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FOR your winter supply of sand. SAND

REGISTERED M. L. S. C. L. V. L. V. C. O. O. HESPERIA, ONT. ADARHONTECO HESPERIA, ONT. MACHINISTS' APPS SEND FOR CATALOGUE.

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

Vol. 39.

TORONTO, OCTOBER 20, 1899.

No. 8.

MAGNOLIA METAL

ANTI-FRICTION
Used by all the
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THE BEST ANTI-FRICTION METAL
FOR ALL MACHINERY BEARINGS

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The Farbenfabriken vorm. F. Bayer & Co.
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"QUEEN'S HEAD" GALVANIZED IRON.

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Stands First in quality, in Uniformity of Rolling, and in Perfection of Galvanizing.

EVERY SHEET GUARANTEED.

Insist on your Jobber supplying

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RUBBER GOODS OF ALL KINDS.



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REFINED AIR FURNACE

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ALSO LIGHT GREY IRON CASTINGS.

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Manufactured by the

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is Equal to any Cement made in the **WORLD.**

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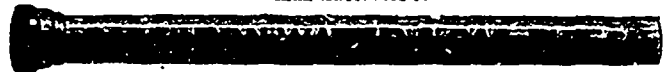
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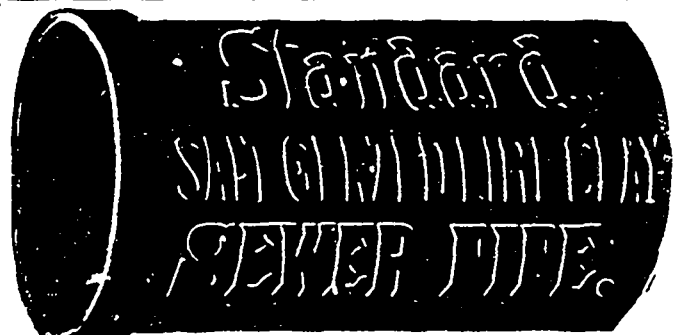
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50 WHEELLOCK and IDEAL ENGINES

SOLD IN EIGHT MONTHS THIS YEAR, 1899, and
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WE ALSO MAKE WHEELLOCK ENGINES, IDEAL ENGINES, GAS AND GASOLINE ENGINES,
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Highest Awards at the World's Fair, Chicago, upon

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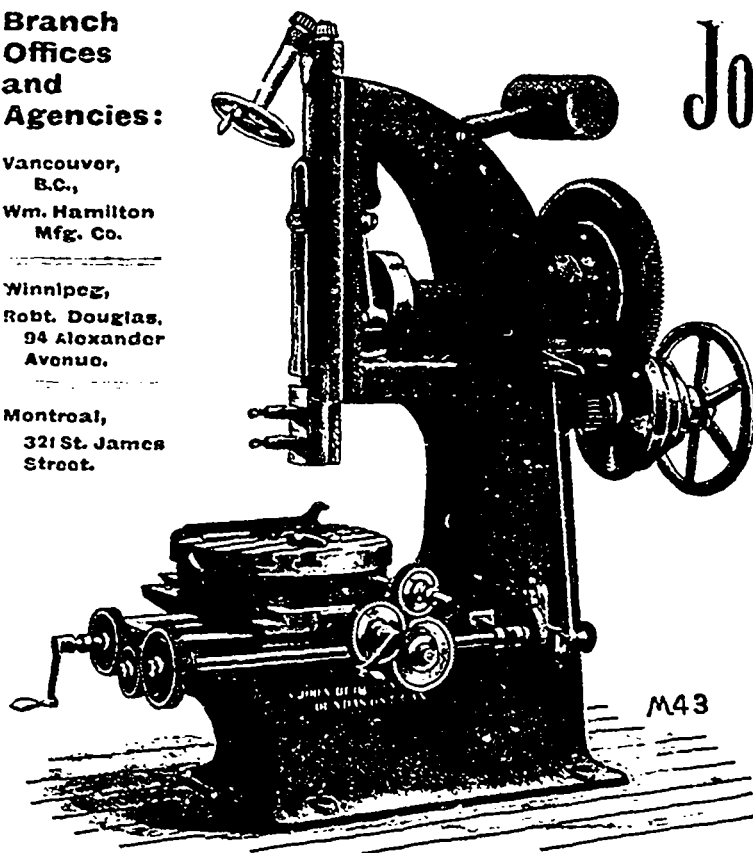
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Tee Rails, 12, 18, 24 and 28 lbs. per yard

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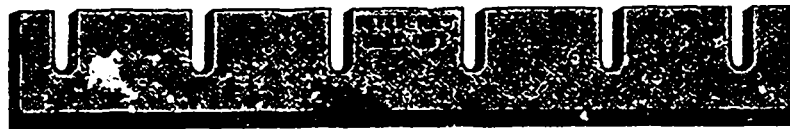
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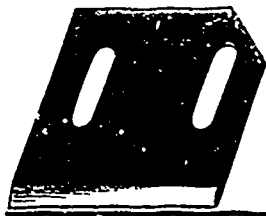
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Shear Blades,
Straw Knives,
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Quality Guaranteed

Special Knives Made to Order.

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Steel Bridges for Railways and Highways,
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Tables, giving Sizes and Strength of Rolled Beams on application.

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 PROVIDENCE
 CHARLOTTE, N.C.
 MONTREAL, CANADA

DYE . . .
 — STUFFS

The Polson Iron Works, TORONTO CANADA.

THE BEST EQUIPPED BOILER AND ENGINE WORKS IN CANADA.

We Manufacture—

STEEL BOILERS

The BROWN AUTOMATIC ENGINE, MARINE ENGINES (SINGLE, COMPOUND AND TRIPLE), Hoisting and Mining Engines
 STEEL STEAM VESSELS OF EVERY DESCRIPTION. STEAM YACHTS AND LAUNCHES.

GET OUR PRICES BEFORE ORDERING.

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CHEAPEST AND BEST

Bicycle Screw Plate

14 PAIRS DIES—22 TAPS

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Galvanizing

DONE FOR THE TRADE.

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



Mills, Factories, Warehouses

Are best protected
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equipped with

Eddy's Indurated Fibreware FIRE PAILS

We are the only manufacturers in Canada
of this celebrated ware.

The E. B. EDDY CO., Limited.
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THE
PETERBOROUGH
CANOE CO. LTD.
PETERBOROUGH,
Ont. Canada.
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WEBSTER VACUUM Feed Water Heater

IN PROPORTION

MAXIMUM
EFFICIENCY
ECONOMY
DURABILITY
CONVENIENCE
SIMPLICITY

To the extent that Feed Water
Heaters in general are investi-
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the WEBSTER VACUUM FEED
WATER HEATER and PURIFIER
is appreciated.

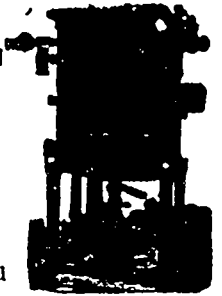
MINIMUM
ATTENTION
SPACE
WASTE
REPAIRS
COST

← FOR THE REASON THAT IT REPRESENTS →

BEFORE PURCHASING ELSEWHERE GET A BID FROM US.

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

Satisfying particulars, embracing details of construction, materials, operation, and exclusive results will be sent on application. Built in several types and construction for special needs and service.



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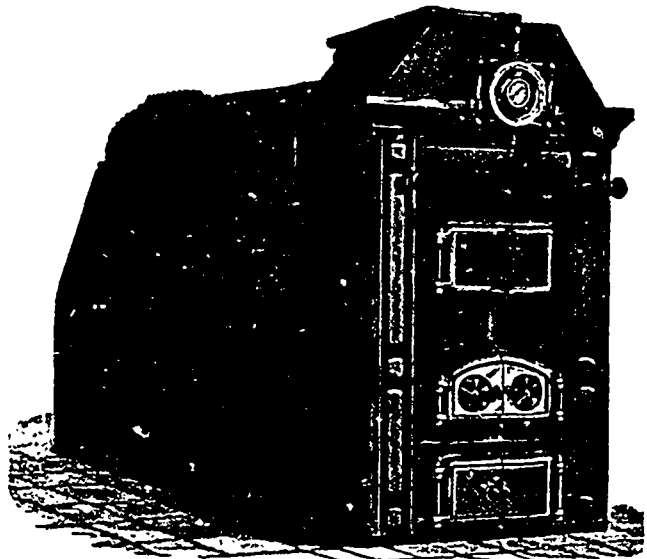
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DELIVERY MADE AT NEW YORK, MONTREAL OR HAMILTON.

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AGENTS,

Mumford's Improved Boiler.



Has internal fire-box. Water circulation similar to a Water-Tube Boiler. Large heating surface, and special arrangements for preventing and removing scale. Tests show high economy. Built with sheet steel case, or for brick casing, as desired.

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WM. MCKAY, - Seaforth, Ont., - Traveller.

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The Wellington Mills, *LONDON, ENG.*
GENUINE EMERY

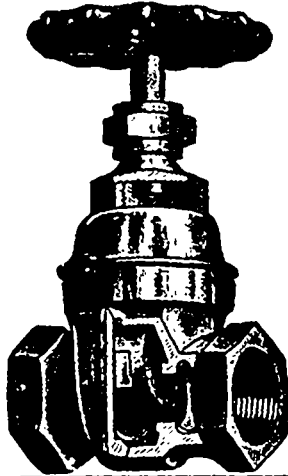
Oakoy's Flexible Twilled Emery Cloth.
 Oakoy's Flint Paper and Glass Paper.
 Oakoy's Emery Paper, Black Lead, Etc.

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

Manufacturers **JOHN OAKY & SONS, LIMITED,** Wellington Mills,
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Inquiries should be addressed to

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The WEBBER Patent
STRAITWAY VALVE

For
 ...Steam, Water or Gas...

EVERY VALVE TESTED.

The Kerr Engine Co., Limited

WALKERVILLE, ONT.

Sole Manufacturers for Canada. Send for
 Price List.

The CANADIAN
RUBBER COMPANY

OF MONTREAL



This is a facsimile of the Brand
 upon our Fast-running
 ELECTRIC BELT.

Manufacturers of
RUBBER BELTS
 FOR ALL PURPOSES,
RUBBER HOSE

OF ANY DESCRIPTION,
 AND
 A FULL LINE OF

.. RUBBER GOODS ..

Factories and Head Offices, - **MONTREAL.**

BRANCHES:

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ABSOLUTELY ACCURATE

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

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Current
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Entire
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FOR SALE IN CANADA EXCLUSIVELY BY

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"FOR ALL DUTIES"

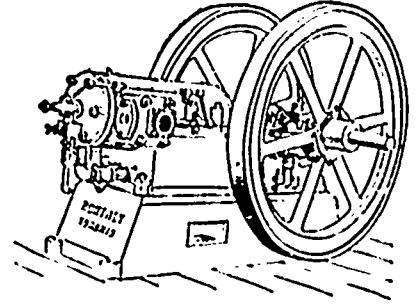
NORTHEY GASOLINE ENGINE

Most Satisfactory Power in the Market.

We have equipped some of the largest manufactories in Canada with our Feed, General Service and Stuff Pumps. In no case have they failed to give entire satisfaction, nor in proving that the Northey Pumps for all duties are unsurpassed for design, up-to-date features and reliability.

Our Catalogue is yours for the asking.

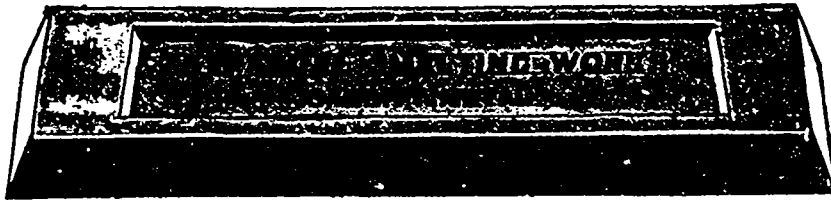
Northey Mfg. Co. Limited, Toronto
1000 KING ST. SUBWAY.



Use Syracuse Babbitt Metal

IT IS THE BEST AND CHEAPEST FOR

WORKS :
332 WILLIAM STREET,
MONTREAL,
Canada
AND
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Paper and Pulp Mills, Saw and Wood Working Machinery, Cotton and Silk Dynamos, Marine Engines and all kinds of Machinery Bearings.

Pig Tin, Lead Ingot, Copper, Brass, Aluminum, Zinc, Spelter, Antimony, etc., furnished promptly.

SYRACUSE SMELTING WORKS.

AGENTS IN CANADA :—A. R. WILLIAMS MACHINERY CO., Toronto; MECHANICS SUPPLY CO., Quebec; JOHN J. BARRY, St. John, N.B.; H. H. FULLER & CO., Halifax, N.S.

Electrical Contractors

Should send at once for our NEW PRICE SHEET, which is the most up-to-date Sheet of its kind.

EVERYTHING IN THE ELECTRICAL SUPPLY LINE....

Full Wholesale Prices.

Write for one.

JOHN FORMAN, - 644 Craig Street, - Montreal.

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ESTABLISHED IN 1890.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

Official Organ of the Canadian Manufacturers' Association.

SUBSCRIPTIONS:

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

The Canadian Manufacturer Publishing Co., Limited.

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

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

AUTHENTIC INFORMATION.

As heretofore explained, the information relating to the conditions of commercial trade throughout the world published regularly in the pages of THE CANADIAN MANUFACTURER, is obtained from the most authentic and official sources. Through the courtesy of the Dominion Government we are supplied with all the publications issued by the Department of Trade and Commerce having reference to the subject, in which are included the reports to the Department of our commercial agents in different countries, as well as the tabular and other statements relating to Canadian trade; and by the instructions of Lord Strathcona, High Commissioner for Canada in London, we are in regular receipt of just such information as he sends to our Government at Ottawa, obtained through his office in London bearing upon the subject. We are also under constant obligations to the Bureau of Statistics of the Treasury Department of the United States Government, and other Departments also, for all current literature published by them affecting the trade and commerce of that country, including the daily bulletins containing the reports of the American consuls, vice consuls and commercial agents in all parts of the world. Feeling that something more was to be desired in this direction, the Secretary of the Canadian Manufacturers' Association (the editor of this journal), put himself in communication with Lord Strathcona, requesting his kindly service in obtaining similar publications from the British Government, in reply to which comes a letter to him from J. G. Colmer, Esq., Secretary to Lord Strathcona, which explains itself as follows:

follows:—

17 Victoria Street, London, S. W.,

September 26th, 1899.

DEAR SIR,—I am directed to acknowledge receipt of your letter of 21st ult., and to inform you that the High Commissioner had much pleasure in communicating in due course with the proper authority regarding your desire to obtain the regular supply to your Association of the Diplomatic and Consular Trade Reports to which you referred.

Lord Strathcona is now advised by the Colonial Office that, having referred the matter to the Foreign Office, they are in-

formed by that Department that the Marquis of Salisbury has much pleasure in complying with the request of the Canadian Manufacturers' Association to be regularly supplied with the Diplomatic and Consular Trade Reports as they appear.

These Reports will accordingly be sent direct to you from the Foreign Office as and when they are issued.

Yours faithfully

J. G. COLMER.

We are quite sure that all members of the Association, all readers of the CANADIAN MANUFACTURER, and all who are interested in the development of Canadian export trade, will appreciate the authentic information we are constantly laying before them on this important subject.

AN OUTRAGEOUS TYRANNICAL LAW.

Those who believe that there should be a change in our system of taxation so that departmental stores could no longer evade the paying of taxes in proportion to the benefit derived by them from the uses to which taxes are put, will be interested to know that the State of Missouri has passed a law aimed against the departmental stores. This law divides merchandise into twenty-eight classes, and hereafter in any city in the State with a population of fifty thousand or over, no merchant can handle more than one of these classes of merchandise without paying a license for each additional class of from \$300 to \$500, as may be determined by municipal enactment. In each city the Governor of the State appoints a commissioner to enforce the operation of this law.—Toronto Saturday Night.

This is one of the most iniquitous laws that was ever enacted, and the sooner the legislature of Missouri expunges it from its statute books the better. If such a law were in operation in Canada it would strike a most serious blow to many of our manufacturing industries, to say nothing of the injury it would inflict upon the community at large. It proves that the days of Don Quixote have not entirely passed away—that there are foolish ones who fight windmills to-day with as much ill-directed vigor as in the days of Spanish chivalry. If it is right and proper that the law should divide merchandise into classes and prohibit a merchant from selling more than what is contained in one of them, without paying a heavy additional license for each additional class, it should be equally right to similarly restrict the manufacture of the merchandise, classifying and declaring what articles a manufacturer might be permitted to make, and to punish him severely if he should encroach upon any other line or classification. And yet there are those who profess great interest in the prosperity of our manufacturers who applaud and sanction the enactment of the outrageous Missouri law.

THE METRIC SYSTEM OF MEASUREMENTS.

The Canadian Manufacturers' Association has been presented by Sir Henri Joly de Lotbiniere, Minister of Inland Revenue, with a set of metric measures according to the system used in France, accompanied by a map explanatory of the system, which shows the different measures of length, weight, capacity, surface, volume and coin and money. Upon receipt of these important articles a sub-committee of the Executive Committee, consisting of a number of our most intelligent manufacturers conversant with the matter, was appointed to investigate it and to consider if it would be in

the best interest of Canada to adopt the system at this time, whose report will appear in these columns in due time.

In a note sent by Sir Henri accompanying the articles are the following comments by him :—

The metric system of weights and measures is now in use by all civilized nations, except Great Britain, the United States and Russia, and late events point to its early adoption by Great Britain and the United States, not only on account of its undeniable superiority over the present system, but as a matter of necessity, for the preservation of their foreign trade which is being seriously handicapped in competition with foreign manufacturers who derive a considerable advantage by the use of weights and measures with which their customers are familiar and which they understand at once, without special study or risk of mistake.

We must gradually prepare for the adoption of the Metric System in Canada. If we compare the two we shall soon find out how much the metric system of weights and measures is preferable to our present confused and irrational system, (or rather want of system) just as we found, some years ago, how much easier it is to calculate in dollars and cents, than in pounds, shillings, pence, half pennies and farthings.

The whole metric system is based on a single unit, the metre, a measure of length, one ten millionth part of the distance between the Equator and the Pole. True, a very slight error has been discovered in that measurement, (which prevents it from being theoretically perfect.) However much this may be regretted it does not interfere with the special advantage of the system over all others, which consists in its being entirely based and built upon that one single unit of length, the Metre, so that not only length, breadth, and depth, but weight and capacity, for both liquids and solids are all deducted from the metre, and portions thereof, with the additional improvement that all calculations are on the decimal principle, both for fractions and multiples. For instance the contents of a cubic decimetre (the deci-metre is one tenth part of a metre as its name indicates) of distilled water at a temperature of 39.2 degrees Fahrenheit give the weight of the Kilogramme, (a little over two of our pounds) which divides in a thousand grammes and the gramme in a thousand parts, decigrammes, centigrammes, milligrammes. That same cubic decimetre represents the unit of capacity the Litre both for liquids and grains the whole subdividing in decimals, and the very names of the fractions and multiples indicate on their face their relative values.

Compare the simplicity and logical concordance of the Metric System, with its single unit meeting every possible case and all expressed in decimals, with our present irresponsible system, under which, for instance, the yard is divided into three feet, the foot in twelve inches, the inch in eight parts, where the Dominion standard pound (to deal with that one only, the others are not better) is subdivided in sixteen ounces, the ounce in sixteen drams and the one seven-thousandth part of a pound is a grain, where the gallon is subdivided into four quarts, the quart into two pints, where two gallons make a peck, eight gallons a bushel, etc., etc.

It is easy to master the Metric System; once understood, its superiority cannot help being acknowledged, and we should gradually prepare for its welcome instead of waiting until it is imposed on us.

The samples of weights and measures sent with these notes are, the Minister is informed, similar to those found in all the primary schools in France, and they are especially intended to serve for object lessons.

The Metric System, although not the one in use in Canada, is, however, optional in this country. In England the subject of its adoption has been lengthily discussed of late years, and its cause has many strong adherents.

What is the metric system?

It is explained as follows.

The distance from the poles to the equator, divided in ten

millions of parts, has given a measure which has served as a base to the metric system, and has been called metre, or linear metre.

This system of measurement divides itself in different branches. There is the measurement of lengths, the measurement of surface, the measurement of volume, of capacity, of weights, and even of coinage, in France.

A summary of the nomenclature and explanations of the different names to the different forms of measurement in the metric system would be about as follows.

The "square metre" is a square, of which every side has the length of one metre.

The "are" is a surface equal to one hundred square metres.

The "cubic metre" is a cube, one metre to each side.

The "stere" is a volume which equals one cubic metre.

The "litre" is a measure whose contents is the equal of a "cubic decimetre."

The "gramme" is the weight of one "cubic centimetre" of distilled water.

The "franc" weighs five "grammes."

These units divide themselves as follows :

(1) Myriametre.....	10,000	metres.
(1) Kilometre.....	1,000	"
(1) Hectometre.....	100	"
Decameter.....	10	"
Metre.....	1	"
Decimetre.....	0.1	"
Centimetre.....	0.01	"
Millimetre.....	0.001	"

(1) The above are measures of distance of which the metre is the unit.

(1) Myriametre q.....	100,000,000	m.q.
(1) Kilometre.....	1,000,000	m.q.
(1) Hectometre.....	10,000	m.q.
Decametre.....	1000	m.q.
Square metre.....	1	m.q.
Decimetre.....	0.01	m.q.
Centimetre.....	0.001	m.q.

(2) Hectare.....	100	a
(2) Aro.....	1	a
(2) Centiare.....	0.01	a

(1) Topographical measures, of which the metre is the unit.

(2) Agrarian measures.

(1) Decestero.....	10	s.t.
(1) Stere.....	1	s.t.
(1) Decistero.....	0	s.t. 1
(2) Cube metre.....	1	m.c.
(2) Cube decimetre.....	0.001	m.c.
(2) Cube centimetre.....	0.0001	m.c.

(1) Fuel, wood, measure.

(2) Measure for material. No multiples. Counting is made in tenth, hundredth, etc.

Hectolitro.....	100	L.
Decalitre.....	10	L.
(1) Litro.....	1	L.
Decilitro.....	0.1	L.
Centilitro.....	0.01	L.

(1) The measures for grains and liquids.

(1) Kilogramme.....	1 kilo. or 1,000	gr.
Hectogramme.....	100	gr.
Decigramme.....	10	gr.
Gramme.....	1	gr.
Decigramme.....	0.1	gr.
Centigramme.....	0.01	gr.
Milligramme.....	0.001	gr.

(1) Usual units of the measures for weights.

(1) Franc.....	1	fr.
Decimo.....	0.1	fr.
Centimo.....	0.01	fr.

(1) No multiples. Counting by tenth, hundredth, etc.

As can be seen by the above examples the metric system is a simple one to learn as its additions or deductions from the original measure the "metre," be it called by the names of "are," "stere," "litre," or "gramme," are all made by decimals, or tenths of units.

BRITISH COLUMBIA IRON ORE.

Mr. Abraham Halsey, Secretary of the Puget Sound Iron Company, writing to Mr. James M. Swank, of the American Iron and Steel Association regarding the source of his company's supply of iron ore, says:—

The blast furnace owned by the Puget Sound Iron Company, at Irondale, in the State of Washington, has been closed down for several years. While running we made a very superior charcoal iron, selling it here for from \$25 to \$35 per ton for car-wheel, steam cylinders and choice work of any kind. The cylinders on the famous battle-ship Oregon were made from our iron. We were unfortunate in securing a manager for our furnace, and our people closed it down.

Our iron ore is obtained from Texada Island, British Columbia, where we have over 2,400 acres of land, upon which our iron-ore mines are located. Within 600 feet of the shore line the ore crops out in great quantity, and continues, almost uninterruptedly, for two miles, and nearly parallel with the coast line of the island. Below I give two analyses of the ore made several years ago.

Iron, per cent.....	69.85
Manganese.....	trace.
Silicious matter.....	2.75
Sulphur.....	.06.
Phosphoric acid	trace.
Moisture.....	trace.

This analysis is taken from a pamphlet on the "Iron Making Resources of British Columbia," as illustrated at the Colonial and Indian Exhibition, and was made long before we had any interest in the property. Analyses since made for us more than confirm it. Practically our ore worked seventy-two per cent. in the furnace.

The following analysis was made on June 26th, 1874, by Edward I. Chapman, Professor of Mineralogy, etc., at the University College, Toronto.

Protoxide of iron, per cent.....	28.33
Sesquioxide of iron.....	67.31
Oxide of manganese.....	trace.
Titanic acid.....	.11
Phosphoric acid.....	.07
Sulphuric acid.....	.09
Silica and silicious rock matter	3.97

Returns equivalent to 69 per cent. of metallic iron ; .03 per cent. of phosphorus ; .036 per cent. of sulphur ; and .067 per cent. of titanium.

It is perfectly safe to say that over 5,000,000 tons of iron ore, assaying 68 per cent. of metallic iron, is in sight, on the surface, to be picked up without underground work of any kind. English engineers estimated 11,000,000 tons in their reports to their governments, before we became the owners of the property. Hence I am safe to cut their estimate more than one-half. Texada is a well-wooded island, and our land is covered with the finest kind of timber and some alder, etc. The Comrox coal mines and coke ovens are distant across the strait of Georgia about 18 miles, in plain sight from our property.

The property should now be revived and utilized to supply home as well as Oriental demand. It will bear the severest scrutiny by the most competent and cautious experts, and we invite it to the fullest extent.

About one and a half years ago I visited the property on business, and found also strong indications of copper, and in close connection with the iron deposit or mine from which we took the iron ore to supply our furnace. We have been working in a small way to develop that copper prospect for the past year, but with gratifying results, and we are not yet satisfied, but incline to the opinion that we will develop a copper property perhaps quite as valuable as the iron ore deposit. I will be pleased to show the property, or will furnish further data and information.

We have just sold to the Union Iron Works, of San Fran-

cisco, the builders of the Oregon, 666 tons of our charcoal pig iron.

It would, in our opinion, pay the Puget Sound Iron Company to remove their Irondale works to British Columbia or erect new works there for the manufacture, from which to supply their Oriental demand, and at the same time enjoy the bonus paid by the Dominion Government upon the production of iron in Canada.

THE DOMINION IRON AND STEEL COMPANY.

A few weeks ago in consequence of the sinking of a steamer in the Sault Ste. Marie river, by which navigation was suspended for about a week from all Lake Superior to lower ports, great distress was felt, especially by the Chicago, Cleveland, Buffalo and other iron furnaces because of the interruption of their supplies of ore; and this emphasizes the fact that although American furnaces that depend upon ore mined in the Lake Superior region enjoy remarkable facilities for obtaining them, there is always a possibility of interruption through just such incidents as that here alluded to.

Their ores are exceedingly rich in metallic iron, their mines are easily worked, they are contiguous to good harbors and deep water, their ore-carrying vessels have very large capacity and are speedy in their movements, and the facilities for loading and unloading and otherwise handling ore cannot be excelled, perhaps not equalled anywhere. It should be observed, however, that the locations of these lake port furnaces are such that they are not contiguous to their sources of supply of either ore or fuel and that water transportation is possible to them only about eight months of the year. It should also be observed that under the advantages possessed by these furnaces, and in the face of the disadvantages, the iron industry and the collateral trades incident thereto in the lake regions of the United States, have assumed the most remarkable importance, and have contributed to a great extent in placing that country far in the lead of all iron producing nations.

Whatever may be said of the lake regions and centers of iron production of the United States, considering their facilities for production, may with equal force be spoken regarding the lake regions and centres of Canada, for if we are so inclined we can draw upon these American sources for our supplies both of ore and fuel, the water facilities being common to both countries; but it is only a matter of time when our own iron mines bordering on Lake Superior will be opened up; and the same may be said of mines in the more eastern portions of Ontario. Of course we know that ore from some of these mines is now being used in both Canadian and American furnaces.

Great as are the possibilities of Ontario in the development of an iron industry similar to that of the United States bordering on the Great Lakes, those of Nova Scotia are infinitely greater in that the supplies of both ore and fuel are cheaper, more accessible and not handicapped by a limited season during which water transportation is available; and it really seems that the recently organized Dominion Iron and Steel Company, who are now pushing the construction of their new furnaces and other works in Cape Breton, having control of all the capital they may require, will soon be in a position to manufacture iron and steel at lower cost than any other concern in the world. In addition to the command the

Company have of most of the known iron ore deposits in different parts of Nova Scotia, and in New Brunswick also, most of which are of superior quality, they also own or control some very remarkable deposits in Newfoundland that are contiguous to deep water harbors that are accessible the year round. Nothing has contributed so much to the cheapening of iron in the West as the increased size of the vessels that navigate the upper lakes. It is well known that the larger the cargo a ship can take the cheaper freight rates will be. But there is a limit to the size of ships that can go through the Sault canals and they would have to be greatly enlarged and the lake harbors would have to be deepened at enormous expense before boats drawing twenty-four feet of water, such as can reach the piers at low tide, in a great many harbors in our maritime provinces and in Newfoundland could be accommodated. Indeed these provinces abound in magnificent harbors capable of accommodating not only the largest ships now on the ocean but much bigger ships than any yet built.

Ore from the Lake Superior mines can only be shipped by water for about eight months of the year, lake navigation being closed during the winter. There are thirteen harbors in New Brunswick and Nova Scotia open throughout the year, viz., St. John and St. Andrews in New Brunswick, and Halifax, Louisburg, Yarmouth, Annapolis, Barrington, Liverpool, Lockport, Lunenburg, Parrsboro and Shelbourne in Nova Scotia, besides a host of good harbors which are open nine months of the year. The iron ores in every section of the Maritime Provinces are within easy reach of seaports and could be transported to Sydney or Louisburg at all seasons of the year.

EDITORIAL NOTES.

The intelligence that during the month of August just past, Canada's export trade reached an advance of nearly six millions over the record of August last year, while her import trade increased at the same time by more than three millions, will gladden the heart of every Canadian. We are getting our share of the world-wide prosperity that has set most industries at home and abroad working double time; and, more than that, Canada seems at last to be coming into her great opportunity. The Republic to the south is full, and the next land on the world's list for development is the free and rich Dominion to the north of it. It is not only our Yukon country which is "booming," nor yet the mining ranges of British Columbia, but the vast iron wealth of the Maritime Provinces is at last receiving proper attention, and we shall soon be competing with the world in supplying that metallic back-bone of production.—Montreal Star.

A high authority makes the wise suggestion that "advertising should be planned on the presumption that it is going to be permanent." In other words, it should be considered as a distinctive and systematic part of the merchant's business. Sporadic trade announcements cannot be continuously beneficial. It is true that they often bring about a spurt in sales; but when they have run their brief course they and the wares described in them are forgotten by the public. On the other hand, the continued publication of business announcements in a trade paper such as THE CANADIAN MANUFACTURER, which, because of its reliability and excellence, has become popular and influential with the public in general, will produce constant and satisfactory financial returns.

The Canadian commissioners for the Paris Exhibition have decided to recommend that the exhibits be sent by regular steamer instead of by one of the Government vessels, as was first proposed. The only vessels available from the Government fleet were the Newfield and the Stanley. Both are comparatively slow boats, but the greatest drawback was the fact that their carrying capacity was very small. Hence it has been decided to acquire space on the steamship line running to Antwerp, and send the exhibits on from Antwerp to Paris by railway.

The sixty-seventh semi-annual meeting of the New England Cotton Manufacturers' Association was begun in Montreal on October 5th. The association was welcomed to Montreal by the Mayor and Mr. A. F. Gault, president of the Montreal Cotton Company, after which the president of the association, Mr. Frederick E. Clarke, of Boston, delivered his annual address, and a number of papers were read. The hosts of the association were the Dominion, Merchants' and Montreal Cotton Companies.

The National Export Exposition number of "The Manufacturer," published by the Manufacturers' Club, Philadelphia, contains many pleasing pictures and a wealth of well written matter descriptive of the Exposition. The articles treat the exhibits from an intelligent point of view, explaining many things which the casual visitor would overlook, and whose benefits he would miss, had he failed to spend a pleasant hour in a perusal of the number. Besides Exposition matter the magazine contains many articles of value to manufacturers generally, and particularly to those who look abroad for a market for their wares.

The Wentworth Cannery Association is doing a rushing business these days, and more tomatoes have been canned up to date than the whole output of last year. The rush of empty cars to the North-West for grain is making low freight rates for North-West points, and the wholesalers are buying largely for North-West business. The Cannery Association is going largely into apple canning for export, and hopes to be able to prove that this way of exporting apples is better than any other. Careful selection is being made of the fruit, which is being canned in classes, each class separately.—Hamilton Spectator.

The annual meeting of the Canadian Fire Underwriters' Association was held in the city of Quebec Sept. 20th, presided over by Mr. T. H. Sims, of Toronto. About thirty members, representing all the Canadian companies, were in attendance. According to the reports of the commissioners and inspectors ninety cities and towns were inspected during the past year, some of them twice; some 5,000 manufacturing risks also received the visits of the inspectors for Montreal and Toronto; over 10,000 ordinary risks were also visited. The underwriters consider the inspection of electrical installations of the greatest importance. Two fire cases occurred recently in Montreal where the origin of the fires could be traced to the electric wires in the building. The underwriters hope that this question of electrical inspection will be taken up by the city councils of leading cities. The Canadian Association, after consultation with electricians, have framed a set of rules, but of course can enforce them only against insurers.

CANADIAN MANUFACTURERS' ASSOCIATION.

President:

J. F. ELLIS.

First Vice-President:

P. W. ELLIS.

Second Vice-President:

R. E. MENZIE.

Treasurer:

GEORGE BOOTH.

Chairman Executive Committee

R. W. ELLIOT.

Chairman Tariff Committee:

W. K. McNAUGHT.

The Executive Committee meet on the First Tuesday of each month.

OFFICES

McKinnon Building,
TORONTO.

Tel. 1274.

J. J. CASSIDEY, - SECRETARY.

THE OBJECTS OF THIS ASSOCIATION ARE:

To secure by all legitimate means the aid of both Public Opinion and Governmental Policy in favor of the development of home industry and the promotion of Canadian manufacturing enterprises.

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

To maintain Canada for Canadians. Any person directly interested in any Canadian manufacturing industry is eligible for membership.

CANADIAN INDUSTRIAL LEAGUE.

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WOOLEN MANUFACTURERS' ASSOCIATION,

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CARPET MANUFACTURERS' ASSOCIATION,

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President, **A. R. CLARKE.**

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TORONTO INDUSTRIAL EXHIBITION ASSOCIATION.

R. W. ELLIOT.

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A. E. KEMP.

J. J. CASSIDRY.

CANADA'S COMMERCIAL AGENTS.

The following Canadian Commercial Agents (whose addresses are given) will answer correspondence relative to commercial and trade matters, and give information to those interested as to local trade requirements in the districts they represent.

- J. S. Larko**, Sydney, N.S.W., agent for Australasia.
- G. Eustace Burke**, Kingston, Jamaica, agent for Jamaica.
- Robert Bryson**, St. John, Antigua, agent for Antigua, Montserrat and Dominica.
- S. L. Horsford**, St. Kitts, agent for St. Kitts, Nevis and Virgin Islands.
- Edgar Tripp**, Port of Spain, Trinidad, agent for Trinidad and Tobago.
- C. E. Sontum**, Christiania, Norway, agent for Sweden and Denmark.
- D. M. Ronnio**, Buenos Ayres, Argentine Republic, agent for Argentine Republic and Uruguay.

In addition to their other duties, the undermentioned will answer inquiries relative to trade matters, and their services are available in furthering the interests of Canadian traders.

- J. G. Colmer**, 17 Victoria Street, London, S.W., England.
- Thomas Moffat**, 16 Church Street, Cape Town, South Africa.
- C. H. Mitchell**, 15 Water Street, Liverpool, England.
- H. M. Murray**, 10 St. Enoch Square, Glasgow, Scotland.
- Harrison Watson**, Curator Imperial Institute, London, England.

IMPORTANT.—An enquiry addressed to **J. J. Cassidey, Secretary Canadian Manufacturers' Association, Toronto, Canada,** will place you in communication with the leading Canadian Manufacturers of the articles you mention. Merchants and Importers in all parts of the world are invited to make free and full use of the facilities afforded by this Association when they desire information about anything produced in Canada.
No charge whatever for answering inquiries.

DEAR MR. CASSIDEY,—

Just a line to congratulate you very heartily upon the great improvement visible in THE CANADIAN MANUFACTURER, and especially upon the valuable data which you are providing to those interested in Canadian development by such articles as that of Mr. George Johnson in your last number.

Very faithfully yours,
J. CASTELL HOPKINS.

"Treat the best customer in the best way," was a business maxim quoted by Osburn Howes, of the Boston Chamber of Commerce, in an address favoring closer trade relations between the United States and Canada, delivered before the Philadelphia Board of Trade a few days ago. Mr. Howes dwelt strongly upon the point of relationship of the American and Canadian, the similarity of habits, needs and wants "We sold to them," he said, "more of our goods and products than to all Central America and the West Indies. It is a fact that the people we sell most to are people who produce what we do, but we secure the bulk of the trade in that we produce better than any other country. Take an illustration at home. Massachusetts buys more from Pennsylvania than the entire Southern America. The people who live in a country where a cheese cloth serves for a covering will require the work of teachers and missionaries for generations to cultivate a need of the people of Canada. We have secured half of England's trade in Canada. Go into the Canadian

stores and you would not know but that you were in an American city from the display of the goods of the United States." Mr. Howes requested that a resolution be adopted by the Board of Trade expressing the purpose of the Board to support President McKinley in his efforts to effect a reciprocal trade treaty with the Dominion of Canada, which shall be to the general advantage of the manufacturer and merchants of the United States.—Philadelphia Inquirer.

There is a common impression that the leading steamship lines in Germany—the North German Lloyd and the East African lines—enjoy a subsidy of £321,500 a year for direct postal subsidies, and of £19,250 for the separate payments for carriage of mail bags, chiefly to North America, by lines other than the two just mentioned. The total expenditure under this head is therefore £343,750 a year in Germany, whereas the similar postal subsidies paid to the British steamship companies amount to £653,276 a year.—Iron and Coal Trades Review.

The Chief of the Bureau of Statistics at Washington in a circular letter calls attention to some changes in the arrangement of the Monthly Summary of Commerce and Finance sent out by his Bureau, beginning with the first volume of the current fiscal year; by which it is to be observed that certain information which seems likely to be useful to the producers, manufacturers and exporters of the United States

is brought to the opening pages of the volume with the purpose of making them readily accessible to all, while the tables which are each month consulted by those interested are transferred to other pages in the belief that they will be equally accessible to those regularly consulting them after their new location is established. This journal is under continual obligations to this Bureau for important publications issued by it, and from which at times we have occasion to draw liberally.

LITERARY NOTES.

The Electrical Trades' Directory and Handbook.—We are informed by the publishers that the eighteenth edition of this valuable book—for the year 1900—is in preparation, and will be ready for distribution in January next, fully corrected up to that date. It will contain a very carefully compiled list of British, colonial and foreign electricians, electrical engineers, electric light and power and traction engineers and contractors, electrical apparatus makers, plant and machinery builders, electrical, telegraph and scientific instrument makers, electric bell makers and fitters, electricity supply, telegraph and telephone companies, telegraph and telephone engineers, electric cable and wire manufacturers, and of all persons engaged in electrical pursuits throughout the world; also useful tables and data relating to electric light and traction, electric power transmission, electricity supply companies, telegraphs and telephones, home and foreign government departments, etc. Published by "The Electrician," Salisbury Court, Fleet Street, London, Eng.

BRITISH CANADIAN TRADE.

The following enquiries have been received at the office of the High Commissioner of Canada in London, England:

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

72. A large firm of general importers and buying agents are open to take charge of consignments of wood pulp and are desirous of corresponding with Canadian producers.

73. Manufacturers of cemented strapping for machinery, Welsh and English Roller skind, laces, and other leather goods, ask for names of Canadian houses to whom they can submit prices and samples.

74. The sole agency for consignments of first class Canadian butter and cheese is desired by a gentleman with good connection among large supply stores.

75. A commission agent in Antwerp is desirous of taking up the agency for a few first class canning and preserving companies.

76. An important firm of salesmen and government contractors ask for the names of reliable shippers of timothy and mixture hay for delivery over the next three to six months.

77. Enquiry has come to hand from a Swansea house who desire to import cheese and butter direct. They point out incidentally the desirability of cheese being marked with the correct date of make.

78. A Bradford firm are wanting to import direct from Canada cattle hides and other animal products, and request to be placed in communication with suitable firms.

79. White birch caps for mucilage bottles and brush handles for the same, with rattle-shellac finish, are required in considerable quantities by a firm in London who wish to correspond with a Canadian house manufacturing turnery which can supply demand promptly.

80. An enquiry has been received from Ireland for the names of a few shippers of Canadian barley.

81. The Antwerp agent of the Canadian Government has been requested by a Belgian house to furnish the names of some exporters of eggs from the Dominion.

TRADE POSSIBILITIES IN DENMARK.

Consul Halstead says:

The inclosed card, addressed to the editor of the London Daily Mail, draws attention to trade possibilities in Denmark and should receive some attention.

If English merchants make an effort, they can secure a market worth £10,000,000 a year.

This is the present value of Danish imports from Germany, and the bulk of this business is to be had by England for the taking.

Merchants and shopkeepers here are anxious and willing to do business with English firms, but complain that the latter are not ready to meet them halfway by adapting themselves to Danish requirements. This is the old, old story of blind conservatism.

The present chance is one that comes once in a generation. British merchants have but to seize it boldly, and the victory is theirs. But they must strike while the iron is hot.

CANADIAN COMPETITION WITH THE UNITED STATES IN GREAT BRITAIN.

United States Consul James Boyle, at Liverpool, England, has recently made a report to his Government that is eliciting a great deal of comment not only in the United States but in Great Britain also, and which deserves to be well studied by Canadians. We make liberal drafts upon Mr. Boyle's report as follows:—

"The statistics of the British blue book on trade for 1898 (recently issued) present two striking facts—that the notable increase in American imports last year was chiefly in manufactures, and that Canada is the leading competitor of the United States in forest and farm products. This Canadian competition in the British market is now keener than it ever was, and American farmers and shippers would be wise to appreciate the fact that the outlook is that it will increase. That there should be competition is inevitable, owing to the similarity of the natural and farm productions of the United States and Canada and the equi-distance of the two countries from this market. But during the past two years the Canadian trade has been given a great impetus through the operation of a system of Government supervision and subsidies. Possibly influenced by the Canadian example, Russia is shortly to introduce the experiment of subsidizing a cold-storage service on ships bringing dairy products to Great Britain, and already Russia sends enormous quantities of these products to this market.

"In the annual for 1899 of the British Co-operative Wholesale Societies (which do a yearly business of \$60,000,000) there is a long article on Canada and its productions, from which is taken the following statement of the official efforts that are being made to increase the sale of Canadian produce in Great Britain:

"It is a Government enterprise, and is unique in the history of governmental connection with trade. The plant for two years past has been worked from the Department of Agriculture at Ottawa. Its object is not only to increase the demand in Great Britain for Canadian cheese, butter, eggs, poultry and fruit, but to so improve the means of transportation by rail and sea that these Canadian products shall be sent into market in the best possible condition and in the most attractive form. The scheme even goes beyond this; for another of its aims is to steadily improve the grade of all produce sent to Great Britain, and thus secure for Canadian produce a good and abiding reputation.

"To secure these advantages, the Department of Agriculture in the first place sent out its experts to aid in the establishment of creameries. It has also informed Canadian farmers of the kind of produce most in demand in Great Britain, and its experts have instructed farmers how to kill and dress poultry for shipment to Britain, and how to prepare and pack other farm produce intended for the British market. It has supplemented this work by agreements with the

Canadian railway companies and with the ocean steamship companies for the carriage of these goods in cold storage. During the export season every Canadian railway company reaching tide waters by its own line or by its connections runs at least one cold-storage car every week from the inland terminus of its line. The farmers shipping produce in the car pay the railway charges; but the Government guarantees to the railway companies two-thirds of a carload of produce. By doing so, it secures regularity and continuity of service. At the ports the Government provides cold-storage warehouses for the reception and storage of produce, until it can be carried on shipboard.

"In order to induce the steamship companies to go into the scheme, the Government paid one-half of the cost of fitting up nearly a score of steamers with cold-storage chambers. In return for this assistance, the steamship companies have agreed to carry produce in cold-storage at the current freight rates with an extra charge of 10s. (\$2.45) a ton for cold-storage service and accommodation. These agreements run for three years. At the time of writing, the second season is about to open. If it is attended with as much success as was the season of 1897, there will be reason for thinking that the expectations of the Agricultural Department will be realized, and that after a three years' experiment the trade will become established and will have increased so much that it will be no longer in need of any Government help, nor of the great attention and close oversight that it has hitherto had from the Department of Agriculture."

"The above-described system of Government encouragement has been extended by a money grant for every creamery in which there would be kept in use a refrigerating room according to official plans and specifications, the subsidy being \$50 for the first year and \$25 each year for two additional years.

"Following are some suggestions made by the Canadian Minister of Agriculture in regard to shipments of farm produce to the British markets, which will undoubtedly be of value to exporters of similar produce from the United States.

"Cheese.—Care should be taken that it is not landed in Great Britain in a heated condition. The curing rooms should be kept continuously at a temperature of between sixty and sixty-five degrees, and the cheese should be carried in the steamships in ventilated cold-storage compartments.

"Butter.—To prevent butter from getting 'flat and stale,' a harmless preservative should be used. (It should be noted, however, that Parliamentary action against the use of 'preservatives' is contemplated.)

"Bacon.—Soft or fat bacon is objected to and does not bring such a good price as firm and lean bacon.

"Eggs.—To prevent a 'mussy' condition and to insure their keeping well, the eggs should be delivered in a cold condition to the steamship and carried across in cool, ventilated chambers.

"I have several times pointed out in consular reports that there was a great opening in British markets for American poultry and fruits. The Canadian Government has taken hold of the matter. Several experimental shipments of Canadian poultry and fruits have been made and have been fairly successful; and the trade in both products is to be pushed. The Canadian authorities recommend that turkeys and chickens should be well fattened just before being killed. Recently a Liverpool poulterer showed me some frozen chickens from New Zealand.

"The English are very fond of honey, and the home product is excellent. Under the auspices of the Colonial Government, a trial shipment of honey was sent to Liverpool from Ontario. The result is officially reported as follows:

"It met with a ready sale, created a growing demand, and has been followed by the shipment of several carloads, which are reported to have been sold at prices entirely satisfactory to the shippers."

"There is no doubt that American honey could also find a good market here. The Canadian produce is attractively put up in glass bottles. I notice that one brand of Canadian

honey sold in Liverpool is labeled 'Preferential tariff brand.' "Attempts to create a market for Canadian maple syrup have not been successful. It is said that English people do not care for the article, and confectioners over here say that they can get almost similar results by using common brown sugar with a maple-flavor extract. There is an English preparation labeled as maple sugar, but it is horrible stuff. Americans resident in England have maple syrup sent them direct, and my observation is that their English friends to whom samples are given pronounce it delicious.

"The trade with Liverpool in Canadian fresh meat brought over in refrigerators is less than two years old. Those interested in the American trade are not apprehensive that it will have a material competitive effect—at least for some years. Still, it is growing. But American beef, both chilled and on the hoof, holds the palm in this market, it now being conceded to be equal to the best English. Both the United States and Canada have to meet in this market an active and growing rivalry in live cattle and chilled mutton from the Argentine and in frozen mutton from New Zealand. The Canadian Cattle Breeders' Association has advised its members to pay more attention to shipping chilled beef, rather than to sending live cattle to be slaughtered at Liverpool and London.

"The exportation of Canadian butter to Great Britain has greatly fluctuated. It reached its highest figures in 1881, when the value was \$3,333,419; from then, against European competition (particularly Danish), it gradually declined until 1889, when the value was only \$174,027; after 1889 the trade revived, but has not had a regular growth. Its present development dates from 1897, when, under the stimulus of governmental instruction in manufacture, shipment, etc., and subsidized cold-storage steamers, it jumped up to \$1,912,389, as compared with \$893,053 in 1896.* In 1898 the value was \$1,915,550.

"The Canadian cheese trade has been one of steady growth. In 1868 the value of the exportations to Great Britain was only \$548,574; in 1880, \$3,772,769; in 1897, \$14,645,859; and in 1898, \$17,522,681.

"These figures, both as to butter and cheese, are taken from the last report of the Canadian Minister of Agriculture, covering the fiscal year ended June 30th, 1898.

"From the same authority is taken the following table, showing the rapid growth of Canadian farm products exported, and, speaking roundly, over ninety per cent. of these exportations were to Great Britain:

Articles	1896	1898	Increase. Per cent.
Wheat.....	\$5,771,521	\$17,313,916	200
Flour.....	718,433	5,425,760	655
Oats.....	273,861	3,041,578	1,010
Oatmeal.....	364,655	554,757	52
Pigs.....	1,299,491	1,813,792	39
Cattle.....	7,082,542	8,723,292	23
Cheese.....	13,956,571	17,572,763	25
Butter.....	1,052,089	2,046,686	94
Pork, bacon and.....			
hams.....	4,446,884	8,092,930	82
Eggs.....	807,086	1,255,304	55

Here follows a table which shows the value of the leading Canadian importations into Great Britain, with the value of the same kind of products from the United States for the years 1894, 1897 and 1898, the figures being taken from the British blue book.

"Undoubtedly, much of the increase in Canada's exportations to Great Britain represents only a gain in transportation—that is, a great deal of American produce is shipped via Canadian ports (Montreal principally) to Great Britain. This is especially so as to grain. I am informed that a great deal

*The consul is not responsible for the discrepancies in the value of butter and cheese apparent in this report. These are chiefly due to the contradictory figures given by the Canadian and British authorities. It should be borne in mind that the figures for Canadian exports are for fiscal years, while those for imports into Great Britain are for calendar years. This, however, can not reconcile the strange difference in the cheese figures, viz. exports from Canada in 1897, \$11,615,359; imports into Great Britain, \$16,275,574; increase, \$1,632,715; exports from Canada in 1898, \$17,512,763; imports into Great Britain same year, \$14,306,503; decrease, \$3,266,260.

of American cheese (mostly New York creamery) comes here through Montreal and is sold as Canadian cheese. This is done not merely to save freight, but because of the prejudice which 'filled' cheese has created in this market against the American product. The American cheese here referred to is equal to the best Canadian but it cannot just now be sold on its merits if known to be American for the reason above stated.

"An American doing business in Liverpool in shipping hides from American cattle slaughtered here tells me that he is doing a big trade in sending these hides to Canada to be tanned, the leather being brought back to England. Within six months he shipped in this way 20,000 hides. He says that they can be shipped from Liverpool to Montreal cheaper than they could be carried by rail from Chicago to Montreal.

"In addition to the steps taken as above described to increase the sale of Canadian products, high officials from Canada have during the last two years traveled a great deal over Great Britain, making speeches before chambers of commerce and trade organizations, setting forth the claimed merits of Canadian food products. The Dominion has nine or ten agents in the British Islands who combine some of the functions of a consul with those of a commercial traveller. These gentlemen have samples of farm produce displayed at their headquarters, and they visit agriculture fairs with movable exhibits. Several of the Provinces also have special agents. It is a matter of comment that English newspapers of late have devoted more attention to Canada and Canadian products than was ever before known. All this, of course, has its effect. It tends to predispose the consumers of Great Britain in favor of Canadian products, and it certainly is an element to be taken into consideration in the competitive battle, although quality and price are overwhelmingly stronger than sentiment in matters of trade, here as elsewhere.

"Canadian authorities claim that in 1898 Canada supplied fourteen per cent. of the total food importations of Great Britain. Some months ago a company was organized with \$1,000,000 capital to handle Canadian food products in England. This corporation has made special arrangements at Liverpool for handling Canadian produce, including space and facilities at one of the cold-storage warehouses, said to be the largest in the Kingdom.

"Statistics are not yet available as showing the status of British-Canadian trade for the fiscal year ended June 30th, 1899; but there can be no doubt that it has made a large increase over 1898. During 1898, there were twenty-three steamers under subsidy contract or agreement with the Canadian Government to provide cold-storage service for the carrying over of butter, cheese, eggs, fruits and other perishable products to British ports. Since the present summer season has opened a number of ships have been added to the regular Canadian lines, the capacities of some of the old ships have been increased, two or three new regular lines have been established, and the number of 'tramps' has grown. From Liverpool alone there have been six additional sailings a month to Canadian ports since January. The subsidy system has been extended. This system may be divided into three classes—(1) for the mails, (2) for cold-storage service, and (3) for miscellaneous cargo. In some cases, the Dominion subsidies are supplemented by the Maritime Provinces. A regular line has been subsidized to Manchester, going through the ship canal, which has an outlet into the Mersey, near Liverpool.

"The 'boom' in Canadian trade has had its extravagant phases. Among Liverpool shipowners there was never any confidence in the ambitious scheme entered into under contract with the Imperial and Dominion Governments to run twenty-one-knot mail boats between England and Canada. There was no surprise when the contractors recently asked to be relieved of their obligation. Nor was there any general confidence in local shipping circles in the remarkable attempt to run an all-the-year line from Milford Haven (Wales) to Paspeliac, Gulf of St. Lawrence. One of the pioneer ships got

locked in the ice for weeks, and since then no more has been heard of the scheme. But it is semi-officially announced that the attempt to establish a fast mail line to Canadian ports to rival the New York service has not been abandoned, and there are what appear to be authoritative imitations that the next attempt—under subsidy from the Imperial and Dominion Governments—will be by the Canadian Pacific Railroad, which would thus be enabled to take through passengers and freight from Liverpool to Yokohama over its own system the entire distance.

"The value of the total imports into Great Britain from the United States in 1898 was \$612,662,073, a gain of 28.8 per cent. in five years; the value of Canadian imports in 1898 was \$99,161,544, a gain of 38.7 per cent. in five years. As compared with 1897, the United States made a gain in 1898 of 10.3 per cent. while Canada's gain was 5.8 per cent. It should be kept in mind that the gain by the United States was mostly in manufactures.

"The value of the total exports from Great Britain to the United States in 1898 was \$138,677,558, a loss of 7.2 per cent. in five years; the value of the exports to Canada in 1898 was \$28,372,680, a gain of 5.1 per cent. in five years. As compared with 1897, the loss of British exports to the United States in 1898 was 24.7 per cent. while the gain in exports to Canada was 11.4 per cent."

APPROXIMATE TIME OCCUPIED ON SOME LEADING MAIL ROUTES FROM NEW YORK.

Place.	Via.	Days.	Statute Miles.
Antigua (Leeward Islands)		9	1790
Arica (Peru)	Panama.	27	4835
Bahia (Brazil)		21	5870
Barbadoes (West Indies)		8	2145
Buenos Ayres (Argentine)		29	8045
Callao (Peru)	Panama.	22	4145
Capo Haitien (Haiti)		7	1460
Cartagena (Colombia)	Panama.	12	2445
Cabiya (Bolivia)	Panama.	37	5135
Colon (Colombia)	Panama.	6	2281
Coquimbo (Chile)	Panama.	32	5685
Curacao (West Indies)		6	2030
Demerara (British Guiana)		11	2695
Falkland Islands		38	9120
Groynown (Nicaragua)	New Orleans.	7	2810
Guatemala City (Guatemala)	New Orleans.	7	2645
Guayaquil (Ecuador)	Panama.	15	3295
Havre (France)		7	3245
Hamilton (Bermuda)		2	780
Havana (Cuba)		3	1413
Hong Kong	San Francisco.	30	10590
Honolulu (Hawaii)	San Francisco.	13	5645
Kingston (Jamaica)		7	1820
Liverpool (England)		8	3540
La Guayra (Venezuela)		10	2258
Magdalen Bay (Mexico)	San Francisco.	10	4375
Melbourne (Australia)	San Francisco.	32	12265
Mexico City (Mexico)	Railroad.	5	3750
Montevideo (Uruguay)		28	7165
Nassau (Bahamas)		4	1105
Panama (Colombia)		7	2355
Para (Brazil)		12	3460
Pernambuco (Brazil)		16	5425
Port au Prince (Haiti)		7	1600
Port Limon (Costa Rica)	New Orleans.	9	2865
Puerto Cabello (Venezuela)		12	2160
Rio de Janeiro (Brazil)		25	6204
San Domingo City (San Domingo)		9	1920
Southampton (England)		7	3095
Santiago (Chile)	Panama.	38	6010
Savanna (Colombia)		13	2380
Tampico (Mexico)	New Orleans.	7	2250
Turks Island (Bahamas)		7	1325
Valparaiso (Chile)	Panama.	37	5910
Vera Cruz (Mexico)	Railroad.	10	4010
Vera Cruz (Mexico)	Steamer.	13	2500

A PECULIARITY OF CHINESE TRADE.

The enterprising merchant who turns to foreign countries for new markets is often seriously disappointed by the refusal of the foreigner to buy his goods. In China, the label and wrapper seem to have a surprising effect at times upon the sale of an article. The Prussian Secretary of Trade and Industry publishes a paper on the subject, from which we take the following:

Some articles are regarded as distinctly European in China, and may safely be presented in wrappers of European pattern. Others, not exclusively manufactured abroad, must be sent with wrappers and labels to suit the tastes of the natives. Glaring colors should be used, especially green, light blue, and red. Chinese ideas of humor must be taken into consideration. Thus the tiger is a very popular label, but he must not be represented as he is. He should be presented with an extraordinarily long body, enormous tail, and in all sorts of fantastic attitudes. Another very popular figure is the ape. Picture him standing on his head, the hind legs stretched upward, the tail, as it were, lashing the sky. But any grotesque animal may strike the fancy of the Chinese customer. Pictures of umbrellas, tobacco and opium pipes, temples, ships, flags, are also popular, as well as scenes depicting parades, weddings, etc. The best quality of goods may be rejected unless the wrapper and label advertise them in such a manner as to suit the fancy of the customer.

TRADE WITH JAMAICA.

According to Mr. H. M. C. Cobbold, Canadian Commercial Agent in Kingston, Jamaica, Canadian merchants are throwing away the trade with Jamaica. In a report which has reached the Trade and Commerce Department Mr. Cobbold says:

"Some of the firms spoken to complain of the terms from Canadian houses, stating that in many instances sight drafts were drawn, which usually arrive before the goods, and one and all pointed out that freight and charges are too high. General surprise was expressed at the lack of enterprise exhibited by Canadian firms, and a feeling almost amounting to resentment at the determination to force business, not on the lines suited to this particular market, but in a manner that does not prevail here or in the other West Indian Islands. Canadians are too assertive. They won't listen to suggestions. Their style of placing goods on the market is not up-to-date. Freight and charges are prohibitive, and, in fact, while we are willing and wishful to do business with Canada, it cannot be done on the present lines. This is what they say."

Concerning individual imports, Mr. Cobbold says that importers of bacon, flour and cheese complain that Canadian manufacturers do not put these articles up in such a manner as to keep in a tropical climate. They affirm that while Canadian cheese is better than American, for the reason mentioned they have ceased importing the Canadian article. Jamaica furniture dealers have also imported steambent furniture, but they state that the finish is not good, and that there is no advantage in price as compared with United States goods. The freight from Halifax, Mr. Cobbold says, is too high, so high as to prohibit future business. In some cases it has meant an advance of 150 per cent. on original cost. Canadian exporting millers also insist on sending out their goods in ash barrels, while the Jamaicans, for some reason unspecified, demand oak. The quotations for flour, Mr. Cobbold says, are higher than American goods, and the Canadian grade is more suitable for making fancy breads and pastry than for ordinary use. Expenses are higher, and the requisite attention to spring and winter wheat are not given. As to paints in small tins, the Canadians do not seem to be able to compete with British houses, and Mr. Cobbold says, so far as he is aware, no effort has been made to introduce business by Canadian travellers. Formerly there were numbers of Canadian buggies imported, but this branch of business has been

stopped on account of the high charges of Canadian manufacturers and the demand for a cheaper line of goods; a demand that the American trade can fill. The forage merchants of Jamaica have been importing corn and oats, but have stopped it, as they can get these goods cheaper through American ports.

A HINT IN TIME.

The Rome correspondent of the Pall Mall Gazette writes as follows: A British Ambassador, who has for many years been accredited to countries interested in the Mediterranean, has made some strong objections respecting the manner in which English merchants conduct their business. They do not, he says, seem to understand that the time has gone by when they were without competitors. They have now very severe competition to face. Their rivals do not put superior goods on the market, but adopt effective methods which, for some reason or other, English traders steadfastly ignore. French and German firms, for example, take care to have plenty of travellers on the ground, they have show rooms where samples of their goods can always be seen, and their agents speak the native language and know the customs and requirements of the people. Finally, the means of transport are sufficient. In Italy, English goods are preferred to those of other countries; there is a decided liking for Great Britain in the Peninsula—a liking that is not extended to Germany and France. The means of transport between England and Italy are, however, deficient. The sending of goods by rail is out of the question—rates are so heavy. The large steamers that come regularly from London to Naples take about a week, and have their holds filled with cargo from India and the far East; other ships at the disposal of merchants take at least a month to do the passage. When, in 1888, the commercial relations between Italy and France were broken off, £60,000,000 of French capital was suddenly withdrawn from the Peninsula, and was almost all replaced by German and Belgian money, invested in manufactures, etc., which give from 5 to 12 per cent. interest. The Ambassador concluded by saying that these and many like observations had been made to British traders, and the general answer was that they had done very well for centuries in their own way, and that life was too short to make it worth while to change.

WOOD PULP IN NORWAY.

British Consul General Dundas, reporting upon the trade of Norway during 1898, says that on the whole the year cannot be considered a favorable one for the producers of wood pulp. Notwithstanding that the exportation from Norway was heavier in 1898 than in any preceding year, amounting to 22,878 tons dry, and 246,338 tons wet, compared with 24,743 tons of the former and 230,575 tons of the latter in 1897, the increasing competition from Canada, who has shown herself a more powerful rival to Scandinavia than she has ever done hitherto, diminished the demand of the Norwegian article, and forced prices down. In consequence, mill owners in Norway failed to reap the earnings they anticipated at the beginning of the year. The pulp has been sent to the same market as in former years. Great Britain is the principal consumer, though, owing to the supplies from Canada, she did not consume quite so much of the Norwegian article as in the year before. For the rest, France, Spain, Belgium and Denmark were good purchasers, while comparatively little went to Germany.

Those manufacturers who had made contracts in advance made the best profits; but this branch of industry generally paid considerably less than 1897. The quantity exported from Christiania was 38,883 tons, being 2,363 tons more than in 1897. The number of wood pulp mills is now sixty-four, three of which are connected with cardboard factories, and ten with paper mills.

The export trade in cellulose is of great importance to the city of Christiania, from which is drawn the greater part of

the capital employed in its production, which is costly. Better profits were earned in this article than in wood pulp, though, as in the case of the latter, the year was not such a satisfactory one for manufacturers as 1897, owing to the downward tendency of prices for the manufactured article, and the increased cost of the necessary raw materials. The quantity exported from Norway during the year amounted to 71,050 tons dry and 8,420 tons wet, being 3,391 tons less of the former and 2,914 tons more of the latter than in the year before. The bulk, as usual, went to Great Britain; the rest to France, Holland and other countries. In this article, as in wood pulp, Canadian competition has militated against Scandinavian cellulose manufacturers; and the rise in the price of coal was also another item against them. A large chemical pulp mill is also under construction at Katfos. Prices for mechanical and chemical pulp and paper were lower in 1897, although the export of paper to Great Britain has increased.

FRESH AND PRESERVED MEATS IN FRANCE.

Refrigerated beef coming from America is admitted into France in accordance with the official decree of May 26, 1888, concerning fresh meats imported from abroad. Such meat must be imported through the customs office specially designated for that purpose, and must undergo a sanitary inspection at the port of entry. The tariff for this inspection is 1 franc (19.3 cents) per 100 kilograms (220.46 pounds), and for no fraction of that weight. In accordance with this decree, the meat should be presented as complete animals, either entire or cut in halves or quarters, according to the usual custom of the butchers. The different pieces must correspond exactly, with the lungs naturally attached, and the adhering intestines of the chest and stomach should bear no trace of "scraping or scratchings."

Fresh pork is not allowed to enter France. In accordance with a decree of December 4, 1891, salted pork alone can be imported under certain conditions, the most important being that the pork must be thoroughly salted.

As to preserved meats (so called), up to the present time its importation has not been subjected to any sanitary regulations on the part of the French authorities. Its introduction is subject to the payment of the duties provided for in article 19 of the customs tariff as follows: Preserved meat in cans, 20 francs (\$3.86) per 100 kilograms (220.46 pounds), if direct to France from the United States, or 23.60 francs (\$4.54) if through another European port or depot. This includes the weight of the tins or pots and the exterior packing.

CANADIANS ARE SLOW.

Commissioner Larke, in a late report to the Department of Trade and Commerce, calls attention to the manner in which Canadian manufacturers are neglecting their opportunities in Australia. He says that orders are not filled promptly, and in many cases their receipt has not even been acknowledged; packing cases are defective, the contents of cases not marked upon them, and invoices are made out at prices higher than are quoted in the first instance. Mr. Larke emphasizes the importance of square dealings with Australians.

He goes on to point out the splendid opportunities for trade in different lines. For instance, in the matter of boots and shoes, only a spasmodic effort has been put forward by Canadian firms to capture the trade of \$3,000,000 per annum which the Australians expend in these goods. Canadian flour is selling at \$15 per ton over the local product, but it is suffering from the fact that inferior United States flour branded "Manitoba" is finding its way into Australia. In canned fruits, especially strawberries and raspberries, Canada could do a good trade.

Mr. Larke also calls the attention of manufacturers of rubber goods, leather merchants, saw, and bicycle makers, to the great possibilities in the Australian markets. Ground mica is being imported from India, and commanding \$40 per ton.

Mr. Larke thinks that Canadian handlers of mica might find a profitable market in Australia, and has sent the department a sample of the product.

CUSTOMS DECISIONS.

The following decisions of the Board of Customs have been approved by the Minister of Customs:—

Woven wire fencing or other wire fencing specified in tariff item 263 shall not include woven wire or nettings made from wire smaller than No. 14 gauge, tariff item 270, rate 30 per cent.

Fur skins, wholly or partially dressed, not provided for in the free list, and sewn only in plates without being fashioned, lined or otherwise advanced in manufacture, tariff item 406, rate 15 per cent.

Boxes or usual packages for chocolate paste, tariff item 13 (b), tariff act rate 20 per cent.

Elevators or floating dredges, used in mining submerged alluvial gold-bearing deposits, tariff item 555, rate free.

Pruning shears, tariff item 290, rate 25 per cent.

Fur tails (being fur twisted in imitation of natural furs), tariff item act, rate 20 per cent.

Straw cutter knives, tariff item 290, rate 25 per cent.

Barilla soap, tariff item 25, rate 35 per cent.

Cocoacola, an article used with soda water as a flavoring for summer drinks, and containing no more than 25 per cent. of proof spirits, tariff item 5, rate 60c. per gallon.

Lithopone, "commercial zinc white," tariff item 158, rate 5 per cent.

"Charlton zinc white," tariff item 158, rate 5 per cent.

Refuse stone or marble, sawn, hammered or chiselled, not fit for flag-stone, building stone or paving blocks, tariff item 525, rate free.

Antimonial lead in pigs—provided, however, in respect of any importation of the above article that if it is established by analysis to contain over 12 per cent. of antimony, the importation shall be classed as babbitt metal or type metal—tariff item 272, rate 15 per cent.

Cotton sail duck, white or grey, when to be used for boats and ship sails, tariff item 384, rate 22½ per cent.

Refrigerating plant, coils and condensers, tariff item 321, rate 30 per cent.

Engine and compressor, tariff item 315, rate 25 per cent.

Poroplastic jackets, surgical belts, tariff item 152, rate 20 per cent.

THE CIGAR MANUFACTURERS.

The Dominion Cigar Manufacturers' Association held their third annual meeting in Toronto a few days ago. Representatives were present from all the principal centres of the industry in Canada, and a number of important papers were read relating to the interests of the Guild.

President Hirsch, in his address, reviewed the tobacco trade during the past year. The cigar consumption, he said, is the largest in the history of the trade, and is on the increase. He referred to the decline of trade in imported goods, and the rapid development of domestic trade. He suggested the formation of a board of arbitration to settle trade disputes. Further, he suggested the increase of customs tax on cigars from \$3 to \$4.50 per lb. and 25 per cent. ad valorem.

It was decided to make a request to the Dominion Government for the publication of monthly cigar statistics.

THE DUTY ON PARTS.

Mr. E. E. Niswonger, secretary of the National Cash Register Company, of Dayton, Ohio, had an interview with the Commissioner of Customs a few days ago in reference to the importation of parts of cash register machines into Canada. The company are desirous of establishing a branch factory in Toronto, first for the assembling of the parts into the finished machine, and ultimately to go into the manufacture of cash registers in Canada on an extensive scale. The Customs Act

provides that parts of any manufactured article, when imported, are to pay the same rate of duty as the finished article on a proportionate valuation. Mr. Niswonger says that this provision may prevent the company from embarking on the manufacture of business in the Dominion for the present. Certainly Mr. Niswonger does not desire to import the parts of his machine to be valued as scrap iron. If he wants to enjoy the Canadian market he should not ask greater favors than Canadian manufacturers enjoy.

THE PULP WOOD PROBLEM.

The Toronto correspondent of the Paper Mill says:—John Macfarlane, president of the Canada Paper Company, whose mills are at Windsor Mills, Quebec, has just returned to his home in Montreal from England, where he had spent some weeks. He says that the paper manufacturers of the old country are most desirous that the Canadian Government should impose an export duty on pulp wood, thereby increasing the cost of production to the American paper makers, and preventing them "making a slaughtermarket of London, Liverpool, Glasgow, Belfast and other British ports having direct steamship connection with the United States."

He says that a delegation of English paper manufacturers will come to Ottawa to urge upon the Government the policy of placing an export duty on pulp wood destined for the United States. Canada, he states, is now considered to be the great competitor of Scandinavia in the British market. Canadian spruce, he adds, is held to be superior to any other and commands the highest price. Last year Canada exported over 100,000 tons of pulp, and Mr. Macfarlane is persuaded that 500,000 tons could be easily sold in Europe and the United Kingdom. Mr. Macfarlane will be remembered as one of the prominent advocates of an export duty two or three years ago.

Discussing this matter, the Hamilton Spectator says editorially: "It is to be hoped that the deputation will succeed in making a favorable impression on the Government. The motive for imposing an export duty on pulp wood is not important; the important thing is the export duty. At the same time, it should be understood that an export duty on pulp wood is not desired in Canada because it would benefit English manufacturers at the expense of American manufacturers. The object of such a duty should be the benefit of Canada, and Canada only, by encouraging the manufacture of pulp wood into pulp in this country. And for the same good reason it might be found advisable to put an export duty on wood pulp in order to encourage the manufacture of pulp into paper in this country.

"As between the English and American paper manufacturers, most Canadians would prefer to favor the former: but it would be better still to make Canada the greatest paper-producing country in the world—and this might be done if a vigorous and patriotic policy were adopted."

BARBADOES' CUSTOMS TARIFF.

The Department of Trade and Commerce has received advices as to the tenor of the new customs tariff between Barbadoes and the United States. Among the articles on the free list of the Barbadoes tariff are asphalt, leatherbelting, books, paper, maps, engravings, music, works of art, calves, eggs, machinery of all kinds, old iron and lead, printing presses, ink, paper and type, straw and sawdust. The duty on hemlock, birch, beech, pine and spruce, is seven shillings and sixpence per 1,000 feet; on shingles, two shillings and threepence per 1,000 feet; on white and red oak staves or shooks, nine shillings per 1,200 pieces; on wheat or rye flour, six shillings and threepence per 196-pound barrel; pickled fish, other than trout or salmon, three shillings and threehalf pence per barrel; pickled trout and salmon six shillings and threepence per barrel; grain, per 100 pounds, one shilling and three halfpence. Under most-favored nation treatment the following goods are put on the free list when coming from the United States, Great Britain or the British possessions:—Asses, bran, candles, vehicles of all kinds, corn brooms, corn or maize, cornmeal, cycles and parts, eggs, hay, horses, lamps, machinery for electric lighting, pitch and tar and wire fencing. The British possessions are in other respects entitled to the same treatment as the United States. The only objection to the treaty, from a Canadian point of view, is that the Barbadoes are by its terms prevented from granting to Canada reciprocal concessions that would be withheld from the United States. Barbadoes, of course, enjoys our preferential treatment, which, however, is counteracted in a measure by the United States' differential duty against German bounty-fed beet root sugar.

POSSIBILITIES OF ASIATIC RUSSIA.

United States Consul Monaghan, at Chemnitz, Germany, in a report to the state department, gives interesting details of the agricultural possibilities of Asiatic Russia, a vast region, which is being brought into touch with the European market by the construction of the trans-Siberian railroad. Mr. Monaghan says that this vast territory, long looked upon as a barren waste, is destined to be one of the world's richest and most productive sections. It is particularly well adapted to the growing of wheat and other cereals, and since the building of the trans Siberian road, wheat from this region has already found its way to the European markets. At present the resources of this region are largely undeveloped, and must remain so for some years, as the population is as yet very sparse, there being less than one inhabitant to each square mile. Immigration from European Russia is setting in, however, and 40,000 persons entered the region last year.

Mr. Monaghan also says that the mineral resources of Western Siberia are vast and the coal is excellent in quality. The traffic in Siberia is increasing even faster than the officials of the trans Siberia road predicted, and the steamers are being run on the navigable waters.

Transfer Ornaments,

AMERICAN MADE.

Guaranteed Quality.

TRADE MARKS, DECORATIONS, NAME PLATES, ETC.

For HARDWARE, BICYCLES, VEHICLES, POTTERY, FURNITURE, etc.

Sketches submitted free of charge. Being home makers can deliver promptly. Write us.

THE MEYERCORD CO., Inc., MAIN OFFICE—
CHAMBER OF COMMERCE, - CHICAGO.

NEW YORK OFFICE—805 St. James Building.
ST. LOUIS OFFICE—621 Holland Building.

Largest Makers in the World Guaranteed Decalcomania Transfers.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

CAPTAINS OF INDUSTRY.

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

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

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

William McEvoy and E. Dickenson, two enthusiastic bee culture men of Wentworth county, are rejoicing over the results of the sale of a big honey shipment they made some time ago to Liverpool. The shipment amounted to 10,000 pounds and was handled by commission men, the profit to the shippers being about nine cents per pound after all expenses were met.—Hamilton Spectator.

The Imperial Varnish and Color Co., Toronto, has been incorporated with a capital stock of \$100,000 to manufacture varnishes, japans, enamels, paints, colors, insulating materials, etc. The provisional directors are J. W. Flavell, J. M. Sparrow, I. F. Monypenny, James Monypenny and James Hales.

The Continental Costume Co., Toronto, has been incorporated with a capital stock of \$40,000 to manufacture blouses, costumes, jackets, etc. The provisional directors are W. M. McCausland, J. C. Hutchinson, J. W. Bain, D. W. Glass and T. D. Bailey.

The Compensating Pipe Organ Company of Toronto has been incorporated with a capital stock of \$200,000 to manufacture organs, etc. J. J. Kennedy, W. M. Gray, J. D. Wright, W. J. Hunter and others compose the provisional directors.

A new Waterous 1,000 gallon fire engine has just been delivered to the City of Vancouver, B.C., having been tested and accepted on the recommendation of Fire Chief Carlisle. It is said to be one of the finest machines that ever reached the coast, and its workmanship and finish could not be ex-

celled. A public test gave evident satisfaction to the council and citizens.

The North American Export and Import Co., of Toronto, has been incorporated with a capital stock of \$20,000 to carry on a general mercantile business, and to warehouse and exhibit goods, and to act as agent and bailee. S. M. Nease, A. H. Keith and P. W. Stanhope are directors.

The General Engineering Co., Toronto, has increased its capital stock from \$40,000 to \$750,000.

Messrs. W. R. Johnson & Co., manufacturers of clothing, etc., will in the near future erect a large new factory in this city.

St. Matthew's Presbyterian Church at North Sydney, N.S., was destroyed by fire Sept. 30, loss about \$12,000.

Mr. Alex. Manning has taken out a permit for a \$100,000 office building to be erected at the corner of Queen and Teraulay streets, Toronto, opposite the City Hall. Mr. E. J. Lennox is the architect, and his plans show a fine brick and stone building, five storeys in height.

On account of the great increase in the demand for the products of the Dominion Suspender Company and the Niagara Neckwear Co., Niagara Falls, Ont., they have in course of erection an addition to their factory larger than their present one. The demand for their goods has been such that they have been months behind in producing enough to fill their orders.

The Rideau Lakes Navigation Company is a new organization of Ottawa, Kingston, and Perth capitalists, for which George E. Kidd

of Ottawa, Ont., will make application for letters patent. The capitalization will be \$100,000. The company proposes to operate a line of steamers between Ottawa and Kingston by the Rideau River and lakes, and take steps to develop the country as a resort for tourists. The steamer James Swift, plying on the Rideau, and a palatial passenger steamer now under construction at Kingston, will be taken over by the company, and power asked to enable it to build and operate hotels and cottages for tourists along the route.

The McLachlan Electric and Gasoline Motor Co., Toronto, have sent us an illustrated circular having reference to gasoline engines built by them specially for driving small pleasure boats, the illustration being descriptive of a boat 21 feet long by 5 feet wide, capable of carrying 17 people at the rate of from 8 to 10 miles an hour, driven by one of their 3 h.p. gasoline engines. These engines are described as being of the four-cycle type, and have an explosion every other revolution. They usually consume about a pint of gasoline per horsepower per hour. They are easily started, and it takes but a minute or less to get them under way. No mechanical skill is required of the operator, a few simple instructions are enough to enable one of average intelligence to operate it. Once started it takes care of itself, using fuel in proportion to the load. No other attention is necessary than starting, stopping, and oiling. No dust, no dirt, no worry. Write to Mac and ask for further description, prices, etc.

The Cyclone Woven Wire Fence Co., Toronto, is applying for incorporation with a capital stock of \$30,000 to manufacture wire fence and fence machines, etc. J. H. Wilcox, Henry Buckel, J. E. McGarvin and John Buckel are directors.

Work on the bridge over the Ottawa River at Hawkesbury, which is the most important structure on the whole line of the Great Northern Railway of Quebec, has been commenced. There are 7 spans of 204 feet each, and it is expected that the eight piers will be ready for the steel superstructure before cold weather sets in. The section of the road from St. Jerome to Hawkesbury, though it is 35 miles long, and has two important bridges near the town of Lachute, is also very far advanced. Nine thousand tons of rails have been imported for the road, and about 2,500 tons more will be necessary. It is expected that trains will be running on the line from the St. Maurice to the Ottawa by next March.

INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

PISTON INLET **Air Compressors** STRAIGHT LINE
 DUPLEX and
 COMPOUND.

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

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

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The furniture companies of Canada, which have recently formed a consolidation, have decided to become incorporated under the laws of Ontario and to take the name of the British American Furniture Manufacturing Company. The new company will be capitalized at \$3,000,000, of which one million will be common stock and two million preferred, paying seven per cent. dividends.

The Hardill Compound Engine Co., Mitchell, Ont., has been incorporated with a capital stock of \$10,000.

The Acton Leather and Shoe Co., Acton, Que., has been incorporated with a capital stock of \$10,000.

The Farmers' Co-operative Packing Co., Brantford, Ont., has been incorporated with a capital stock of \$150,000.

The Hamilton Facing Mill Co., Hamilton, Ont., are advising foundrymen that now is the time for them to order their winter's supply of sand. The suggestion is timely.

A committee of citizens of Erin, Ont., has been appointed to consider the question of cost of lighting that place by electricity.

The Sanford Mfg. Co., Hamilton, Ont., are rushed in making clothing for our South African contingent of the British army.

At recent meeting of the Town Council of Sturgeon Falls, Ont., it was resolved, first, to submit a by-law to the ratopayers to bonus the Imperial Paper Mills Company to the extent of \$12,000, immediately upon the deposit by the manager of a marked check for \$2,000 to the credit of the town, and the further deposit or sufficient funds to cover all costs submitting the by-law. Second, it was resolved that the council accept the offer of the Imperial Paper Mills Company for 100 horse power developed at the rate of \$5 per horse-power for twenty-one years, if

approved by the rate-payers. Third, it was resolved that in consideration of the Ontario Government and the Imperial Paper Mills Company repairing the iron bridges in the town, according to specifications submitted, the cost to be \$5,700, the council will grant \$1,500 toward the work.

The Jonquiere Pulp Co., St. Dominique de Jonquiere, Que., has been incorporated with a capital stock of \$40,000, to manufacture pulp, paper, etc.

A mighty water power on the Ottawa river has changed hands. It is known as the Chats Falls, at which point it is estimated 680,000 horse power can be developed. The purchasers intend taking steps to collect a group of big industries about the power works they will construct. T. Bate, president Pontiac Mining Company, N. A. Belcourt, M.P.; W. J. Pourpoure, M.P.; P. Clark, secretary-treasurer of the Pontiac Mining Company; Denis Ryan, St. Paul, Minn., and ex Senator T. A. Darby, North Carolina, formed the syndicate that purchased the property, which is to be turned over to the Pontiac Mining Company, to which most of these gentlemen belong.—The Paper Mill.

One of the largest contracts ever placed in Pittsburg is that given to the Riter-Conley Manufacturing Company, of that city, for the building of a steel plant for the Dominion Iron and Steel Company, at Sydney, Cape Breton, Canada. Some time ago the Riter-Conley Manufacturing Company took the contract for four blast furnaces for this concern, each to have a daily capacity of about 400 tons. The Riter-Conley people took the contract for all the work on these furnaces above the ground, the price being close to \$2,500,000. This has been followed by the placing with the same concern of a

contract for the building of a steel plant for the Dominion Iron and Steel Company, the contract price also being close to \$2,500,000, or \$5,000,000 for both contracts. The contract just placed calls for everything necessary in the way of mills and furnaces for the immense plant, and to make it complete and ready for operation. It includes ten 50 open hearth furnaces and a large blooming mill, the latter to be built by Mackintosh, Hemphill & Co., machinery builders in Pittsburg. In addition, all the necessary machinery needed to operate the plant will be furnished by the Pittsburg concern. It will be eighteen months before this large work is ready for operation, but work will be pushed as fast as possible. The Dominion Iron and Steel Company is composed of a syndicate of American and Canadian capitalists, among whom are Henry M. Whitney and other capitalists of Boston and New York.—American Trade.

The Canadian Pacific Railway Company, propose erecting a hotel in Winnipeg, which will cost in the neighborhood of \$1,000,000. It will be six storeys high, the main portion to be 320x208 feet.

The Midland Power Co., Midland, Ont., has been incorporated with a capital stock of \$90,000 to supply steam, heat, electricity, etc., for heat, light and power purposes, etc. The provisional directors include James Playfair, George Chew, D. L. White, jr., and others.

The Hunter Bridge and Boiler Company, of Kincardine, Ont., has been incorporated with a capital stock of \$25,000 to acquire the business in that town of Hunter Brothers, and to manufacture iron and steel bridges, boilers, engines, etc. The provisional directors include Andrew Malcolm, G. M. MacKindrick and John Boyer.

REDDAWAY'S ORIGINAL

CAMEL BRAND HAIR BELTING

STRONGEST BELT MADE. NO STRETCHING.

NOT AFFECTED BY DAMPNESS,
HEAT OR STEAM.

WRITE FOR PARTICULARS. LARGE STOCK ON HAND.

Fire Hose, Steam Hose, General Mill Supplies.



W. A. FLEMING & CO., SOLE AGENTS FOR CANADA, 57 St. Francois-Xavier St., Montreal.

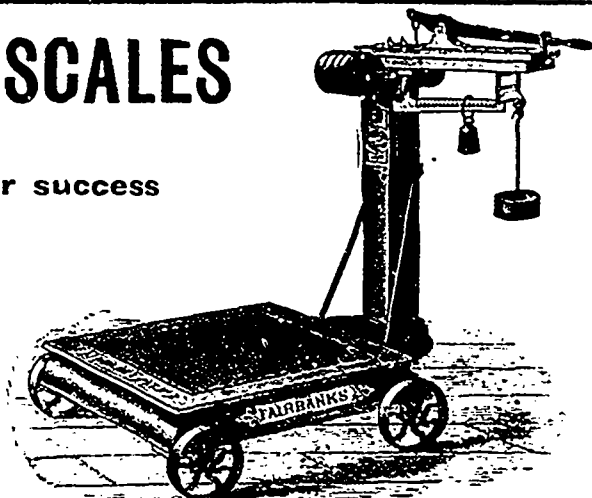
FAIRBANKS STANDARD SCALES

Good Scales are as essential to your success as accurate Bookkeeping.

Our Montreal Stock is Complete.

SEND FOR NEW CATALOGUE

THE FAIRBANKS COMPANY,
MONTREAL.



When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Ontario Milling & Mfg. Co., Deloraine, Man., is applying for incorporation with a capital stock of \$40,000. The applicants are Thos. Meyers, L. S. Lewis, J. N. Knowlton and associates.

The Lamontagne Mfg. Co., Montreal, is applying for incorporation with a capital stock of \$100,000, to manufacture leather, harnesses, trunks, valises, etc.

The Dufferin Falls Lumber, Pulp and Paper Co., Montreal, has been incorporated with a capital stock of \$1,000,000.

After November 15th the headquarters of the Canada Cycle and Motor Company, Toronto, will be at the corner of Bay and Front streets. They have leased the entire building, containing about 25,000 square feet, which will convey an idea of the magnitude of this concern. The building will be remodelled and decorated, and when finished will be one of the handsomest in Toronto, befitting a company of their magnitude. The entire management for all the factories will be concentrated here, and the offices are now being made ready for the accommodation of their entire staff. Meanwhile they are occupying temporary quarters on the fourth floor of the Canada Permanent building, 18 Toronto street.

It is the intention of the promoters of the Hamilton-Galt electric railway to make a start at the road this fall, though not very much work can be done till next spring. There will be gangs put on various portions of the surveyed route, within two

or three weeks to get things in shape for an early start in the spring, and all that can be advantageously done will be done this fall.—Hamilton Spectator.

One of the oldest of the steam and oil separator manufacturers—the Austin Separator Co., of Detroit Mich., has just closed the largest month's business in their history by a broad margin. This is on domestic orders alone. At the same time, they have more than quadrupled their foreign business. The year 1899 will probably be considerably the best since the organization of the company.

An effort is being made at Elkhorn, Man., to form a company to erect another grain elevator there, with capacity to hold 25,000 bushels.

We are in receipt of the following circular addressed to the trade, which explains itself. "The many advantages enjoyed by joint stock companies for conducting large business concerns, and the rapidly increasing volume of our trade, have caused us to convert the present firm of J. H. Farr & Co. into an incorporated company, under the name of The Imperial Varnish & Color Co., Limited. We therefore take this opportunity to thank our numerous friends for the liberal patronage accorded us in the past, and to solicit their continued favor to the business under the new style. We also express the hope that many who have not bought from us heretofore will become patrons of the new company. All shipments and

sales after October, 1899, will be billed in the name of The Imperial Varnish & Color Co., Limited.

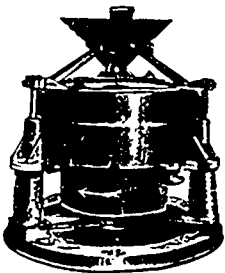
Mr. Harvey Hubbell, manufacturer of light machinery, tools, etc., Bridgeport, Conn., has sent us a very beautifully illustrated catalogue descriptive of the lines of machinery made by him. Some of the machines alluded to and described include improved horizontal tapping machines in 1-4 in., 3-8 in., and 5-8 in., sizes; riveting machines in 1-8 in., and 3-16 in., sizes; screw slotter; paragon speed indicator; belt cutter and punch, pocket size, an entirely new tool for cutting and punching round beiting, etc. Mr. Hubbell states that he is well equipped for blanking and forming sheet metal parts, estimates for this class of work, and also for tools for producing them he is ready to make. He makes and carries in stock a large quantity of rolled thread screws in brass, and prides himself on the close resemblance which the threads bear to those of machine-made screws. For a large variety of purposes these goods are equal to machine cut, the thread being uniform in pitch and size. This is equally true of the rolled thread iron machine screws, the cost of which is, of course, much less than for regular machine cut goods.

The Dominion Cartridge Co., Lachute, Que., are increasing their electric lighting plant and have placed their order for a twenty k. w. generator and switchboard with the Royal Electric Company, Montreal.

ROCK

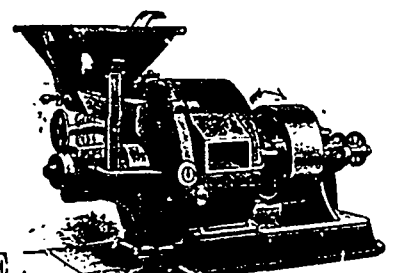
EMERY

MILLS



MILLSTONES

CHEAP. DURABLE.



EMERY STONES are Made to Fit ANY MILL FRAME :

SEND FOR CIRCULAR

GRINDS EVERYTHING.

STURTEVANT MILL CO., BOSTON, MASS.

Shafting—Hangers—Pulleys

FRICTION CLUTCH PULLEYS AND COUPLINGS

Rope Transmission of Power.

HANDSOME ILLUSTRATED CATALOGUE ON APPLICATION.

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Arnold Chemical Co., Toronto, has been incorporated with a capital stock of \$20,000.

The Capital Brewing Co., Ottawa, has been incorporated with a capital stock of \$95,000.

That the establishment of the Smart-Eby Machine Company's Works here was a good thing for the city has been already proven. The expectations of the company in the matter of work have been more than realized. On the books at the present time are the following orders: An over shot water wheel, 18x6 dia. x6 face for the Dakota Flour Mills Co., Kilbride, Ont.; the line shafting, etc., for the Wentworth Knitting Co.; shafting, pulleys, etc., for the Ontario Box Co.; shafting, hangers, etc., for Messrs. Semmens & Ewel; two pair of shaft bending machines for F. W. Hore & Co.; one steel boiler fitted with Rodgor's patent shaking grates, for the new Oak Hall building; two sets of Rodgor's patent shaking grates for the Westinghouse Mfg. Co.; one set of Rodgor's patent shaking grates for Messrs Wood, Vallance & Co.; six electric regulators for the Willson Carbide Co., St. Catharines, Ont.; the running gear of a 20,000 lbs. travelling crane for the Hoepfner Refining Co.; one pulp opening machine for the Riordan Paper Co., Merriton; a seventy-five ton ice machine for Henry Kuntz; two vertical engines direct, connected to two pairs of shears, for the Hamilton Steel & Iron Co.; one steam pump for Thomas C. Watkins. — Hamilton Times.

There is no excuse for any men to be idle in Galt these days. Men are wanted in almost every department of mechanical genius and unskilled labor. A manufacturer told a representative of The Reporter the other day that he could not get near enough men to turn out the orders as promptly as he desires; and stated further that he believes forty more moulders can find employment in the various factories of the town. Laborers are also scarce. The fact that our manufacturers are all so busy speaks strongly for their enterprise and the reliable nature of their productions. It is a significant fact too, that while in 1891 our population was slightly in advance of what it is to-day, it having dropped during the depression of the following two or three years, there never was a time when everybody was so busy and when there was practically not an empty house in the town. This seems a paradoxical statement, since each year has seen many new houses erected and there are

really a hundred or more fewer inhabitants to-day, with probably seventy or eighty more houses, than eight years ago; but it is nevertheless a fact. It is also gratifying to observe that while the population of Brantford, Berlin and other places decreased during the twelve months ending October 1st last, ours increased by over 150. — Galt Reporter.

The Lay Whip Company, of Rock Island, Que., are applying for incorporation with a capital stock of \$40,000, to manufacture whips, etc. This is substantially a branch of the Lay Whip Company, of Westfield, Mass., one of the largest concerns of the sort in the United States, and the establishment of a branch factory in Canada is an apt illustration of the operation of the protective policy of the Dominion Government.

The Ontario Government have granted a charter to the Compensating Pipe Organ Co. of Toronto, with a capital of \$200,000. The company intend to commence operations at as early a date as possible, and will locate their factory in Toronto.

The B. F. Sturtevant Co., of Boston, Mass., have just issued a circular relating to their Exhaust Heads, which makes clear the efficiency of centrifugal force as a means of separating water and steam.

The Metropolitan Street Railway Company whose line runs northward from Toronto, have just made a valuable addition to their rolling stock in the shape of an electric locomotive. It was built in Baltimore, Md., and is one of the largest and most powerful made. It will be used for both freight, and passenger traffic.

Mr. W. M. German, M. P. P., appeared before Hon. A. S. Hardy and Hon. G. W. Ross a few days ago, asking permission by order-in-Council to build an electric road from Chippawa to Welland, Ont.

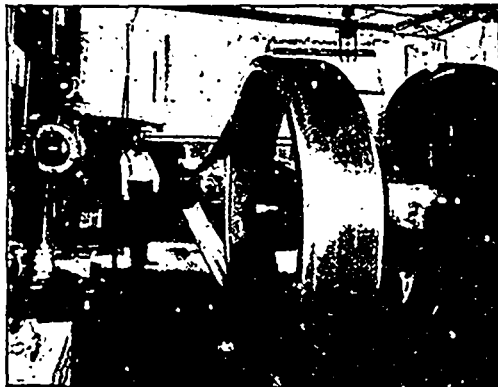
The Galt Gas Company have decided to offer incandescent lighting at the rate of 3-4 cents per hour per light after the improvements to their new works are completed. This is a quarter of a cent lower than the price at which the Council asked the company to furnish incandescent lighting. — Galt Reporter.

The Galt Gas Light Company's electric works are being slowly completed and it is expected that by the middle of November or the first of December at the latest the dynamos will be transferred from their present quarters to the old Dickson mill. The interior of the building has been completely

changed. The race entrance through the basement has been finished and the two big waterwheels placed in position, and now the upper connections and shafting are being set up, the work being supervised by Mr. George Hunt, the Goldie-McCulloch Co., having the contract. The boiler house has been finished and the boilers will soon be put in; while the solid concrete foundation for the engines which it is the intention to keep ready for any emergency that may arise from inability of the waterwheels or any other cause, is built and ready to support its load. The exterior of the building is being painted, adding greatly to its appearance, and when all the improvements are finished, the works will be modern and first-class in every respect. The very latest switchboards and other mechanical devices will be introduced. — Galt Reporter.

The Fairbanks Co., Montreal, have sent us a very beautiful pamphlet in which is shown half tone reproductions of views of some of the largest and finest buildings in the city of New York, in which the valves used in the heating of them were supplied by their house in that city. They say that in modern buildings one thing requiring very careful consideration is the reliability of the heating system and the valves used therein, and the obvious conclusion is drawn that the many points of superiority of the Fairbanks valves are fully demonstrated in the fact that they are used in these buildings, having been placed in them by the architects and engineers under whose supervision and directions the buildings were erected. Following the pictures of these immense structures are descriptions of the various valves and cocks used in them. Among the more conspicuous of these buildings are: New York Life Building, containing the offices of the New York Life Insurance Company, The Empire Building; The National Bank of Commerce; Hotels Waldorf, Astoria and Manhattan; Exchange Court Building; The Johnson Building; Commercial Cable Building, twenty-one stories high, Queen Building; Postal Telegraph Building; Farmers' Loan & Trust Co. Building; Exchange Bank; Fidelity and Casualty Building and some thirty others. The Canadian offices of the Fairbanks Co., are at 749 Craig street, Montreal.

J. H. Wilcox, Henry Buckel, J. E. McGarvin, and associates, are applying for incorporation as the Cyclone Woven Wire Fence Co., Toronto, with a capital stock of \$30,000.



FOUR MONTHS AGO

THIS BELT WAS AS TIGHT AS A FIDDLE STRING UNDER ABOUT 1000 lbs. INITIAL TENSION, AND YET WAS SLIPPING. THERE IS NO SLIP NOW, FOR IT RUNS SLACK. CLING-SURFACE DID IT.

BROWN, DURRELL & CO.

CLING-SURFACE MFG. Co., Buffalo, N.Y.
DEAR SIR, — Having tried Cling-Surface on my 12' dynamo belt (16 feet between centres) I have been able to carry full load with 22" sag on belt with no perceptible slip. It surpasses my expectations, and I can recommend it to do all that is claimed for it. If directions are followed.
Yours respectfully,
E. B. PRESCOTT, Engineer.

Boston Branch:

170 Summer Street.

CLING-SURFACE MFG. CO.

120-126 Virginia St., BUFFALO, N.Y.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Joseph Dixon Crucible Co., Jersey City, N.J., inform us that they are now putting up a new addition to the already extensive plant in that city 174 feet long, three stories high. They report that with their present capacity they are unable to keep up with their orders.

The Lake of the Woods Milling Co. will erect three elevators at different points in Manitoba along the line of the North-West Central Railroad.

Messrs. J. B. Lett & Co., Bedford Mills, Ont., are about building a 50-barrel flour mill at that place.

Messrs. T. Bullock & Sons, Melita, Man., will enlarge their grain elevator and build a flour warehouse.

Messrs. Young Bros., of Killarney, Man., will repair their elevators and put in gasoline engines at Deloraine and Medora, Man., and will also erect new elevators at Underhill on the Northern Pacific, and at Goodland, Man.

A joint stock company is being formed at Kirkton, Ont., for the erection of a flour mill there.

Messrs. Bready, Love & Tyron, of Winnipeg, Man., have recently erected five new elevators on the Belmont branch of the Northern Pacific Railroad.

George Rogers, at Sydney, Man., is about to begin the erection of a flour mill at that place of 125-barrel capacity.

Messrs. Rogers & McBride are erecting a new flour mill at Sydney, Man.

J. A. Farlinger, of Morrisburg, Ont., is erecting a feed mill for the manufacture of balanced ration. The mill will have a capacity of about 2½ tons per hour, and

power will be furnished by a gasoline engine.

A communication from Mr. Harrison Watson, Canadian curator of the Imperial Institute, London, to the Ontario Department of Agriculture, states that there is likely to be a demand in Great Britain for Canadian raspberry pulp. The price will be from \$150 to \$170 per ton. Raspberry pulp consists of bulk raspberries preserved in such a manner as to be available for use for the making of jams, flavoring of syrups and in confectionery. The supply in England is low this year, but it is understood that there is quite a large stock on hand in Canada.

The Merchants' Cotton Co., Montreal, will erect an additional mill 250x110 feet, four stories high.

The Maritime Nail Co., St. John, N.B., will increase the capacity of their works, that of their horse nail department to be doubled.

The Lang Biscuit Mfg. Co., Montreal, will remove their factory to St. Henri, Que., where they will erect extensive works and expend \$100,000 a year in wages.

The Jenckes Machine Co., Sherbrooke, Que., have just shipped two car loads of mining machinery to the War Eagle mine at Greenwood Camp, B.C.

The Rosamond Woolen Co. are running their mills at Almonte over time on clothes for the Canadian soldiers going to South Africa.

The Messrs. Clark Bros. of Bear River, N.S., have acquired the saw, grist and threshing mill property at Kingston, N.S., including a sash and door factory driven by

a good water power, and extensive timber lands upon which they will erect a portable mill with the intention of cutting a million and a half of lumber next year.

The Brantford Specialty Co., Brantford, Ont., has been incorporated with a capital stock of \$20,000.

The Village Council of Weston, Ont., have awarded contracts for lighting the village to the Canadian General Electric Co., Toronto, for the electrical part, and to Goldie & McCulloch, Galt, Ont., for the engine and boiler.

The Ontario Glass Company, Kingsville, Ont., is applying for incorporation with a capital stock of \$100,000, to manufacture glassware. H. S. Warrick, W. A. Smith, and associates are the applicants.

The Maple Clothing Co., Drummondville, Que., is applying for incorporation with a capital stock of \$50,000, to manufacture clothing. Wm. Mitchell, George E. Church and associates are the applicants.

According to a report recently issued from the Department of Agriculture at Ottawa, the timbered area of the Dominion is estimated at 1,250,000 square miles, or about thirty-seven per cent. of the whole area of Canada. British Columbia, the report says, possesses the largest compact timber area in the world, and only the fringe of it has been cut. In the railway belt of the province alone it is computed that no less than 25,000,000,000-board feet of Douglas fir, cedar, spruce, Alaska pine, and other commercial timbers are standing. The entire east is heavily timbered as far north as Alaska, and in this belt the spruce attains perfection.

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Leather Belting,
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D. K. McLAREN

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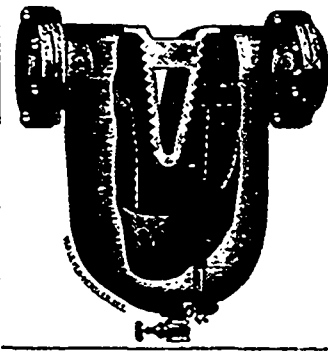
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HORIZONTAL—Sizes 1½ to 12 inches.
VERTICAL—Sizes 1½ to 10 inches.

ECONOMY and EFFICIENCY

Cannot be secured in the operation of a Steam Plant without the use of a Steam Separator.

We have pretty well demonstrated that the

Austin Separators

will guarantee both.

They have received more notice in the conventions of engineers this year than all others combined.

Prof. Emory's "Test of a Steam Separator," read before the Society of Mechanical Engineers, was the result of work done on an Austin Separator, and the Vice-President of the National Association of Ice Manufacturers, in open convention, endorsed it as the only means of eliminating Oil from Exhaust he had ever seen.

Thousands in use all over the world.

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38-40 WOODBRIDGE ST., DETROIT, MICH.

STRATFORD, ONT.

Like other towns and cities of Canada, Stratford has profited by the boom which seems to have taken hold of the Dominion during the past year or two. Every establishment in the city has worked full time during the season, and many were forced to work overtime. In nearly every case, too, wages have increased.

A year ago Stratford had two furniture factories; now it has three. Mr. George McLagan's factory employs as many as the size of the building will warrant—about 70. They have worked overtime off and on during the season, and have been very busy. It may be absolutely necessary to work overtime again this fall. There was a general advance in wages over last year—probably 5 per cent.

Mr. Jos. Orr's furniture factory employs about 75 men, and they have been busy all the season. Wages were increased between 5 and 10 per cent. The firm have made large extensions.

The new factory, that of R. S. Porteous, manufactures for the export trade exclusively. The factory was established a month ago, and about a dozen men are employed.

Mr. David Easson's planing mills keep

fourteen men busy, and sometimes they were forced to work overtime.

The Stratford Bridge Building Company employ about 30 men, but have been unable to get material to construct all the bridges they have contracted for. Wages have increased fully 10 per cent.

The Stratford Mill Building Company employ, all told, about 75 men, and have never been so busy as now in the history of the business. They find it almost impossible to fill all their orders. Wages have gone up 20 per cent. over last year.

The Macdonald Manufacturing Company, builders of threshing machines, have kept about 25 men busy throughout the season. Business has been better than last year, and wages advanced about 10 per cent.

The Stratford Shoe Company moved into their commodious new factory this spring, and give employment to between 40 and 50 men. The company have found it almost impossible to get skilled hands, and are forced to work the staff overtime in some departments. There has been a general advance in wages—between 5 and 10 p.c.

The Shoddy Mills employ about a dozen hands, and they have found the season a busy one. Wages increased slightly.

The Cardigan Overshoe Factory have a

staff of seventeen hands, and find their output considerably in excess of last season, which was very large.

Stratford's two ready-made clothing establishments have had a busy season. Thornton & Douglas employ 48 hands at present, but find that with their rapidly-increasing business they will have to remodel their establishment in the near future. They have always paid good wages, and the employees are satisfied.

The Stratford Clothing Company have a staff of 55 hands, and are kept busy. This is a new concern, having been established in April, 1898. Since then the pay-roll has been trebled.

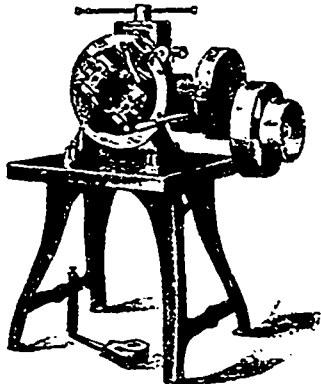
Hamilton & Lovett, cigarmakers, employ about 25 hands, and have found the season a busy one.

Mr. A. H. King, cigarmaker, has employed as high as 32 men, and though established only this year, finds business very brisk.

The Perth, Flax & Cordage Company have had a busy season. Some 40 hands are employed.

The Whyto Packing Company are at present erecting an immense factory, which will employ 75 men for at least ten months of the year.

THE BEST PIPE THREADING and CUTTING-OFF MACHINES



No. 00 Machine, Power Attachment.

ARE MADE BY THE ARMSTRONG MFG. CO.

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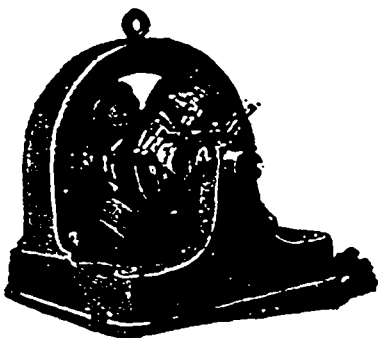
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**Engine Packing,
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Lubricating Oils

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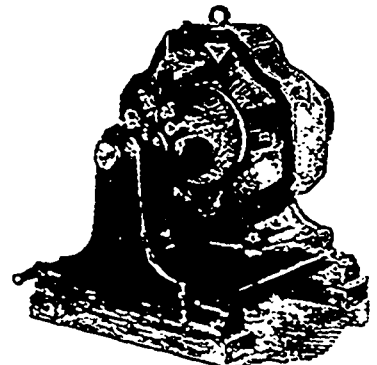
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MULTIPOLAR MOTORS & DYNAMOS

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When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Egg Desiccating Factory, a new concern, will employ when in full running order about twenty hands.

The Hood Milling Company have found the season an exceptionally good one. Some twenty hands are employed, and there has been a general advance in wages.

The Stratford Gas Company have made large improvements in their works at a cost of several thousand dollars.

The G. T. R. shops employ about 500 men, and this season has been a better one for the men than for many years past.

The Sewer Committee of the City Council, which is at present laying a complete system of sewers, can hardly get workmen for love or money.

Many fine private residences, as well as stores and the new City Hall, which will cost \$30,000, have been erected, and everything gives evidence that an era of prosperity unparalleled in the history of the city has been entered upon.—The Globe.

SEAGOING CANOES.

The second largest Indian Canoe in British Columbia, if not on the Pacific coast, is now hauled out on the tidel flat fill on First avenue south. It is a stunner, considering it is made entirely out of a big single cedar tree, says the Seattle Times.

"We could cross the ocean in that canoe," said the owner this morning in very good English. "It will hold more than a hundred people, and is the largest canoe but one in all our country."

The big canoe is but one out of about a score of large canoes that belong to the Fort Rupert and West Coast Indians of Vancouver Island. Fort Rupert is on the northern end of Vancouver Island and the Indians now

here were eighteen days on the voyage. With a good fair wind they can go 100 miles a day and could, therefore, accomplish the almost 1,000 mile voyage in eight or ten days. However, they do not always get the fair wind.

The big canoe is a new one, made this summer. It is about fifty five feet long and seven to eight across. The Indians say there are even bigger cedar trees than the one from which the canoe was made. These Indians have been coming here ever since the first hops were planted. They always look for a sound tree for a canoe, without any rotten parts or knot holes about it. The Indian owner hired a number of other Indians, and made the canoe where the tree fell, then skidded it into the water. He considers it worth \$300 or \$400.

War canoes of these northern Indians used to create a good deal of terror in the minds of the first settlers. There are old gray-haired patriachs in the camp to-day who doubtless have in the past taken part in many a raid on the Sound Indians and possibly in some of the few attacks made on the early settlers.

THE NEW OGILVIE FLOUR MILL AT FORT WILLIAM, ONT.

As recently noticed in these pages, the ratepayers of Fort William, Ontario, passed a by-law giving the Ogilvie Milling Company a mill site, valued at \$50,000, and exempting the company from all taxation, except the rate levied for the support of schools, for ten years. Fort William already has three of the largest elevators in the world and by the addition of this new plant will now boast of four, and the largest mill in Canada. The new plant, as speci-

fied, will consist of an elevator with a capacity of 800,000 bushels, a seven-story mill with a daily output of 2,500 barrels per day, capable of being increased to 5,000, and a warehouse 200 feet in length and two stories high. Directly in front of the mill will be a dock 800 feet in length, stretching the entire length of the plant, along the bank of the river Kaninistiquia. This, it is intended, will furnish the necessary facilities for handling coal, flour, grain, etc. There will also be a complete machine, carpenter and blacksmith shop. Between the mill and elevator will be located the boiler and engine room, from which power for both buildings will be furnished, and above which the stack will tower 160 feet in the air. The offices will be located in the remote end of the warehouse. The machinery for this mammoth plant will be of the latest and best type, and a new feature will be a wheat washing machine of Mr. Ogilvie's own invention. In the construction of the foundation of this large plant thousands of piles will be driven fifty feet in the earth, upon the top of which a stone foundation thirty-six feet deep will be required before the surface will be reached. When this new mill is completed the Ogilvie Company will have a combined output of from 15,000 to 20,000 barrels per day.

CALGARY, N. W. T.

The C. P. R. Co. have built a roundhouse and workshops at a cost of \$75,000 and have made Calgary a divisional point. The number of employees here has been increased by about 150, and in many branches the wages of the men have been increased about 10 per cent.

The Eau Claire & Bow River Lumber Company employ 50 men, a very considerable increase over a year or so ago. There has been a general advance in the wages of the men of 10 per cent.

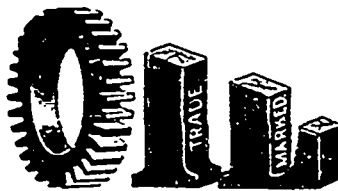
The Calgary Milling Company employ about 20 men, double the number employed a year ago, and the wages have been increased about 10 per cent. The company have built a large elevator and made other improvements amounting to \$15,000 in value.

The Calgary Planing Mills employ about 25 men, and have increased wages about 10 per cent. They have also spent \$2,500 in

"Capitol" Cylinder

"RENOWN" ENGINE

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RELIABLE WELL-KNOWN BRANDS.

ALL ORDERS PROMPTLY FILLED

THE...

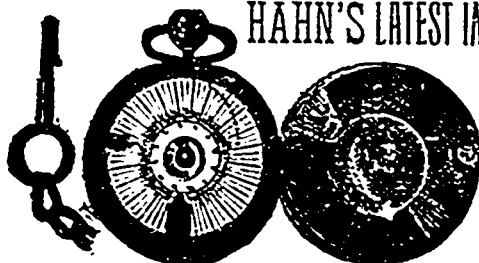
QUEEN CITY OIL CO.

LIMITED,

TORONTO, CANADA.

SAMUEL ROGERS, President.

HAHN'S LATEST IMPROVED WATCHMAN'S TIME DETECTOR



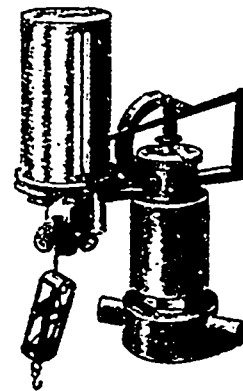
This Clock is adapted for six or twelve stations, and the keys are all different, ranging from 1 to 6, and 1 to 12, instead of as in the old style Time Detectors, which mark either by holes or an impression on the dial, being the same for all stations.

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A. NANZ & CO., Room No. 15, Graham Building, 127 Duane St. NEW YORK

This Clock received the First Prize at World's Fair

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SPECIAL INDICATORS

For Gas and Explosive Engines, Ammonia Compression Machines, Torpedos, Boats, Launches and Locomotives.

Patent Flexible Unstretchable Wire Cord for Indicator Leads.

Catalogue on application.

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T. S. McINNES & Co., Limited

42 CLYDE PLACE, GLASGOW, - Scotland.

\$3,000 in new machinery and other improvements.

The Great West Saddlery Company employ about 30 to 35 men, and are taking on now men as fast as they can get them. They have now about double the number employed by Hutchings & Riley, whose business they have taken over.

The Calgary Water Power Company have advanced the wages of their men about 10 per cent.

There has been great activity in building operations, and buildings to the value of \$200,000 or more have been erected during the year or are in process of erection. In consequence wages of carpenters, masons, plasterers, painters and laborers have advanced about 25 per cent., and the demand for men is greater than the supply.—The Globe.

KINGSTON, ONT.

A look over the working establishments of this city tells of increased business all along the line, and a corresponding increase in wages for mechanics and others. A list of some of the institutions where busy times are apparent are:—

George McGowan, cigar manufacturer—120 hands. Wages list increased during the past year from 15 to 25 per cent.

Kingston Cotton Mill—200 hands at present. When the new wing is completed, six months hence, 350 will be employed, with double the output. Salaries on the whole have been increased about 10 per cent.

Montreal Transportation Co.—Locally 200 men employed, mostly by the year. Salaries about the same, a probable slight increase to some.

Kingston Locomotive Works—250 men employed. Wages on the whole increased about 10 per cent. over former years.

Kingston Foundry—Average 75 men. Salaries advanced 25 per cent. in the different shops over former years.

Kingston Hosiery Mill—250 hands employed. While salaries, individually, have not been increased, the volume of work has materially increased the wage list.

Wormwith & Co., piano manufacturers—25 hands. Increasing business has increased the wage list to a considerable extent.

Calvin Towing & Rafting Co., Garden Island—250 men employed. Though engaged by the year, increased business has increased the wages list at least 10 per cent.

Livingston Bros., clothiers—45 hands employed. Though salaries have not individually increased, extra labor has increased the wage list 10 per cent.

Kingston Electric Light & Gas Co.—Business increased 10 per cent. Wages list increased in proportion.

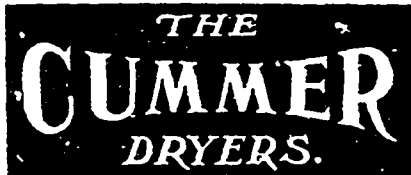
Electric Street Railway—Business increased so far this year 20 per cent. over last season, due mainly, it is said, to the increase in the number of workmen who ride to and from work.

Masons, carpenters, etc., have had their wages increased on the whole about 25 per cent.

So far this season farmers in this district are being paid 13 cents per hundred more for milk than for the same period last season. The Globe.

A NEW STEAM PLOUGH.

The steam plough attached to a cable operated by a stationary engine has long been in successful operation in Britain, where the chief obstacle to be overcome has been heavy clay soils. Western conditions required something different in the application of steam power to ploughing land, and the need has been met by the use of a traction engine. The Manitoba Free Press gives details of a recent trial at Morris of a gang of ploughs drawn by that method. The device described is the result of many years of study and experiment by Mr.



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THE F. D. CUMMER & SON CO.,

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B. GREENING WIRE CO.
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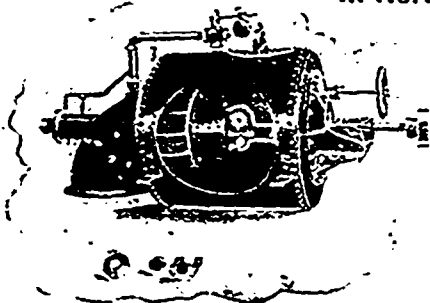
Wire Screens for Every Class of Material.

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Special Attention given to Miners' Requirements.

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In Horizontal Setting, with Quarter Turn Elbow.



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

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

WATER POWERS examined and Reports made. Estimates submitted for Complete Equipments.

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

Stephenson, the patentee, and Mr. John Lowe, formerly Deputy Minister of Agriculture. The experiment showed that driving-wheels of seven feet nine and one-half inches diameter, and four feet tire, of steel boiler plate, fitted with spikes, would not make a deeper impression on the ground even when newly ploughed, than the wheels of an empty wagon. Yet the machine will exert a force on the gang of ploughs of 132 horse power and so move them irresistibly forward. In taking the machine to the place of experiment it passed with ease over three ditches, one of them a railway ditch. In the trial the machine struck a white colored stone, about the size of a man's head, which it pulverized and turned under, and another large sized oblong stone, which it turned out. It moved forward at a carefully-timed speed of a little over one and one-quarter miles per hour, and dragged after it a gang of ten ploughs, which turned over a width of twelve feet of blackened earth to the depth of four inches. A roller followed the gang of ploughs, to which it was attached. The ploughed ground was thus made smooth and even, and a perfect seed bed was created without the further operation of back-setting.

The engine fly-wheel went at a speed of 203 revolutions per minute, and the driving wheel of the machine four and a half revolutions. The driving-wheel is seven feet

nine and one-half inches in diameter, and the speed of moving forward is such that eighteen acres of land can be ploughed in a day of ten hours. In these operations the fuel used was the herbage which had grown on the natural prairie, cut down by a mower two or three days before and gathered by a horse-rake at convenient distances to be thrown on the machine. As the engine moved along one man was required to pitch this grass on the platform and one boy to feed the furnace with it. The engine started with a pressure of about eighty pounds on the steam gauge, but when the machine had gone once around the quarter section and stopped to take in water the steam showed a pressure of 140 pounds and blew off at the safety valve. The water was supplied by one man with a team and tank. The usual cost for breaking sod and back-setting is \$4 per acre. With the steam plough this cost will be considerably reduced, the cost of back-setting being saved altogether. The exact saving which will be effected is of course uncertain, as the question of fuel will arise after the prairie sod has been broken and its natural herbage removed. The steam plough may make a use for the straw of the previous year's crop. But where there is so much level soil to be cultivated and farms are so extensive, a slight saving in the cost of ploughing will be of great importance. This may be the

forerunner of a great farming trust to operate over an immense area and adopt the latest mechanical and industrial improvements.—The Globe.

A NEW RAILWAY IN NOVA SCOTIA.

Plans are being perfected for the construction of a short railway in Cape Breton Island, Nova Scotia, the completion of which it is said, will make possible a saving of forty-eight hours in the time required for bringing mail from Europe. The line is to be built by the Cape Breton Railway extension Co., which was incorporated under a special Act of the Nova Scotia Legislature, March 30, 1899. It is understood that the interests behind the enterprise are the Vanderbilts, Dr. W. Seward Webb being mentioned as its principal promoter.

Louisburg, on the east coast of Cape Breton Island, 2,240 nautical miles from Liverpool, has an excellent harbor, never ice-bound, with a pier having depth enough alongside for admitting the largest vessels at low water. It is proposed by the company to build a railway from that port to Hawkesbury, on the Straits of Canso, a distance of eighty-six miles. From Hawkesbury existing railways would carry the Intercolonial mails to all parts of Canada and the United States.

The new road is to be constructed and operated in two sections, the railway section and the bridge or ferry section over the Straits of Canso. The company has a capital of \$1,000,000, and is authorized to bond its line to the extent of \$15,000 a mile.

The Royal Electric Company, of Montreal, are installing in the head office of the Merchants Bank of Canada of that city, two 50 k. w. direct connected generators with Robb-Armstrong engine complete, with switchboards. These generators are to operate at 250 volts and the building is wired for lighting to operate lamps at 220 volts, and also two Sprague elevators. We believe this is the first complete electrical installation in Canada fitted out with 220 volt lamps.

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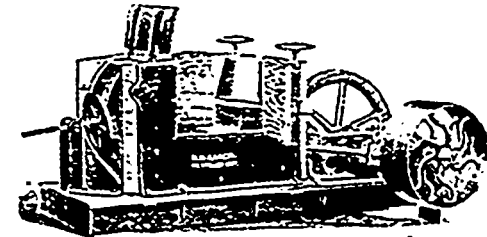
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Manufacturer of
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HARDWARE and METAL

Bar Iron, Steel,
Boiler Plate Tubes.

**MACHINIST TOOLS,
PIPE FITTINGS.**

A COMPLETE STOCK OF
STOCKS and DIES. PIPE VICES.

STILLSON & TRIMO
WRENCHES.

STEAM PIPE.

Cor. King and Victoria, TORONTO

BROOKVILLE, ONT.

During the season just closing more building has been done here than for several years past, and great difficulty has been experienced in securing mechanics and laborers to meet the demand.

The manufacturers have never turned out as great quantities of goods as this year. The Canada Carriage Company have been compelled to work overtime in order to keep up with the rush of orders, and prospects for the fall and winter trade are very bright. At a meeting of the company's agents held here recently they all reported an excellent season's business.

The Ontario Glove Works have added new and improved machinery to their equipment, and are now turning out a greater quantity of goods than ever before.

The Cossitt Bros. Company, Limited, agricultural implements, have been forced to run their works at night, and found it difficult to secure mechanics to turn out their machines with sufficient rapidity to meet the demands of their agents.

The Mann Manufacturing Co., agricultural implements, have developed a large export trade, and this season's shipments across the sea have eclipsed all former records.

The firm of MacLaren & McCrody, manufacturers of leather belting, is a new one.

The trade has developed so that they now are compelled to work night and day, and will shortly double the capacity of their factory.

The James Smart Manufacturing Company, Limited, the largest establishment in town, are having a record year. In one line of heaters alone they announce that they have sold three times as many as in any former year. They work full time with all the men their large works can accommodate, and then find it difficult to keep pace with their orders. Their business includes a large export trade as well. During the past few months they have taken over and reopened what was formerly known as the Gardiner Tool Works, and this branch is now running full blast, in connection with their other very large business.—The Globe.

COLLINGWOOD, ONT.

Like many more Canadian towns, this busy Georgian Bay port is enjoying its share of the growing time.

The manufacturing establishments are busy, the lumbering operations have been more active, the shipping has improved, and the general business of the town has increased.

The Collingwood Meat Co. have employed between sixty and seventy men during the

summer, yet they were obliged to operate overtime.

Messrs. Wilson Bros.' large planing mill has kept between fifty and sixty men steadily engaged since the opening of navigation, their outside trade has greatly increased, as has their local business.

The Williams Hurlbert Co., manufacturers of hosiery and mitts, are yet compelled to run their entire plant overtime. They have between forty and fifty hands on the pay roll.

The Bryan Manufacturing Co., another large woodworking concern have run overtime almost every day since the opening of navigation. They have a large outside trade. Mr. Bryan told your correspondent that they have had employed an average of twenty-five more men this year than in 1898. Their pay roll has reached seventy-five names.

The Northern Navigation Company have done an immense tourist trade. Every steamer was crowded during the hot weather; consequently the town was greatly benefited. The freight situation is also improved.

The saw mills of Messrs. Toner & Gregory and D. G. Cooper have been running since spring, which is unusual. They are sawing on contract for outside firms, the result of the Ontario statute restricting the export of sawlogs.

The biscuit and broom factories of Messrs.

When were
Your
BOILERS
Last
Inspected?

Consulting Engineers—
G. O. ROBB, Chief Engineer
A. FRASER, Sec.-Treasurer

JOHN L. BLAIKIE ESQ.
PRES.

EW. RATHBUN ESQ.
VICE-PRES.



OF CANADA

B. I. & I. CO.



Head Office,
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Are You
sure they
are **SAFE**
and in
Good Con-
dition?

The Canadian Gazette

LONDON, ENGLAND

A Weekly Journal

Of information and comment upon matters of use and interest to those concerned in Canada, Canadian Emigration and Canadian Investments.

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Compiler and Editor of

"The Stock Exchange Year Book,"
"The Directory of Directories," etc.

Every Thursday. Subscription, \$1.38 per annum

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LONDON, E.C., ENG.

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It circulates throughout the Mercantile Centres of South and East Africa, including Cape Colony, Orange Free State, Transvaal, Natal, British Protectorate of Bechuanaland, Zambesia, etc.

Advertising Rates on Application.

THE AMERICAN CARPET and UPHOLSTERY JOURNAL

Each number contains valuable statistics as to the imports and exports of the United States, and all the news relating to the allied industries.

It carries the advertisements of the leading firms in the business, and is regarded as a most valuable medium for reaching the entire trade of the country.

Subscription Price, - \$2.00 a year
For Canada and the United States.

PUBLISHED BY
THE TRADES PUBLISHING COMPANY,
102 South Twelfth Street,
PHILADELPHIA, PENN.

Telfer Bros. have not been shut down scarcely a day. The firm's business has greatly increased, especially in the north-west.

Mr. C. Toboy's tannery is making large shipments. A full staff is steadily employed.

The merchants have no complaint to make, and generally the growing time suits the people of Collingwood.—The Globe.

THE CANADIAN IRON INDUSTRY.

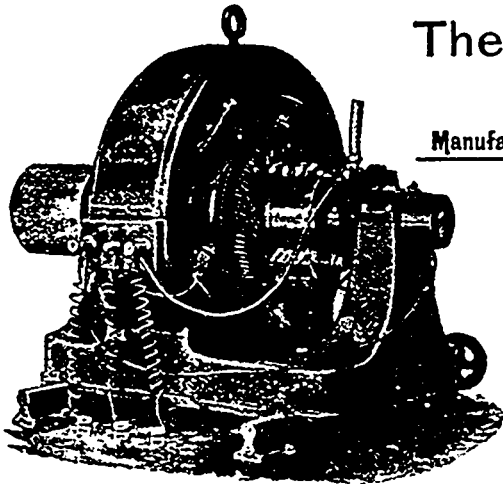
In his just issued report of the Ontario Bureau of Mines, Mr. Archibald Blue, the Director, speaking of the Canadian Iron Industry, says:—

Three years ago the iron industry of the Province awoke from a long sleep. Early in 1896 the new blast furnace at Hamilton was blown in, and from that time until the end of 1898 it smelted 165,653 tons of ore and 19,847 tons of mill cinder, and pro-

duced 100,566 tons of pig iron. The quantity of limestone used for flux during that period was 31,929 tons and of coke for fuel 108,565 tons. Employment was given to an average of 128 workmen, whose aggregate earnings were \$148,476, and the total value of pig iron at the furnace was \$1,172,697. This Company has been strengthened with the object of establishing steel works in connection with its blast furnace. On January 25 of the present year a new charcoal furnace erected at Deseronto was blown in, and for the first half of the year the two furnaces have produced 30,090 tons of pig iron valued at \$409,158, having smelted 14,452 tons Ontario ores, 35,510 tons of foreign ores and 5,135 tons mill cinder. The quantity of iron ore mined in the Province during the first half of the present year has been 10,788 tons, valued at its selling price at the mines at \$20,604. The Canada Furnace Company,

which has been carrying on operations for a number of years at Kadnor, Quebec, will soon begin the erection of a charcoal furnace at Midland, in Simcoe county, which will have a capacity of 60 tons per day. The managers of the Company hope to complete it before the close of the year.

Messrs. Joseph Evans & Sons, Wolverhampton, Eng., have sent us a very beautifully gotten up illustrated catalogue and price list of their patented and improved hydraulic rams, motors, condensers, pumps, and pumping machinery, governors, valves, boilers, etc. They call special attention to a number of new and improved designs which have been incorporated into the book and which now comprise every variety of pumping plant suitable for all purposes. The descriptive matter is clear and concise, and the cypher code, which applies to nearly all the pumps mentioned in the Catalogue, is of great service in ordering goods. The prices named in the catalogue are, they say, based upon cost of production at time of publication, and the terms quoted are therefore subject to alteration without notice, but customers may always rely, as heretofore, upon receiving every consideration at the hands of the concern. The illustrations in the book have reference to, and are descriptive of pitcher spout pumps, lift pumps for village use, syphon pumps, oil pumps, syphon plunger force pumps, rotary pumps for lubricating bearings, pumps for dairy use, wheel motion force and lift pumps, double cylinder force pumps, deluge pumps, etc. The fact is, Messrs. Evans & Sons hold themselves in readiness at any and at all times to pump it into any who have occasion in their business to move fluids of any description whatever, and tell all they know about it. Write them.



The Jones & Moore Electric Co.,

Manufacturers and Contractors

All Work Fully Guaranteed

ELECTRIC LIGHT and POWER PLANTS a Specialty

A Few Second-Hand A 1 Machines For Sale Cheap

20 and 22 ADELAIDE STREET WEST TORONTO

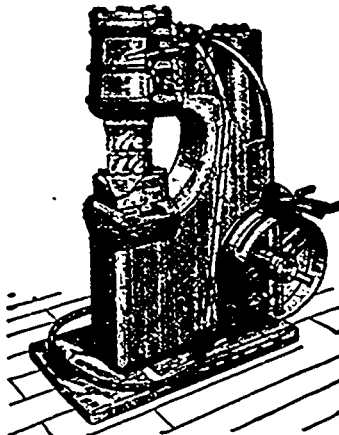
The Yeakley Vacuum Hammer.

Canadian Patent November 9, 1897.

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

George Brush

EAGLE FOUNDRY, MONTREAL.



T. H. & A. H. DRYDEN

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FLOUR, SPIGE AND

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Grain Elevators Portable Mills
Shafting, Hangers All Sizes.
Pulleys, Sprockets and Chains Gears Cogged

MACHINES MADE TO ORDER

All kinds of Repairing Promptly Attended to

Warehouse Elevator Works Electric or Steam.
TORONTO

"IDEAL" ACETYLENE GAS BURNERS

\$2.40 per dozen; \$20.00 per gross.

FOUR LIGHT CLUSTER—\$2.00 each. Larger sizes on application.

"IDEAL" Carbide Sub-Merging Acetylene Gas Machines,

15 to 2,000 Lights. WRITE FOR PRICES.

"IDEAL" BURNERS and MACHINES are the BEST in AMERICA.

Manufactured by **J. WALLACE & SON,**
GET THE "IDEAL," HAMILTON, ONT.

Dominion Oil Cloth Co.

Manufacturers of....

OIL-CLOTHS of Every Description

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

Office and Works
Cor. St. Catharine and Parthenais Sts.,
MONTREAL, Que.

ADVANTAGES OF WETTING COAL.

The practice of wetting soft or bituminous coal seems to be favored by some engineers and firemen, while it is condemned by others. This being true, it looks like a case where doctors disagree; and then who shall decide? There are two classes of men whose opinions are worth but little in such cases, and one class is of those who are always trying to find the easiest way to do whatever falls to their lot, and the other is those who have got into the habit of doing certain things in certain ways, without being able to give any reason for their practice. I do not mean to say that the hardest way is always the best, nor yet that the easiest way will not secure good results, but I do protest against the practice of allowing the necessity of putting forth a little more energy to prevent a man from doing satisfactory and economical work. Now it is much more work to handle soft coal that is saturated with water than it is to shovel in dry coal,

and perhaps this fact may influence some men about deciding which gives the best results. The purely scientific and theoretical man asserts that there is no economy in wetting the coal because the water is decomposed and it requires as much heat to do this as we get back by the reunion of the gases which we call combustion. Furthermore, it is impossible for a direct loss to occur on account of the process, as it is almost impossible for changes of any kind to be made without some loss. Still, we find that the locomotive fireman almost invariably wets his coal, for, unless he does so, much of it is drawn through the tubes and out into the stack before it has a chance to burn at all. Where soft coal is burned under stationary boilers, the fires are frequently forced much more than they could be unless forced draught was used, and here it pays to wet the coal, for it prevents the soot from accumulating in the tubes, thus keeping the heat from acting directly on the iron or steel. Another reason why it pays to wet the coal is because it cokes up quicker, and although

this makes it necessary to break up the fire at short intervals, still, if the coal is formed into large masses, it will not fall through the grates as the fine particles always do when stirred up. When the experiment of throwing a shovelful of fine, dry, soft coal into a furnace where a brisk fire is burning is tried, it shows that it flashes into flame at once, hence the heat becomes greater in a place where it is great enough already, so that the best results are not secured; but with wet coal, the process of combining the gases or of producing combustion is retarded until they have passed further along on their journey to the stack, where the heat can be applied to better advantage, and hence more satisfactory results secured. The vapor so formed probably assists in promoting combustion, for those who have tried both the blower and the steam jet affirm that while the clinker formed by the former is hard and not so easily broken up, that formed where the latter is in use is much softer and more easily broken, so that it will fall through the shaking grates.

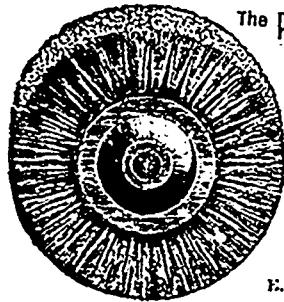
MR. C. B. THISTLETHWAYTE
OF SYDNEY, NEW SOUTH WALES,

Will be in Canada about November 1st, to arrange for Australian agencies. If you have no agents in that country please write, stating lines of goods you make suitable for that trade. Best of references. Address
THE CANADIAN MANUFACTURER,
McKinnon Building, Toronto.

FRICTION PULLEY BOARD If you are not yet using it, send for sample.

The Dominion Leather Board Co.,
MONTREAL, QUE.

Please mention CANADIAN MANUFACTURER.



The **PRESTON BRUSH FACTORY**
Manufacturers of ALL KINDS OF BRUSHES.
ORDERED MACHINERY BRUSHES } Specialty
Mail Orders Promptly Filled.
E. H. Salyerle, Prop., PRESTON, ONT.

ESTABLISHED 1849.

CHARLES F. CLARK, President.

JARED CHITTENDEN, Treasurer.

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Capital and Surplus, \$1,500,000.

Executive Offices: OFFICES THROUGHOUT THE CIVILIZED WORLD.
346 and 348 BROADWAY, New York City, U.S.A.

THE BRADSTREET COMPANY gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying, and promulgating information no effort is spared, and no reasonable expense considered too great that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world. Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

CORRESPONDENCE INVITED.

The Bradstreet Company, Toronto Office:— Cor. Jordan & Melinda Sts.

THOS. C. IRVING, Superintendent.

THE SMART-EBY MACHINE CO.,

Steam and Gas Engines,
Pumping Machinery,
General Machinery.



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193 BARTON STREET EAST
HAMILTON, ONT.

CITY AGENTS WANTED. WRITE US BEFORE PLACING YOUR ORDER.

ONTARIO GOLD MINING DISTRICT:

- Sultana Mine.
- Foley Mine.
- Mikado Mine.
- Olive Gold Mine.
- Cameron Island Mine.
- Hammond Reef Mine.

A Few Mines

WHO USE



BRITISH COLUMBIA:

- Le Roi Mine.
- War Eagle Mine.
- Old Ironsides Mine.
- Centre Star Mine.
- Crown Point Mine.
- Knob Hill Mine.

CANADIAN RAND DRILL COMPANY, Montreal

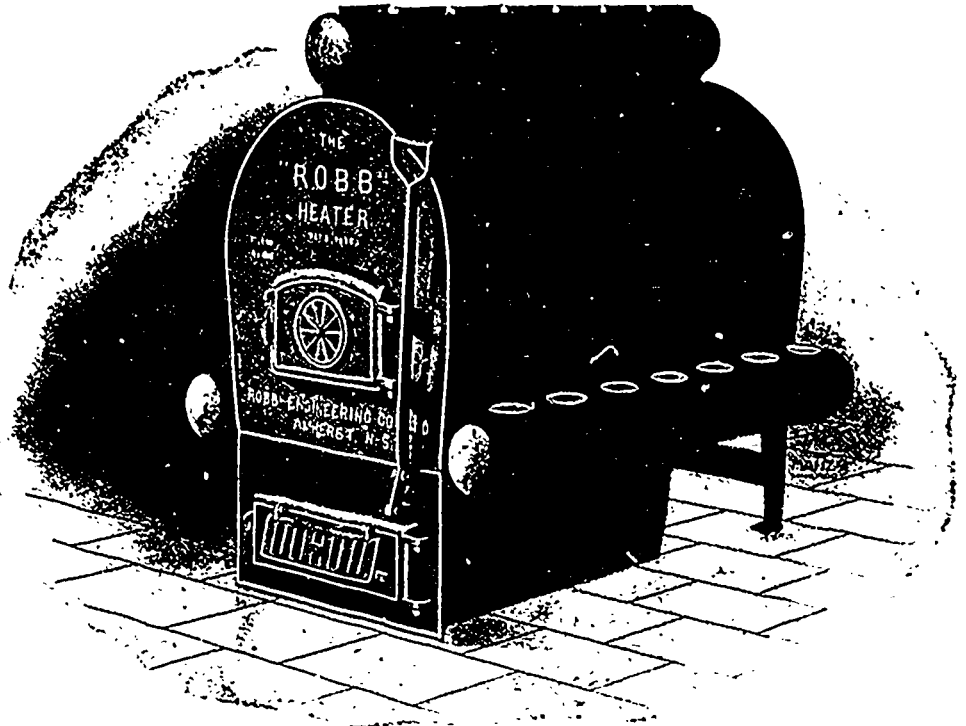
When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

THE ROBB HEATER.

The heating of residences and other buildings is so important a matter that any marked improvement in the apparatus employed, is deserving of mention. The Robb hot water heater, manufactured by the Robb Engineering Co., Amherst, N.S., is designed to overcome many of the objections found in the older forms, and is said to be giving the best satisfaction where-over used.

It will burn any kind of fuel, hard or soft coal, coke or wood. The heating surfaces are self-cleaning, as they are directly exposed to the fire and cannot become coated with soot or ashes. This is a very important point, as the cleaning of a heater is seldom properly attended to, with the result that a great deal of heat is wasted.

Sufficient surface is supplied to take up the heat without requiring the flame to travel through a number of narrow or crooked passages, as is usually done. The draught is, therefore, unobstructed and good combustion ensured.



The water circulation is rapid, because it is always upward, which is the natural direction for heated water to move. Besides heating a building more quickly than is usual with hot water, this helps very materially with the economy. The cooler the water, the more heat it will absorb from the fire. It should, therefore, move away as soon as warmed, allowing cooler water to take its place.

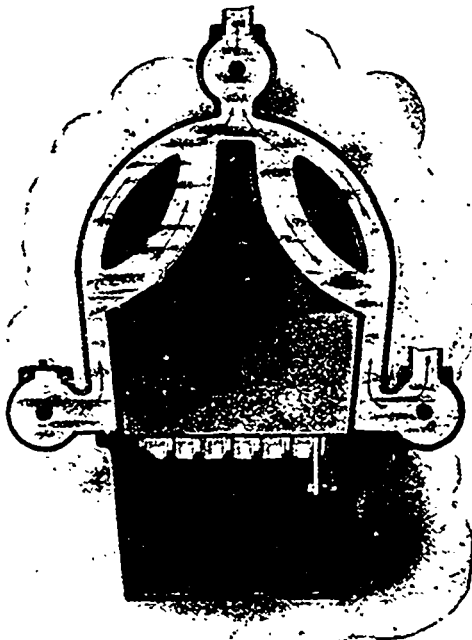
This heater is very convenient to connect, as the flow pipes may run in any direction and the returns may be brought to either side, or part to each side, as preferred. The height is much less than any other type, so that it can be used in a very low cellar.

The Robb Engineering Co. have recently issued a very handsome catalogue giving full particulars of this heater, which we understand they will send on request to anyone interested.

Niagara Falls, the greatest drawing attraction of the New World at all times, will be visited by far greater crowds than ever before during the progress of the Pan-American Exposi-

tion. The Falls and also the wonderful Niagara Gorge will be brilliantly illuminated every night. A series of tall steel poles will be erected on both the American and Canadian sides of the river and on their tops will be search-lights, throwing a flood of constantly changing colored lights on the majestic cataract and the whirling rapids below. Arc-lights will also be placed in the Cave of the Winds, giving the graceful sheet of water which falls in front of it like a great curtain a beautiful phosphorescent appearance. The Falls itself will furnish the current for the light, as well as for all the lights and machinery at the exposition, twenty miles away. — The Pan-American Herald.

“Whirl round your head a closed vessel filled with wet steam. The water particles will be deposited on the farthest end. Why? Simply because water is heavier than steam, and is therefore thrown outward with 1,600 times the centrifugal force.” Thus is explained the reason for the effective operation of the Sturtevant Exhaust Head as presented in a circular recently issued by the B. F. Sturtevant Co. of Boston, Mass. It will be sent upon application.



Reduce Your Fuel Bills Increase Your Output...

NO ASHES. NO SMOKE. NO TROUBLE. NO MONEY REQUIRED IF GUARANTEES ARE NOT FULFILLED
The First and Only Successful Underfeed Stoker.

No Underfeed Stoker is successful without infringing our Patents, and the public are warned against importing or using infringing devices.

N.B.—Have you seen our Underfeed as applied to Houses, Schools, Churches, etc.? (Send for Circular).

For Estimates and other Information write

The General Engineering Co. Limited

SOLE MANUFACTURERS FOR CANADA,

Head Office.... **80 CANADA LIFE BUILDING, - TORONTO.**

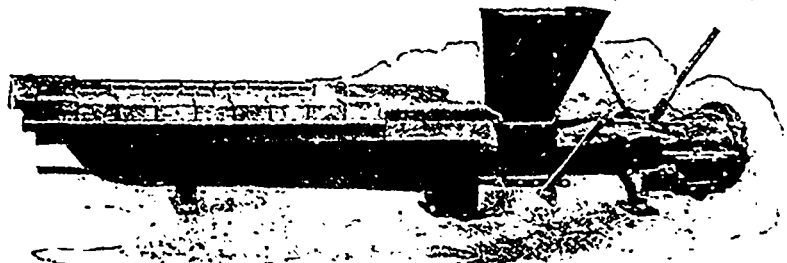
Montreal—A. TREVETHICK, - Box 1123.

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BY USING

The IMPROVED JONES UNDERFEED STOKER

Guaranteed Increased Economy, from 15 to 50% | Guaranteed Increased Boiler Capacity from 40 to 100%.



WOOD SEASONING BY ELECTRICITY.

In a recent issue of a European trade journal, there is a description of a new process of seasoning wood and timber by electricity, known as the Nodon-Bretoneau process, which must be a commercial success, for it is claimed that the company's shares are now at a premium of nearly 600 per cent. The effect of the electrical treatment seems to be to expel the sap and replace it by insoluble matter which will not putrefy, and to increase the tenacity of the wood and its resistance to vertical compression.

This is said to be the first industrial application of the principle of electric osmose, viz., if the electrodes in an electrolytic solution are separated by a porous partition and a current passes, the volume of the liquid in contact with the positive pole diminishes, while that in contact with the negative pole increases.

The process is about as follows: The positive pole of a dynamo is connected with a lead grating, upon which the wood to be treated is placed. A solution, which is kept at the uniform temperature of 100° F. by means of a steam pipe underneath the grating, is poured into the vat so as to almost cover the log of wood treated. At a public demonstration, the solution used contained ten per cent. of borax, five per cent. of resin, and three-fourths of one per cent. of carbonate of soda, the borax being used on account of its antiseptic properties and the carbonate of soda to help dissolve the resin. A porous tray, the bottom of which consists of two sheets of canvas with a sheet of felt between, is placed over the log, and a sheet of lead connected with the negative pole of the dynamo is placed above this.


When the current is turned on, the solution is drawn from the bottom and the sap is driven out, and its place taken by the borax and resin; the time required for a ten-inch log is about seven or eight hours, and then the wood is slowly dried, which takes in the open air in summer several weeks or even months. It was stated that a unit of electrical energy was required for every six cubic feet of timber treated.

**THE CANADIAN
COLORED COTTON
MILLS COMPANY.**

Cottonades, Tickings, Denims,
Awnings, Shirtings,
Flannelettes, Ginghams,
Zephyrs, Skirtings,
Dress Goods, Lawns,
Cotton Blankets,
Angolas, Yarns, etc.

Only Wholesale Trade Supplied.

D. MORRICE, SONS & CO.
AGENTS
MONTREAL and TORONTO.



SEND FOR CATALOGUE AND PRICE LIST

The Diamond Machine & Screw Co.
Manufacturers of TORONTO. Limited.

MACHINE SCREWS and BICYCLE PARTS OF EVERY DESCRIPTION

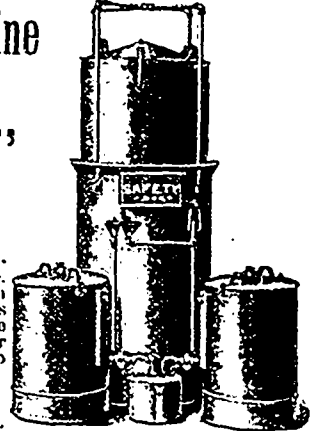
THE "SAFETY" Acetylene Gas Machine

Manufactured by
THE SAFETY LIGHT AND HEAT CO.,
DUNDAS, ONT.

WHAT SOME OF OUR FRIENDS SAY OF US:

GENTLEMEN.—I purchased from your Mr. Borsbery in 1 September, "The Safety" Acetylene Gas Machine made by your people. I at once had it set up and have run it constantly ever since. I am pleased to state it has given me entire satisfaction. I have 15 lights on it though it is only a 15 light machine. I believe it to be the best machine made. Though it is in for six months it has never cost anything for repairs. Any person can, in a few days, learn to run it successfully and economically. I would not be without it.

F. J. GILLESPIE,
UTTERGROVE, ONT. General Merchant, Fire and Life Assurance.



Felts for Pulp Mills

Felts are woven endless, without a splice. Our Felts will last longer and make dryer Pulp. All up-to-date mills use our Felts. New mills, when in need, write for samples and prices.

HAMELIN & AYERS, Lachute Mills, P.Q.

20 years in the business
—the first to make Felts
in Canada; capacity 1,000
lbs. per day. All our

The London Machine Tool Co., LONDON, ONT.

Toronto Office, {PHONE} MANUFACTURERS GENERAL MACHINERY...
42 York Street. { 293 } OF

Having recently sold our patterns and plant to the A. R. Williams Co., of Toronto, retaining only such machines as are useful in our business, we beg to say that we are rapidly putting in New Machinery, from new and improved designs, and are now in a position to receive orders for all Standard Tools for Metal Working in all branches. It will be our aim, by personal supervision of the product of works, with expert men of large experience at the head of each department, to turn out nothing but first-class work at moderate prices. And as we intend to deal directly with the manufacturers, they will be enabled to get their machinery at first cost.

As we shall not be able to personally visit each manufacturer, it is for this purpose that we publish this advertisement. This is our agent who is going about to solicit a share of your patronage. We are thankful for the patronage extended to us in the past, and hope that we may secure an extension of the favor for the future.

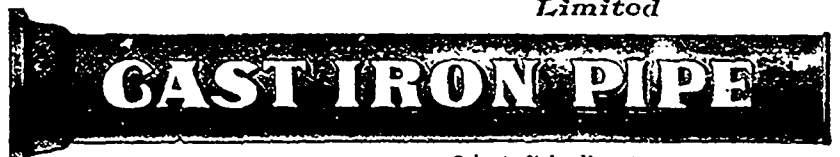
All correspondence relating to the following Tools will be promptly answered, viz:

- LATHES—Engine, Gap, Break, Turret, Fox, Spinning, Etc.
- PLANERS—Standard, Crank, Plato, Etc.
- DRILLS—Standard, Sensitive, Multiple, Radial, Etc.
- MILLING MACHINES—Lincoln, Plain, Universal, Etc.
- SHAPING MACHINES—Whitworth, G. & E. Rack Driven, Etc.
- HAMMERS—Steam, Sandago Drop, Stiles Drop.
- BULL-DOZERS for all purposes.
- PUNCHES AND SHEARS for Plato, Angles, Channels, Gauges, Etc.

And we would call special attention to our PRESSES for Cutting, Stamping, Drawing, Wiring, Riveting, Etc. We shall also esteem it a pleasure to give quotations on Special and General Machinery in our line.

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

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



3 in. to 60 in. diameter.

For Water, Gas, Culverts and Sewers
Special Castings and all kinds of FLEXIBLE AND FLANGE PIPE.
WATER WORKS SUPPLIES HAMILTON, ONT.

A LAKE OF GOLD.

The Richardson gold mine at Isaac's Harbor, in the district of Stormont, has a forty-stamp mill, which has been crushing on an average 2,000 tons of ore per month for several years. This ore has been yielding an average of \$200 per ton, which has left a fair margin of profit for the owners.

The tailings from the mill have been permitted to run into a lake near by; gradually the sand displaced the water until what was a lake is now an immense bed of quartz sand. Recently a Wilfley concentrator has been placed at the tail of the mill. This machine has proved that 5 per cent. of the tailings are concentrates. Several lots of these concentrates have recently been sent to England and the United States, and the results are a yield of \$40 per ton, leaving a

good margin of profit after all expenses are paid. Thus it will be seen that the tailings, which have been permitted to run into the lake, contain as much gold as what was saved in the mill. It is estimated there are no less than 100,000 tons of sand now deposited in the displaced lake, representing a value of \$200,000.

The Richardson Co. are at present devising means of treating this body of sand, and the Truro Foundry and Machine Co. have been asked to prepare plans and estimates for a plant to rise and concentrate this large body of valuable auriferous sands. The plant will probably consist of a large centrifugal pump to raise the material and eight Wilfley concentrators. It is thought that one dollar per ton will cover the entire cost, including treatment of the concentrates, which will leave the nice little sum of \$100,-

000 profits for the company.—Truro, N.S., News.

THE GROWING TIME IN VICTORIA, B.C.

The era of prosperity which has set in throughout Canada has been experienced in a marked degree in this western outpost of the Dominion. Below will be found details of the expansion of trade during the past year among some of the larger houses, yet even these do not fully illustrate the feeling of content and hopefulness which everywhere exists.

In conversing with members of the different manufacturing firms in the city The Globe's representative was assured that not only has trade expanded and working stalls been increased, but that wages have ad

JOHN J. KELLER & CO.

104 and 106 MURRAY ST.
NEW YORK

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

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

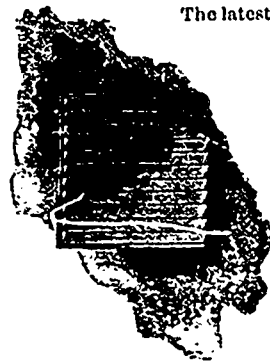
FAST COLORS for Wool Dyeing,
One Dip Cotton Colors, Novelties
and Specialties for Calico
Printing.

MANUFACTURED BY

JOHN R. GEIGY & CO.
BASLE, SWITZERLAND

**LIGHT YOUR
FACTORY WITH**

LUXFER PRISMS



The latest device for

LIGHTING

dark rooms and
offices

By Daylight

For catalogue
and estimates
write to

**Luxfer Prism
Co'y, Limited.**

58 Yonge Street, - TORONTO.

**You
Are
Thinking**

of putting in New Shafting,
Pulleys, Hangers, Tube Cut-
ters, Pipe Cutting Machines,
Swing Saws, Wood Lathes,
Dough Mixers, or Paper Box
Machinery.

We

Make all these lines, and can
quote you as good, if not bet-
ter prices than other people.

G. T. PENDRITH & CO.,

73 to 81 Adelaide St. West,
TORONTO.

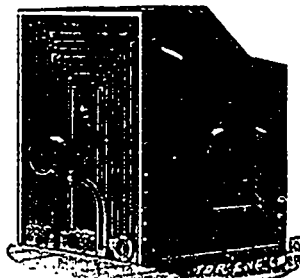
HEATING . . .

The Fan System of Steam Heating for Heating
of Factories and all Classes of Buildings.

DRYING . . .

Appliances for Drying

**Lumber, Brick, Wool, Cloth,
Hair, Soap, Glue, etc.**



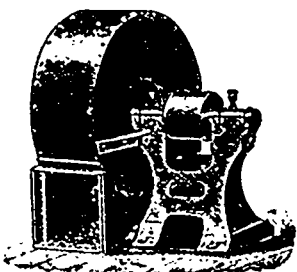
Heater and Housing.

VENTILATING . . .

Ventilating Fans for removal of Dust, Foul Air, etc.

WRITE FOR CATALOGUE AND PRICES.

**McEachren Heating and
Ventilating Co., GALT, ONT.**



Fan.

F. E. ATTEAUX & CO.

53 Colborne Street,
Toronto.

15 Lemoine Street, Montreal.

Boston, New York,
Philadelphia, Chicago, and
Gloveraville, N.Y.

**Dyewood Extracts,
One Dip Alizarines,
Aniline Colors,
Dyestuffs and
Chemicals.**

vanced and labor is practically at a premium. No tradesman need be idle, and in some lines, especially those associated with building, the scale of wages has increased from \$2 and \$2.50 a day to \$3 and \$3.50, with workmen scarce even at that figure. Employers and employees thus experience jointly the blessings of Canada's "growing time."

In considering the proportions of this year's trade in excess of that of former seasons, it should be born in mind that 1898 was a particularly good year for Victoria manufacturers, owing to the stimulus given by the sudden opening up of the northern trade. So marked was this advance that some firms more than doubled their output. The volume of this year's business, therefore, while in most cases in excess of that of last year, represents an advance of from fifty to 150 per cent. on the trade of an ordinary year.

Early in the season the City Council set a good example by advancing the wages of a number of the clerical staff at the City Hall.

The increase of business of the B.C. Electric Railway Company may be judged from the fact that the earnings of the road are far in excess of the earnings in 1898. From April 1st to July 31st the receipts from the road were \$54,220, as compared with \$40,856 for the same period last year. The office staff has been increased, the track gang augmented, and the wages of the latter advanced without solicitation.

R. Dunsmuir & Sons have increased the number of their employees both in the mines and on the E. & N. Railroad to an almost phenomenal degree. In the Extension coal mine alone six hundred men are employed, where none were working last year. Work in connection with the extension of the road

and the construction of coal bunkers at Oyster Bay has led to the addition of about two hundred and fifty men to the pay roll of last year.

During the last two years the development of trade in connection with the Albion Iron Works has been little less than phenomenal. In 1896 the company were employing about ninety men. To-day they have about 260 men on their pay roll. In addition to this they have within the last two years added to their plant, involving an expenditure of \$75,000. For the last two months they have had shifts working night and day in order to keep pace with their orders.

The Victoria Machinery Depot, while not as extensive a business as the Albion Co., has enjoyed a prosperous year. Here, too, the men have been obliged to work overtime, the output having advanced twenty-five per cent. The working staff has been increased about twenty per cent.

Of the prosperity of the Pendray Soap Co. and British-American Paint Co. proof is furnished by the imposing building now being erected to accommodate the works. Early in the year Mr. Pendray acquired the business of the Canada Paint Co. and amalgamated it with the large soap business which he has built up. A large brick building, four stories high, and 130x90 feet in dimensions, is rapidly nearing completion, and will be employed for the accommodation of the paint manufacturing plant. The entire business has increased thirty per cent., while, in addition to putting on a number of unskilled workmen, several high-salaried assistants have been added to the staff.

At the Victoria Chemical Works trade has increased this year fifty per cent., with the staff of employees advancing accordingly.



IMPORTANT ANNOUNCEMENT.

Recognizing the importance to the manufacturing industries of Canada of all matters touching Export Trade we have decided to open a Bureau of Information embracing every point of interest connected with this subject, and which Bureau is available to all our many patrons.

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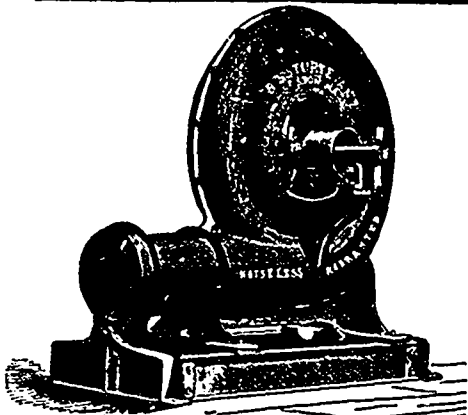
To answer special inquiries of every character relating to trade interests.

To give **PRIVATE** information of a Commercial nature.

To quote Tariffs, Imports and Exports of any country, and leading industry of any City in the World.

To give Rates of Freight and Marine Insurance, and to advise as to the manner of shipping goods and collecting accounts, etc., and we cordially invite our Patrons to make use of this Bureau of Information free of charge, and also to make full use of our offices in Toronto and abroad, and all other reasonable information and services to promote the export of Canadian manufactures.

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28 Victoria St., Toronto, Ont.

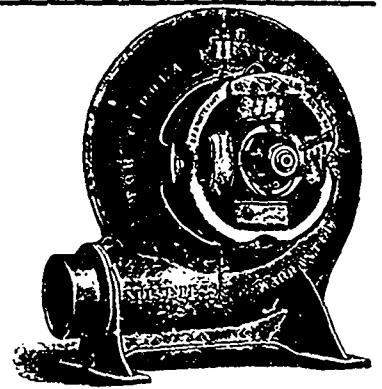


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—FOR—

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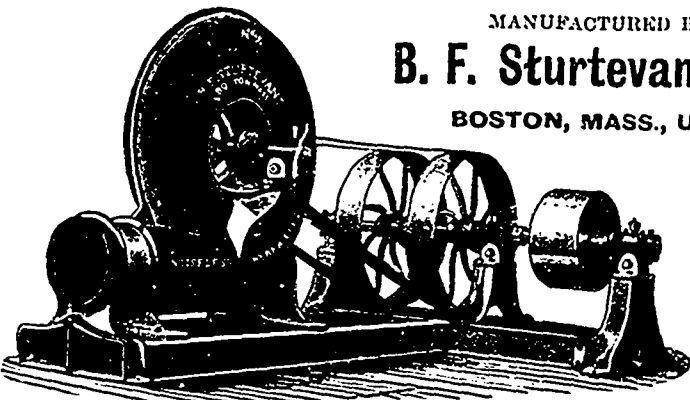


Blower with Electric Motor.

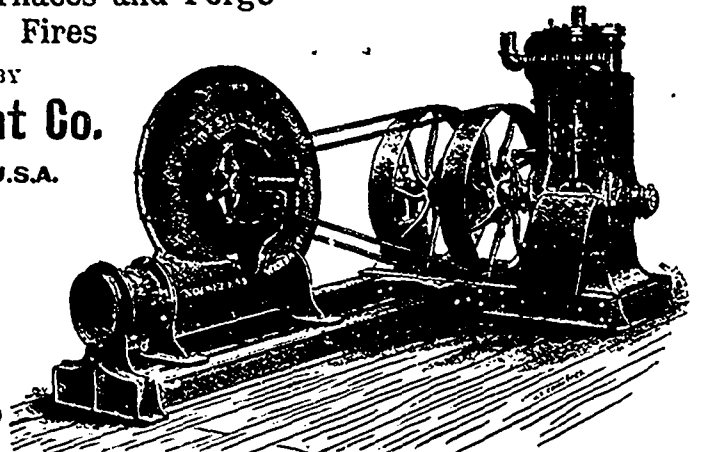
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Blower on Adjustable Bed, with Double Enclosed Engine.

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When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The output of brick from the yards of M. Humber has been double that of last year, the manufacture this year representing over three million bricks. The working staff has been largely increased, and the firm have had difficulty, even with this assistance, of meeting all the orders, which included several large ones from the Admiralty.

The B. C. Furniture Co. have also had a good year, the business having grown 25 per cent. Wages among the clerks in the retail department and in the factory have advanced probably 10 per cent. The firm have also been obliged to work overtime.

Weiler Bros., furniture manufacturers, moved a few months ago into their new wholesale house, a structure unsurpassed in appearance, accommodation and fittings by any premises of a similar line of trade in Western America. By its erection they se-

cure 50,000 square feet of additional floor space. General business has increased, seven or eight additional hands have been employed, and wages have advanced slightly.

Wages in the sash and door factory of Jas. Leigh & Sons have advanced 15 per cent. The number of employees have been augmented 10 per cent, and the output over last year is about 20 per cent.

The Taylor Mill Co. are not working overtime, but they are running full time, which was not the case a year or two ago. Business has expanded 40 or 50 per cent., while wages in some instances have been raised.

In the mills of the Shawinigan Lake Lumber Co. trade has increased 30 per cent, wages have been raised, and some expensive additions have been made to the plant.

Lemon & Gommson of the Capital Planing Mills have been forced to work overtime to overtake orders. This year's business will exceed that of last year by \$4,000, while wages of workmen are 10 per cent higher.

The Province Cigar Factory has shared the general prosperity. Trade has increased 25 per cent. and wages have advanced slightly.

The Capital Cigar Factory reports a rather less increase of business and the same advance in wages.

The Sayward Mills have this year increased their assets by the construction of a handsome office building, a box factory and a dry kiln, besides installing a large planer.

Their pay roll is larger than last year, and 15 per cent. is a conservative estimate of the increase in business since last year. They have also worked overtime.

Manager Patton of Parsons Produce Co. and the B. C. Cold Storage Co. has six additional men this year over last. The business has increased by about \$90,000. Salaries have advanced 10 per cent., and a night shift has been steadily employed.

Of the wholesale houses Pither & Leiser have increased their business 10 per cent. over that of last year, which was double that of previous years. Salaries have been increased, while two more warehouses have been acquired for storage.

Simon Leiser & Co. have twenty more men employed this year than last, while the business has advanced 25 per cent. Wages also have been raised.

J. Piercy & Co., manufacturers and wholesale dealers in dry goods, have doubled their store accommodation, and have also doubled the number of machines in their factory. They have worked overtime, have increased wages 10 per cent. and their output 20 p.c.

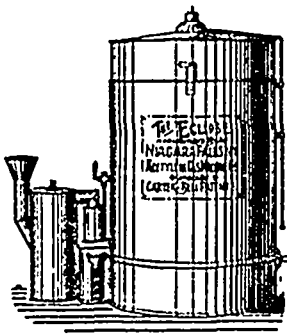
Leiz & Leiser, Turner, Beaton & Co., and, indeed, all of the wholesale firms, report a prosperous year.

The Victoria Gas Co. have increased both their volume of business and number of employees.

Taken generally, the past year is regarded as one of the best ever seen in Victoria.—The Globe.

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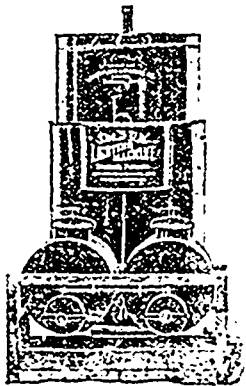
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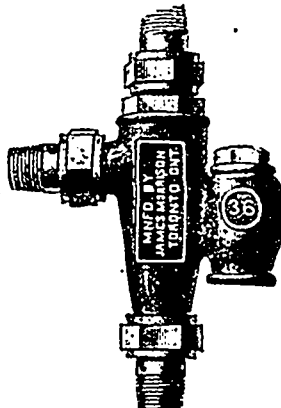
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SMITH'S FALLS, ONT.

Smith's Falls has voted favorably on a by-law to borrow \$150,000 for a system of waterworks and sewerage. The town had a plan of the proposed sewers and waterworks made a few weeks ago by Mr. Willis Chipman, C. E., and the work will proceed at once under his supervision. Of the \$150,000 voted \$34,500 is to be paid to Capt. Foster for the partial system owned and operated by him. The balance will be spent on new work. Only a month ago the ratepayers voted on another by-law to raise \$20,000 for street improvement, and this also carried by a big majority. Earlier in the summer the people authorized about two miles of new granolithic walks, so that altogether now the Council has \$180,000 to spend on public improvements. The town has had a steady, rapid growth for some years, and is now over the 5,000 mark in population. Forty-six new houses were put up last year, sixty are under way this year, and now, with this \$18,000 to spend on its improvements, it is expected that it will forge ahead faster than ever.—The Globe.

BARRIE, ONT.

The revival of business throughout Canada has touched Barrie to a very noticeable degree. Fully \$100,000 has been expended this year in new stores and dwellings, a large portion of this sum

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being paid out in wages. Among those who have built new stores or dwellings are Frawley & Doblin, J. R. Cotter, Thomas Johnson, G. Wesley, E. T. Tyrer, N. Dymont, J. Cheesman, George Plaxton, J. S. Johnson, R. J. Oxenham, and many others.

Dymont, Butterfield & Company commenced a new foundry here last spring and already they have doubled their pay list.

The Barrie Tanning Company report an increase of business this year, and the total wages will be greater than last year.

Johnson & Sarjeant, who deal extensively in cement, lime, and all kinds of builders' supplies, report at least 50 per cent. increase in building operations in rural districts.

In G. T. R. circles the present year is away ahead of its predecessors. All of the one hundred or more employees have had all the work they could do, and in fact many of them thought their days too long. This feature was atoned for, however, by a corresponding increase in their wage accounts. Most railway men, such as conductors, firemen, engineers and brakemen, have made more money than formerly by reason of the increased number of freight and passenger trains necessary to handle the trade. More trains were also, of course, a

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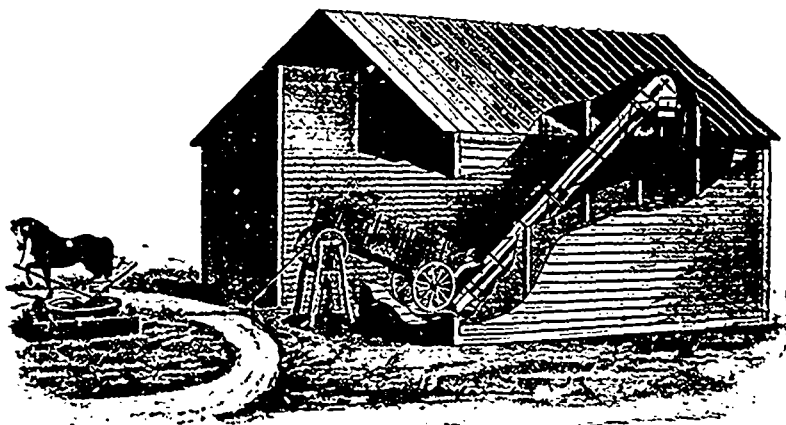
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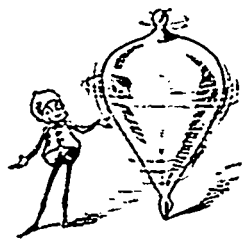
The Simcoe Peat Fuel Company commenced operations a few days ago, and this industry promises to give employment to a large number of men.

Business at W. Freek's brickyard, R. A. Thomas' creamery, Rodgers & Gallie's sash and door factory, and other centres of industry is reported brisk.

The growing time is also seen in the desire

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of many enterprising citizens to reach after new industries, the position of Barrio geographically being valuable as a distributing point. Merchants, millers and all classes of business men talk in a contented and satisfactory strain on trade as it has come their way. Most stores are employing more clerks than they had two years ago.—The Globe.

THE LARGEST DOCK ON THE AMERICAN CONTINENT.

The Department of Public Works has recently had under consideration the tenders for the extension of the Lorne graving dock at Levis, opposite the city of Quebec, and it is now practically settled that the contract will go to Thomas Powers, of Levis, who is the lowest tenderer.

The departmental estimate of the cost of the proposed extension is \$117,000. The work to be done is of a very difficult character, consisting almost entirely of rock excavation. It is proposed to extend the dock from its present length of 445 feet, to 600 feet, which will then make it equal to the capacity of any vessel entering the St. Lawrence River.

The construction of the dock was originally commenced by the Harbour Commission of Quebec in 1873, and was assumed later by the Government, and completed in 1889. The present dimensions are as follows:—Length 445 feet, width at coping level 100 feet, width at bottom 73 feet, width at entrance 62 feet, depth of water on sill at high-water spring tides 26 1/2 feet, neap tides 20 1/2 feet. The cost was \$910,000.

It may be mentioned that the dock at Esquimalt, B. C., which was completed in 1888, at a cost of \$1,149,146, is 480 feet long and 90 feet wide. This dock is also the property of the Dominion Government. The Atlantic graving dock at Halifax, N. S., which was opened in September, 1899, was the first to be constructed on the Atlantic coast of Canada, and until the Lorne dock extension is completed will be the largest on the continent. It is 595 feet long and 102 feet wide, so that it will be beaten by the enlarged dock at Levis by five feet. The dock is controlled by the Halifax Graving Dock Company, but the promoters received a subsidy from the Imperial and Canadian Governments, and from the city of Halifax, thereby guaranteeing its construction.

The graving dock at Kingston, Ont., which is Federal property, was finished in November, 1891. It is 280 feet long and 79 feet wide, and cost \$461,097.

The Levis dock will be large enough to accommodate such ocean greyhounds as the Teutonic, which is 582 feet long, or the New York, which is 580 feet. It could not, however, accommodate the Oceanic which is 704 feet long.

Incidentally, it may be mentioned that in August, 1897, the United States Government had to send one of their men-of-war, the Indiana, to be docked at Halifax, as there was no dock large enough in the United States.

The annual general meeting of shareholders of the Lake of the Woods Milling Company was held in Montreal a few days ago. A dividend of 8 per cent. on the capital stock of the company was declared for the year ending August 31st, 1899. The company are increasing their capital by one million dollars. The output of the present mills will be largely increased, and new mills will be erected.

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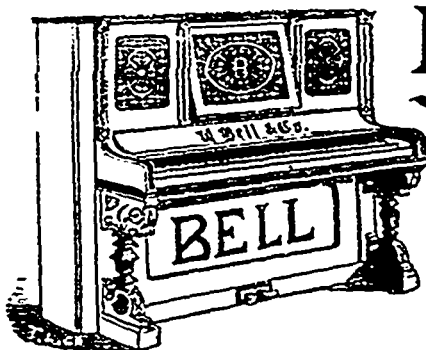
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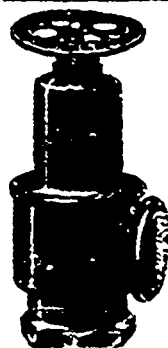


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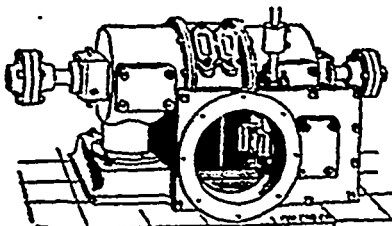
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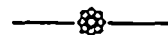
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ETC.

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