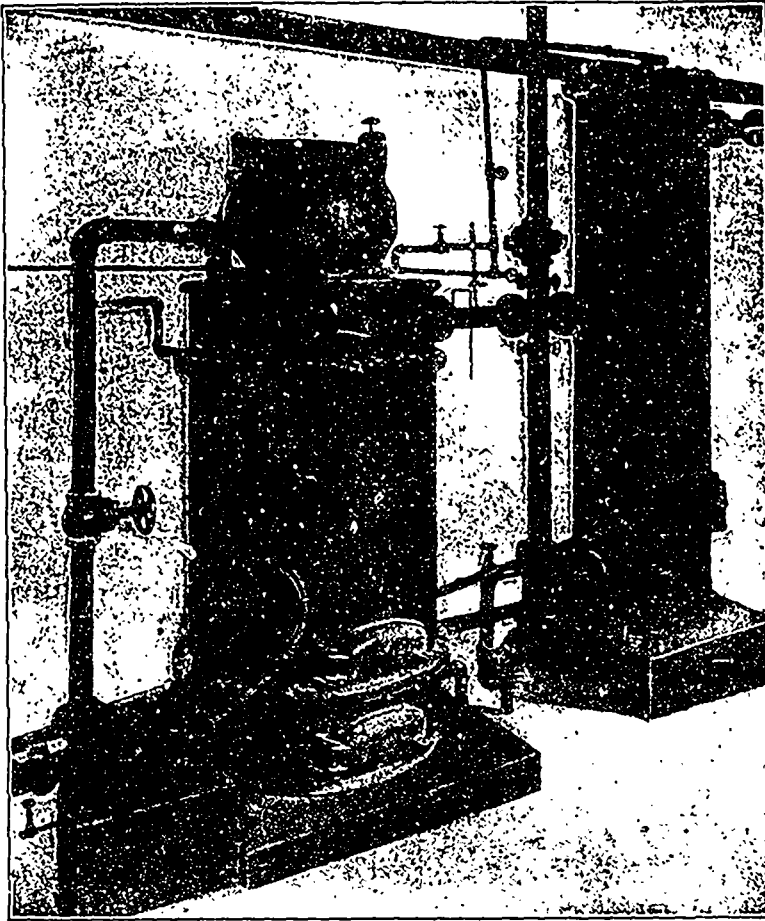
in a water-jacket and saturated with steam, and this saturated mixture of steam and air is drawn through the fuel whereby the producer gas is generated. From the producer the gas goes through the scrubber which is filled with coke, and where it is freed from dust and tar by means of water. From the scrubber the gas goes through the equalizer which is a simple iron drum, to the engine. This plant is provided with a hopper

which is sufficiently large so as to contain fuel for the whole working-day, so that no refilling of coal is required during the working-hours. After shutting down over night the lower door is kept somewhat open and also the valve leading to the flue so as to keep up a little draft and maintain the fire. In the morning before starting up, the fire is cleaned from the ashes and the hopper filled with coal, and then the fire is blown hot for about ten to fifteen minutes by means of a hand blower until the gas is burning well at the test cock, and then the engine is started as usual.

During the working day the plant does not require any attention except cleaning the grate once or twice a day.

A similar plant of the same make is working at the elevator of the Stockbridge Elevator Co., Stockbridge, Mich., and is working successfully, on the changing load. This plant used, until a short time ago, a gasoline engine for developing its power, and has now installed this producer which works very satisfactorily on the engine after the compression in the latter has been increased sufficiently. The saving in both of these plants is such, that the first cost of the plant is recovered by the saving in less than one year.

Further information regarding this apparatus may be had by applying to Dr. Oskar Nagel, 90 Wall Street, New York City.



NAGEL SUCTION GAS PRODUCER.

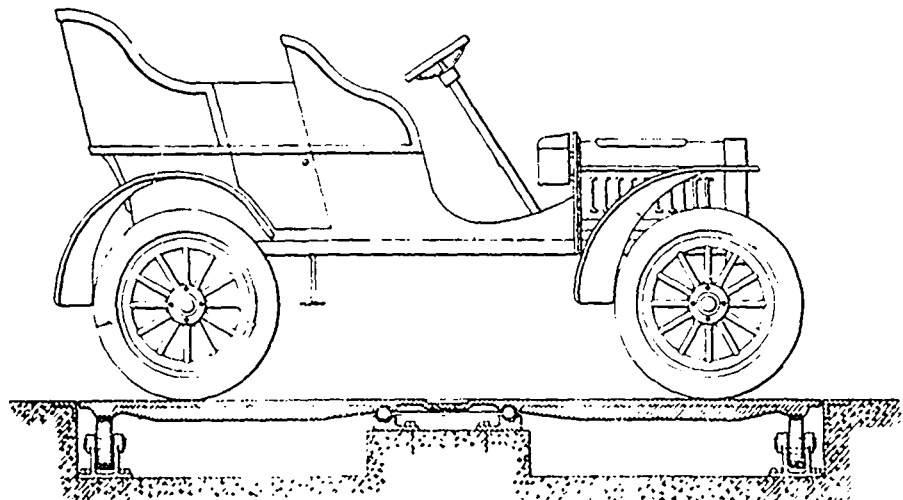
machine shop of the F. W. Horstmann Co., East Newark, N.J. This shop, which was using before illuminating gas, in connection with a gas engine, is using now a gas producer. The plant which was built by Dr. Oskar Nagel, of New York City, is working according to the guarantee given with the plant, that is, the development of one h.p. hour from  $1\frac{1}{2}$  pounds of anthracite (pea) on full load,  $1\frac{1}{4}$  pounds on  $\frac{3}{4}$  load, and  $1\frac{1}{2}$  pounds on  $\frac{1}{2}$  load.

The plant has a capacity of 20 h.p. and consists of a hand blower, producer with evaporator on top of same and a scrubber which is shown on the cut. The over-flow water-pot which belongs to the plant is in the pit between the producer and the scrubber and a small equalizing tank is connected on the floor below to the engine so as to connect the scrubber with the engine.

By the sucking action of the engine the air is drawn over the surface of hot water

### AUTOMATIC AUTOMOBILE TURN-TABLE.

Those who have to do with automobiles in garages and factories will be interested in a turntable, that facilitates the handling of the cars and overcomes the present unsatisfactory way of maneuvering by hand. The device, shown by the illustration, is manufactured by the Link-Belt Engineering Co., Philadelphia, Pa., and is specially designed for easy operation. It consists of a cast-iron table fitted at its centre with ball bearings and supported at the outer edge upon rollers. The latter are set in a concrete pit, having a centre pier upon which the ball-race is securely fastened. The wall of the pit is protected by an iron ring, or curb, which effectually prevents mutilation



AUTOMATIC AUTOMOBILE TURN-TABLE.

Manufactured by the Link-Belt Engineering Co., of Philadelphia, Pa.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

of the concrete edge. The shallow depth of the drained pit makes the expense of excavating and cementing small, while the diameter of the turntable is ample for a wheel base of 96 inches. Level surface connection is maintained with the surrounding floor, when the turntable revolves or is at rest. A brake is furnished and is depressed or let into the floor and top of turntable, ensuring freedom from obstruction, and providing a rigid fastening when the turntable is not in use. Hand holes with flush-top lids are also provided. The construction of the turntable and its recess is a protection against fire that may result from dropped oil or waste becoming ignited, an element of danger where wooden turntables are used. Washing of the machines is quickly accomplished without the usual annoyance of such work.

#### THE CANADIAN CASUALTY AND BOILER INSURANCE CO.

Much deserved attention has been drawn toward the Canadian Casualty and Boiler Insurance Co., Toronto, on account of the rapid increase in the business which they are doing. We watched with much interest their work of organization, which extends from Halifax to Victoria, and we commend the management on their broad policy of extension, and the same generous liberality of organization shows itself in their policy contracts. There is an agreeable lack of ambiguity in their policies which makes these contracts easily understood. That they appeal to the public is attested to by the fact of the rapidity of their sale. We learn that over four millions of insurance has been written by the company during the first six months of the current year—a very creditable showing, indeed, made only possible by hard and vigilant work. The business methods of the company are commendable and, if we may use the



R. ALEX. SUTHERLAND,  
President The Canadian Casualty and Boiler  
Insurance Co.

term, courageous. There is a thoroughness about them that is refreshing, and nothing is left to chance in their engineering department. A company who enjoy the confidence of the best manufacturers, managers of public and

private steam plant, municipal and corporation power plants, etc., could never have merited it but for the absolutely hard and thorough work done, and a vigilance on behalf of clients, which at all times is carefully guarded. Their office records are most complete. Every detail about a steam plant is noted, down to each rivet and bolt. They know to a reasonable certainty the condition and possible requirement of every steam plant, elevator or sprinkler system under their care.

This company not only conducts a consulting engineering business together with property insurance, which includes boiler, sprinkler and elevator insurance, but they also conduct a large personal accident and health business. Regarding this department we quote the words of a contemporary. "The accident and sickness policies of the Canadian Casualty and Boiler Insurance Co are sellers. They are greatly in demand at their agencies in all parts of Canada. The



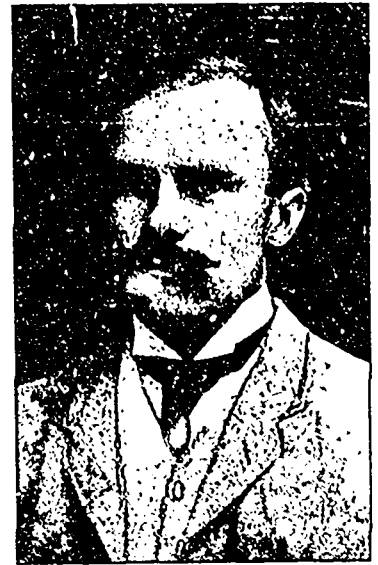
Mr. A. G. C. DINNICK,  
Managing Director The Canadian Casualty and  
Boiler Insurance Co

contracts are concise, clean and without ambiguity and practically without a condition. They take first rank amongst the best contracts selling in Canada to-day."

Mr. A. G. C. Dinnick, the managing director of the company, is a gentleman who, as a worker, pays vigilant attention to the business, which at all times characterizes the atmosphere of the head office, and to this fact, and to the further fact that Mr. Dinnick is surrounded with a corps of loyal agents the company's success is due.

Associated with Mr. Dinnick on the head office staff are gentlemen possessing the same tireless energy. The secretary, Mr. W. T. Miller is an able energetic and uniformly courteous gentleman, who inspires enthusiasm for his company. The chief engineer, Mr. A. M. Wickens, has under him a staff of inspectors, all trained and expert engineers, who are constantly at the service of clients.

The general officers of the company, all well known business men in Toronto, are Alexander Sutherland, president; H. M. Bate, director of Bank of Ottawa, and W. S. Dinnick, vice-president of Standard Loan



Mr. W. T. MILLER,  
Secretary The Canadian Casualty and Boiler  
Insurance Co.

Co., are vice-presidents, and H. R. Greene, J. A. Kammerer and A. G. C. Dinnick, directors.

#### MINING COAL UNDER RIVERS

At the request of rival coal companies the United States government has begun suit for injunction against the Bessemer Coal & Coke Co., a Pennsylvania corporation, that is threatening to take the fine coking coal from under the bed of the Monongahela river near Pittsburg. The government contends that it is the owner of the mineral, which the coal company is about to take.

The real point at issue is as to the title to the valuable coal and other minerals under the beds of navigable waters. The coal companies would like to have the courts decide that the title rests in the riparian owners. Then they could drive their headings under the river to the middle of the streams if they owned the land on only one side of the stream and clear across if they owned it on both sides.

The question is one involving millions of dollars. The Monongahela, Alleghany and Ohio rivers flow over beds of the finest steam-making and coking coal in the world. There is no question but that the coal underlying the Monongahela for a distance of 125 miles south of Pittsburg, is worth on an average \$2,000 an acre. There are at least 40,000 acres, or \$8,000,000 worth under that stream. The coal under the Ohio is almost as good as that under the Monongahela.

The question of title has been in dispute for a long time. Several years ago, a coal company applied to Congress for the privilege of taking coal from under the river bed, but Congress refused to act upon the bill introduced for the purpose of granting the permission. The company regarded the failure to act as a refusal and acted accordingly.

The Bessemer Co. have gone ahead with preparations to take out the coal. They claim that so long as they do not damage the river as a navigable stream they have the right to do whatsoever they please with the coal adjoining the property they control.



## 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.

The Bruce copper mines have been purchased by the Lancaster Syndicate, of London, England, who have formed the Copper Mine & Smelter Co., with a capital of \$1,000,000.

The Canadian Pacific Railway Co. will build a depot at Port Arthur, Ont., to cost about \$32,000.

The Benedictine Sisters will erect a hospital at Fort Francis, Ont., to cost about \$30,000.

The Liberal Club, of London, Ont., will erect a club house there at an early date.

The Ontario Northern Temagami Railway Co. have begun the construction of their line at Sturgeon Falls, Ont. The company hold a charter for the construction of a railway northerly from Sturgeon Falls, through the rich valley of the Sturgeon River to the south-west arm of Lake Temagami and southerly from Sturgeon Falls to the mouth of the French River or Byng Inlet.

Guelph, Ont., is to have a new armory to cost about \$130,000.

The drying tower of the B. Greening Wire Co.'s works, Hamilton, Ont., was destroyed by fire August 3. Loss about \$1,200.

A discovery of cobalt has been made near Massy, Ont. The formation is the same as in the Temiskaming cobalt fields.

Negotiations are pending for the purchase on behalf of the Citizens' Bank, in course of organization, for property in Toronto, for the erection of an office building.

A by-law has been passed in St. Mary's, Ont. granting \$15,000 for the extension of the waterworks and electric light system.

The Assessment Commissioner, Toronto, has been in communication with a large textile firm in Great Britain, who desire to erect a large factory in Toronto employing about 500 hands.

The London Machine Tool Co., London, Ont., will erect a factory in Hamilton, Ont.

It is reported that the Ontario Government will extend the Temiskaming railway as far as James Bay.

The four story elevator and warehouse belonging to the Brant Milling Co., Brantford, Ont., was destroyed by fire, August 6. Loss about \$8,000.

The Fairbanks-Morse Mfg. Co., Toronto, will erect a large factory for the manufacture of gasoline engines, motors and other machinery.

An immense flow of natural gas has been struck near Port Colborne, Ont. Messrs. Carter & Smith are the owners of gas and oil leases which they are developing by putting down new wells.

The Caroline Street school, Hamilton, Ont., was damaged by fire to the extent of about \$5,000.

The Lehigh Portland Cement Co., Allentown, Pa., have purchased 10,000 acres of

limestone and clay lands lying east of the Belleville Portland Cement plant, Belleville, Ont., and will commence shortly to make clearings and erect storehouses, machine shops and dwellings preparatory to erecting a plant next spring of 1,000 barrels per day capacity.

Toronto Street Railway Co.'s earnings for July show the same steady increase as previous months. The total earnings for last month reached \$239,870.11, against \$211,755.72, an excess of \$28,114.69. During the last month the company carried about six million passengers not counting transfers. The company paid to the city, \$18,491.40 for mileage allowance for the three months ending June 30, last.

The Lake Superior Corporation, Sault Ste. Marie, Ont., will erect a large coke plant in connection with the steel rail mill. Development work will be pushed on Bessemer properties in Canada, with a view to supplying Canadian ore for the steel rail mill.

The Home Bank of Canada will erect a four-story bank and office building in Toronto to cost about \$15,000.

Contracts have been awarded for a \$100,000 addition to the Homewood sanitarium in Guelph, Ont.

The Canadian Pacific Railway Co. will construct new stations along the line of the Guelph & Goderich, Ont., railway. At Guelph and Goderich fine new stations will be built at a cost of about \$45,000 each. At Elmira, Blyth and Milverton the stations will cost \$8,000, and Monkton, Millbank, Wessenburg, Wollington, Lanwood, Walton and Auburn will get \$6,000 depots. The work of laying the rails will start shortly, as the grading is almost complete.

The Imperial Steel & Wire Co., Collingwood, Ont., will erect additions to their factory to cost about \$100,000. The building will consist of a fence mill, 200x60 feet, two stories, galvanizing building, 250x40 feet, and warehouse, 200x100 feet. The additional machines to be installed will consist of a 250 h.p. water tube boiler and a compound condensing engine of 150 h.p., to drive a 100 k.w. generator. This generator will be used to drive the nail mill, with 40 tons daily capacity; wire fence mill, with 10 tons daily capacity, and galvanizing plant, 10 tons per daily capacity. The company will install the very latest devices in motors and silent chain drive in the transmission of their power and the operation of machines.

The park commissioners of Niagara Falls, Ont., will build a dam out into the Niagara river just below the intake, which will raise the water in the basin about fifteen inches. The dam will be built of concrete.

The Consumers' Gas Co., Toronto, will build a retort house, at a cost of about \$50,000.

The Colborne creamery and butter factory, Colborne, Ont., was destroyed by fire, August 7. Loss about \$3,500.

It is stated that the Samtoll Co., of Buffalo, N.Y., will erect a factory in Toronto, to cost about \$5,000, to manufacture dental supplies.

Fuller Claffin, the New York architect, who has been given the contract for the remodeling of the Grand Opera House, Hamilton, Ont., has given the plumbing work to R. H. Walker & Co., Elmira, N.Y., on the ground it is said, that the local plumbers' combine demanded exorbitant prices.

The barrel factory of Henry Edlison, Niagara-on-the-Lake, Ont., was destroyed by fire, August 6.

Messrs. King Bros., Whitby, Ont., will build extensive additions to their tanneries at that place.

The Keystone Sugar Co. will erect a factory at Whitby, Ont.

The new Ontario Ores Reduction Co. have been incorporated with a capital of \$500,000. A. C. Garde is one of the directors. The company will prospect for, develop, operate and manage gold, silver, copper, iron and other mines, also to amalgamate and treat the ores extracted therefrom, and will establish a large plant and propose to begin with machinery permitting an output of 160 tons per day. Four towns are being considered for headquarters: Toronto, North Bay, Cobalt and Sudbury.

Work has been commenced on the extension of the Toronto and York Radial Railway from Long Branch to Oakville, Ont.

The Department of Railways, Ottawa, have awarded the International Cement Co., of that place the contract for 400 barrels of cement for the Trent canal.

The Credit Clearing House, Limited, Ottawa, has been incorporated with a capital of \$100,000 to carry on a general mercantile agency. The charter members include J. A. Ritchie, Ottawa; J. W. Campbell, New York City, and H. A. Wheeler, Chicago, Ill.

The Dominion Automobile Co., Toronto, have been incorporated with a capital of \$100,000, to manufacture automobiles, motor boats, etc. The charter members include A. H. Beaton, C. L. Wilson, and John McArthur, Toronto.

The Dominion Novelty Mfg. Co. Toronto, have been incorporated with a capital of \$50,000, to manufacture hose supporters, suspender buckles, etc. The provisional directors include C. E. Cooke, J. R. Douglas, and C. H. Wilson, Toronto.

The Toronto Lithographing Co., Toronto, have increased their capital stock from the sum of \$195,000 to \$500,000.

The Canadian Vacuum Cleaner Co. have received a license to do business in Ontario. George Kerr Toronto, has been appointed attorney.

The Stewart Co., Limited, Toronto, have been incorporated with a capital of \$100,000, to manufacture chocolates, confectionery, etc. The provisional directors include L. J. Applegath, A. J. Stewart, and W. N. Ferguson, Toronto.

The George Taylor Hardware Co., New Liskeard, Ont., have been incorporated with a capital of \$40,000 to manufacture hardware, etc. The provisional directors include George Taylor, W. A. P. Taylor, New Liskeard, Ont., and G. E. Taylor, London, Ont.

The Toronto Ferry Co., Toronto, have been incorporated with a capital of \$600,000, to carry on a steamboat and excursion business in all its branches. The provisional directors include H. S. Osler, W. B. Raymond, and D. L. McCarthy, Toronto.

The London Pressed Stone & Concrete Co., London, Ont., have been incorporated with a capital of \$40,000, to manufacture cement blocks, and bricks, etc. The provisional directors include J. C. Judd, H. F. Whetter and T. C. Knott, London, Ont.

The Grand Trunk Pacific Railway Co. are considering the erection of a large hotel in Ottawa.

The Federal Life Assurance Co., Hamilton, Ont., will shortly commence the erection of a large eight story office building in that city. Messrs. Finlay & Spence, Montreal, are the architects.

The S. B. Chandler Dental Depot, Limited, Toronto, will increase their capital from \$40,000, to \$300,000.

Natural gas has been struck on the Gosney farm near Hamilton, Ont., and it is probable that a company will be organized to develop same.

The Pembroke, Ont., Waterworks & Lighting Co. have purchased the water power of the Waltham Co., on the Black River, and will utilize same for the waterworks and lighting systems of Pembroke, Ont.

Messrs. Green Bros.' grain elevator at Harrow, Ont., was destroyed by fire, August 11.

Messrs. Ault Bros., Limited, Aultsville, Ont., have been incorporated with a capital of \$40,000, to acquire the business of I. R. Ault & Sons, and to manufacture flour, merchandise, etc. The provisional directors include C. S. Ault, A. E. Ault, Aultsville, and A. W. Ault, Ottawa.

The Windsor & Cobalt Mining Co., Windsor, Ont., have been incorporated with a capital of \$150,000, to carry on a mining, milling and reduction business. The provisional directors include John Scott, Windsor; J. S. Austin and J. W. Kerr, Maidstone, Ont.

The Jamaica Commercial Co., Toronto, have been incorporated with a capital of \$200,000, to develop lands, etc. The provisional directors include R. T. Shiell, G. C. Arnott and J. G. Lohrman, Toronto.

The Power & Gas Machine Co., Galt, Ont., have been incorporated with a capital of \$100,000, to manufacture gas generators, gas producers, air engines, etc. The provisional directors include W. H. Cone, Berlin, Ont.; F. E. Brown and Wm. Foster, Galt, Ont.

The D. M. Steward Mfg. Co. of Canada, Toronto, have been incorporated with a capital of \$40,000, to manufacture gas burners, electrical insulators, crayons, etc. The provisional directors include C. S. Steward, Chattanooga, Tenn.; W. H. Frazier, and S. L. Ezell, Toronto.

The Algonquin Co., Toronto, have been incorporated with a capital of \$300,000, to operate sawmills, chemical works, etc. The provisional directors include Thomas Minton, Fairlie Sinclair and William Bullock, Toronto.

The Burns Co., Oshawa, Ont., have been incorporated with a capital of \$20,000, to manufacture shoes, etc. The provisional

directors include W. J. Burns, A. W. Burns, Oshawa, and F. N. Burns, Whitby, Ont.

The Wallaceburg Brass & Iron Mfg. Co., Wallaceburg, Ont., have been incorporated with a capital of \$40,000, to manufacture brass and iron goods, etc. The provisional directors include D. A. Gordon, A. La Course and J. F. McDougall, Wallaceburg.

The Bates Mfg. Co., Limited, Toronto, have been incorporated with a capital of \$100,000, to manufacture goods, wares and merchandise. The provisional directors include Thomas Bates, R. T. Duffy, and A. G. Brown Toronto.

The Coleman & Bucke Consolidated Silver Mining Co., Ottawa, have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include W. F. Powell, J. J. Heney, Ottawa, and A. A. St. Laurent, Ottawa East.

The Sarnia Cereal Co., Sarnia, Ont., have been incorporated with a capital of \$20,000, to manufacture oatmeal, grain products, etc. The provisional directors include Peter Clark, W. H. Hill, Sarnia, and G. S. Podger, Toronto.

The Hamilton Cataract Power Co., Hamilton, Ont., will install two new generators, capable of supplying 13,000 h.p.

The Toronto-Niagara Power Co. will build lines from St. Catharines to Stoney Creek, Ont.; St. Catharines and Hamilton, Ont., and also a line to Welland, Ont.

The Climax Good Roads Machinery Co., Marathan, N.Y., manufacturers of structural steel road machinery, are considering the establishment of a factory at Peterborough, Ont.

The Consolidated Hardware Co., of which Mr. F. E. Robson, Toronto, is interested, will open an establishment in Hamilton, Ont., for the manufacture of hardware, etc.

The Plymouth Cordage Co., of Boston, Mass., have optioned 173 acres of land in Welland, Ont., and they will erect a plant there to cost \$1,000,000, and will give employment to 500 men.

W. E. Channel's knitting factory at St. Catharines, Ont., was destroyed by fire, August 13. Loss about \$6,000.

The construction of the Canadian Coal & Ore Dock Co.'s large dock at Port Arthur, Ont., is being rapidly pushed, and the immense proportions of the structure are now becoming apparent. Four pile drivers are being used on the work, and the crib will be started in a few days. Two dredges are engaged driving a channel from deep water to the dock. F. R. McQueen, of the firm of Barnett & McQueen, who have the contract for the work, states that the dock will be ready to receive coal by November 1.

The Maple Leaf Flour Mill Co. have commenced work on their 2,000 barrel mill at Keewatin, Ont.

Permits have been issued to the Polson Iron Works Co., Toronto, for the erection of a concrete office building to cost \$7,000; and to the Pintsch Gas Compressing Co., for the erection of a concrete and iron compressing building to cost \$10,000.

The R. McKie Buggy Co., Plattsville, Ont., will not remove their plant to Hamilton, Ont., as previously reported.

A company is being formed at Hamilton, Ont., for the establishment of a large garage warehouse in that city, and also in Montreal and Ottawa.

The Northern Land & Lumber Co.'s boiler and engine house at Port Arthur, Ont., was destroyed by fire, August 15.

The Dominion Natural Gas Co. will extend their system to Galt, Ont.

The Militia Department at Ottawa will erect a fort at Kingston, Ont., for the protection of the lower entrance of the Great Lakes.

Messrs. W. B. Burrill & Co., Brantford, Ont., are considering the erection of a factory at Fort William, Ont.

Mr. Charles A. Matcham, manager of the Lehigh Portland Cement Co., Allentown, Pa., accompanied by Mr. Alfred W. Thorn, representative of the Lehigh Portland Cement Co. for the Dominion of Canada, was in Belleville, Ont., a few days ago, and closed the purchase of about 1,000 acres of limestone and clay lands preparatory to the erection of what will be one of the largest single cement plants in the world, namely, to have a capacity of 4,000 barrels per day. Canada is to be congratulated on the event. The Lehigh brand of Portland cement is one of the best known brands in Canada, and the Lehigh Portland Cement Co. will make cement in Canada of the same high excellence and standard that it is making in the United States. They hope to be turning out cement at their Canadian plant some time next summer. With the erection of this plant, Canada will possess as large a mill as can possibly be erected, and as large as the largest in the world. To contractors and consumers the entry of the Lehigh Portland Cement Co. into Canada means a great deal, as it is the desire of the company to supply the Canadian market with that well known brand to the fullest extent called for. Dealers and contractors wishing prices for the Lehigh cement should address the Thorn Cement Co., Buffalo, N.Y., the Canadian distributors. Until the completion of the Canadian plant the Lehigh cement will be supplied from the Lehigh Portland Cement Co.'s present several large mills at Allentown, Pa., where they manufacture some 9,000 barrels per day.

Experiments in electric smelting, which are to be conducted at Sault Ste. Marie, Ont. will be commenced in about two months. Mr. Herault, of La Praz, France, inventor of the Herault system of smelting by electricity, leaves for America, shortly, and will come to Canada to give the government the benefit of his advice. Investigations so far made into the electric system of smelting, and the valuable report published on the subject under the auspices of the Canadian government have attracted world wide interest, and no less than 2,500 commendatory letters from all quarters of the habitable globe have been received by Dr. Haanel, Superintendent of Mines.

The ratepayers of Kincardine, Ont., will vote on a by-law to raise \$3,000 for addition to the public school building of that town.

The fire and water committee, Seaford, Ont., will repair the fire alarm system and make extensions.

A new Methodist church is being erected in Berlin, Ont., at a cost of \$30,000.

J. C. Saulnier, Brockville, Ont., will erect a hat factory there, and will install a 15 h.p. engine and other machinery.

J. S. R. McCann and others are interested in the erection of a summer hotel at Kingston, Ont., at a cost of \$100,000.

The Goderich Elevator & Transit Co. will build a large elevator at Goderich, Ont.

Messrs. L. B. Lacharme and Patrick Kennedy, Ottawa, have been awarded the contract for the construction of the breakwater at St. Peter's harbor, Prince Edward Island, at a cost of \$12,000.

V. R. Darroch, St. Thomas, Ont., has prepared plans for a three story cement warehouse building, 75x40 feet, for Joseph Griffin.

The Candian Tunnel Co. and the Michigan Tunnel Co., the two companies chartered to build the tunnel under the Detroit river, have amalgamated at Windsor, Ont., under the name of the Detroit River Tunnel Co., with a nominal capital of \$3,000,000, as the work will cost \$10,000,000.

The Lake Superior Corporation at Sault Ste. Marie, Ont., are now considering the re-opening of the sulphite mill.

The Peterborough Cereal Co., Peterborough, Ont., are preparing plans for the erection of a large grain elevator to have a capacity of 70,000 bushels.

The Montreal Engine Works, Montreal, were damaged by fire August 15. Loss about \$3,000.

The Western Canada Milling Co., Montreal, have contracted with James Stewart, of Pittsburg, Pa., for six large buildings of a flouring plant that will cost about \$600,000. The flouring mill proper will have a capacity of 5,000 barrels of flour a day and the grain elevator will have a capacity of 1,000,000 bushels. All of the buildings will be of concrete and steel and will be fireproof. About 3,000 tons of steel will be required for the buildings.

The Universal Nut Machine Co., Montreal, have been incorporated with a capital of \$200,000, to manufacture nuts, washers, etc. The charter members include Alexander Hendrey, Montreal; H. L. Dinning, Lachine, Que.; and Charles Ralph, Longueuil, Que.

The premises of the Starke Hardware Co., Montreal, were destroyed by fire August 6. Loss about \$150,000.

The Labelle Chemical Products Co., Labelle, Que., have secured from the provincial government 6,500 acres of timber lands on the shores of Lake Labelle, and will commence the erection of extensive works for the production of wood alcohol, acetic acid, tar, etc.

The Robert Simpson Co., Toronto, will erect a large departmental store in Montreal.

The wholesale warehouse of Kearney Bros., Montreal, was damaged by fire August 7, to the extent of about \$10,000.

The storehouse of the Lake of the Woods Milling Co. Montreal, was destroyed by fire August 8. Loss about \$170,000.

The Canadian Pacific Railway Co. are having two new vessels built in Scotland for the St. Lawrence route, which will be in commission by the spring of 1906. They will register 14,000 tons each and have a speed of eighteen knots.

The foundry of Eusebe Picard, Montreal was destroyed by fire August 7.

The Montreal Copper Co., Montreal, have sent off a large shipment of copper to China to be used for the new coinage system.

The Canadian Pacific Railway Co., Montreal, will build a large number of grain cars, also ten passenger coaches and thirty cabooses.

The net profits of the Canadian Pacific Railway Co. for the year ending June 30, were \$1,502,932, against \$1,449,911 for the previous twelve months.

The Grand Trunk Railway Co. are building a 40-stall round house at Turcot, Que.

Lessard's hotel at Thetford Mines, Que., was destroyed by fire, August 9. Loss about \$5,000.

The Sovereign Bank of Canada have completed the erection of their new ten story banking and office building at Montreal.

The Colonial Importing Liquor Co., Montreal, have been incorporated with a capital of \$10,000, to manufacture spirits, wines, etc. The provisional directors include Amedee Sabourin, Honore Cantin and Gelas Goulet, Hawkesbury, Ont.

A fire hall will be erected in Montreal at a cost of \$13,000.

The ratepayers of Hull, Que., have voted favorably on a by-law to raise \$45,000 for improvements to the Hull waterworks system.

Messrs. Marion & Marion, patent attorneys, Montreal and Washington, D.C., have obtained the following Canadian patents, recently—Thomas Hill, Joggin Mines, N.S., cheese cutter; Thos. F. Van Luven, Collin's Bay, Ont., vehicle bearing; E. A. Manny, Beauharnois, Que., canal lock; James Drain, Peterborough, Ont., filing case; G. S. Fogarty, Montreal, neck-tie holder; Philias Belle, Plymouth Union, Vt., process for making pasted leather stock; Eugene Gareau, Montreal, spring heel for shoes; Messrs. Thomson & Despond, Toronto, wrench; John Crozier, Ste. Agathe (Lotbiniere), Que., railway rail chain; Casimir Daudelin, Montreal, apparatus for use in cleaning buildings; G. S. Cushing, St. John, N.B., process of making wood pulp; Henry Schippling, Tavistock, Ont., dumping wagon; Messrs. Brown & McKie, Grand Forks, B.C., slag bowl; R. M. Beal, Lindsay, Ont., process of manufacturing moccasins; H. W. Dorken, Montreal, skates; E. J. Jarman, Lachine Locks, Que., saw; Joseph Metivier, St. Roch de Quebec, Que., improvements in boots, and J. J. Timmons, Quebec, Que., beverages.

Messrs. J. C. Dumaresq & Sons, architects, Halifax, N.S., are preparing plans for a banking and office building for the Royal Bank of Canada to be erected at Antigonish, N.S.

A cable will be laid from Basque to Canso, N.S., a distance of 200 miles. For further particulars apply to Premier of Newfoundland, St. John's, Nfld.

The Robb Engineering Co., Amherst, N.S., are building two 200 h.p. Robb-Mumford boilers for the Cumberland Railway & Coal Co., Springhill, N.S.

The timber lands of Robinson & Wright, Shulce, N.S., have been destroyed by fire. Loss about \$20,000.

M. B. Vail's laundry building and plant, St. John's, Nfld., was destroyed by fire recently. Loss about \$25,000.

A. J. McDonald, Antigonish, N.S., will erect a large office building in that city.

The Cape Breton Coal, Iron & Railroad Co., Halifax, N.S., are negotiating with the Cape Breton Railroad Co. for the acquisition of their road from Hawkesbury to St. Peters, N.S.

Messrs. C. J. Silliker, E. E. Silliker, G. A. Fowler and J. N. Page, of Amherst, N.S., have acquired 10,000 acres of timber lands situated in the Grand Lake and Renfrew Districts, of Halifax and Hants counties, N.S. The Intercolonial Railway runs through the property, which contains several sawmills, and the company already have a large number of men at work.

The Dominion Iron & Steel Co., Sydney, N.S., have ordered a 130 h.p. Robb-Mumford boiler from the Robb Engineering Co., Amherst, N.S.

Dr Sinclair, Halifax, N.S., will select a site for the new hospital to be built by the government at Beech Hill, N.S.

The Aberdeen sawmill at Fredericton, N.B., owned by Messrs. Donald Fraser & Sons, was destroyed by fire August 11. Loss about \$200,000. They will rebuild.

Messrs. Lemont & Sons, Limited, Fredericton, N.B., have been incorporated with a capital of \$24,000, to acquire the business of Lemont & Sons, and to manufacture crockery, glassware, silverware, etc. The provisional directors include Wm. Lemont, J. M. Lemont, L. A. W. Lemont, Fredericton.

A public hospital and hall will be built at Campbellton, N.B., to cost about \$8,000.

It is reported that the development of the water power at Grand Falls, N.B., and the establishment there of new industries will entail an expenditure of \$10,000,000. The plans contemplate the harnessing of the water power at Grand Falls, which will give a minimum of about 60,000 h.p. and a maximum of about 300,000 h.p. Large deposits of bog or wad iron have been discovered throughout the province and it is the intention of the promoters to establish at Grand Falls, works for treating the ore electrically and so manufacture ferro-manganese. The company also contemplate the supplying of Grand Falls and other towns along the St. John River with electric energy for lighting and power purposes. They will acquire the International Railway between Campbellton and Grand Falls, and operate the road by electricity. They will erect a pulp mill and paper mills with a capacity of 600 to 800 tons a day. For further particulars apply to Attorney-General Pugsley, Grand Falls.

The Phoenix Foundry Co., St. John, N.B., have been awarded the contract for the building of two steel scows, 100 feet long, 22 feet wide, and 8 feet deep, for the Federal government.

T. H. Crean was recently in St. John, N.B., in connection with establishing a Canadian factory for the manufacture of Remington typewriters, etc.

The Nebedega Mineral Springs Co., Apohaqui, N.B., have been incorporated with a capital of \$90,000, to manufacture mineral and other waters, and to acquire the mineral springs at Apohaqui. The provisional directors include A. I. Trueman, T. F. White, St. John, and G. B. Jones, Apohaqui.

The Anchor Cereal Co., Winnipeg, Man. have been incorporated with a capital of \$150,000, to manufacture cereals, etc. The provisional directors include F. E. Hatch, Winnipeg, Man.; A. J. Leitch, and Malcolm Leitch, Oak Lake, Man.

Building permits issued in Winnipeg, Man., aggregate \$8,125,000, which is greatly in excess of last year.

A syndicate composed of Canadian and American capitalists will develop the water power on the Assiniboine river at Brandon, Man. It is the intention to erect a large power house and plant at Currie's Landing.

The directors of the Treherne Agricultural Society, Treherne, Man., will erect a permanent building for exhibition purposes.

The Red River Valley Brick Co., Winnipeg, Man., will establish a plant there for the manufacture of white and red brick, pottery and drain pipes.

The Canadian Pacific Railway Co. will build a subway under Rachel Street, Winnipeg, Man.

E. Boyce, Winnipeg, Man., will erect a carriage factory, five stories, 65x50 feet.

The Canada Malting Co., Winnipeg, Man., will erect a large plant there.

The Canadian Northern Railroad Co. will erect a hotel in Winnipeg, Man., which will be 350x150 feet, three stories high. A depot and train shed will also be built. The entire work will cost over \$1,000,000.

The Scott Furniture Co., Winnipeg, Man., will rebuild their factory.

The Brandon, Devil's Lake & Southern Railway Co. have been formed to build a line from Devil's Lake, N.D., to Brandon, Man. The incorporators include C. J. Murphy, D. L. Flynn, and R. J. Pursell.

At the convention of the League of Canadian Municipalities held in Winnipeg, Man., recently, a petition was drawn up asking the Dominion Government to operate long distance telephone lines throughout the Dominion.

The Bailey Supply Co., Winnipeg, Man., have been incorporated with a capital of \$30,000, to manufacture lubricating oils, greases, paints, etc. The provisional directors include J. E. Bailey, J. A. Bailey and Samuel Brown, Winnipeg.

The Napinka Building Association, Napinka, Man., have been incorporated with a capital of \$15,000, to erect music and entertainment halls, buildings, etc. The provisional directors include Joseph Anderson, D. N. Lee and F. W. James, Napinka.

The Kirkwood Iron & Steel Rolling Mill Co., Winnipeg, Man., have completed their building and will shortly commence the manufacture of bar iron from scrap wrought iron, also steel billets for rails. The capacity of the building is about 50 tons daily.

The McLaughlin Carriage Co., Oshawa, Ont., will erect a five story brick addition to their branch in Winnipeg, Man.

W. A. Elliott, architect, Brandon, Man., is preparing plans for the erection of a large banking and office building at Napinka, Man.

The Grand Trunk Pacific Railway Co. are receiving bids for the construction of 275 miles of the main line of their road extending west from Portage la Prairie, Man.

Two new grain elevators will be erected at Wetaskiwin, Alta., shortly, one will be erected by the Alberta Pacific Elevator Co., and the other by the Western Milling Co.

The Griswold Milling Co. are commencing the erection of a 50,000 bushel elevator at Griswold, Man.

Messrs. Wm. Gray & Sons, carriage manufacturers, Chatham, Ont., will erect a branch factory in Winnipeg, Man.

The Trees, Spriggs Co., manufacturers of harness and saddlery, are erecting a new five story block in Winnipeg, Man., at a cost of \$40,000.

The Confederation Life Assurance Co. will erect a large brick block in Winnipeg, Man.

Messrs. Jas. Stewart & Co., Chicago, Ill., have been awarded the contract for the erection of the mills, warehouses and elevator at St. Boniface, Man., for the Western Elevator Co.

C. P. Walker and other capitalists have purchased a site in Winnipeg, Man., upon which they will erect a large theatre.

The Sons of England Society will erect a large convalescents' home in Winnipeg, Man. W. B. Lait, of that city, is the architect.

At a recent meeting of the Winnipeg city council, the following improvements were decided upon: -Asphalting streets, \$356,758; sewers, \$56,471; granolithic walks, \$25,388; plank walks and block pavements, \$7,000. For further particulars address H. N. Ruttan, Winnipeg city engineer.

J. N. Nixon, Winnipeg, Man., has patented an automatic switch for use on street railways. This new switch will do away with the necessity of the motorman getting off the car at points where there is no switchman, and will allow the car to run along the right track merely by the motorman putting his foot on a bolt in the front vestibule of the car. This bolt connects with a rod which slides into a groove, opening the switch sufficiently to allow the flange of the wheel to pass in. There is a spring attachment which replaces the bolt to its proper place after use.

The ratepayers of Hartney, Man., have voted favorably on a by-law granting \$3,000 for the erection of a new fire hall, and \$10,000 for building a new town hall.

The Griswold Milling Co. will erect a 60,000 bushel elevator at Griswold, Man.

The Canadian Northern Railway Co. will build a new station at Fort Saskatchewan, N.W.T.

The Alberta Railroad & Irrigation Co. have acquired the following lines. The Alberta Railroad & Coal Co., 66 miles, the St. Mary's River, 19 miles, and a Cardston branch of 48 miles. The entire line will be improved and extended.

A great flow of gas has been struck on the Fields Egg Lake Oil Co.'s property, Edmonton, Alberta.

The Wells Land & Cattle Co., Davidson, Assa., will build an elevator, to have a capacity of 30,000 bushels.

Hall, McNabb & Co., Winnipeg, Man., will erect an elevator at Red Deer, Assa., at a cost of about \$40,000.

The Municipal Water & Light Co., Frank, Alberta, will install a water system at Pincher Creek, Alberta.

The Canadian Northern Railway Co. will build a branch from Levoix, N.W.T., to a point twelve miles east of Vegreville.

Messrs. Adams Bros. will erect a large business block in Moosomin, N.W.T.

It is stated that the Great Northern Railway Co. are endeavoring to secure permission from the Dominion Government to run up into Alberta and Saskatchewan.

The Lethbridge Iron Works, Lethbridge, N.W.T., will increase the capacity of their plant.

Messrs. Frost & Wood, of Smith's Lake, Ont., will erect a large warehouse at Edmonton, N.W.T.

Mr. Wm. Lyall, of P. Lyall & Sons, contractors, Montreal, has purchased a site in Winnipeg, Man., upon which he will erect a ten-story hotel, costing \$750,000.

The Sutton Lumber & Trading Co. will erect a large saw mill at Clayoquot, on the western coast of Vancouver Island, B.C.

A large factory to manufacture machine machinery will be erected at Vancouver, B.C. by J. P. Smith, of Colorado.

The Great Northern Railway Co. will construct a depot at Fernie, B.C., to replace the one burned recently.

The Blue Riboon Tea Co. will erect a factory in Vancouver, B.C., at a cost of \$26,000.

The Three Star Wine Co., Vancouver, B.C. have been incorporated with a capital of \$10,000, to manufacture wines, liquors, tobacco, etc.

The Marvel Gold Mining Co., Belinghams, Washington, have been licensed to carry on a mining business in British Columbia, with a capital of \$15,000. D. G. Marshall, Vancouver, B.C., is interested.

The Record Foundry Co., St. John, N.B. will establish a branch foundry in Vancouver, B.C.

The Chilliwack Water Supply Co. have been incorporated at Victoria, B.C., with a capital of \$50,000.

The British Columbia Government has received revenue to the amount exceeding \$400,000 from timber for the year ending June 30, 1905.

The ratepayers of St. Boniface, Man., have voted favorably on a by-law granting the Western Canada Flour Mills Co. exemption from taxation, and the company will erect a plant which will consist of a 4,000 barrel mill, a 500,000 bushel storage elevator and a 70,000 barrel storage warehouse. Terms for the construction of the mill, warehouse and elevator are being invited and the work will proceed immediately. In addition to this the company will erect a long line of elevators at country points.

The Canadian Pacific Railway Co. are desirous of purchasing the Bellingham Bay British Columbia Railroad.

The Grand Hotel, Nelson, B.C., was destroyed by fire, August 9. Loss about \$50,000.

A guano and oil factory will be erected at Ladysmith, B.C., by Capt. F. D. Walker.

The Miners' Union, Phoenix, B.C. will erect an opera house, 100x45 feet, to cost about \$10,000.

It is stated that a tunnel will be bored into the Harley mountain at Grand Forks, B.C., to extract ore, to cost about \$75,000.

The hardware store of J. N. Hodson, Grand Forks, B.C., was destroyed by fire recently. Loss about \$5,000.

Acting upon the recommendation of Dr. Haanel, Superintendent of Mines, the Minister of the Interior, Hon. Frank Oliver, has decided to have an expert investigation made into the character and extent of zinc deposits of British Columbia. It is not yet known who the expert to have charge of the investigation will be, but the thorough manner in which the inquiry into the system of electric smelting in Europe was carried on by Dr. Haanel is a guarantee that the highest talent will be employed. The points to be determined by the expert are briefly as follows:— (1) Examination of the present development of mines and approximate determination of tonnage of ore immediately available; occurrence and character of the ore and future prospects, together with cost of mining; (2) examination of present methods of milling; (3) investigation of adaptability of the ores to the new methods, concentrates, magnetic, electrostatic, and so forth; (4) study of conditions affecting marketing of concentrates, including question of smelting in provinces or elsewhere in Canada; (5) investigation of the possibility of utilization of zinc ore with silver content.

The town council of Chilliwack, B.C., is considering the installation of a waterworks system.

Messrs. Swift & Co., Chicago, Ill., will erect a \$20,000 plant at Vancouver, B.C.

The British Columbia Wire & Nail Co., Vancouver, B.C., have purchased 20 nail machines and a drawing bench, also a machine shop outfit and a staple machine. They are now erecting large factory buildings which will have a capacity for turning out 10 to 20 tons of nails per day.

A report from Slocan, B.C., gives details of two strikes of rich mineral in the dry ore belt back of that town. On the Hampton group, situated at the head of Springer Creek, and owned by N. F. McNaught, a foot of sulphide ore has been uncovered, giving returns of 3,000 ounces in silver per ton. On the Ottawa, on the same creek, the main ore chute has been struck in the No. 5 drift, and three feet of mineral exposed, one foot of it carrying much argentite assays, 2,000 ounces silver while the balance is second-class stuff.

The Ladysmith Lumber Co., Ladysmith, B.C., will make extensive alterations to their sawmills. The mills will be moved from Fiddick's and re-erected about four miles from Ladysmith. Orders have been placed for a large new boiler and a quantity of new machinery, which will be installed at the mills.

The Britannia Copper Syndicate, Vancouver, B.C., have increased their capital from \$625,000, to \$937,500.

The Dominion Copper Co., Phoenix, B.C., who recently acquired the mines and smelter of the Montreal and Boston Consolidated Co. will resume operations shortly.

The Revelstoke sawmills, Revelstoke, B.C., which were recently destroyed by fire, will be rebuilt at once.

Dr. A. S. Munro and others in North Vancouver, B.C., have purchased a site in that

city upon which they will erect a large sanitarium.

The Department of Public Works, Ottawa, have granted \$3,000 towards the erection of a wharf at Mission City, B.C.

## ELECTRICITY.

Electrical machinery and appliances of all kinds, electrical power plants and other progress in the electrical industries will be noted here.

The Electrical Magazine, London, describes a series of experiments for destroying insects injurious to the products of the soil, which experiments are said to have been successful. An engineer at Monaco was the first one to have his attention called to it while he worked with an electric machine in the open air. He observed that metal rods, which were put into the ground and were then connected with a dynamo of 110 volts, made insects in the vicinity leave their hiding places in the ground. He argued that electricity might therefore be used on a large scale to kill these insects, which all came in great haste to the surface. An apparatus is mentioned, invented by a Russian, for killing injurious insects by electricity. A dynamo is so placed upon a hand car that no electricity is engendered while the car is standing still. When in motion the current passes into the ground through the iron wheels of the car upon one side, and upon the other through the points of brushes of copper wire, which are fastened in the rear of the car so as to be a few inches above the ground. The result is said to be that all insects in the vicinity of the copper brushes are killed as if by lightning.

The Bell Telephone Co., of Canada, is one of the large manufacturing concerns of the country and is one of the largest employers of Canadian labor. Practically everything that goes into the construction of a modern telephone system is produced in the factories owned and controlled by the company. The prices charged by the company are fixed by competition with the largest electrical concerns on the continent. That the prices are reasonable and the articles of the highest merit is demonstrated by the fact that nearly fifty per cent. of the output of these factories is sold to other Canadian consumers in competition with producers in the United States and Europe. At the present time the company's factories are being doubled in size and capacity to keep pace with the demand.

In our last issue mention was made of the fact that a big exhibition of electrical machinery and appliances will be held in Germany next year immediately after Easter. A typographical error located the exhibition at Kieff, when it should have read Kiel. Kieff is a town in Russia, while Kiel is the name of a German city.

The town council of Newmarket, Ont., are considering the installation of an electric lighting plant.

As soon as the Niagara Falls power is turned on, the construction of the electric road will be commenced. This line will run from Niagara to Toronto, and will cost about \$2,750,000.

The Grand Valley Electric Railway Co. have received permission to enter Galt, Ont.

The work of constructing the half-mile of road from the town boundary to the tracks of Galt, Preston and Hespeler street railway, over which the new road has secured running powers, will be begun at once.

The plant of the Wahnapiatae Power Co., at Wahnapiatae, Ont., is about completed. The company have expended \$100,000 in buildings and plant, and propose to develop 5,000 h.p. They will supply the town of Sudbury with power to operate its electric light and waterworks system.

A syndicate composed of Canadian and American capitalists intend developing the water power on the Assiniboine at Brandon, Man. The intention is to erect a large power house and plant at Currie's Landing.

The Bell Telephone Co. are looking for a site in Brantford, Ont., upon which to erect their new building, which is to cost \$40,000.

The Bell Telephone Co. are constructing a long distance line from Elm Creek to Wawanessa, Man.

The Moosejaw Telephone Co., Moosejaw, N.W.T., will build a long distance line to Buffalo Lake.

Vernon, B.C., will borrow \$12,000 for improvements to the electric lighting plant.

Allis-Chalmers-Bullock, Montreal, have received the contract for the electrical machinery for the Nelson power plant.

## TIME-RECORDING CAMERA.

To ascertain the exact speed at which motor cars are travelling is often a question of great importance to the general public, who suffer by reckless motoring, and of equal importance to conscientious and careful motorists, who wish to obey whatever the law on the subject may be. A new time-recording camera has just been patented in England.

If the police wish to know the speed at which a motor car is travelling, two of the time-recording cameras referred to can be placed at each end of a "trap," the distance between the points where the cameras are located having been accurately measured. The plan is for the cameras to take actual photographs of a car, including the people on the car, as it passes the selected spots, recording the time of taking to the fraction of a second. This gives the speed and means of identification of car and occupants. If the watch be synchronized, the decision arrived at must be accepted by all parties as accurate. It is proposed, the Motorear Journal states, that when a driver is summoned for exceeding the speed limit, he be furnished with the photographs of the car entering and leaving the "trap" and the time records, and be given an opportunity before appearing in court to measure the length of the trap and calculate from this data the time actually taken in traversing the distance and from this the rate of speed. The Motorear Journal's description in part is as follows:

With this camera it is possible to take a photograph of any rapidly moving object passing any given point, the shutter speeds giving a range of exposures from one-twenty-fifth of a second to one-thousandth of a second. At the same time and with the same movement a photograph is taken of a watch, thus giving the exact time. A special case is provided



for the watch, and in an opening above the latter a card is inserted giving the date, which can be signed by the officer responsible for the time test. Underneath the dial is a numbering apparatus, and each watch case bears a registered number before it is sold. The case is so made that after the official has placed the watch in the case it can be sealed (not locked) up, and it is impossible for the person in charge of the same to tamper with the watch without breaking and destroying the seal. The camera thus makes a record that can be produced in court, and if carefully stored can be referred to and reproduced months afterwards.

## FUEL.

For names of fuel dealers see "Coal and Coke" in Classified Index.

The fuel supply question is a most important one to Canadian manufacturers. The information published in this department will keep the readers posted on sources of production.

Cincinnati coal men are interested in the agitation of the manufacturers in the province of Ontario for the abolition of the duty on the American coal. Said W. C. Rogers, manager of the Fairmont Coal Co.: "We ship to Canada during favorable periods, but the stiff tariff has a depressing effect, and if it would be abolished a much larger market for American coal would be developed in Canada. The winters are pretty severe, and there would be a heavier demand for American fuel if the tariff were cut off. Ohio operators now enjoy a very large part of the Canadian business, because they are conveniently situated to ship their material."

Tests of a new hydraulic mining machine are being made in one of the collieries of the Dominion Coal Co. The machine contains a row of telescopic pistons at one end, and a small pump at the other. After the coal is undercut the machine is operated parallel with and near the roof. The action of the pump forces water along a tube, where it comes in contact with the pistons. There it penetrates the coal seam in a downward direction, and as pressure increases the coal begins to fall to the floor. The use of the machine does away with explosives, and in addition to being economical in operation, is said to produce the coal with the least possible breakage.

Excessive competition has caused utter demoralization in the prices of bituminous coal in the middle West and West, in the United States, and to add to the discomfort, the markets in those sections are glutted. It is admitted that the trade is in very bad shape, prices having gone to pieces on practically every grade of coal sold in that part of the country, except smokeless, which is firm. Even anthracite is selling below the prices quoted in the circulars. In both Indiana and Illinois coal the market is said to be quite the worst ever known, as it is impossible to tell what the prices are. Lump, egg and run of mine are selling from 20 per cent. to 40 per cent. under the cost of production; the condition is a ruinous one, and unless the market changes and hardens a good deal the producing companies that have no orders on hand or contracts to fill would be in better shape if they closed until the situation brightens.

One trouble is that production has taken a remarkable jump and there is congestion at several points. The tonnage of coal at Chicago is unusually large and there are thousands of cars loaded on the tracks, while the mines are unusually prolific in their output, and are sending the product out all the time. Those who have coal are advised to wait, if they can, until middle fall or winter, when there will be a shortage of cars. It is expected that prices will be much better then.

According to the official report, the coke production of the United States for 1904 amounted to 23,621,520 tons, valued at \$46,026,183, in the manufacture of which 36,468,270 tons of coal were used.

The Dominion Coal Co., Glace Bay, N.S., have ordered 150 pressed steel cars for hauling coal.

## THE COAL RESOURCES OF BRITISH COLUMBIA.

The latent wealth British Columbia possesses in its enormous coal resources, says the Colonist, should suggest to those who doubt that the industrial future of the province will prove to be important, the big coal potentialities of the "mineral province" of the Dominion. Seven years ago, the late Dr. Geo. M. Dawson wrote of the Crow's Nest Pass coal field: "It is already manifest that we have here one of the most remarkable coal basins known." Since then the Crow's Nest Pass Coal Co. have extensively prospected the coal measures in their part of that large field, and although, owing chiefly to their market having been limited, they have produced only about 3,000,000 tons of coal, that they have full confidence in the future productiveness of their coal mines is evidenced by the comparatively large expenditures they have made and continue to make, as market conditions warrant larger outlay on development and equipment. At one colliery alone—and they own and are operating three collieries—they are now putting in plant and appliances for maintaining a daily output of 4,000 tons, with provision for an eventual enlargement to 8,000 tons per diem. And yet the coal measures of the Crow's Nest Pass have thus far been but little explored, for north, south and east of the Crow's Nest Pass Coal Co.'s block of 250,000 acres of coal lands, there are known to be extensive portions of the field untouched and awaiting development.

Then there is the large area of coal-bearing country in the Similkameen and Nicola districts, shortly to be provided with railway transportation facilities, which will be but preliminary to an industrial advance in this section of the province. Coming farther west, the Coast coal fields, from which about 19,000,000 tons of coal have been taken, and which contain the best quality of coal on the Pacific Coast, are easily equal to a production of between one million and two million tons a year, and add to the big asset the province possesses in this connection. Of other known occurrences of coal—on Queen Charlotte Islands, in the Bulkley valley, in the Peace River section, and elsewhere in the province—little is yet known, other than that some of these give promise of proving productive to an important degree.

This brief summary of the coal resources by no means does them justice, yet it will serve

to indicate the existence of good grounds for belief that later they will prove a basis of industry that will raise British Columbia high in the scale of industrial importance on the Pacific Coast. The effect of the development of great coal resources has been strikingly demonstrated in the United States. In 1850, with a population of 23,191,576 persons, 6,445,681 tons of coal were mined, the production per capita having been 0.278 tons. In 1903, with an estimated population of 81,000,000, the production was 357,356,416 tons, or 4.4 tons per capita. The rate of progress during recent years has been very much more rapid than earlier, for in the ten years between 1894 and 1904 the coal output of that country was more than doubled. The magnitude of the coal mining industry is not generally recognized. Six hundred thousand men and boys are now employed in the coal mining industry of the United States. The yearly value of the coal they handle is, at the pit's mouth, about \$520,000,000. Measured at the price at which it ultimately reaches the retailer, the value would be more than \$2,000,000,000. Such an enormous value staggers those who attempt to realize what it means. Of course, British Columbia's coal industry cannot be expected for generations to attain to anything like the importance of that of the United States, yet there certainly does exist in this province the basis for an industry almost beyond present conception, and one of which the present generation is but laying the foundations.

The induced draft equipment, which is to be installed for the Hammermill Paper Co., Erie, Pa., by the B. F. Sturtevant Co., Boston, Mass., will consist of two large steel plate, engine-driven fans, either of which will be of sufficient capacity for carrying 75 per cent of the total boiler output, which will amount to 2,500 h.p. When combined in operation the entire load will be carried when running both fans at only two-fifths capacity. One fan, therefore, serves as a relay under all normal conditions.

## PACIFIC COAST EXCURSIONS.

During June, July, August and September the Chicago & North-Western Railway will sell from Chicago round trip excursion tickets to San Francisco, Los Angeles, Portland, Ore., (Lewis & Clark Exposition), Seattle, Victoria and Vancouver at very low rates. Correspondingly cheap fares from all points in Canada. Choice of routes, best of the service, favorable stop-over and liberal return limits. Rates, folders and full information can be obtained from B. E. Bennet, General Agent, 2 East King Street, Toronto, Ont.

The constant drop of water  
Wears away the hardest stone,  
The constant gnaw of Towser  
Masticates the toughest bone;  
The constant, cooing lover  
Carries off the blushing maid,  
And the constant advertiser  
Is the one who gets the trade.

Every penny in circulation changes hands on an average of nine times a week.

## OPPORTUNITIES.

Manufacturers and others in need of machinery, supplies, etc., of any kind are requested to consult our advertising columns, and if they cannot find just what they want, if they will send us particulars we will make their wants known free of cost, and in this way secure the attention of those who may be able to supply them. No charge for publishing what is wanted nor for giving information. When writing to enquirers kindly mention *The Canadian Manufacturer*.

The Department of Public Works, Ottawa, will call for tenders for the erection of new barracks in Toronto for the permanent corps.

Tenders will be received by the city clerk, Winnipeg, Man., until August 22, for the construction of a new police station and civic offices.

A Baptist church will be built at Reston, Man., plans for which have been prepared by Hugh McGowan, Winnipeg, Man. Seating will be required.

The Department of Public Works at Fredericton, N.B., will receive tenders for rebuilding Wilson bridge, near Wakefield, N.B.; also for rebuilding Picadilly bridge over Trout Brook, near Sussex, N.B.

Tenders will be called by the city of Winnipeg, Man., for 8,000 feet of 2½ inch fire hose, and 300 feet of chemical hose.

The Western Canada Flour Mills Co. are inviting tenders for a six story mill structure to be erected in Winnipeg, Man.

Tenders will be invited for the erection of a public school building at Essex, Ont., to cost \$6,000. Address school trustees.

C. J. Brown, city clerk, Winnipeg, Man., will receive tenders for the supply of a 500 k.w. electric generator.

The Central Canada Exhibition Association, Ottawa, will receive tenders for new buildings which will cost \$65,000.

The Grand Trunk Pacific Railway Co. will receive tenders at their Winnipeg office for the construction of the western division of their line, which will consist of 1,100 miles of prairie and 700 miles through the Rocky Mountains, at an estimated cost of \$120,000,000. Tenders for the construction of the eastern division will be called shortly.

Tenders will be received by C. J. Brown, city clerk, Winnipeg, Man., for a producer gas plant with a capacity of 2,500 continuous engine brake horse power.

J. E. Nissley, of Topeka, Kan., contemplates building a creamery at Guadalupe, Jalisco, Mexico.

R. B. Hutchinson, general manager of the Conchero mines, Ocampo, Chihuahua, Mexico, is considering increasing the capacity of his cyanide plant from 60 to 100 tons daily, and the installation of an electric power plant.

The Boston and Mexico Gold & Copper Mining Co. will build a stamp mill at their mines, near Ameca, Jalisco, Mexico. C. P. Winslow, of Boston, Mass., is president.

The Dominion government have granted \$40,000 for instruments, furniture, etc., for the astronomical observatory at Ottawa. For further particulars apply to the Department of Public Works, Ottawa.

J. J. Carment, clerk, Kamloops, B.C., will receive tenders for the erection of a new fire hall, and additional fire apparatus will also be required.

The town council of Hartney, Man., will purchase a gasoline fire engine.

E. E. Carver, Regina, N.W.T., will receive tenders for the construction of a building for the Bank of Montreal.

P. G. Keyes, secretary Department of the Interior, Ottawa, will receive tenders for the construction of waterworks and a sewerage system for Banff, N.W.T.

M. H. McLeod, chief engineer of the Canadian Northern Railway Co., Winnipeg, Man., is inviting tenders for the erection of a stone station at Edmonton, Alta., and for the construction of a ten-stall round house at the same place.

## PUBLICATIONS.

The publishers of *The Canadian Manufacturer* solicit in advance, if possible, catalogues, circulars, and other industrial publications issued by manufacturers. We wish to review such literature, and bring the principal points to the attention of our readers.

"Proceedings of the Tenth Annual Convention, National Association of Manufacturers," edited by Marshall Cushing, secretary, is issued two weeks earlier than in any previous year and contains one-half more than any similar record. The pamphlet contains the addresses, reports and discussions of the Atlanta convention of the National Association of Manufacturers, held May 16, 17 and 18. Some important committee reports were presented at that convention and the book just published becomes an interesting contribution to the literature of several subjects on which American manufacturers have been doing some hard thinking in the last two or three years.

The Chicago Pneumatic Tool Co., Fisher Bldg., Chicago, Ill., have just issued a catalogue, which covers their new pattern, type G, Franklin compressors. In the steam driven form these are arranged with duplex, compound or single steam cylinders, air cylinders being compound in the first two cases. In the belt driven form they are made with compound, duplex or single air cylinders. Description is given of details, including the discharge and inlet air valves, a section of the air cylinder, etc. The last few pages give tables of dimensions of receivers.

Kelly's Directories, Limited, 182-184 High Holborn, London, W.C., Eng., has just issued "Kelly's Customs Tariffs of the World." It is a red cloth bound book of 762 pages, each 10½ x 7 inches, and in general appearance is similar to "Kelly's Directory of Merchants, Manufacturers and Shippers of the World," except in thickness. No work can anticipate tariff modifications likely to be made over such a field, but this book is intended to meet a distinct need of the commercial and industrial world in the countries of the globe in enabling a merchant to determine at once what duty, if any, is levied in any country on any exported or imported article. There is an alphabetical index to countries, and at the commencement of each tariff a full alphabetical list of the chief items is given, showing under which number or cate-

gory any particular article is to be found. There are also tables of foreign moneys, weights and measures, with their English equivalents, at the commencement of each tariff schedule.

Messrs. A. B. Ormsby, Limited, Toronto and Winnipeg, have sent in their new catalogue, illustrating and describing the fireproof windows, doors, shutters, sky lights, etc., made by them. In the introductory mention is made of the fact that fireproof windows are practically a new idea in Canada—that previous to Toronto's great fire in April, 1904, there were very few of them in use in this city. A hollow metal window frame, glazed with wire glass is an opening that cannot be destroyed or seriously damaged by fire, which, when fitted with their fusible link, closes automatically when struck by the heat. Photographic views are given of some of the more important warehouses erected in Toronto in the ruins of the big fire, which are equipped with the Ormsby windows, etc., including seven story building of A. A. Allen & Co., front and rear; Gordon, Mackay & Co., front and rear; Wm. Jessop & Sons, front and rear; Kilgour Bros., Ames Holden & Co., Winnipeg, and many others, buildings erected under the superintendence of some of the best architects in the country. Messrs. Ormsby are manufacturers and contractors of all metal trade requirements, making special features of metal doors, windows, skylights, fire shutters, fireproof passenger and freight elevators and doors, corrugated iron cornices, metallic ceilings, bay windows, eave troughs, ventilators, gutters, conductors, slate, tile, felt and gravel roofing, etc. They will have pleasure in sending this handsome catalogue to any interested concern requesting it.

The Northern Engineering Works, Detroit, Mich., are sending out their catalogue, No. 20, which consists of 100 pages of very interesting information in reference to electric travelling cranes and electric hoists, hand power travelling cranes, locomotive and power cranes and overhead runways.

The Canadian General Electric Co., Toronto, have just issued section 4 of their supply catalogue, which contains valuable information regarding "Snap Flush and Knife Switches."

The Canadian Westinghouse Co., Hamilton, Ont., have sent us a neat booklet relating to type B. Westinghouse Integrating Wattmeters; also another folder containing valuable information on the Westinghouse multiple-alternating arc lamp system.

The report of the Canadian Geological Survey for 1904 has just been issued. It is a volume of 430 pages, finely printed and contains some ten maps or sketches, illustrating the more important branches of the work. Dr. Bell, acting director of the Survey, reviews the year's operations in a report of 38 pages. He points out that the field work extended from the Pacific to the Atlantic, and from the international boundary northward into the arctic regions. The home work of the survey was also industriously carried on during the year. Dr. Bell's own work as member of the International Committee of Geologists on the crystalline rocks of the Lake Superior region is referred to in connection with the report of the committee.

The Canadian Westinghouse Co., Hamilton, Ont., have sent us the following instruction

books:—Book No. 5047, containing instructions for the installation and use of Westinghouse multiple alternating current arc lamps; Book No. 5080, instructions for the installation and operation of Westinghouse type, 167 — A, auto-starters; Book No. 5081, instructions for operating Westinghouse portable lamp testing wattmeter; and Book No. 5082, instructions for the installation and operation of type R. motors.

The B. F. Sturtevant Co., Boston, Mass., have just issued Bulletins 73 and 76, descriptive respectively of their vertical and horizontal centre crank engines. Each type is built in a line of about twenty sizes. The horizontal type is entirely enclosed, provided with watershed partition and equipped with forced lubrication. These engines were particularly designed for the direct-connected driving of generators.

The American Society of Mechanical Engineers have sent us their twenty-sixth annual catalogue, containing names of officers, geographical list of members, etc. The publication is vest-pocket size and is a supplement to the 1905 Year Book of the society. The Toronto list of members of the society include R. W. Angus, lecturer in mechanical engineering, School of Practical Science; A. C. Larkin, manager Toronto office, Babcock & Wilcox, and G. W. Watts, assistant to general manager, Canadian General Electric Co.

The Advance Machinery Co., manufacturers of wood-working machinery, and the Wetmore patent glue heaters, Toledo, Ohio, have sent us a copy of their new catalogue, which is devoted entirely to the description of copper appliances for the glue room.

The Canadian Rubber Co., Montreal, have issued a neat catalogue dealing with the many different lines of hose manufactured by them.

### PERSONALS.

Mr. C. H. Vaughn, chief pusher of the Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio, manufacturers of wire nail machinery, chain work, contractors' and builders' plants, etc., blew into this office a few days ago like a balmy breeze on a sultry day. He had, accompanied by his wife, been realizing the pleasures of black bass fishing in Northern Ontario waters, and has all the usual yarns well committed to memory. He is now luxuriating in the breezes of Quebec, not on a business soliciting tour, of course, as he is not courting the imposition of any commercial traveller, but there is no telling what risks he might take to catch an order for machinery.

Mr. Halbert P. Gillette, M. Am. Soc. C.E., M. Am. Inst. M.E., formerly associate editor of Engineering News, and Mr. Geo. H. Gibson, A. M. Am. Inst. E.E., J. M. Am. Soc. M.E., formerly manager of Publicity for the International Steam Pump Co., manager of the advertising department of the B. F. Sturtevant Co., and editor of the Westinghouse Co.'s Publishing Department, have formed a partnership as "advertising engineers," under the name of the Geo. H. Gibson Co., with offices in the Park Row Bldg., New York city. They undertake to conduct a firm's advertising in the same manner as would a department in the firm's own offices,

and are not advertising agents in the usual sense of the term, as they receive no commissions, rendering only service and leaving the actual purchasing of space and printed matter in the clients' hands.

At the recent annual meeting of the Retail Merchants' Association of Canada, held in Toronto, the following officers were elected:—President, Rev. A. L. Geen; first vice-president, H. C. Ellis, Ottawa; second vice-president, B. W. Ziemann, Preston, Ont.; treasurer, F. C. Higgins, Toronto; secretary, E. M. Trowern. The next convention will be held in Ottawa in July next.

At the tenth annual convention of the National Association of Master Plumbers and Steamfitters of Canada, held at Winnipeg Man., recently, the following officers were elected:—A. J. Hammond, Winnipeg, president; vice-president for British Columbia J. J. Coughlan, Victoria, B.C.; for Alberta and Saskatchewan, E. J. Young, Calgary, N.W.T.

The annual meeting of the Melita-Arthur Telephone Co., Melita, Man., was held recently, and the following officers were elected: President, D. Day; vice-president, A. B. Estlin; secretary-treasurer, L. S. Menary; directors, A. Gould and D. Bell.

The Toronto branch of the Canadian Manufacturers' Association at the annual meeting a few days ago elected the following officers:—Executive committee, chairman, W. B. Tindall; vice-chairman, John Firstbrook; committee, W. H. Beatty, S. B. Brush, C. N. Candee, J. W. Cowan, P. H. Ellis, Ed. J. Freysing, S. R. Hart, A. Jephcott, J. S. King, J. S. McKinnon, R. E. Menzie, W. H. D. Miller, John Northway, A.

## TO THE VARNISH BUYER

the most serious considerations are quality, reliability and uniformity, and these qualifications are of special importance to the dealer who is trying to build up a permanent varnish trade.

Berry Brothers' label or brand may be safely relied upon as ensuring the above conditions.

Our Varnishes are the safest goods to handle and the surest and most reliable goods to use.

### BERRY BROTHERS, Limited

VARNISH MANUFACTURERS

WALKERVILLE, ONT.

Write for our 100 page illustrated catalogue. Every dealer should have a copy for reference.



S. Rogers, Frank A. Rolph. Representatives on the 1906 Toronto Exhibition Association: George Booth, R. A. Donald, Charles E. Edmonds, W. K. George, W. P. Gundy, George Heintzman, H. McGee, W. K. McNaught, T. L. Moffat, jr., H. D. Nicholls, F. B. Polson, T. A. Russell.

#### BRITISH COLUMBIA AS THE "MINERAL PROVINCE" OF CANADA.

British Columbia's claim to be regarded as the "Mineral Province" of Canada finds strong support in the comparison made annually in the report of the Minister of Mines for the province. Table X, as published in the report just issued, exhibits the "Comparative Mineral Production for 1904 of British Columbia and Other Provinces of the Dominion," and shows the value of the total production of metallic minerals and of coal and coke, as \$47,279,740. Taking first, the metallic minerals, gold, silver, copper and lead, the respective proportions are:—British Columbia, \$13,424,335; Yukon Territory, (gold only), \$10,337,000; all other parts of the Dominion, \$1,914,063; total, \$25,675,398. Adding iron and nickel, of which British Columbia nor the Yukon last year made any production, the proportion of all other parts of the Dominion is \$7,035,096, out of a total of \$30,796,431. When coal and coke are added, the proportion of other parts of the Dominion is increased much more than that of British Columbia, which has a total production of all the minerals mentioned above of \$18,377,359, as compared with that of \$18,565,381 for all parts of Canada east of the Rocky Moun-

tains. Taking together the Yukon production of \$10,337,000, and the \$18,377,359 of British Columbia, it is seen that the Pacific slope portion of the Dominion last year produced a total of \$28,714,359, as the value of metallic minerals, coal and coke, as against \$18,565,381 for the remainder of Canada. To give the other provinces their just due, however, it must be pointed out that after all the numerous non-metallic mineral products and the structural materials and clay products (these being included in the total mineral production of Canada), have been taken into account, the balance is not in favor of the Pacific slope, which has a total mineral production of \$29,314,359 as against \$31,028,806 for the remainder of the Dominion. This much, however, may be maintained, that British Columbia is distinctly in the lead in the total production of metallic minerals, with a reasonably good prospect of a proportionately larger increase from year to year than that likely to be made by the provinces east of the Rocky Mountains, while its coal and coke production promises to increase in greater proportion. Under these circumstances it would appear that in steadily increasing degree British Columbia will be, without cavil, the "Mineral Province" of Canada. —B.C. Mining Record.

Among recent contracts placed with the B. F. Sturtevant Co., Boston, Mass., for school house heating and ventilation, are those for the apparatus for the Dewitt Clinton High School, New York City, the Three Rivers High School, Three Rivers, Mich.; the Crescent High School, Louisville, Ky.; and the Plainfield High School, Plainfield, N.J.

#### POLISHED CYLINDERS.

In their admirable book, "Cylinder Oil and Cylinder Lubrication," Messrs. Wells and Scott-Taggart, both of whom are connected with the Henry Wells Oil Co., of Manchester, England, bring out a point in correction of a wide-spread misunderstanding — so wide-spread, indeed, as to include many well-known writers upon engineering subjects. We refer to the bright polish often found on the walls of steam cylinders, and so generally accepted as an evidence of effective lubrication:

"In order to satisfy themselves as to the working of an oil, most engineers open the cylinders at intervals and note the condition of the surfaces. Satisfaction is generally felt if they find the inside of the cylinder polished like silver, or if it had a bright, smooth surface, "like a mirror," as some express it.

Now, this is not by any means the condition the cylinder ought to be in if it be well lubricated. This statement may be considered a heresy by most people, but it is easily defended. Suppose an engineer found, on opening the cylinders of his engine, that bright streaks existed, he would conclude at once that the bright spots were the result of friction and insufficient oil had got to those places. This would be a perfectly natural conclusion; but, strange to say, if he found the whole surface of his cylinder polished, he would not for a moment think it was friction, rather otherwise, he would give credit to his lubricant quite ignoring the fact that a cylinder is never polished brightly until friction does it when the engine is working. It is strange that, to many minds, friction in a

# SUNBEAM

IS THE NAME OF

## THE HIGHEST GRADE INCANDESCENT LAMP ON EARTH

MADE IN CANADA BY

### THE SUNBEAM INCANDESCENT LAMP CO. OF CANADA, LIMITED

Factory—ST. CATHARINES.

Main Office—TORONTO.

P.S.—It is the high-priced lamp.

cylinder is only associated with scratches or scoring of the surface.

As a matter of fact it is very seldom friction shows itself in this way, it is almost entirely displayed in a smoothing effect, especially if the metal is good. A well-lubricated cylinder ought to present a rather dark-looking surface, smooth, but with no signs of bright polish, even if coated with oil. The slightest rubbing with a polishing rag would produce a bright surface on such a cylinder, thereby proving that the lack of a polish is due to the absence of friction.

In addition to the "oil polish" referred to above, we have the smoothing and polishing effect produced in ammonia cylinders of refrigerating machinery, the "water polish" frequently observed in marine engines, and in pump cylinders, and the "graphite polish."

The water polish seems to be a thin, hard skin formed upon all the sliding surfaces of engines where the water of condensation furnishes the only internal lubrication. This gives remarkably smooth surfaces, but is rapidly lost if the engine is allowed to stand idle, as the polish rusts very quickly, resulting in more harm than good.

The "graphite polish" is different from any of the above. In the cases mentioned before the polish is obtained by rubbing off the roughness of the grain of the metal. Graphite

polishes by filling in the grain of the metal, just as wood filler and varnish polish a surface of wood, and so this cannot, like the other, be construed as an evidence of friction.

It takes considerable time to acquire an oil or water, polish, and it soon rusts, cuts, or otherwise disappears. Not so with a surface finish supplied by flake graphite. It is easily obtained, easily maintained under all conditions, resists rust and corrosion, and is entirely unaffected by heat or moisture.

The largest economizer in the New England States has just been installed by the B. F. Sturtevant Co., Boston, Mass., for the American Woolen Co., at Maynard, Mass. It is divided into two groups, the first being used for heating feed water for the boilers and the second for furnishing hot water for dyeing purposes. Even before the installation was entirely completed, a saving of \$500 per day in coal was attained.


Every now and then meteors shoot across the sky of publicity. Campaigns are launched on a colossal scale—news-papers are filled with quarter, half or full page ads; billboards scream the story of the new product; car cards reiterate it; booklets and circulars lauding it are

lavishly mailed and distributed. For the space of a few months there is a tremendous stir and scintillation. Then the whole proposition goes out in the dark, and everyone speedily forgets it. The cause of these meteoric advertising careers lies in the failure to recognize that constancy is a jewel in advertising, and that advertising success is a matter of steady growth, not one of sudden forcing.

Finch, Pruyn & Co., Inc., Glens Falls, N.Y., are to install a heating and ventilating equipment in their paper and pulp mills, consisting of a number of Sturtevant fans, heaters, and ventilators, with a hot air distributing system. The 1,800 h.p. boiler plant will also be equipped with mechanical draft by the B. F. Sturtevant Co., Boston, Mass.


Somers loves to tell of his early experiences as a drummer. One night he had to stay over in a very small town. He confided to the woman who ran the hotel that he was very fond of butter-milk. At supper she brought in a huge jar of it, sat it on the table in front of him and said: "Go ahead and drink all you want to. We don't keep no pig."

Carefully examine into every detail of your business.



The largest steel and brass manufacturers use McCullough-Dalzell Crucibles. They prefer them because they have been proved by actual test. Send us an order.

**MCCULLOUGH-DALZELL CRUCIBLE CO., Pittsburgh, Pa.**



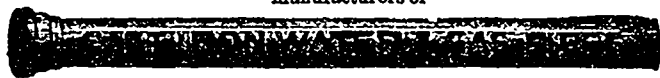
## MONTREAL PIPE FOUNDRY CO., LIMITED

SUCCESSORS TO

**DRUMMOND-McCALL PIPE FOUNDRY CO.**

(Limited)

Manufacturers of



"Specials," Hydrants, Valves, Etc.

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

**MONTREAL**

## THE JOHN McDOUGALL CALEDONIAN IRON WORKS CO., LIMITED

MONTREAL, QUE.

# Boilers, Tanks, Filters,

# MILL MACHINERY, ETC.

Builders in Canada of the Celebrated

**"WORTHINGTON" TURBINE PUMPS**

AND

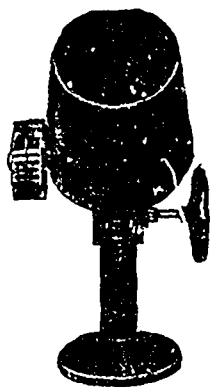
**"DOBLE" TANGENTIAL WATER WHEELS**

(THE MOST EFFICIENT WHEEL ON THE MARKET)

Catalogues on application.



When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



## IMPROVED TUMBLING BARRELS

The Globe Tilting Tumblers being CHEAPEST to operate are the CHEAPEST TO BUY.

SEND FOR CIRCULAR.  
WRITE FOR AGENCIES.  
MANUFACTURED BY

THE GLOBE MACHINE & STAMPING CO.  
977 Hamilton St., CLEVELAND, OHIO.

## English Card Clothing

FULL STOCK ON HAND

### "GENUINE OAK" Leather Belting

OUR PRICES ARE LOW

## Rubber Belting

D. K. McLAREN

751 Craig Street, . . . . . MONTREAL  
196 King Street West, . . . . . TORONTO  
21 St. Peter Street, . . . . . QUEBEC  
169 Prince William St., . . . . . ST. JOHN, N.B.



THE UNDERWOOD

## Manufacturers

Throughout CANADA have unanimously decided in favor of the VISIBLE UNDERWOOD Typewriter.

### Why?

Because the Underwood is the only successful invoicing and tabulating typewriter that has stood the test.

United Typewriter Co., Limited, - Toronto, Canada



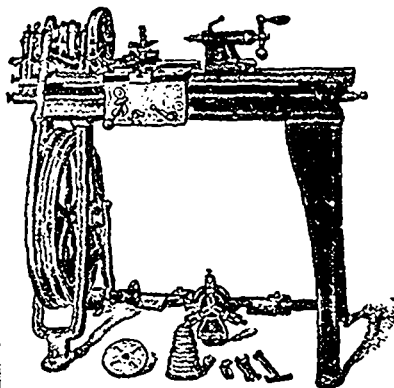
**NOTICE** The following are the Factory Inspectors for the Province of Ontario:

- JAS. T. BURKE, Parliament Buildings, Toronto.
- THOMAS KEILTY, Parliament Buildings, Toronto.
- ARTHUR W. HOLMES, Parliament Buildings, Toronto.
- JOHN ARGUE, Parliament Buildings, Toronto.
- MARGARET CARLYLE, Parliament Buildings, Toronto.
- MRS. JAS. R. BROWN, Parliament Buildings, Toronto.

Persons having business with any of the Inspectors will find them at the above address.

HON. NELSON MONTEITH, Minister of Agriculture.

## LATHES



9 inch and 11 inch Lathes with Foot Power or Countershaft as desired; also a 15 inch Power Lathe.

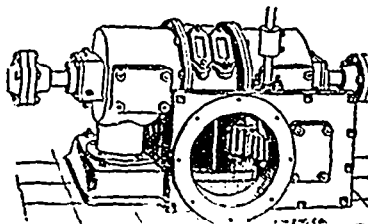
All strong, rigid, high-class tools.

Sold at reasonable prices.

Ask for Catalogue C.

**B. F. BARNES CO.,**  
ROCKFORD, ILL.

Ontario Agent:  
H. W. PETRIE, Toronto.



Horizontal Type.

### "LITTLE GIANT" Turbine

FOR ALL PURPOSES

HORIZONTAL AND VERTICAL. BUILT IN 44 SIZES.

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

Water Wheel Governors, Machine Dressed Gearing, Pulleys, Shafting and Bearings.

Catalogue and Gear List mailed on application. Correspondence Solicited.

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



If you are thinking of building a home, call on, or write.  
Phone M. 1372. **R. J. EDWARDS, Architect,** 18 Toronto St., Toronto.

Established 1799.



By Special Warrant

IN PREPARATION—20TH EDITION OF  
**KELLY'S DIRECTORY**

OF THE

**Merchants, Manufacturers and Shippers**  
OF THE WORLD.

Containing classified lists of the Merchants, Manufacturers, Importers and Exporters, as well as the Customs Tariffs of every known Country in the World. Over 1,000 pages.

**KELLY PUBLISHING CO.,**

5 Beckman St., New York. Head Office: LONDON, W.C., ENGLAND.

**Dominion Branch—70 Dunn Ave., TORONTO**

And at Paris, Hamburg, Melbourne, Sydney, Dunedin, Cape Town, Bombay, Buenos Ayres, etc., etc.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# The Canada Chemical Manufacturing Company, Limited

London, Canada.

MANUFACTURERS OF

## Acids and Chemicals

Commercial quality for all industrial purposes, and chemically pure chemicals for laboratory use.

Offices and Chemical Works :  
LONDON.

Warehouses :  
TORONTO and MONTREAL.

### CASSELLA COLOR COMPANY

(American Branch of Leopold Cassella & Co.)

ARTIFICIAL

## DYE STUFFS

New York, 182-184 Front Street.

Boston, 68 Essex Street.

Philadelphia, 126-128 South Front St.

Providence, 64 Exchange Place.

Atlanta, 47 North Pryor Street.

Montreal, 86-88 Youville Square.

## ANILINES

St. Denis Dyestuff and Chemical Co.,  
(A. POIRRIER), of Paris, France.

Manufacturers of

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

A Complete Assorted Stock of the above always on hand.

W. T. Benson & Co.,

Sole Agents for Canada.

184 St. James St., MONTREAL

### GEIGY ANILINE & EXTRACT CO.

69 Barclay Street, NEW YORK.

BOSTON, PROVIDENCE, PHILADELPHIA, ATLANTA,  
CHICAGO, TORONTO.

## ANILINE COLORS,

Dyewood and Sumac Extracts,  
Calico Printing Specialties.

Canadian Manager:

T. D. WARDLAW,

11 Front St. East, TORONTO.

## "American" Compound Pump

FOR HEAVY, CONTINUOUS SERVICE WHERE  
ECONOMY OF OPERATION IS DEMANDED

ESPECIALLY ADAPTED FOR ELEVATOR SERVICE

RESULTS GUARANTEED

### "American" Steam Pump Company

BATTLE CREEK, MICH., U.S.A.

WRITE FOR CATALOGUE

# THE NICHOLS CHEMICAL COMPANY OF CANADA, LIMITED

Head Office—222 ST. JAMES ST., MONTREAL.

Works—OAPELTON, P.Q.

MANUFACTURERS OF HIGHEST QUALITY CHEMICALS

## Sulphuric, Muriatic and Nitric Acids, Glauber's Salt, Salt Cake, Mixed Acid for DYNAMITE MAKERS, Etc.

AGENTS FOR STAR and TRIANGLE BRANDS  
**BLUE VITRIOL.**

PUREST AND STRONGEST  
**PAPER MAKERS' ALUM.**

Address all Correspondence to the Head Office, - MONTREAL.

# THE IMPERIAL OIL COMPANY, Limited

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

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

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

Refineries at SARNIA and PETROLIA, CANADA. Merchandising Branches at:

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

# CANADIAN NATIONAL EXHIBITION

—OF—

1905

## TORONTO

1905

Aug. 26th

The National Show of Live Stock, Agricultural and Horticultural Products. Art and Manufactures.

Processes of Manufacture are an Educational Feature of the Exhibition—demonstrating the progress of Canadian Manufactures. Special inducements are offered to Exhibitors for displays in this Department.

CORRESPONDENCE REQUESTED.



Sept. 11th

Advancement and Improvement in Every Department.

**THE IRISH GUARDS BAND**

(Acknowledged to be the finest military musical organization in the United Kingdom) will give two concerts daily.

BRILLIANT SPECTACLE EVERY EVENING

*The Fall of Port Arthur*

## TWENTY-SEVENTH ANNUAL

Entries close Aug. 7th

For Prizo Lists, Entry Blanks and all information address

SPECIAL EXCURSIONS AND LOW RATES ON ALL LINES OF TRAVEL

W. K. McNAUGHT,  
President.

Office:  
City Hall, Toronto

J. O. ORR,  
Manager and Secretary.

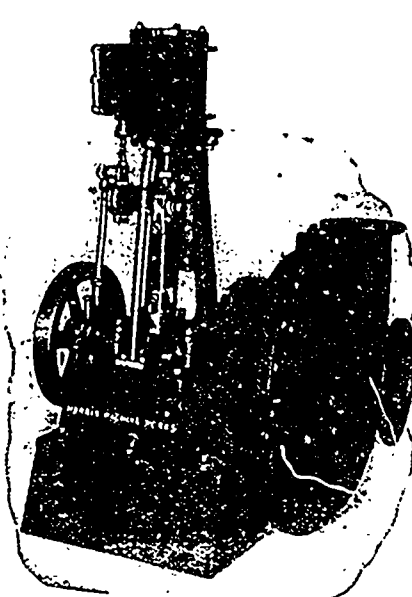
When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# MALLEABLE CASTINGS

ORDERS FOR LARGE OR SMALL TONNAGE IN MALLEABLE CASTINGS PROMPTLY EXECUTED.

NEWEST AND BEST EQUIPPED MALLEABLE FOUNDRY IN AMERICA. FIRE-PROOF VAULTS FOR PATTERN STORAGE.

INTERNATIONAL HARVESTER CO., OF CANADA, Limited  
HAMILTON, - ONT.



**Morris Machine Works.**  
BALDWINVILLE, N.Y.

MANUFACTURERS OF

**Centrifugal Pumping Machinery  
and Steam Engines**

SPECIAL PUMPING OUTFITS TO SUIT  
SPECIAL REQUIREMENTS

Estimates Furnished upon Application.

**H. W. PETRIE, Agent**  
TORONTO, CANADA.

NEW YORK OFFICE: 39-41 CORTLANDT ST.  
HENION & HUBBELL, Agents  
61-69 North Jefferson St., CHICAGO, ILL.

## PEDLAR'S STEEL SIDING AND SHINGLES

At \$2.00 and \$2.55 per 100 Square Feet.



Painted red on both sides. Most durable and economical covering for Roofing or Siding for Residences, Houses, Barns, Elevators, Stores, Churches, Poultry Houses, Cribbs, etc. Easier to lay and will last longer than any other covering. Cheaper than wood shingles or slate. No experience necessary. A hammer and snips are the only tools required. It is semi-hardened high grade steel. Brick or Stone Siding at \$2.00 per 100 Square Feet. Pedlar's Patent Stool Shingles at \$2.55 per 100 Square Feet. Also Corrugated Iron, Painted or Galvanized, in sheets 36 inches long. Beaded and Embossed Ceilings. Crimped Roofing. 2,000 designs of Roofing, Siding and Ceilings in all grades. Thousands of buildings through the Dominion Covered with our Sheet Metal Goods, making them

### FIRE, WATER AND LIGHTNING PROOF.

Send in your order for as many squares (10x10 feet) as you require to cover your now or old building. The very best roofing for this climate. We can supply Eave Trough, all sizes, Corrugated or Plain Round. Conductor Pipes, Shoes, Elbows, Spikes, Tubes. All goods shipped day after order is received. We are the largest concern of the kind under the British flag. Established 1861. Capital invested \$150,000.00.

**THE PEDLAR PEOPLE, OSHAWA, ONT., CANADA.**

MONTREAL, QUE., OTTAWA, TORONTO, CALGARY, ALTA., VANCOUVER, B.C.,  
767 Craig St. 423 Sussex St. 50 Yonge St. 201 7th Ave., E. 615 Pender St.

Write Your Nearest Office.

## FACTORY LOCATIONS.

The following Canadian municipalities are offering inducements to secure manufacturing establishments. Inquiries should be addressed to the Mayor, Town Clerk or Board of Trade of the respective cities:

Barrie, Ont.  
Brantford, Ont.  
Fort William, Ont.  
Halifax, N.S.  
Hamilton, Ont.  
Lindsay, Ont.  
Peterborough, Ont.  
Regina, N.W.T.  
Sherbrooke, Que.  
Toronto, Ont.

## Free Factory Sites.

Orillia Town Council has purchased a fine piece of property lying between two railways with a view to offering free sites to desirable industries.

Better still, Orillia sells *Electric Power* developed at its municipal plant for \$16.00 per h. p. per annum for an excellent service, available 24 hours a day.

Those interested are invited to correspond with

SECRETARY BOARD OF TRADE,  
ORILLIA, CANADA.

## WOOLLEN MILL For Sale

Water and steam power; one set Woollen Mill. Three story brick and stone 36 x 52 feet. Two story brick and stone addition 30 x 36 feet.

Good locality; wool plentiful.

Address,  
S. M. HUTCHESON,  
PAISLEY, ONT.

## Machine Shop and Foundry FOR SALE

IN THRIVING TOWN

On Line of Grand Trunk Railway.

Near Lake Ontario, East of Toronto.

Equipped with first-class machinery made by Bertram of Dundas, adapted for manufacture of agricultural implements. Actuated by water-wheel of 75 h.p.

Main Building, 150x50 feet.  
Annex, - 72x24 feet  
Office Building, 36x24 feet.

For further particulars enquire of

THE CANADIAN MANUFACTURER  
TORONTO.

**FOR SALE**


In guaranteed good serviceable condition, Steam Engines, Boilers, Pumps and attachments. Iron and Wood Working Tools. Less freight to Niagara Falls, N. Y., or equivalent. Catalogue mailed for asking. Payne Machinery Exchange Co., Elmira, N. Y.

**ALL GENUINE ARMSTRONG STOCKS & DIES HAVE THIS**



TORONTO, ONT.—Rico Lewis & Son; Bennett & Wright Co.; James Robertson & Co.  
 MONTREAL, CANADA—Fairbanks & Co.; A. R. Williams Machinery Co.; Laurio Engine Co.; Williams & Wilson.  
 QUEBEC—Chinio Hardware Co.  
 VANCOUVER, B.C.—Boyd, Burns & Co.  
 WINNIPEG, MAN.—Marshall-Wells Hardware Co.; Jas. Robertson & Co.; Miller, Morse & Co.; Geo. D. Wood & Co.  
 VICTORIA, B.C.—Marine Iron Works; Victoria Machinery Depot.  
 HAMILTON, ONT.—Wood, Vallance & Co.

And are manufactured only by  
**THE ARMSTRONG MFG. CO.,**  
 BRIDGEPORT, CONN.  
 NEW YORK OFFICE, 139 CENTIN STREET  
 Catalogue sent on request.



**GREASE LUBRICATION**

has many advantages and it is growing more popular every day. The advantages of grease lubrication are multiplied if Dixon's Ticonderoga Flake Graphite be an ingredient of greases. Our booklet, OIL vs GREASE, is a valuable treatise on the subject. Copies are free to all.

JOSEPH DIXON CRUCIBLE CO.,  
Jersey City, N.J.



**Hydraulic Screw**  
—and—  
**Filter Presses..**

WILLIAM R. PERRIN & COMPANY, Limited  
Toronto, - Canada.



**THE WETMORE PATENT GLUE HEATER**

All progressive manufacturers in the United States are using it. On the market since 1901. No tariff. Made in Windsor. Sold by

A. R. WILLIAMS MACHINERY CO.,  
Toronto, Ontario.

We give you 30 Days' Free Trial and if it does not convince you in that time that it will pay for itself in a year, send it back.

**The Advance Machinery Co.,**  
19-23 So. Huron Street,  
TOLEDO, OHIO.

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


Advertise in  
**THE CANADIAN MANUFACTURER.**



**DEEP WELL PUMPS**

Steam Gearing or Electrically Driven

Deep Well Pumping Systems for Cities, Railroad, Mines, Factories, etc.



**DOWNIE PUMP CO.,** Downieville, Pa., U.S.A.

**BARGAINS Money Savers. First Class.**

2-250 k.w., 3 phase, 10,000 volt G. E. Re-field, Al. Gen., 450 rev., 3 bearing.  
 3-100 k.w., 3 phase, 60 cycle Transformers, 10,000 x 2,300 volts.  
 1-300 k.w., 2 phase, 60 cycle, 2,400 volt Stanley Direct Connected Gen. Set.  
 2-300 k.w., 3 phase, 60 cycle, 2,400 volt G. E. Direct Connected Gen. Units.  
 120-G. E. 35 h.p. Railway Motors.  
 40-Walker, 90 h.p.

Fire, Wrecking, Irrigation, Water Works, Mining Pumps, Air Compressors, Tanks, Cars, Pipe, Rail, Boilers, Engines, Beams, Scales, Dynamos, Motors, Car Trucks. Our prices are of interest to close buyers.

**R. B. Corbett, 45-47 York Street, Brooklyn, N.Y., U.S.A.**

**CANADIAN OFFICE & SCHOOL FURNITURE CO. LIMITED**

PRESTON ONT.

FINE BANK OFFICE, COURT HOUSE & DRUG STORE FITTINGS. SEND FOR CATALOGUE

**Dewar Detective Agency**

498 Railway Ex. Bldg.  
 4th & Chestnut St., St. Louis, Mo., U.S.A.

We are in the strike breaking business and can furnish non-union skilled labor of all kinds to break strikes in any quantity needed. Special Watchmen, with or without uniform, furnished to guard property.

**WOOD ENGRAVING PHOTO ENGRAVING HALF TONES**

OR ANY CLASS OF ENGRAVING FOR ADVERTISING PURPOSES. CATALOGUES, MAGAZINES, &c

**J. L. JONES ENG. CO.**  
 168 BAY ST - TORONTO

ROBT. WORTH.      LOUIS L. MARTIN.  
 Telephone Main 3494.

**WORTH & MARTIN**  
 NOVELTY MANUFACTURERS

Manufacturers of Slot Machines, Novelties, Fine Tools and Dies.

Model and Experimental Work a specialty. Inventions perfected.

37-39 Adelaide Street West,  
 TORONTO, ONT.



# THE GRIFFIN MILL

## The Greatest Pulverizing Machine in the World

Used Wherever Portland Cement Is Made

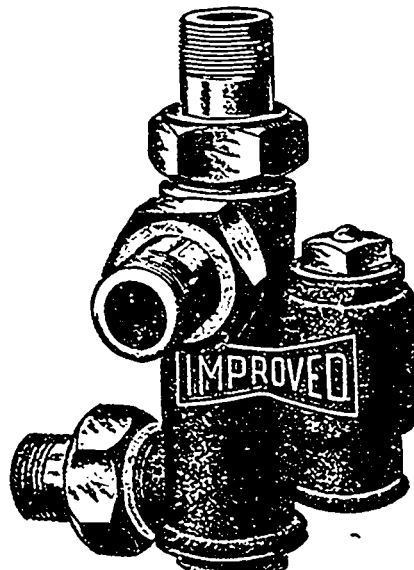
Over 50 per cent. of the Portland Cement manufactured in the United States to-day is ground in the Griffin Mill.

**THE GRIFFIN MILL PULVERIZES MORE CEMENT THAN THE COMBINED OUTPUT OF ALL OTHER MACHINES USED FOR THIS PURPOSE.**

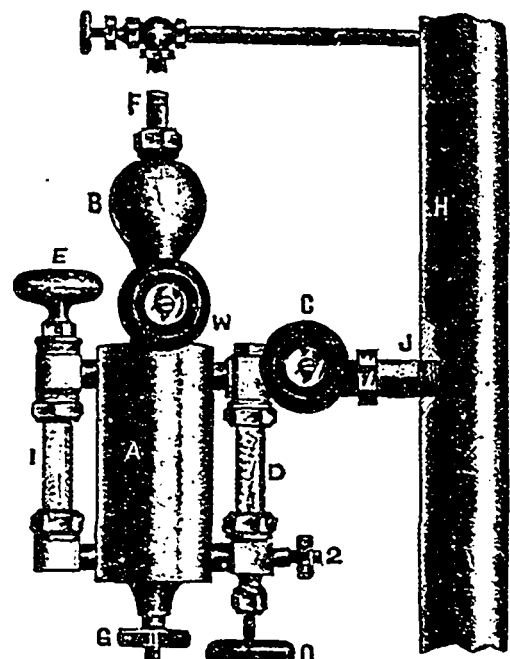
*Thoroughly tested by continually successful and constantly increasing use during the past sixteen years.*

Portland Cement Clinker reduced from  $\frac{1}{2}$  inch to required fineness in one operation, with no auxiliary apparatus. No other machine made will do this. Buy the GRIFFIN MILL and get the BEST. It holds the world record from every standpoint.

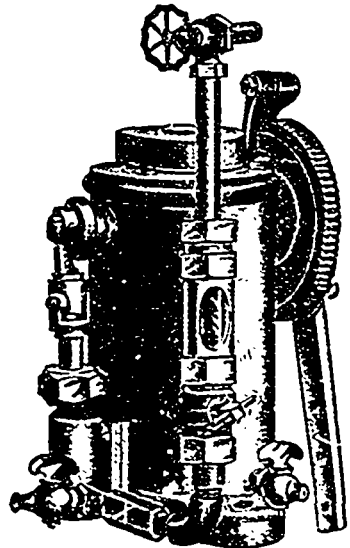
Send for Catalogue and full information.  
BRADLEY PULVERIZER COMPANY, 92 State Street, Boston



**IMPROVED T. J. C. INJECTOR  
No. 2.**



**IMPROVED MICHIGAN LUBRICATOR.**



**THE IMPROVED HAMILTON  
OIL PUMP**  
with and without Slight Feed.

## THE HAMILTON BRASS MFG. CO., Limited

HAMILTON, - ONT.

# Do It Now!

Advertise in  
**THE CANADIAN MANUFACTURER**

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



# CLASSIFIED INDEX.

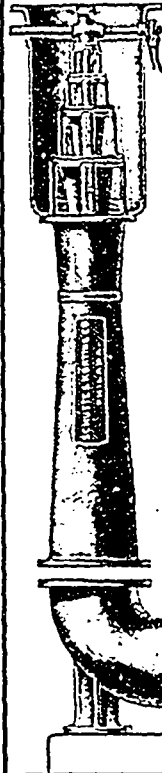
- Abrasives**  
Williams, A. R. Machinery Co., Toronto.
- Acids**  
Canada Chemical Co., London, Ont.  
Nichols Chemical Co. of Canada, Montreal.
- Air Compressors**  
Allis-Chalmers-Bullock, Limited, Montreal.  
American Steam Pump Co., Battle Creek Mich.  
Canada Foundry Co., Toronto.  
Canadian Rand Drill Co., Sherbrooke, Que.  
Corbett, H. B., Brooklyn, N.Y.  
Darling Bros., Montreal.  
Schutte & Koerting Co., Philadelphia, Pa.
- Alum**  
Nichols Chemical Co. of Canada, Montreal.
- Aluminum**  
Northern Aluminum Co., Pittsburg, Pa.  
Syracuse Smelting Works, Montreal.
- Angles, Beams and Girders**  
Bourne-Fuller Co., Cleveland, Ohio.  
Canada Foundry Co., Toronto.  
Hopkins, F. H. & Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
- Aniline Colors and Dyewood Extracts**  
Beason, W. T. & Co., Montreal.  
Brunner, Mond & Co., Northwich, England.  
Canada Chemical Mfg. Co., London, Ont.  
Cassella Color Co., New York City.  
Geigy Aniline & Extract Co., New York City.  
McArthur, Cornelio & Co., Montreal.  
Nichols Chemical Co. of Canada, Montreal.  
Winn & Holland, Montreal.
- Annealing Muffles and Furnaces (Wire)**  
Leslie, A. C. & Co., Montreal.  
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.
- Antimony**  
Syracuse Smelting Works, Montreal.
- Anvils and Vises**  
Hopkins, F. H. & Co., Montreal.  
Leslie, A. C. & Co., Montreal.
- Architects**  
Edwards, R. J., Toronto.  
Parke, R. J., Toronto.  
Vogel, C. H., Ottawa.
- Automatic Gear Cutting Machines**  
Becker-Brainard Milling Machine Co., Hyde Park, Mass.
- Axles**  
Hopkins, F. H. & Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
- Babbitt Metal**  
Petrie, H. W., Toronto.  
Syracuse Smelting Works, Montreal.
- Banks**  
Bank of Hamilton, Hamilton, Ont.
- Bar Iron and Steel**  
Bourne-Fuller Co., Cleveland, Ohio.  
Hopkins, F. H. & Co., Montreal.  
Leslie, A. C. & Co., Montreal.  
London Rolling Mills, London, Ont.
- Belt Dressing**  
McLaren, J. C. Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Rosendale Belting Co., Toronto.  
Sudler & Haworth, Montreal and Toronto.  
Williams, A. R. Machinery Co., Toronto.
- Belt Fasteners**  
Bristol Co., Waterbury, Conn.  
McLaren, D. K., Montreal and Toronto.  
McLaren, J. C. Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Rosendale Belting Co., Toronto.  
Sudler & Haworth, Montreal and Toronto.  
Williams, A. R. Machinery Co., Toronto.
- Belting (Cotton)**  
Dominion Belting Co., Hamilton, Ont.  
McLaren, D. K., Montreal and Toronto.  
McLaren, J. C. Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Rosendale Belting Co., Toronto.  
Sudler & Haworth, Montreal and Toronto.
- Belting (Leather)**  
McLaren, D. K., Montreal and Toronto.  
McLaren, J. C. Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Rosendale Belting Co., Toronto.  
Sudler & Haworth, Montreal and Toronto.  
Williams, A. R. Machinery Co., Toronto.

# SCHUTTE & KOERTING CO.

12th and Thompson Sts., PHILADELPHIA, U.S.A.

CABLE ADDRESS: SCHUTTE, PHILADELPHIA.

CODES USED { A. R. C. CODE.  
WESTERN UNION TEL. CODE.



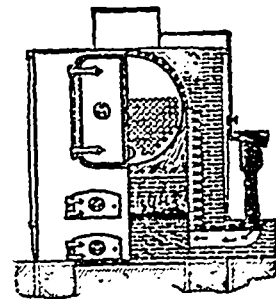
The Schutte & Koerting blowers offer a means of burning low priced fuel, such as screenings, gas works breezes and other refuse with perfect combustion, thereby making a direct reduction in cost of steam. They are used to great advantage on:

Can be actuated by steam or water jets.

1. Heating or Forging Furnaces.
2. Heating and Gas Producing Furnaces in chemical and glass works.
3. Steam Boiler Furnaces.

Ask for catalogues: Injectors, Blast Nozzles, High Grade Valves, Water Jet Condensers, Air Compressors, Exhausters, etc.

**THE FURNACE BLOWER**  
Attached to a Tubular Boiler.



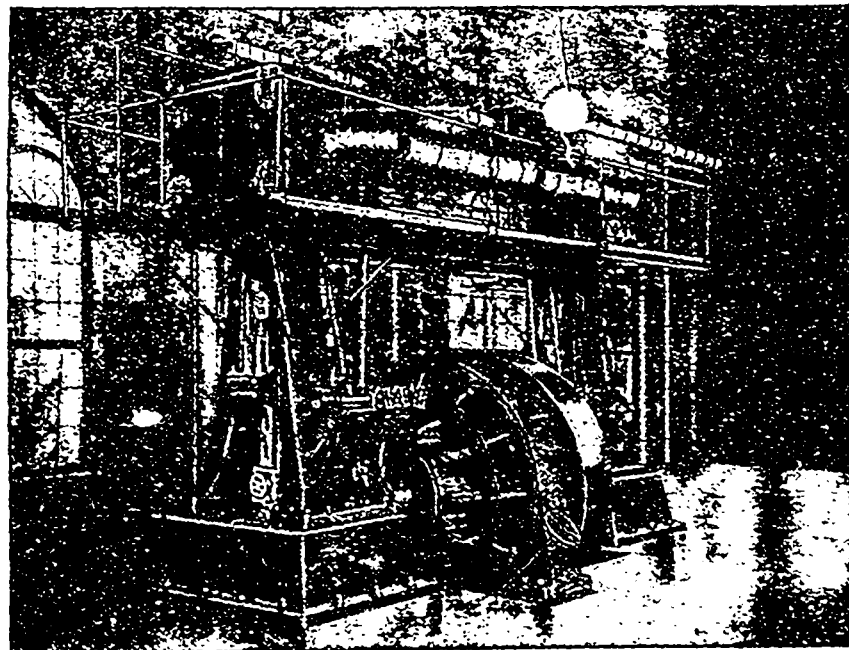
MANIPULATION

Regulate blast with side handle.

Start and stop by opening and closing a valve in steam pipe—full.

ASH PIT.

# ROBB-ARMSTRONG CORLISS ENGINES



**Robb Engineering Co., Limited**  
AMHERST, N.S.

AGENTS { WILLIAM MCKAY, 320 Ossington Ave., Toronto.  
WATSON JACK & COMPANY, Bell Telephone Bldg., Montreal  
J. F. PORTER, 355 Carlton Street, Winnipeg.

## Dominion Oil Cloth Co.

LIMITED  
Manufacturers of **Oilcloths** of Every Description.

Floor Oil-Cloth, Table Oil-Cloth,  
Carriage Oil-Cloth, Enamelled  
Oil-Cloth, Stair Oil-Cloth, etc.

OFFICE AND WORKS:  
Cor. St. Catherine and Parthenais Streets  
MONTREAL, QUO.

## Special Announcement

An invitation is extended to any white merchant outside of New York City, or their representative, whose name appears in Bradstreet's or Dun's Commercial Agency Book, to accept the hospitality of our Hotel for three days without charge. Usual rates, apartment with private bath \$3.00 per day up, without meals. Parlor, bedroom and private bath \$35.00 per week and up, with meals for two. New York Merchants and Editors are requested to call the attention of their Out-of-Town Buyers and subscribers to this advertisement.

GALLATIN HOTEL,  
70 W.48th St., NEW YORK CITY.



WM. BARBER & BROS.  
Georgetown, Ont.

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

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

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

**Smith Mfg. Co.**  
LIMITED  
219 Front Street East, Toronto  
Makers of  
**WOOL STOCK,  
SHODDIES, Etc.**

**R. SPENCE & CO.**  
HAMILTON, ONT.  
**FILE and RASP MANUFACTURERS  
AND RE-CUTTERS.**  
A trial order solicited. Write for terms.  
C. P. MOORE, PROPRIETOR.

## CLASSIFIED INDEX.

(CONTINUED).

### Belting (Rubber)

Gutta Percha & Rubber Mfg. Co., Toronto.  
McLaren, D. K., Montreal and Toronto.  
McLaren, J. C., Belting Co., Montreal.  
Petrie, H. W., Toronto.  
Sadler & Haworth, Montreal and Toronto.

### Belting and Supplies

Bristol Co., Waterbury, Conn.  
Dominion Belting Co., Hamilton, Ont.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Jeffrey Mfg. Co., Columbus, Ohio.  
McLaren, D. K., Montreal and Toronto.  
McLaren, J. C., Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Reddaway, F. & Co., Manchester, England.  
Rosendale Belting Co., Toronto.  
Sadler & Haworth, Montreal and Toronto.  
Williams A. R. Machinery Co., Toronto.

### Blast Furnace Brick

Dunbar Fire Brick Co., Pittsburgh, Pa.  
Hamilton Fencing Mill Co., Hamilton, Ont.  
Pennsylvania Fire Brick Co., Lock Haven, Pa.  
Queen's Run Fire Brick Co., Lock Haven, Pa.  
Reese-Hammond Fire Brick Co., Bolivar, Pa.  
Stowe-Fuller Co., Cleveland, Ohio.

### Blowers

McEachren Heating & Ventilating Co., Galt, Ont.  
Schutt & Koerting Co., Philadelphia, Pa.  
Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B. F. Co., Boston, Mass.

### Boiler Compounds

Canada Chemical Mfg. Co., London, Ont.

### Boiler Inspection 1

Boiler Inspection & Insurance Co., Toronto.  
Canadian Casualty & Boiler Insurance Co., Toronto.

### BOILERS (See Engines and Boilers) Bolts and Nuts

London Rolling Mills, London, Ont.  
Morrow John, Machine Screw Co., Ingersoll, Ont.

### Brass Founders

Hamilton Brass Mfg. Co., Hamilton, Ont.  
Penberthy Injector Co., Windsor, Ont.

### Brick and Bricklaying Machinery

Allis-Chalmers-Bullock, Limited, Montreal.

### Building and Paving Brick

Dunbar Fire Brick Co., Pittsburgh, Pa.  
Hamilton Facing Mill Co., Hamilton, Ont.  
Pennsylvania Fire Brick Co., Lock Haven, Pa.  
Queen's Run Fire Brick Co., Lock Haven, Pa.  
Reese-Hammond Fire Brick Co., Bolivar, Pa.  
Stowe-Fuller Co., Cleveland, Ohio.

### Building Iron and Steel

Bourne-Fuller Co., Cleveland, Ohio.  
Canada Foundry Co., Toronto.  
Expanded Metal & Fireproofing Co., Toronto  
Pedlar People, Oshawa, Ont.

### Builders' Materials

Albert Mfg. Co., Hillsboro, Ont.  
Canada Foundry Co., Toronto.  
Conduits Company, Limited, Toronto.  
Expanded Metal & Fireproofing Co., Toronto  
Gartshore, John J., Toronto.  
Hopkins, F. H. & Co., Montreal.  
Otis-Fensom Elevator Co., Toronto.  
Pedlar People, Oshawa, Ont.  
Sheldon & Sheldon, Galt, Ont.

### Cables

Dominion Wire Rope Co., Montreal.  
Greening, B. Wire Co., Hamilton, Ont.  
Phillips, Eugene F. Electrical Works, Montreal.

### Canada Plates

Leslie, A. C. & Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

### Canoes

Peterborough Canoe Co., Peterborough, Ont.

### Caps

McCullough-Dalsell Crucible Co., Pittsburg, Pa.

### Card Clothing

McLaren, D. K., Montreal and Toronto.  
McLaren, J. C., Belting Co., Montreal and Toronto.

### Cast Iron Pipe

Canada Foundry Co., Toronto.  
Montreal Pipe Foundry Co., Montreal.  
McDougall, John, Caledonian Iron Works Co., Montreal.

**Castings (Grey Iron, Malleable Iron and Brass)**  
International Harvester Co., Hamilton, Ont.  
Jencks Machine Co., Sherbrooke, Que.  
Kerr Engine Co., Walkerville, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.

### Cement Machinery

Allis-Chalmers-Bullock, Limited, Montreal  
Bradley Pulverizer Co., Boston, Mass.  
McDougall, John, Caledonian Iron Works Co., Montreal.

**Centrifugal Pumping Machinery**  
Morris Machine Works, Baldwinville, N. Y.

### Chain Making Machinery (Welded Coil Chain)

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

### Channels

Bourne-Fuller Co., Cleveland, Ohio.  
Canada Foundry Co., Toronto.  
Leslie, A. C. & Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

### Charcoal Pig Iron

Canada Iron Furnace Co., Montreal.  
McDougall, John, Caledonian Iron Works Co., Montreal.

### Chemicals

Canada Chemical Co., London, Ont.  
Nichols Chemical Co. of Canada, Montreal.

### Chemists

Archbold, Dr. Geo., Prescott, Ont.  
Reys, Thomas & Son, Toronto.

### Olley Working Machinery

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

### Coal and Coke

Bourne-Fuller Co., Cleveland, Ohio.  
Ferguson, J. D., Hamilton, Ont.  
Milnes, James H. & Co., Toronto.  
Myles' Thos. Sons, Hamilton, Ont.  
Old Colony Coal & Coke Co., Pittsburgh, Pa.  
Pittsburgh Coal Co., Pittsburgh, Pa.  
Shawmut Coal & Coke Co., St. Mary's, Pa.  
Sawyer, Edward T., Columbus, Ohio.  
Skae, E. A., Detroit, Mich.  
Wick, H. K. & Co., Buffalo, N.Y.  
Wilson, H. T. Coal Co., Detroit, Mich.

### Coal Cutting Machines

Allis-Chalmers-Bullock, Limited, Montreal.  
Canadian Rand Drill Co., Sherbrooke, Que.  
Jeffrey Mfg. Co., Columbus, Ohio.

### Coal Tipples

Jeffrey Mfg. Co., Columbus, Ohio.  
Jencks Machine Co., Sherbrooke, Que.

### Coil Chains

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

### Coke Oven Brick

Dunbar Fire Brick Co., Pittsburgh, Pa.  
Stowe-Fuller Co., Cleveland, Ohio.

### Collection Agency

Petrie, H. D., Hamilton, Ont.

### Concrete Mixers

Hopkins, F. H. & Co., Montreal  
Concrete (Reinforced)

Trussel Concrete Steel Co., Detroit, Mich.

### Conduits (Interior)

Conduits Company, Limited, Toronto

### Contractors' Machinery

Allis-Chalmers-Bullock, Limited, Montreal.  
Gartshore, John J., Toronto.  
Hopkins, F. H. & Co., Montreal.  
Jencks Machine Co., Sherbrooke, Que.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Schutte & Koerting Co., Philadelphia, Pa.

### Contractor's Plants

Allis-Chalmers-Bullock, Limited, Montreal.  
Hopkins, F. H. & Co., Montreal.  
Jencks Machine Co., Sherbrooke, Que.  
Petrie, H. W., Toronto.  
Von der Osten, E. & Co., Toronto.  
Williams, A. R. Machinery Co., Toronto.

### Conveying Machinery

Allis-Chalmers-Bullock, Limited, Montreal.  
Babcock & Wilcox, Limited, Montreal.  
Canada Foundry Co., Toronto.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Link-Belt Engineering Co., Philadelphia, Pa.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Perrin, William R. & Co., Limited, Toronto.  
Rosendale Belting Co., Toronto.

### Copper Materials

Greening, B. Wire Co., Hamilton, Ont.  
Phillips, Eugene F. Electrical Works, Montreal.  
Syracuse Smelting Works, Montreal

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# CLASSIFIED INDEX.

(CONTINUED).

## Cotton Banding and Rope

McLaren, J. C., Belting Co., Montreal.

## Covers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.  
Pittsburg Crucible Works, Pittsburg, Pa.

## Crayons

Lowell Crayon Co., Lowell, Mass.  
McLaren, J. C., Belting Co., Montreal.

## Crucibles

Dixon Joseph, Crucible Co., Jersey City, N.Y.  
McCullough-Dalsell Crucible Co., Pittsburg, Pa.  
Pittsburg Crucible Works, Pittsburg, Pa.  
Syracuse Smelting Works, Montreal.

## Crucible Caps

McCullough-Dalsell Crucible Co., Pittsburg, Pa.  
Pittsburg Crucible Works, Pittsburg, Pa.

## Crucible Covers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.  
Pittsburg Crucible Works, Pittsburg, Pa.

## Cutter Grinding Machines

Becker-Brainard Milling Machine Co., Hyde Park, Mass.

## Deep Well Engines

American Steam Pump Co., Battle Creek, Mich.

## Detective Agency

Dewar Detective Agency, St. Louis, Mo.

## Dies (Socket, Sewer Pipe and Tile)

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

## Directories

Kelly's Directories, Limited, Toronto.

## Draw Benches (Wire)

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

## Drilling & Fishing Tools

National Supply Co., Leamington, Ont.  
O'Well Supply Co., Pittsburgh, Pa.

## Drilling Machines (Portable)

National Supply Co., Leamington, Ont.  
O'Well Supply Co., Pittsburgh, Pa.

## Drills

Allis-Chalmers-Bullock, Limited, Montreal.  
Barnes H F Co., Rockford, Ill.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
Ferne, H W., Toronto.

## Drills (Pneumatic and Rock)

Allis-Chalmers-Bullock, Limited, Montreal.  
Canadian Rand Drill Co., Sherbrooke, Que.  
Jeffrey Mfg Co., Columbus, Ohio.

## Drop Forgings

Globe Machine & Stamping Co., Cleveland, Ohio.

## Drop Forging Dies

Globe Machine & Stamping Co., Cleveland, Ohio.

## Dry Kiln Apparatus

Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B F Co., Boston, Mass.

## Dust and Shavings Separators

Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B F Co., Boston, Mass.

## Dye Stuffs and Chemicals

Benson, W T & Co., Montreal.  
Brunner, Mond & Co., Northwich, England.  
Canada Chemical Mfg. Co., London, Ont.  
Casella Color Co., New York City.  
Gery Arline & Extract Co., New York City.  
McArthur, Cornelle & Co., Montreal.  
Nichols Chemical Co. of Canada, Montreal.  
Wma & Holland, Montreal.

## DYNAMOS (See Motors and Dynamos)

### Electric Motors and Transformers

Allis-Chalmers-Bullock, Limited, Montreal.  
Packard Electric Co., St. Catharines, Ont.

### Electric Mine Locomotives

Canadian General Electric Co., Toronto.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
Jeffrey Mfg Co., Columbus, Ohio.

### Electrical Repairs

Keystone Engineering Co., Toronto.

## Electrical Supplies

Allis-Chalmers-Bullock, Limited, Montreal.  
Bristol Co., Waterbury, Conn.  
Canadian General Electric Co., Toronto.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
Electrical Construction Co., London, Ont.  
Forman, John, Montreal.  
Jones & Moore Electric Co., Toronto.  
Keystone Engineering Co., Toronto.  
Packard Electric Co., St. Catharines, Ont.  
Toronto & Hamilton Electric Co., Hamilton, Ont.  
United Electric Co., Toronto.  
Worth & Martin, Toronto.

## Elevators and Conveyors

Allis-Chalmers-Bullock, Limited, Montreal.  
Darling Bros., Montreal.  
Jeffrey Mfg Co., Columbus, Ohio.  
Jenckes Machine Co., Sherbrooke, Que.  
Link-Belt Engineering Co., Philadelphia, Pa.  
Otis-Fensom Elevator Co., Toronto.

## Elevator Insurance

Canadian Casualty & Boiler Insurance Co., Toronto

## Emery and Emery Wheels

Forman, John, Montreal.  
Petrie, H. W., Toronto.

## Engineers (Chemical)

Heys, Thomas & Son, Toronto.  
Hunt, Robert W. & Co., Chicago, Ill.

## Engineers (Civil)

DeLano-Osborn Engineering Co., Toronto.  
Parke, R. J., Toronto.  
Vogel C. H., Ottawa.

## Engineers (Consulting)

Aitken, K. L., Toronto.  
Canadian White Co., Montreal.  
DeLano-Osborn Engineering Co., Toronto.  
Electrical Construction Co., London, Ont.  
Fensom, C. J., Toronto.  
Hunt, Robert W. & Co., Chicago, Ill.  
Keystone Engineering Co., Toronto, Ont.  
Marion & Marion, Montreal.  
Parke, R. J., Toronto.  
Perrin, William H. & Co., Limited, Toronto.  
Vogel, C. H., Ottawa.  
Von der Osten, E. & Co., Toronto.

## Engineers (Contracting)

Armstrong, Herbert, J., Toronto.  
Babcock & Wilcox, Limited, Montreal.  
Canada Foundry Co., Toronto.  
Canadian White Co., Montreal.  
Darling Bros., Montreal.  
Electrical Construction Co., London, Ont.  
Fensom, C. J., Toronto.  
Keystone Engineering Co., Toronto, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Robb Engineering Co., Amherst, N.S.

## Engineers (Electrical)

Aitken, K. L., Toronto.  
Allis-Chalmers-Bullock, Limited, Montreal.  
Canadian General Electric Co., Toronto.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
Canadian White Co., Montreal.  
Crocker-Wheeler Co., St. Catharines, Ont.  
DeLano-Osborn Engineering Co., Toronto.  
Electrical Construction Co., London, Ont.  
Fensom, C. J., Toronto.  
Jones & Moore Electric Co., Toronto.  
Keystone Engineering Co., Toronto, Ont.  
Marion & Marion, Montreal.  
Toronto & Hamilton Electric Co., Hamilton, Ont.  
United Electric Co., Toronto.  
Worth & Martin, Toronto.

## Engineers (Mechanical)

Allis-Chalmers-Bullock, Limited, Montreal.  
Armstrong, Herbert J., Toronto.  
Babcock & Wilcox, Limited, Montreal.  
Darling Bros., Montreal.  
DeLano-Osborn Engineering Co., Toronto.  
Electrical Construction Co., London, Ont.  
Fensom, C. J., Toronto.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Hunt, Robert W. & Co., Chicago, Ill.  
Kerr Engine Co., Waukegan, Ont.  
Marion & Marion, Montreal.  
Robb Engineering Co., Amherst, N.S.  
Sheldon & Sheldon, Galt, Ont.

## Engineers (Mill and Hydraulic)

DeLano-Osborn Engineering Co., Toronto.  
Fensom, C. J., Toronto.  
Hawksworth, Alfred, Montreal.  
Vogel, C. H., Ottawa.

## Engineers (Mining)

Heys, Thomas & Son, Toronto.  
Mills, S. D., Toronto.

## Engineers (Municipal)

Von der Osten, E. & Co., Toronto.

## Engineers and Contractors

Canadian White Co., Montreal.  
Jeffrey Mfg Co., Columbus, Ohio.  
Jenckes Machine Co., Sherbrooke, Que.

## Engines and Boilers

Allis-Chalmers-Bullock, Limited, Montreal.  
Babcock & Wilcox, Limited, Montreal.  
Canada Foundry Co., Toronto.  
Corbett, R. B., Brooklyn, N.Y.

**"MADE IN CANADA"**

# SADLER & HAWORTH

**TANNERS & MANUFACTURERS OF**

**OAK LEATHER**

**BELTING**

**LACE LEATHER**

**HYDRAULIC & MECHANICAL**

**LEATHER**

**LEATHER**

**FILLET**

**Factories at**

**MONTREAL**

**TORONTO**

**LEATHER LIKE**

**GOLD HAS NO**

**SUBSTITUTE**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**MAPLE LEAF**  
STITCHED COTTON DUCK  
**BELTING**  
DOMINION BELTING CO. LTD.  
HAMILTON CANADA

## BANK OF HAMILTON

J. TURNBULL, General Manager.

HEAD OFFICE, HAMILTON, ONT.

Capital.	Reserve.	Total Assets.
<b>\$2,000,000</b>	<b>\$1,700,000</b>	<b>\$22,000,000</b>

### BRANCHES IN

TORONTO, MONTREAL, WINNIPEG, VANCOUVER,  
and all principal towns in Canada.

Collections made in all parts of Canada.

## The Mercantile Agency

ESTABLISHED 1841.

## R. G. DUN & CO.

Offices in 189 of the leading business  
centres of the world.

### CANADIAN OFFICES

TORONTO,	MONTREAL,
HAMILTON,	QUEBEC,
LONDON,	OTTAWA,
WINNIPEG,	ST. JOHN,
VANCOUVER,	HALIFAX.

W. C. MATTHEWS, Toronto,  
General Manager for Canada.

Established 1849.

## BRADSTREET'S

Capital and Surplus, \$1,500,000

Offices Throughout the Civilized World.

EXECUTIVE OFFICES,

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

CORRESPONDENCE INVITED.

OFFICES IN CANADA:

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

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

Advertise in the  
Canadian Manufacturer.

## CLASSIFIED INDEX.

(CONTINUED)

Goldie & McCulloch Co., Galt, Ont.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Hopkins, F. H. & Co., Montreal.  
Jencks Machine Co., Sherbrooke, Que.  
Morris Machine Works, Middletown, N. Y.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
McEachren Heating & Ventilating Co., Galt, Ont.  
National Supply Co., Leamington, Ont.  
Oil Well Supply Co., Pittsburgh, Pa.  
Petrie, H. W., Toronto.  
Robb Engineering Co., Amherst, N.S.  
Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B. F. Co., Boston, Mass.  
Williams, A. R. Machinery Co., Toronto.

### Engravers

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

### Exhaust Fans

Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B. F. & Co., Boston, Mass.

### Exhaust Heads

Darling Bros., Montreal.  
Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B. F. Co., Hyde Park, Mass.

### Exhausters

Schutte & Koerting Co., Philadelphia, Pa.  
Sturtevant, B. F. Co., Hyde Park, Mass.

### Explorer and Geologist

Evans, Horace F. Ashcroft B.C.

### Factory Sites

(See Factory Locations, page 38).  
Board of Trade, Orillia, Ont.  
Central Ontario Power Co., Peterboro, Ont.  
Hutcheson, S. M., Paisley, Ont.

### Feed Water Heaters

Babcock & Wilcox, Limited, Montreal.  
Darling Bros., Montreal.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Robb Engineering Co., Amherst, N. S.  
Schutte & Koerting Co., Philadelphia, Pa.

### Files

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

### Fillet (Pattern)

McLaren, J. C. Belting Co., Montreal.  
Sadler & Haworth, Montreal and Toronto.

### Filters (Oil)

Babcock & Wilcox, Limited, Montreal.  
Darling Bros., Montreal.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Perrin William R. & Co., Limited, Toronto.

### Filters and Filtering Systems (Water)

Babcock & Wilcox, Limited, Montreal.  
Jencks Machine Co., Sherbrooke, Que.  
McDougall, John, Caledonian Iron Works Co., Montreal.

### Financial

Bradstreet's, New York City.  
Dun, R. G. & Co., Toronto.  
Neff & Postlethwaite, Toronto.  
Petrie H. D. Hamilton Ont.

### Fire Brick and Clay

Dunbar Fire Brick Co., Pittsburgh, Pa.  
Hamilton Facing Mill Co., Hamilton, Ont.  
Pennsylvania Fire Brick Co., Lock Haven, Pa.  
Queen a Hun Fire Brick Co., Lock Haven, Pa.  
Reese-Hammond Fire Brick Co., Boliver, Pa.  
Stowe-Fuller Co., Cleveland, Ohio.

### Fire Escapes

Darling Bros., Montreal.

### Fire Insurance

Inter-Insurance of America, New York City

### Flour Mill Machinery

Goldie & McCulloch Co., Galt, Ont.

### Forges and Blowers

Canada Foundry Co., Toronto.  
McEachren Heating & Ventilating Co., Galt, Ont.  
Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B. F. Co., Boston, Mass.

### Founders

Canada Foundry Co., Toronto.  
Goldie & McCulloch Co., Galt, Ont.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Jencks Machine Co., Sherbrooke, Que.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Robb Engineering Co., Amherst, N. S.

### Foundry Facings and Supplies

Hamilton Facing Mill Co., Hamilton, Ont.

### Fuel Economizers

Babcock & Wilcox, Limited, Montreal  
Schutte & Koerting Co., Philadelphia, Pa.  
Sturtevant, B. F. Co., Hyde Park, Mass.

Furniture (Lodge, Opera and School)  
Canadian Office & School Furniture Co., Preston, Ont.

### Galvanizing

Ontario Wind Engine & Pump Co., Toronto

Galvanizing and Tinning Machinery and  
Furnaces (Wire)

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

### Gas and Gasoline Engines

Goldie & McCulloch Co., Galt, Ont.  
Morrison T. A. & Co., Montreal.

### Gauges (Recording Pressure)

Bristol Co., Waterbury, Conn

### Gauges (Steam)

Penberthy Injector Co., Windsor, Ont.  
Petrie, H. W., Toronto.  
Williams, A. R. Machinery Co., Toronto.

### Gauges (Water)

Babcock & Wilcox, Limited, Montreal.  
Penberthy Injector Co., Windsor, Ont.

### Generating Sets

Sturtevant, B. F. Co., Hyde Park, Mass

### Generators

Allie-Chalmers-Bullock, Limited, Montreal.  
Canadian General Electric Co., Toronto.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
Electrical Construction Co., London, Ont.  
Forman, John, Montreal.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Jones & Moore Electric Co., Toronto.  
Phillips, Eugene F., Electrical Works, Montreal.  
Toronto & Hamilton Electric Co., Hamilton, Ont.

### Gloves, Mittens and Moccasins

Storey, W. H. & Son, Acton, Ont.

### Glue Heaters

Advance Machinery Co., Toledo, Ohio.

### Glue Room Equipment

Advance Machinery Co., Toledo Ohio.

### Government Notices

Factory Inspectors.  
Minister of Agriculture.

### Graphite

Dixon, Jos., Crucible Co., Jersey City, N.J.  
McCullough-Daisell Crucible Co., Pittsburg, Pa.  
Pittsburg Crucible Works, Pittsburg, Pa.

### Grease Cups

Penberthy Injector Co., Windsor, Ont.

### Hardware

Butterfield & Co., Rock Island, Que.  
Gartshore, John J., Toronto.  
Globe Machine & Stamping Co., Cleveland, Ohio.  
Hopkins, F. H. & Co., Montreal.  
Morrow, John, Machine Screw Co., Ingersoll, Ont.

### Heating and Ventilating Apparatus

Darling Bros., Montreal.  
McEachren Heating & Ventilating Co., Galt, Ont.  
Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B. F. Co., Boston, Mass.

### Hoisting Engines

Jencks Machine Co., Sherbrooke, Que

### Hoists (Chain and Pneumatic)

Allie-Chalmers-Bullock, Limited, Montreal  
Canadian Rand Drill Co., Sherbrooke, Que  
Hopkins, F. H. & Co., Montreal.

### Hose (Fire and Pneumatic)

Gutta Percha & Rubber Mfg. Co., Toronto  
McLaren, J. C. Belting Co., Montreal and Toronto  
Sadler & Haworth, Montreal and Toronto

### Hotel

Gallatin Hotel, New York City.

### Hydrants

Kerr Engine Co., Walkerville, Ont.  
Jencks Machine Co., Sherbrooke, Que.  
McDougall, John, Caledonian Iron Works Co., Montreal.

### Hydraulic Accumulators

Jencks Machine Co., Sherbrooke, Que.  
McDougall, John, Caledonian Iron Works Co., Montreal.

### Hydraulic Leather

McLaren, J. C. Belting Co., Montreal.  
Sadler & Haworth, Montreal and Toronto.

### Hydraulic Machinery

Canada Foundry Co., Toronto.  
Darling Bros., Montreal.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Jencks Machine Co., Sherbrooke, Que.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Perrin, William R. & Co., Limited, Toronto  
Petrie, H. W., Toronto  
Wilson, J. C. & Co., Glenora, Ont.

### Industrial Plants

Von der Osten, E. & Co., Toronto.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# CLASSIFIED INDEX.

(CONTINUED)

## Insulated Wires and Cables

Phillips, Eugene F., Electrical Works, Montreal.

## Insurance.

Inter-Insurers of America, New York City.

## Iron and Steel Specialties

Armstrong Mfg. Co., Bridgeport, Conn.  
 Bourne-Fuller Co., Cleveland, Ohio.  
 Canada Foundry Co., Toronto.  
 Leslie, A. O. & Co., Montreal.  
 London Rolling Mill Co., London, Ont.  
 Lysaght, John, Limited, Bristol, England and Montreal.  
 Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
 Petrie, H. W., Toronto.

## Injectors

Canada Foundry Co., Toronto.  
 Hamilton Brass Mfg. Co., Hamilton, Ont.  
 Penberthy Injector Co., Windsor, Ont.  
 Schutte & Koerting Co., Philadelphia, Pa.  
 Williams, A. R. Machinery Co., Toronto.

## Iron and Steel Inspection

Hunt, R. W. & Co., Chicago, Ill.

## Lamps—Electric

Allis-Chalmers-Bullock, Limited, Montreal.  
 Canadian General Electric Co., Toronto.  
 Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
 Forman, John, Montreal.  
 Packard Electric Co., St. Catharines, Ont.  
 Sunbeam Incandescent Lamp Co., Toronto and St. Catharines, Ont.

## Lathes

Barnes, B. F. Co., Rockford, Ill.  
 Petrie, H. W., Toronto.  
 Williams, A. R. Machinery Co., Toronto.

## Lathes (Wood-working)

Goldie & McCulloch Co., Galt, Ont.  
 Petrie, H. W., Toronto.  
 Williams, A. R. Machinery Co., Toronto.

## Loom Reeds.

McLaren, J. C., Belting Co., Montreal.

## Lubricators

Penberthy Injector Co., Windsor, Ont.]

## Machinists

Goldie & McCulloch Co., Galt, Ont.  
 Robb Engineering Co., Amherst, N.S.  
 Worth & Martin, Toronto.

## Machinists' Supplies

Armstrong Mfg. Co., Bridgeport, Conn.  
 Butterfield & Co., Rock Island, Que.  
 Goldie & McCulloch Co., Galt, Ont.  
 Gutta Percha & Rubber Mfg. Co., Toronto.  
 Hopkins, F. H. & Co., Montreal.  
 Jeffrey Mfg. Co., Columbus, Ohio.  
 Morrow, John, Machine Screw Co., Ingersoll, Ont.  
 Petrie, H. W., Toronto.  
 Worth & Martin, Toronto.

## Machine Tools

Barnes, B. F. Co., Rockford, Ill.  
 Becker-Brainard Milling Machine Co., Hyde Park, Mass.  
 Darling Bros., Montreal.  
 Petrie, H. W., Toronto.

## Malleable Castings

International Harvester Co., Hamilton, Ont.  
 Smith's Falls Malleable Castings Co., Smith's Falls, Ont.

## Marine and Stationary Engines and Boilers

Allis-Chalmers-Bullock, Limited, Montreal.  
 Galt's Machine Co., Sherbrooke, Que.

## Mechanical Draft

Brook & Wilcox, Limited, Montreal.  
 MacEachren Heating & Ventilating Co., Galt, Ont.  
 Sedon & Shelton, Galt, Ont.  
 Waterant, B. F. Co., Boston, Mass.

## Metal Stamping

Machine A Stamping Co., Cleveland, Ohio.  
 Star People, Ottawa, Ont.

## Metallurgists

Mills, S. D., Toronto.

## Mill Machinery and Supplies

Allis-Chalmers-Bullock, Limited, Montreal.  
 Armstrong Mfg. Co., Bridgeport, Conn.  
 Becker-Brainard Milling Machine Co., Hyde Park, Mass.  
 Darling Bros., Montreal.  
 Gartshore, John J., Toronto.  
 Goldie & McCulloch Co., Galt, Ont.  
 Gutta Percha & Rubber Mfg. Co., Toronto.  
 Hamilton Brass Mfg. Co., Hamilton, Ont.  
 Hamilton, Wm., Mfg. Co., Peterborough, Ont.  
 Hawasworth, Alfred, Montreal.  
 Hay, Peter Knife Co., Galt, Ont.  
 Hopkins, F. H. & Co., Montreal.  
 Jeffrey Mfg. Co., Columbus, Ohio.  
 Jenckes Machine Co., Sherbrooke, Que.  
 Morrow, John, Machine Screw Co., Ingersoll, Ont.  
 McDougall, John, Caledonian Iron Works Co., Montreal.

McLaren, D. K., Montreal and Toronto.

McLaren, J. C., Belting Co., Montreal.

Penberthy Injector Co., Windsor, Ont.

Petrie, H. W., Toronto.

Reddaway, F. & Co., Manchester, England.

Robb Engineering Co., Amherst, N.S.

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

Wilson, J. C. & Co., Glenora, Ont.

## Milling Cutters and Machines

Becker-Brainard Milling Machine Co., Hyde Park, Mass.

## Miners' Lamps

Allis-Chalmers-Bullock, Limited, Montreal.

## Mining Machinery

Allis-Chalmers-Bullock, Limited, Montreal.  
 Canadian Rand Drill Co., Sherbrooke, Que.  
 Corbett, R. B., Brooklyn, N.Y.  
 Gartshore, John J., Toronto.  
 Hamilton, Wm., Mfg. Co., Peterborough, Ont.  
 Hopkins, F. H. & Co., Montreal.  
 Jeffrey Mfg. Co., Columbus, Ohio.  
 Jenckes Machine Co., Sherbrooke, Que.  
 Link-Belt Engineering Co., Philadelphia, Pa.  
 McDougall, John, Caledonian Iron Works Co., Montreal.  
 Perrin, William R. & Co., Limited, Toronto.  
 Petrie, H. W., Toronto.  
 Schutte & Koerting Co., Philadelphia, Pa.  
 Williams, A. R. Machinery Co., Toronto.

## Motors and Dynamos

Allis-Chalmers-Bullock, Limited, Montreal.  
 Canadian General Electric Co., Toronto.  
 Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
 Corbett, R. B., Brooklyn, N.Y.  
 Electrical Construction Co., London, Ont.  
 Forman, John, Montreal.  
 Jeffrey Mfg. Co., Columbus, Ohio.  
 Jones & Moore Electric Co., Toronto.  
 Keystone Engineering Co., Toronto.  
 Petrie, H. W., Toronto.  
 Sturtevant, B. F. Co., Hyde Park, Mass.  
 Toronto & Hamilton Electric Co., Hamilton, Ont.  
 United Electric Co., Toronto.

## Moulding Sand

Hamilton Facing Mill Co., Hamilton, Ont.

## Nickel

Canadian Copper Co., New York, N.Y.  
 Orford Copper Co., New York, N.Y.

## Novelty Manufacturers

Worth & Martin, Toronto.

## Nozzles

McCullough-Daisell Crucible Co., Pittsburg, Pa.  
 Pittsburg Crucible Works, Pittsburg, Pa.

## Office and Bank Fittings

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

## Oils and Lubricants

Dixon, Jas. Crucible Co., Jersey City, N.J.  
 Imperial Oil Co., Petrolia, Ont.  
 Queen City Oil Co., Toronto.

## Oil Cloth

Dominion Oil Cloth Co., Montreal.

## Oil Cups

Penberthy Injector Co., Windsor, Ont.

## Oil Well Supplies

National Supply Co., Leamington, Ont.  
 Oil Well Supply Co., Pittsburg, Pa.

## Paints and Colors

Berry Bros., Walkerville, Ont.  
 Geigy, Aniline & Extract Co., New York City  
 McArthur, Corneille & Co., Montreal.

## PATENTS

### IN ALL COUNTRIES

**ENGINEERING, ELECTRICAL and SCIENTIFIC CASES a SPECIALTY**

Experiences in such cases makes smaller cases easy as a B.C. All kinds welcome as we are well equipped with special associates, assistants and facilities. **CHARGERS MODERATE. Preliminary advice free.**

**WRITE FOR SCHEDULE OF CHARGES AND HOW TO PROCEED.**

We particularly invite inventors to make use of our **PATENT LIBRARY** and of our **SPECIAL SEARCH FILES** containing thousands of patents properly classified.

Patents procured through Marion & Marion **RECEIVE SPECIAL NOTICE** without **HALF** in over 100 newspapers distributed throughout the Dominion.

**SPECIALTY** — Patent business of Manufacturers and Engineers.

**MARION & MARION**

Graduate Engineers & Registered Patent Attorneys

Office: 1 New York Life Building, Montreal.  
 and 907 G Street, Washington, D. C.

**WORK AND PRICES RIGHT**

## GALVANIZING

WIND ENGINE & PUMP CO.

TORONTO, ONT. 1117 ED

THE

## PETERBOROUGH CANOE CO. LTD.

PETERBOROUGH, Ont., Canada.

SEND FOR CATALOGUE

**W. H. STOREY & SON, Limited, Acton, Ont.**

Manufacturers of **FINE GLOVES and HATS**

In every variety and style. **Moccasins**

**F. W. HORE & SON, Limited, HAMILTON, ONT.**

Manufacturers of

**GARRIAGE, WAGGON, AND SLEIGH WOOD WORK.**

## FIFTY DOLLARS

### . . PER WEEK . .

is the salary of a good ad-writer. In some of the large stores the Advertising Manager draws a princely salary—no higher than **TEN THOUSAND DOLLARS** per year.

It is a proposition that pays. But a good ad-writer, same as a poet, must be born with the gift enabling him to write descriptions in a forceful, convincing style, which, while being interesting reading, sells the goods.

Nobody—no matter how talented—can take up ad-writing without knowing the necessary technical points. This must be learned. Advertising schools, charging as high as \$200 per course, are giving this instruction.

You may learn all the practical and technical points necessary to be able to write an ad by reading the only weekly paper which successfully teaches ad-writing.

**Brains for the Retailer and Advertiser.**

It is not an experiment. This paper has stood the test over 12 years. Many an ad-writer, who is now on the top of the ladder, thanks this publication for his success.

**It Costs You Only Five Dollars.**

This is the subscription price for a year. If you read **Brains for the Retailer and Advertiser** you will soon learn all the technical points necessary for an ad-writer to know. **Send Check, Money Order or Currency to the Subscription Department of Brains for the Retailer and Advertiser.**

**DEPOSIT, - N. Y.**

## THE CANADIAN MANUFACTURER

J. J. CASSIDY, Manager.

PUBLISHED TWICE A MONTH.

Devoted to the Industrial Interests of Canada.

\$1.50 a Year. Sample Copies Free.

Advertising Rates on application.

Canadian Manufacturer Publishing Co., Limited,  
TORONTO, CANADA.

## Keep Posted on Coal

You will save money by reading THE RETAIL COALMAN. We guarantee the largest paid circulation of any coal trade paper. That's the best proof of its practical worth and genuine merit.

**A Whole Year for only \$1**

Sample Copy free for the asking.

Special attention given Canadian news.

THE RETAIL COALMAN,  
1536 Monadnock Building,  
CHICAGO, ILL.

## THE AMERICAN

### Carpet and Upholstery Journal

The leading magazine devoted to these trades, published in Philadelphia, the center of carpet and upholstery manufacture in the United States.

Subscription, - \$2.00 per annum.

A copy of the "American Buyer's Directory" of the wholesale trade, free with subscription.

THE TRADES PUBLISHING COMPANY  
102 South 12th Street,  
New York Office: PHILADELPHIA  
Hartford Building.

## CLASSIFIED INDEX.

(CONTINUED)

### Paper Manufacturers

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

### Patents

Budden, Hanbury, A., Montreal.  
Fetherstonhaugh & Co., Toronto.  
Marion & Marion, Montreal.

### Perforated Metals

Globe Machine & Stamping Co., Cleveland, Ohio.  
Greening, B. Wire Co., Hamilton, Ont.

### Personal Accident

Canadian Casualty & Boiler Insurance Co., Toronto.

### Phosphorizers

McCullough-Daisell Crucible Co., Pittsburg, Pa.  
Pittsburg Crucible Works, Pittsburg, Pa.

### Pig Iron

Bourne-Fuller Co., Cleveland, Ohio.  
Canada Iron Furnace Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Syracuse Smelting Works, Montreal.

### Pipe Line Supplies

National Supply Co., Leamington, Ont.  
Oil Well Supply Co., Pittsburgh, Pa.

### Pipe (Riveted, Iron and Steel)

Babecock & Wilcox, Limited, Montreal.  
McDougall, John, Caledonian Iron Works Co., Montreal.

### Pipe Threading Machines

Armstrong Mfg. Co., Bridgeport, Conn.  
Butterfield & Co., Rock Island, Que.  
Petrie, H. W., Toronto.

### Pipes and Tubes

Bourne-Fuller Co., Cleveland, Ohio.  
Canada Foundry Co., Toronto.  
Corbett, R. B., Brooklyn, N.Y.  
Montreal Pipe Foundry Co., Montreal.  
National Supply Co., Leamington, Ont.  
Oil Well Supply Co., Pittsburgh, Pa.

### Plaster

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

### Plates

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

### Plumbago

Hamilton Facing Mills Co., Hamilton, Ont.  
McCullough-Daisell Crucible Co., Pittsburg, Pa.  
Pittsburg Crucible Works, Pittsburg, Pa.

### Pneumatic Tools

Allis-Chalmers-Bullock, Limited, Montreal.  
Canadian Rand & Co., Sherbrooke, Que.

### Pointer Molds (For Rods and Wire)

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

### Power Plants—Equipments

Allis-Chalmers-Bullock, Limited, Montreal.  
Armstrong, Herbert J., Toronto.  
Babecock & Wilcox, Limited, Montreal.  
Canadian General Electric Co., Toronto.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
Corbett, R. B., Brooklyn, N.Y.  
Darling Bros., Montreal.  
DeLano-Osborn Engineering Co., Toronto.  
Electrical Construction Co., London, Ont.  
Goldie & McCulloch, Galt, Ont.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Jones & Moore Electric Co., Toronto.  
Keystone Engineering Co., Toronto, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.

Paikard Electric Co., St. Catharines, Ont.  
Perrin, William R. & Co., Limited, Toronto.  
Petrie, H. W., Toronto.

Phillips, Eugene F., Electrical Works, Montreal.  
Robb Engineering Co., Amherst, N.S.  
Sturtevant, B. F. Co., Boston, Mass.  
Toronto & Hamilton Electric Co., Hamilton, Ont.  
United Electric Co., Toronto.  
Wilson, J. C. & Co., Glenora, Ont.

Presses (Tile, Sower Pipe, Nozzles and Sleeves)

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

### Pulleys

Darling Bros., Montreal.  
Goldie & McCulloch Co., Galt, Ont.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
McLaron, J. O., Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Wilson, J. C. & Co., Glenora, Ont.

### Pumps and Pumping Machinery

Allis-Chalmers-Bullock, Limited, Montreal.  
American Steam Pump Co., Battle Creek, Mich.  
Canada Foundry Co., Toronto.  
Corbett, R. B., Brooklyn, N.Y.  
Darling Bros., Montreal.  
Downie Pump Co., Downieville, Pa.  
Goldie & McCulloch Co., Galt, Ont.  
Jenckes Machine Co., Sherbrooke, Que.  
Kerr Engine Co., Walkerville, Ont.  
Morris Machine Works, Baldwinville, N.Y.  
McDougall, John, Caledonian Iron Works Co., Montreal.

Ontario Wind Engine & Pump Co., Toronto.  
Petrie, H. W., Toronto.

Schutte & Koerting Co., Philadelphia, Pa.

### Punches and Shears

Globe Machine & Stamping Co., Cleveland, Ohio.  
Petrie, H. W., Toronto.

### Purifiers

Babecock & Wilcox, Limited, Montreal.  
Goldie & McCulloch Co., Galt, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.

### Purifying and Softening Systems (Water)

Babecock & Wilcox, Limited, Montreal.  
Darling Bros., Montreal.  
McDougall, John, Caledonian Iron Works Co., Montreal.

### Railroads

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

### Railway Supplies

Algoma Steel Co., Sault Ste. Marie, Ont.  
Allis-Chalmers-Bullock, Limited, Montreal.  
Gartshore, John J., Toronto.  
Greening, B. Wire Co., Hamilton, Ont.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Hopkins, F. H. & Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Phillips, Eugene F., Electrical Works, Montreal.

### Reamers

Butterfield & Co., Rock Island, Que.

### Rivets

Bourne-Fuller Co., Cleveland, Ohio.  
London Rolling Mills, London, Ont.

### Rock and Ore Crushers

Allis-Chalmers-Bullock, Limited, Montreal.  
Bradley Pulverizer Co., Boston, Mass.

### Rolling Mill Engineers

Bourne-Fuller Co., Cleveland, Ohio.

### Roofing

Bourne-Fuller Co., Cleveland, Ohio.  
Pedlar People, Oshawa, Ont.

### Rubber Goods

Gutta Percha & Rubber Mfg. Co., Toronto

### Rubber Packing

Gutta Percha & Rubber Mfg. Co., Toronto

### Rubber Washing Tubs

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

### Rural Mail Boxes

Globe Machine & Stamping Co., Cleveland, Ohio.

### Safes and Vaults

Goldie & McCulloch Co., Galt, Ont.

### Screws

Morrow, John, Machine Screw Co., Ingersoll, Ont.

### Screw Plates

Armstrong Mfg. Co., Bridgeport, Conn.  
Butterfield & Co., Rock Island, Que.

### Shafting

Allis-Chalmers-Bullock, Limited, Montreal.  
Bourne-Fuller Co., Cleveland, Ohio.  
Goldie & McCulloch Co., Galt, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Petrie, H. W., Toronto.

### Shapers and Carvers

Advance Machinery Co., Toledo, Ohio

### Shear Knives

Hay, Peter Knife Co., Galt, Ont.

### Sheets (Iron and Steel)

Bourne-Fuller Co., Cleveland, Ohio.  
Leslie, A. C. & Co., Montreal.  
Lysaght, John, Limited, Bristol, England and Montreal.

### Sheet Metal Goods

Globe Machine & Stamping Co., Cleveland, Ohio.  
Pedlar People, Oshawa, Ont.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



# CLASSIFIED INDEX.

(CONTINUED).

## Sheet Metal Stamping

Globe Machine & Stamping Co., Cleveland, Ohio.  
Pedar People, Oshawa, Ont.

## Smoke Stacks

Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Robb Engineering Co., Amherst, N.S.

## Solder

Globe Machine & Stamping Co., Cleveland, Ohio.  
Syracuse Smelting Co., Montreal.

## Special Machinery

Allis-Chalmers-Bullock, Limited, Montreal.  
Globe Machine & Stamping Co., Cleveland, Ohio.

## Speed Recorders

Bristol Co., Waterbury, Conn.

## Sprinkler Insurance

Canadian Casualty & Boiler Insurance Co., Toronto.

## Stamps and Stencils

Globe Machine & Stamping Co., Cleveland, Ohio.

## Steam Pumps

Allis-Chalmers-Bullock, Limited, Montreal.  
American Steam Pump Co., Battle Creek, Mich.  
Canada Foundry Co., Toronto.  
Darling Bros., Montreal.  
Goldie & McCulloch Co., Galt, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Petrie, H. W., Toronto.  
Williams, A. R. Machinery Co., Toronto.

## Steam Separators

Babcock & Wilcox, Limited, Montreal.  
Darling Bros., Montreal.  
McEachren Heating & Ventilating Co., Galt, Ont.  
Robb Engineering Co., Amherst, N.S.  
Sheldon & Sheldon, Galt, Ont.

## Steam Specialties

Darling Bros., Montreal.  
McEachren Heating & Ventilating Co., Galt, Ont.  
Peabody Injector Co., Windsor, Ont.  
Schutte & Koerting Co., Philadelphia, Pa.  
Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B. F. Co., Hyde Park, Mass.

## Steam Valves

American Steam Pump Co., Battle Creek, Mich.  
Babcock & Wilcox, Limited, Montreal.  
Darling Bros., Montreal.  
Kerr Engine Co., Walkerville, Ont.  
Petrie, H. W., Toronto.  
Williams, A. R. Machinery Co., Toronto.

## Steel Balls

Algoma Steel Co., Sault Ste. Marie, Ont.  
Drummond, McCall & Co., Montreal and Toronto.  
Guthrie, John J., Toronto.  
Hopkins, F. H. & Co., Montreal.

## Steel Shafting

Darling Bros., Montreal.  
Goldie & McCulloch Co., Galt, Ont.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Leslie, A. C. & Co., Montreal.  
McDougall, John, Caledonian Iron Works 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., Rook Island, Que.  
Petrie, H. W., Toronto.  
Worth & Martin, Toronto.

## Stoppers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.  
Pittsburg Crucible Works, Pittsburg, Pa.

## Structural Steel

Bourne-Fuller Co., Cleveland, Ohio.  
Canada Foundry Co., Toronto.  
Hopkins, F. H. & Co., Montreal.

## Sulphate of Alumina

Nichols Chemical Co. of Canada, Montreal

## Sulphur Furnace

Schutte & Koerting Co., Philadelphia, Pa.

## Suspension Furnaces

Continental Iron Works Co., New York City.

## Tanks (Oil and Water)

Canada Foundry Co., Toronto.  
Corbett, R. B., Brooklyn, N.Y.  
Goldie & McCulloch Co., Galt, Ont.

Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Jencks Machine Co., Sherbrooke, Que.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Ontario Wind Engine & Pump Co., Toronto.

## Taps and Dies

Butterfield & Co., Rook Island, Que.  
Globe Machine & Stamping Co., Cleveland, Ohio.

## Tees

Bourne-Fuller Co., Cleveland, Ohio.  
Canada Foundry Co., Toronto.

## Textile Manufacturers

Dominion Oil Cloth Co., Montreal.  
Smith Mfg. Co., Toronto.  
Storey, W. H. & Sons, Aston, Ont.

## Textile Supplies

McLaren, J. C. Belting Co., Montreal and Toronto.

## Thermometers (Recording)

Bristol Co., Waterbury, Conn.

## Tin

Leslie, A. C. & Co., Montreal.  
Syracuse Smelting Works, Montreal.

## Tool Grinders

Barnes, B. F. Co., Rockford, Ill.

## Tool Steel

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

## Trucks

Corbett, R. B., Brooklyn, N.Y.  
Hopkins, F. H. & Co., Montreal.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Sheldon & Sheldon, Galt, Ont.

## Trucks (Railway)

Canada Foundry Co., Toronto

## Trucks (Wire Mill Supplies)

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

## Tubs (Cleaning and Coating Wire)

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

## Tumbling Barrels

Globe Machine & Stamping Co., Cleveland, Ohio.

## Turbines

Canada Foundry Co., Toronto.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Jencks Machine Co., Sherbrooke, Que.  
Wilson, J. C. & Co., Glenora, Ont.

## Typewriters and Supplies

United Typewriter Co., Toronto.

## Valves

American Steam Pump Co., Battle Creek, Mich.  
Babcock & Wilcox, Limited, Montreal.  
Canada Foundry Co., Toronto.  
Hamilton Brass Mfg. Co., Hamilton, Ont.  
Kerr Engine Co., Walkerville, Ont.  
Petrie, H. W., Toronto.  
Schutte & Koerting Co., Philadelphia, Pa.  
Williams, A. R. Machinery Co., Toronto

## Valves (Rubber)

Gutta Percha & Rubber Mfg. Co. Toronto.

## Varnishes

Berry Bros., Walkerville, Ont.

## Ventilators

Darling Bros., Montreal.  
Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B. F. Co., Boston, Mass.

## Wagon and Carriage Wood Work

Horo, F. W. & Son, Hamilton, Ont.

## Washers or Hollinders (Cleaning Rubber)

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

## Watchman's Clocks

Eco Magneto Clock Co., Boston, Mass.

## Water Power Development

Vogel, C. H., Ottawa.

## Water Purifying Chemicals

Canada Chemical Mfg. Co., London, Ont.

## Windmills

Ontario Wind Engine & Pump Co., Toronto.

## Wire Mill Supplies

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

## Wire and Wire Rope

Dominion Wire Rope Co., Montreal.  
Greening, B. Wire Co., Hamilton, Ont.  
Leslie, A. C. & Co., Montreal.  
Phillips, Eugene F. Electrical Works, Montreal.

## Wire Rope Fittings

Dominion Wire Rope Co., Montreal.

## Wire Cloth

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

## Wire Drawing Machinery

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

## Wood-Working Machinery

Advance Machinery Co., Toledo, Ohio.  
Goldie & McCulloch Co., Galt, Ont.  
Petrie, H. W., Toronto.  
Sheldon & Sheldon, Galt, Ont.  
Williams, A. R. Machinery Co., Toronto.

## Zinc

Leslie, A. C. & Co., Montreal.  
Syracuse Smelting Works, Montreal.

# The Engineering Review

A High-Class Illustrated Monthly Technical Record.

The largest sale circulation throughout the Empire.

## SUBSCRIPTION RATE:

12/6 per annum (post free).

For Advertising Rates apply to General Manager.

104 High Holborn, LONDON W.C., ENGLAND.

- or -

THE INTERNATIONAL NEWS CO., Limited  
TORONTO and MONTREAL.

# ATTENTION!

Do you desire to keep posted on the industrial affairs of Alabama, and more especially the Great Birmingham District? If so, subscribe for

The Dixie Manufacturer  
BIRMINGHAM, ALA.

It is the only industrial paper published in Alabama. It is old and established. Published semi-monthly. Subscription price, \$2 per year. If you want to sell machinery, hardware, electrical and building supplies you cannot find a better medium. Send for copy and advertising rates.

ROUNTREE PUBLISHING CO.,  
BIRMINGHAM, ALABAMA.



## OUR CLUBBING LIST.

The publishers of THE CANADIAN MANUFACTURER have made arrangements with a number of the leading popular publications of Canada, Great Britain, and the United States by which all new and renewing subscribers may obtain THE CANADIAN MANUFACTURER and any one of the publications named in our Clubbing List for about the price of one. Among the large number of periodicals named one cannot but find just what he would like to have; and if there are any periodicals which are not here listed, no matter where published, our quotations therefor will be sent without delay.

The Clubbing List shows the names of the periodicals which we offer; where published; the publishers' regular subscription price, and the price at which we offer it clubbed with THE CANADIAN MANUFACTURER.

Any publication desired will be sent to the subscriber postage paid direct from the office of publication or distribution.

Any subscriber who desires more than one of the publications named would have no trouble in disposing of the duplicate copies of THE CANADIAN MANUFACTURER by presentation to intelligent employes or others.

Remittances which must always be in advance, should be made payable to THE CANADIAN MANUFACTURER PUBLISHING Co., Limited, Toronto, Canada, by Post Office or Express Money Order, or registered letter. If cheques are used, payable elsewhere than at par in Toronto, add fifteen cents for cost of collection. Acknowledgment of every remittance made promptly.

Receipt of the first number of a publication with correct address, is evidence that the publishers have received the money and recorded the subscription. If publications do not reach subscribers in reasonable time, write us, always giving full particulars, name of publication, name of subscriber, etc.

NAMES.	Place.	Frequency.	Their Price	Combina- tion.	NAMES	Place.	Frequency.	Their Price	Com- bina- tion.
American Architect	New York	Weekly	\$6 00	\$6 25	Illustrated London News	London	Weekly	\$6 00	\$6 25
American Electrician	New York	Monthly	1 00	1 25	Inter-Ocean	Chicago	Weekly	1 00	1 25
American Federationist	Washington	Monthly	1 00	1 25	Iron Age	New York	Weekly	5 00	5 25
American Inventor	New York	Monthly	1 50	1 75	Ironmonger	London	Weekly	4 00	4 25
Architect and Builders Magazine	New York	Monthly	2 00	2 25	Ladies' Home Journal	Philadelphia	Monthly	1 00	1 25
Architectural Record	New York	Monthly	3 00	3 25	Leslies' Monthly Magazine	New York	Monthly	1 00	1 25
Architectural Review	London	Monthly	4 00	4 25	Literary Digest	New York	Weekly	3 00	3 25
Atlantic Monthly	Boston	Monthly	4 00	4 25	Machinery (Engineering Edition)	New York	Monthly	2 00	2 25
Boys' Own Paper	London	Weekly	1 75	2 00	McClure's Magazine	New York	Monthly	1 00	1 25
Brick-Builder	Boston	Monthly	5 00	5 25	Mines and Minerals	Seranton	Monthly	2 00	2 25
British Architect	London	Weekly	6 00	6 25	Modern Methods	Detroit	Monthly	50	1 00
Buffalo Express, Illustrated	Buffalo	Weekly	2 00	2 25	Montreal Herald	Montreal	Daily	3 00	3 25
Builders' Journal	London	Weekly	3 50	3 75	Montreal La Presse	Montreal	Daily	3 00	3 25
Camera	Philadelphia	Monthly	1 00	1 25	Montreal Witness	Montreal	Daily	3 00	3 25
Canada First	Toronto	Monthly	1 00	1 25	Motor Age	Chicago	Weekly	2 00	2 25
Canadian Magazine	Toronto	Monthly	2 50	2 75	Motoring, Illustrated	London	Weekly	2 25	2 50
Cassiers' Magazine	New York	Monthly	3 00	3 25	Municipal Journal	New York	Monthly	3 00	3 25
Chemical News	London	Weekly	5 25	5 50	National Builder	Chicago	Monthly	2 00	2 25
Colliers' Weekly	New York	Weekly	5 25	5 50	National Monthly	Toronto	Monthly	1 00	1 25
Commercial Intelligence	London	Weekly	5 00	5 25	New York Clipper	New York	Weekly	4 00	4 25
Compressed Air	New York	Monthly	1 00	1 25	New York Commercial	New York	Daily	6 00	6 25
Cooking School Magazine	Boston	Monthly	1 00	1 25	North American Review	New York	Monthly	5 00	5 25
Cornhill Magazine	London	Monthly	2 50	2 75	Our Dumb Animals	Boston	Monthly	50	75
Delineator	New York	Monthly	1 00	1 25	Outing	New York	Monthly	3 00	3 25
Electrical Engineer	London	Weekly	4 50	4 75	Ottawa Citizen	Ottawa	Daily	3 00	3 25
Electrical Magazine	London	Monthly	2 25	2 50	Ottawa Free Press	Ottawa	Daily	3 00	3 25
Electrical Review	London	Weekly	5 75	6 00	Pearson's Magazine	New York	Monthly	1 00	1 25
Electrical World and Engineer	New York	Weekly	3 00	3 25	Photographic Journal	London	Monthly	2 00	2 25
Electrician	London	Weekly	7 30	7 50	Photographic Times	New York	Weekly	1 00	1 25
Electro-Chemical Industry	New York	Monthly	2 00	2 25	Photography	London	Weekly	2 25	2 50
Engineering and Mining Journal	New York	Weekly	5 00	5 25	Popular Science Monthly	New York	Monthly	3 00	3 25
Engineering Review	New York	Monthly	1 00	1 25	Power	New York	Monthly	1 00	1 25
Engineering Review (Fieldens)	London	Monthly	3 05	3 25	Queen, The	London	Weekly	10 00	10 25
Everybody's Magazine	New York	Monthly	1 00	1 25	Review of Reviews	London	Monthly	2 00	2 25
Field and Stream	New York	Monthly	1 50	1 75	Scientific American	New York	Weekly	3 00	3 25
Forest and Stream	New York	Weekly	4 00	4 25	Scribners' Magazine	New York	Monthly	3 00	3 25
Four Track News	New York	Monthly	1 00	1 25	Sporting Times	London	Weekly	1 00	1 25
Gentlemen's Magazine	London	Monthly	4 00	4 25	Street Railway Journal	New York	Monthly	3 00	3 25
Girls' Own Paper	London	Weekly	1 75	2 00	Toronto Saturday Night	Toronto	Weekly	2 00	2 25
Good Housekeeping	Toronto	Monthly	1 00	1 25	Toronto Sunday World	Toronto	Weekly	2 00	2 25
Good Road's Magazine	New York	Monthly	1 00	1 25	Youth's Companion	Boston	Weekly	1 75	2 00
Hardware Dealers' Magazine	New York	Monthly	1 00	1 25	Weldon's Ladies' Journal	London	Monthly	1 25	1 50
Harpers' Magazine	New York	Monthly	4 00	4 25	Winnipeg Free Press	Winnipeg	Daily	3 00	3 25
Harpers' Weekly	New York	Weekly	4 00	4 25					

**The Canadian Manufacturer Publishing Co., Limited,**  
**TORONTO, CANADA.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.





**Pages Missing**