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DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

THE HIGHEST QUALITY  
THE BEST IT IS  
MANUFACTURED FOR ITSELF  
PROSPERS

VOL. 39. TORONTO, AUGUST 18, 1899. No. 4.

The Envelope Loudly Proclaims  
The Business Standing of  
The Concern it Represents

If the envelope is of superfine quality, and in perfect harmony with the letter paper, the prima facie evidence is in favor of securing a verdict of acquiescence in a business proposal.

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ELECTRIC  
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All made of the best material and  
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The Fensom Elevator Works ...  
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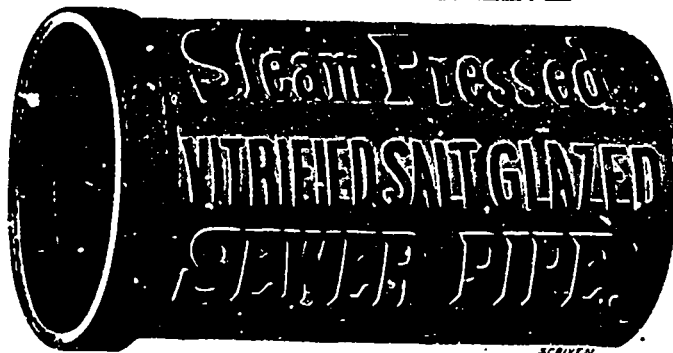
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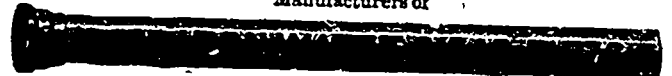
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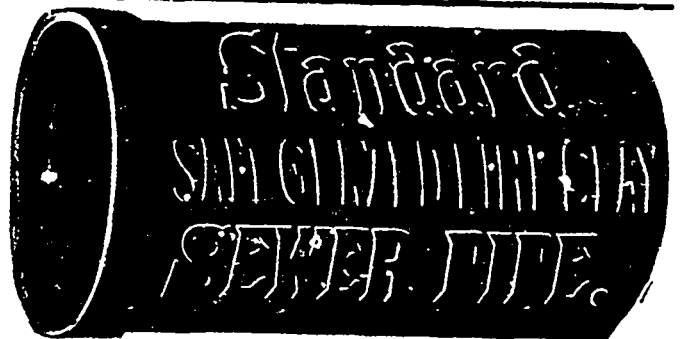
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Wood Rim Split  
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VAULTS,  
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Highest Awards at the World's Fair, Chicago, upon

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

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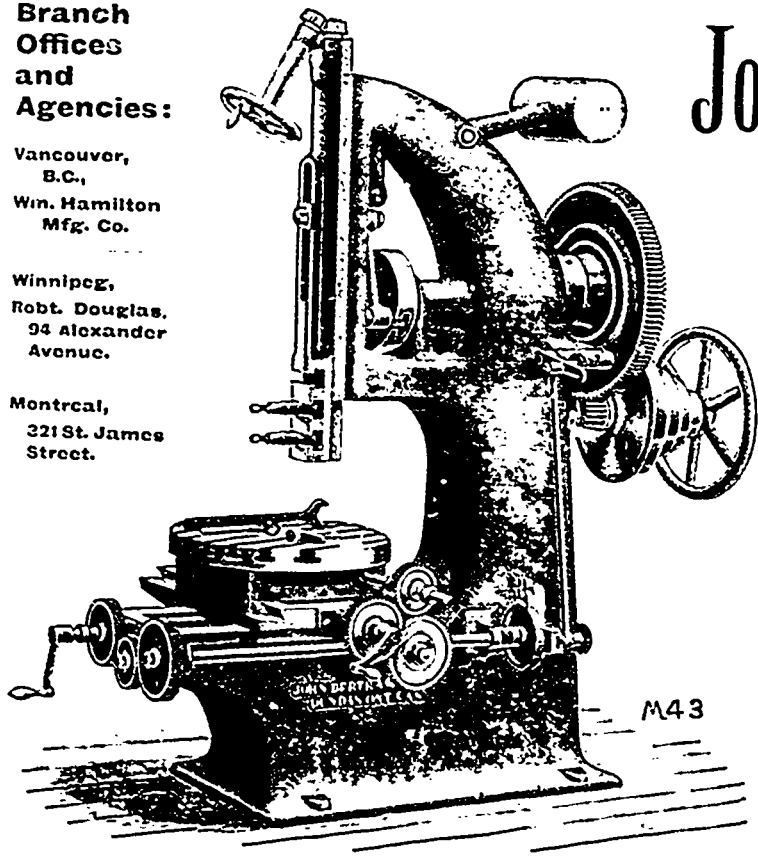
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A large Stock of **ROLLED STEEL BEAMS, JOISTS, GIRDERS, CHANNELS, ANGLES, TEES, Z BARS and PLATES**  
Tables, giving Sizes and Strength of Rolled Beams on application. **ALWAYS ON HAND** IN LENGTHS TO THIRTY-FIVE FEET.

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Caustic Soda, ALL STRENGTHS.  
Bicarbonate of Soda,  
Concentrated Sal Soda,  
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**DYE...  
STUFFS**

**The Polson Iron Works, TORONTO  
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THE BEST EQUIPPED BOILER AND ENGINE WORKS IN CANADA.

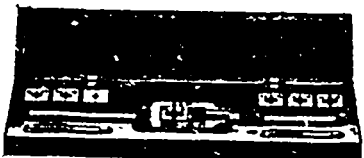
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The **BROWN AUTOMATIC ENGINE, MARINE ENGINES** (SINGLE, COMPOUND AND TRIPLE), Hoisting and Mining Engines  
**STEEL STEAM VESSELS OF EVERY DESCRIPTION.** **STEAM YACHTS AND LAUNCHES.**

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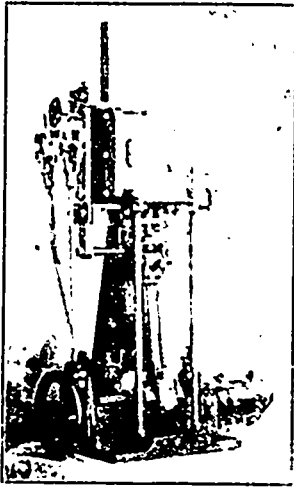


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**BUTTERFIELD & CO., Rock Island, P.Q.**

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**Mills,  
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Are best protected against fire by being equipped with

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 FIRE PAILS**

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

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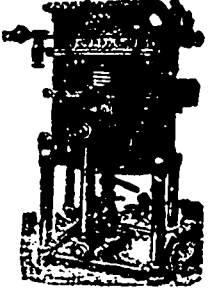
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 PETERBOROUGH, Ont. Canada.  
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**WEBSTER VACUUM Feed Water Heater**

IN PROPORTION

MAXIMUM EFFICIENCY ECONOMY DURABILITY CONVENIENCE SIMPLICITY	}	To the extent that Feed Water Heaters in general are investigated and understood the more the WEBSTER VACUUM FEED WATER HEATER and PURIFIER is appreciated.	MINIMUM ATTENTION SPACE WASTE REPAIRS COST
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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.

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**Chemicals**  
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DELIVERY MADE AT NEW YORK, MONTREAL OR HAMILTON.

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**The Cost of Steam.**

To decide which type of boiler will produce steam at the lowest cost it is necessary to consider the cost of the boiler, the evaporation of water per pound of fuel, and the expense of keeping the boiler in working order.

Compare our boiler, the "Mumford Improved" with a water tube boiler, and it will be found that ours has the advantage in all these points.

**COST.**—Our boiler costs less on account of its simpler construction.

**EVAPORATION.**—Our boiler is internally fired and, therefore, more heat is absorbed by the water. The water circulation, an important factor in evaporation, is similar to and probably more rapid than that of a water tube boiler. Tests made by disinterested parties, with the same coal, resulted in favor of our boiler.

**EXPENSE.** The furnace of a water tube boiler requires re lining with fire-brick frequently, a large item of expense which is not required with our boiler.

**ROBB ENGINEERING CO., Limited, Amherst, N.S.**

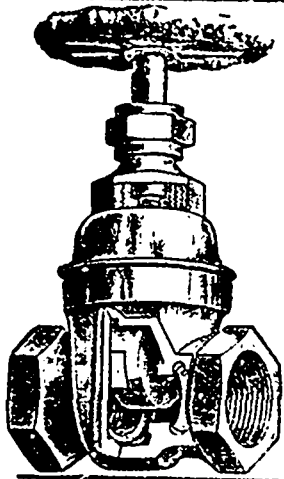
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**GENUINE EMERY**

Oakey's Flexible Twisted Emery Cloth.  
Oakey's Flint Paper and Glass Paper  
Oakey's Emery Paper, Black Lead, Etc.  
Prize Medal and Highest Award Philadelphia, 1876, for Superiority  
of Quality, Skillful Manufacture, Sharpness, Durability,  
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Inquiries should be addressed to

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**STRAITWAY VALVE**

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

**EVERY VALVE TESTED.**

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Sole Manufacturers for Canada. Send for  
Price List.

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Manufacturers of  
**RUBBER BELTS**  
FOR ALL PURPOSES,  
**RUBBER HOSE**

OF ANY DESCRIPTION,  
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A FULL LINE OF

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**ABSOLUTELY ACCURATE**

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

Current  
Completely  
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FOR SALE IN CANADA EXCLUSIVELY BY

Air Tight

Moisture  
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No Wear

**The Royal Electric Co'y**

MONTREAL, QUE.

TORONTO, ONT.

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# Pumps

"FOR ALL DUTIES"

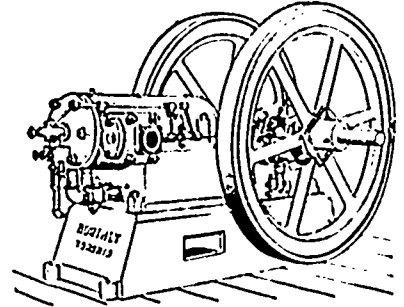
## NORTHEY GASOLINE ENGINE

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.

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### PHOTO ENGRAVINGS, WOOD CUTS,

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OF ANYTHING THAT YOU MAY DESIRE.

FIRST-GLASS IN EVERY PARTICULAR.

AT PRICES THAT DEFY COMPETITION. ASK FOR ESTIMATES.

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

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ESTABLISHED IN 1880.

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

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

C. A. G. BROWNE, 145 Fleet St., London, E.C., Eng., Sole Agent  
in Great Britain.

**THE CANADIAN EXPORTER.**

The Canadian Manufacturer Publishing Company, Limited, take pleasure in announcing that they are about to begin the publication of The Canadian Exporter, to be devoted to the export trade of Canada. It will be of similar size and appearance as THE CANADIAN MANUFACTURER, and published once a month.

The publishers have already perfected an arrangement for a systematic and thorough distribution of The Canadian Exporter. This distribution will be to the largest, best known and most reliable mercantile and business houses, importers, dealers and purchasing agencies in the principal countries of the world, and will place the paper upon the desks of the leading men there with whom exporters would like to do business.

The editorial department of The Canadian Exporter will be devoted to explaining to its readers that Canada is capable of producing in great variety manufactured and other articles equal to the best that can be produced in any country; that they are of character and quality to meet the most exacting requirements of consumers, and that they can be sold at prices and on terms that must command the attention of purchasers. Other reading matter will give particulars regarding Canadian workshops, factories and industrial establishments; their capacities for production; illustrated descriptions of their special products; routes and cost of transportation; accommodations and conveniences for travellers, and other interesting matter.

An important feature of The Canadian Exporter will be the regular publication of Prices Current of Canadian and foreign products and manufactures, revised and corrected up to date of publication. Illustrated descriptions will be given, where possible, of the articles alluded to in the Prices Current by reference to which manufacturers can compare their goods with those illustrated and priced, and adapted to and sold in foreign markets. Buyers in foreign countries will find this illustrated price list of great service in making up their orders for Canadian goods.

While The Canadian Exporter will be devoted to giving information to its foreign readers regarding the manufactur-

ing capabilities of Canada, and presenting to them the business cards and announcements of our manufacturers and exporters, it is of the utmost importance that these latter should be kept well informed as to the conditions of foreign markets; for without this information they could have no intelligent knowledge of the requirements of the countries in which they would sell their goods. To meet this emergency THE CANADIAN MANUFACTURER published twice a month, would continue to publish, as it now does, the latest reports of the consuls and commercial agents of Canada, Great Britain, United States, France, Germany, Russia, and other countries, from their stations in the principal ports of commerce all over the world. These reports are received regularly from official sources, and are identical with those sent out by the different Governments to their manufacturers and exporters. It would also continue to publish, as it now does, the changes that are made from time to time in the customs tariffs of the different countries of the world, the information being obtained from official sources.

THE CANADIAN MANUFACTURER is the official organ of The Canadian Manufacturers' Association, and goes to every member of that body, and it also goes into the offices of about every important manufacturing and commercial concern in the Dominion; and the arrangement here alluded to commends itself with much emphasis in that, being under one management, The Canadian Exporter and THE CANADIAN MANUFACTURER, would be a complement each to the other; and being thus conducted, the object in view would be accomplished which otherwise could not be attained. THE CANADIAN MANUFACTURER has been established and in successful operation for twenty years.

The launching of The Canadian Exporter upon the sea of technical journalism will be under exceedingly favorable circumstances. The Dominion Government have for many years bent their energies towards building up the export trade of the country, and the volume of that trade has assumed very gratifying proportions. Routes of transportation have been established, commercial agents appointed in different countries, a Department of the Government presided over by a Cabinet Minister of wide and practical experience has the oversight of our foreign trade and commerce, and it now rests with our manufacturers, producers and exporters to reap to the fullest extent possible whatever benefits there are to be derived from Canadian foreign trade.

The export trade of manufactures from the United States more than doubled in the last six years, and now averages more than one million dollars a day for each business day of the year. Considering the similarity of goods made in the two countries, Canadian manufacturers should enjoy similar prosperity.

THE CANADIAN MANUFACTURER  
PUBLISHING COMPANY, LIMITED.  
J. J. CASSIDY, Manager.

**THE PAN-AMERICAN EXPOSITION.**

The chief object of the Pan-American Exposition, to be held in Buffalo in the year 1901, is to bring into closer touch the business men of the two Americas, to make each better known to the other, and to show to the visitors from abroad what the United States can produce that will best suit their needs. The Export Exposition that is soon to open in Philadelphia has similar objects in view, but not in all

respects. In the Philadelphia Exposition no exhibits are to be shown except such as are produced in American workshops, while all countries on both the American continents are invited to exhibit at Buffalo. Canada is not invited to exhibit at Philadelphia, while, having been invited to do so, it is to be hoped that she will make displays at Buffalo that will be a profound credit to her, and will show to the peoples of all countries who may visit there that in a general way we can and do produce articles that hold no second place as compared with similar articles made in the United States. Such was the case at the Chicago World's Fair. The opportunity offered Canadian manufacturers to exhibit at the Pan-American is one that they cannot afford to neglect. Being surrounded by circumstances almost identical with those that environ their American competitors, they have reached an epoch when they must find an outlet for their surplus products through the channels of foreign trade, and as the products of the manufacturers of both countries are of similar character, and as the channels of the foreign trade trend in the same directions and towards the same countries, it is wisdom on the part of Canadian manufacturers to profit by the experiences and the experiments of their American competitors, and to avail themselves of all opportunities that offer for gaining information regarding the wants of purchasing countries, and of becoming personally acquainted with their business men. In an address recently delivered before the Committee on Exhibits of the Pan-American Exposition, Mr. T. C. Search, president of the National Association of Manufacturers of the United States, discussing the value of closer commercial intimacy between the countries with whom American manufacturers desire to do business, said:—

The secret of success in foreign trade, as in business here at home, is close touch with your customer, acquaintance with him, knowledge of his method, wants and peculiarities. If you want to do business with a man you must get close to him. After trying to do foreign business at long range for many years the manufacturers of the United States have learned that the better plan is to get close to their customers—to go where they are and also to bring them here. The success of the English merchants who for more than a century have been the world's great traders, and of the Germans, who have lately shown themselves to be the keenest merchants of the world, is due to their acquaintance with their customers, their familiarity with every condition in the markets where they trade.

Going further Mr Search pointed out that in supplying the wants of the people of Mexico, and of the Central and South American States, the United States was far behind Europe; and what he said about the possibilities of American trade might with equal force be said of Canadian trade. Discussing the value of closer commercial intimacy and commercial opportunities, he said:

While we cannot estimate the value of each factor in the work of bringing the two Americas closer together, it is possible to figure out the worth of the object we have in view. We can tell what the gain to our industries would be if closer commercial intimacy should bring to us one-fourth, a half or all of the trade that now goes to other countries instead of coming here from the south. Roughly speaking, the nations lying south of the Rio Grande import annually something like \$450,000,000 worth of merchandise. Of this vast amount they buy from the United States in the vicinity of \$75,000,000 each year—only one-sixth of the total. And yet we buy from them many times as much as we sell them.

Drawing a line at the isthmus, we find that Mexico and

the Republics of Central America buy from us just about the same amount as all of the great continent of South America. Mexico, our largest Latin American customer, buys nearly \$25,000,000 worth of merchandise from us annually. This is one-half of all the foreign goods that go into Mexico. This is not only the largest item, but the largest proportionate amount in our Latin American trade.

Brazil is our next best customer, with annual purchases amounting approximately to \$15,000,000, but this is only one-tenth of the imports into that country. The \$135,000,000 of yearly trade in Brazil which we do not enjoy at present is certainly something of an object toward which our efforts might properly be directed.

Our commercial opportunities in the Argentine may be reckoned at about \$90,000,000 annually, as that is the value of imports from countries other than our own. What we send there amounts to only \$6,000,000 or \$7,000,000 annually.

Even the small republic of Uruguay imports about \$25,000,000 worth each year, but less than \$2,000,000 of this amount represents our share in the trade.

We might analyze the entire commerce of South and Central America, and in every case the result would be the same, varying only in the extent of the deficiency in our share of the trade. It should not require extended argument to show that it is well worth vigorous efforts to secure control of a larger portion of the commerce of Latin-American republics than we now have.

The question of methods by which the desired result can best be attained naturally suggests itself next for consideration and this opens up a very broad field for discussion. I have already touched briefly upon what I consider the first and most urgent need in the extension of our foreign trade, not only in Latin-America, but in all the world—namely, closer contact and more intimate acquaintance with our prospective customers. We need to go among them and to bring them among us.

The quickest, surest and most satisfactory way to sell goods in South America is to send thoroughly competent salesmen there, men who know the country, the people, their language and customs, and of course the goods they are to sell. Such men not only bring back orders, but they obtain what is worth more than the first sales. They learn what goods are best adapted to the market, at what prices they must be sold, who are the most desirable customers, and they establish connections from which business grows and develops year after year. A right beginning in foreign trade is of the utmost importance, and this is best accomplished by the personal work of a competent travelling representative.

#### THE AMERICAN EXPORT EXPOSITION.

The forthcoming United States Export Exposition, to be held in Philadelphia, will be of a character that will commend it to the close and practical attention of all Canadian manufacturers who are or may be in any manner interested in the export trade of the Dominion. And for this reason. It is to be a complete display of American manufactures and products suitable for export, and also a department of samples of goods made abroad and now being sold in the various foreign markets of the world, or prepared in these markets for local consumption, illustrating the requirements of these markets, and intended to show to American manufacturers what competition they must encounter in selling their products there. The exhibition is intended for the benefit of American manufacturers and buyers for foreign markets, and will be a magnificent display of specimens of about everything that humanity may require in every part of the world. And these displays are intended for the inspection of the whole world, the director-general, Mr. W. P. Wilson, having already

announced that twenty thousand merchants in all parts of the world, including those who control the volume of the traffic in the distributing trade centres, of foreign nations, have been invited to be present to survey the spectacle offered by the ingenious and progressive manufacturers of the United States. The exhibition being free to all comers, Canadian manufacturers should be quick to avail themselves of the opportunity thus offered to obtain information that will be quite as valuable to them as to those for whose special benefit the exposition was instituted.

The industrial development of the United States has been very remarkable, and the expansion of the export trade of manufactures of that country absolutely phenomenal, for, as recently shown in these pages, the value of the exports of American manufactures during the past fiscal year averaged more than a million dollars for each business day of the year. To two great causes may be attributed this remarkable development—the cheapness at which the articles are produced, and their adaptability to the wants of their consumers. Owing to circumstances which need not now be explained, in about every important particular the greatest possible similarity exists between Canadian and American products, and therefore, wherever American goods can find a profitable foreign market, equal possibilities exist for Canadian goods. The Philadelphia Exposition is intended to show to buyers for foreign markets the styles and values of American products, and surely if Canadian manufacturers are fully awake to their interests they can demonstrate to the world the utility and value of their products; while, on the other hand, having before them at the Exhibition, specimens of the goods made for the foreign trade of other countries, they can, as well as their American competitors, profit by the lessons and govern themselves accordingly.

As a valuable and instructive object lesson our manufacturers would do well to attend the Philadelphia Exposition, for they would certainly become impressed with the actual demonstrations of great plants in active operation, such as where will be shown the process of conversion of timber and logs fresh from the forest converted, first into lumber and from that into every conceivable article in the manufacture of which lumber is a necessary component. So also will be shown the conversion of raw cotton, just from the field, wool just as taken from the back of the sheep, and silk as produced by the worm, passing through all the various processes even to the cloths and clothing ready for the use of the wearers. Throughout all the buildings machinery will be displayed. A valuable classification of machinery and manufactures has been provided for. Every branch of manufacturing industry will be grouped, the machinery in every line to be surrounded by the finished products turned out by that machinery. The big mechanism that turns out steel goods will be set in the centre of its products. The same arrangement will apply to textile machinery, and so on through the entire list.

#### NEW ENGLAND VS. OLD ENGLAND.

At a recent meeting of the New England Hardware Association held in Boston, Mr. Osborne Howes, of the Boston Chamber of Commerce, delivered an address on "Our Trade Relations with the Dominion of Canada," in which he referred to the importance of Canada as a market for the sale of American goods. Some of Mr. Howes' remarks are of

interest, not only to American manufacturers but to British and Canadian manufacturers also, in that they show the rapidly expanding trade in articles that Canadian manufacturers ought to produce, and the rapidly diminishing trade of British manufacturers for which they have no one to blame but themselves. Speaking of the value of Canadian trade to American manufacturers, Mr. Howes said:—

Man for man the Canadians are the best customers that the American people have. Canada purchased of us last year goods to the value of \$80,000,000, a very large part of these manufactured wares, while we purchased from Canada merchandise to the value of a little over \$30,000,000, this made up chiefly of raw materials and food supplies. The Canadians sent us the crude materials which were needed by our manufacturers, while we supplied to them the products of our foundries and workshops. The exchange was of advantage to both countries, but chiefly to our own, because we were able through what Canada sent to us, and through Canadian demands, to find employment for a large number of our wage earners and profit to our manufacturers.

When it is taken into account that in the year 1898 the 5,500,000 people who live in the Dominion of Canada purchased of us goods to a greater value than the combined demand of South America, Central America and the West Indies—an area occupied by many millions of people—some idea can be formed of the purchasing power of these neighbors of ours, and the desirability of not permitting any slight obstacle to stand in the way of a thorough possession of their trade.

Mr. Howes told of how American enterprise is dispossessing Great Britain of the Canadian market. He said:—

One feature in our recent trade with Canada is the manner in which we have succeeded in dispossessing the English of markets which they had previously held, and in this respect no experience is more striking than that afforded in our exports of manufactures of metals and of those wares of which iron and steel form an important part. In 1894 we sold in Canada \$250,000 worth of carriages, carts and bicycles. In that same year the English sold \$230,000 worth of similar articles. In 1898 our sales of carriages, carts and bicycles in Canada footed up to \$1,240,000, while the English sales diminished to \$14,000.

In 1894 we sold in Canada of the manufactures of copper \$340,000 worth; in 1898 \$1,350,000. In 1894 we sold Agricultural implements there to the value of \$235,000; in 1898 this trade had increased to the amount of \$1,060,000. In 1894 we sold iron and steel machinery, including locomotives, to the value of \$1,315,000, the English selling in the same year goods of a similar kind to the value of \$4,900,000. In 1898 our sales under this classification had increased to \$2,870,000, while the English sales had fallen to \$2,040,000.

In 1894 we sold of manufactures of iron and steel goods to the value of \$3,460,000, the English sales of similar articles in that year having a value of \$7,215,000. During the year 1898 our sales increased to the amount of \$10,250,000, while the sales of similar English wares decreased to \$4,045,000.

Our total sales of metals and manufactures of the same in Canada in the year 1894 represented a total value of \$6,650,000. In 1898 these sales rose to a value of \$17,010,000, an increase in four years of nearly 300 per cent.

During this short interval our purchases in Canada of metals made an even larger relative advance. Thus in 1894 we purchased these to the value of \$2,124,000, while in 1898 our purchases footed up to \$11,048,000. These purchases were chiefly as follows:

Copper ore \$840,000; gold quartz and dust, \$3,556,000; silver ore, \$3,520,000; nickel, \$970,000; lead ore, \$1,450,000. It will be seen from this list that what we took from Canada was distinctly raw materials which were needed in our smelting works, foundries and factories to serve as the basis of production. These Canadian goods represented the mini-

num of labor, ours in most cases the maximum, and the exhibit in this respect made in the line of metal trade can be nearly duplicated in other departments of industry.

Speaking of Canada's tariff preference to Great Britain, Mr. Howes said :—

If conditions were certain to remain in the future as they have been in the past we might well afford to let matters rest as they are. But although we have obtained such a large control of the Canadian market, cutting the purchases made in England down to about \$30,000,000, as against our sales of \$80,000,000, it is improbable that we shall continue to enjoy these advantages in the future unless it is found that our competitive ability is far greater than we have ever been willing to admit. The Canadians nearly two years ago announced their willingness to accord a reduction of, first, 12½ per cent. and then twenty-five per cent. in their rate of duty to all countries that made to them what were considered equivalent concessions.

The only great nation prepared to take advantage of this proposition was England, which for years past has allowed all Canadian products, with the exception of whiskey, to enter duty free. English manufactures now enjoy a differential in the duty equivalent to twenty-five per cent. As the average rate of duty on, say, metal wares in Canada is about thirty per cent., this represents an advantage to the English manufacturer and merchant of \$7.50 on a bill of goods of \$100.

If in the face of this handicap we can still continue to drive England from the Canadian market by the substitution of our goods for hers, then surely there is no market in the world where we cannot hold our own in the face of all competition; and the need of a protective tariff is but a figment of the imagination.

From the standpoint of the American manufacturer, or we should have said, from Mr. Howes' standpoint, it may be that the United States, having reference to Canadian trade, does not really have need of a protective tariff, but the situation shows the need of it for Canada. In fact, if Canadian manufacturers are to produce any considerable portion of such goods as Mr. Howes shows we import in such large values from the United States, we should maintain much higher protection than we now enforce, and this is no figment of imagination.

Mr. Howes sees a lion in the path in this onward march of American trade into Canadian territory—perhaps two lions. His prophetic vision sees the possibility or probability of British manufacturers awaking from their stupidity and putting forth strong and effective efforts to regain the ground they have lost in Canada, particularly now that they have the benefit of our preferential tariff; and he is also apprehensive that the course the Michigan lumbermen are pursuing will result in a tariff war that will smash the eggs in the basket of American manufacturers. He says :—

The joint High Commission, which was appointed a year ago for the purpose of endeavoring, among other things, to arrange a reciprocal trade treaty with Canada, has encountered serious opposition in this department of its work based on the claims made by the lumber, fish and coal interests of the United States, that no concession of any importance shall be made in the duty rates now imposed upon Canadian commodities coming under these three headings. If it were not for the Northwestern Lumber Association and one or two organizations of that character in this country, the coal mining interests of Maryland and West Virginia, and the fishing interest of Gloucester, there would be little difficulty experienced in framing a reciprocal trade treaty which would open the Canadian market to us in a manner that would make English competition in it a matter of minor significance. But not only do the interests named block the way, but they threaten by their resistance, if it is maintained and made

effective, to precipitate a tariff war between the two countries, in which, as by far the larger seller, the United States could not fail to be the larger loser.

His opinion is that the representatives of all the greatest and most flourishing lines of trade that his country has with Canada should do everything in their power to force the authorities at Washington to realize that they cannot afford to put their interests in jeopardy. He told his hearers :—

Last year we bought in Canada \$9,900,000 worth of wood and manufactures of the same, \$3,000,000 worth of coal, and \$2,950,000 worth of fish. It will be seen that the sales of manufactured metallic goods—that is, the goods in which you were interested, formed a more considerable item of trade than the purchases made by our people in all the three lines of industry, fish, coal and wood, which represent resistance to reciprocal trade with Canada. If these three interests can unite in opposition, is it not possible, in view of your larger interests, for you to bring force to bear in advocacy of reciprocity influences which will neutralize the efforts of those who are opposing you and who are threatening you with a serious loss of trade?

### THE CANADIAN IRON INDUSTRY.

The most remarkable impulse experienced by the iron trade of the entire world within the past few months, and the beneficial results that have accrued therefrom to the manufacture of iron in Canada, is a pleasant theme upon which the Mining Review discourses very profitably. It says :—

Last year's depression of trade in the United States, and the abnormally low prices current there, made most people consider a revival like the present almost impossible, and it was freely prophesied that with the enormous capacity of the mills in the United States any possible increase in demand could easily be overtaken, and that a boom such as we had twenty years ago was now out of the question.

The present position of the market shows that the unexpected very often happens—and yet it was not altogether unexpected. The railway companies and all large corporations had been economizing for years back, and they were in such a position that any large increase of traffic meant that they would be forced to a very large expenditure for rolling stock and plant. Trade, too, in Britain and on the continent was exceptionally good, and a large export business had been developed from the United States, due in a great measure to the high prices prevailing abroad, and the inability of British manufacturers to overtake the requirements of their foreign trade. When the home trade in the United States therefore began to improve, prices immediately went up with a rush. Then it was found that the furnace capacity was inadequate for the requirements of the steel makers, and the steel melting plants could not produce enough steel for the rolling mills. New furnaces and new plants have been put in operation all over the country, but the demand has been so great that nearly every plant in the United States has its product sold up for the next four or six months. Prices are, generally speaking, more than double what they were six months ago. Such is the position of the iron and steel trade of the United States and Canada to-day, and it is safe to predict that this state of affairs will continue at least over the next year.

There is only one thing that can stimulate the manufacture of any article or the development of any industry, and that is the prospect of a fair profit. The iron trade of the United States owes its position to-day to the careful nursing by pro-

tection that it has had during the past thirty years. The profitable nature of the business of iron making enabled men to invest large sums of money in prospecting and developing the mineral resources of the country, which had a large market in itself and had not to look to an export trade for support. There is no doubt that the pioneers in this development made good profits, but this was the incentive. They took great risks, and had it not been that a larger margin of profit was possible than can be realized from similar industries in old established countries, it is very doubtful if the present stage of development would have been reached for many years to come.

The internal competition which resulted from this state of affairs soon began to force prices down to a competitive basis. New and improved methods of handling and transporting ore were used, larger furnaces were built, the mills were equipped with labor saving machinery, and it is now beyond question that the large steel companies of the United States are to day better equipped and better conducted than any similar mills in Great Britain.

Let us now turn to Canada and consider if the present conditions of trade does not warrant us in believing that now is the time for a similar development of iron manufacture in this country. When pig iron was selling at \$6.00 to \$7.00 in Alabama and \$9.00 to \$10.00 in Buffalo there was little incentive to push iron making here vigorously, but those who have carefully considered the situation unite in saying that although prices will undoubtedly recede from their present height, the famine prices of the last few years are not likely to recur, and trade will settle down to a higher basis of values than have been current for many years. What does this mean for Canadian iron makers? It means that the cutting and slashing of prices to secure the Canadian trade, which has been so common among Americans, has ceased, and we will have to stand only legitimate competition. This is quite apart from the question of the natural position of Canada as a producer of iron. That this is the view taken of the position of the trade by the leading financiers of this country is evidenced by the strong support given to the new Dominion Iron and Steel Co., Limited, which is about to construct four large furnaces at Sydney, C.B., and to follow this up by putting in a large plant for the manufacture of steel. The wisdom of locating these furnaces at Sydney is apparent when we consider the peculiarly favorable location of that town for the manufacture and export of iron. One of the chief reasons why Scotland has taken the lead in the manufacture and export of iron in the past is because her deposits of coal and iron, her furnaces and rolling mills, are situated close to the sea-board near Glasgow. They can thus avoid the cost of carriage to the point of shipment. The present cost of transporting pig iron from the Scotch furnaces to the steamer in Glasgow is about fifty cents per ton, and on manufactured steel, such as bars, plates, angles, etc., the rate is seventy-five cents per ton. Compare this with the United States. The rate of freight from Pittsburg to the export steamer in New York for manufactured steel is twelve cents per 100 lbs., or \$2.40 per net ton. We have not the figures on pig iron, but estimate the rate would be about \$2.00 per gross ton. As a matter of fact we have not heard of any coke iron being exported to Britain from the Pittsburg district. It has been almost altogether Southern iron from Tennessee and Alabama that has been

shipped. In the case of Sydney these transport charges will be avoided altogether. Suitable coal is present in abundance, and the necessary coke ovens will be built close to the furnaces, which are at tide-water, where the largest vessels can load. Iron ore will be brought from Newfoundland, supplemented to some extent by the local ores in the neighborhood. It would thus appear that we have here a combination of the most favorable conditions for the manufacture of iron, and there is not the slightest doubt that iron will be produced in Cape Breton at as low a price as is possible under the most favorable conditions in the United States.

There is at the same time no reason why this development should be confined to Cape Breton alone. Nearly all the ore smelted in the Cleveland and Pittsburg districts is brought from Lake Superior, and there is no doubt that the same deposits of ore occur on the Canadian side of Lake Superior. This has tempted the location of a charcoal iron furnace at Midland, Ont. This town is also peculiarly adapted for the manufacture of charcoal iron. The ore can be transported either from the American or Canadian mines on Lake Superior at as low, if not lower rates than to Cleveland or Buffalo, while the wood necessary for charcoal is practically inexhaustible in that region. This furnace will be in operation within the next year, and it is safe to predict that it will be able to place charcoal iron on the Ontario market at as low as American figures in Detroit.

The development of the iron trade in Canada will not stop there. The next step should be the opening up of iron mines on the Canadian side of Lake Superior. Recent prospecting has shown that several of these mining properties are as rich in fine ore as any on the American side, and will amply repay the very large expenditure which will be necessary to put them in shape to contend with the American ore fields. Any railroad that may be necessary to penetrate into the interior for the purpose of bringing down the ore to the lake for shipment should receive the hearty support of the Government. It is very gratifying to those in the steel and iron business to know that both political parties in the Dominion Parliament, as well as in the Provincial Legislature, are united in the policy of supporting the development of this important industry. The extension of the bounties in pig iron and steel for a further period of five years from 1902 will strengthen the hands of all those who are working up this business. We are strongly of the opinion that long before that period has elapsed, the Canadian iron industry will be in a strong enough position to compete with other iron producing countries for the export foreign trade.

### IRON AND STEEL BOUNTIES.

The following returns of the bounties paid by the Dominion Government on pig iron, steel billets and puddled bars produced in Canada have been compiled by the Canadian Mining Review from the reports of the Auditor General.

Summarized they show an expenditure on:—

Pig Iron.....	\$252,487 75
Steel Billets Ingots.....	144,318 71
Puddled Bars.....	19,432 15

Total to June 30, 1898 .....\$1,116,238 61

In detail the figures are:—

#### BOUNTIES PAID ON PIG IRON.

The following are the amounts paid to the companies under this authorization:—

1884.....					\$44,000
1885.....					38,655
1886.....					39,270
	1887.	1888.	1889.	1890.	1891.
Steel Co. of Canada...	\$31,161 01	\$18,642 62			
Steel Co. of Canada, withheld pending settlement with I. C. R.....	22,033 09				
George Macdougall.....	1,139 07	1,214 01	\$1,169 03	\$523 49	\$1,376 65
Londonderry Iron Co.....	7,701 53	30,625 35		21,585 64	15,819 81
John Macdougall & Co.....	5,239 19	5,756 25	5,498 24	3,588 14	2,926 58
Total.....	\$59,576 19	\$33,314 41	\$37,233 62	\$25,697 27	\$90,153 05
	1892.	1893.	1894.	1895.	1896.
Londonderry Iron Co.....	\$26,065 21	\$19,906 13	\$19,043 10	\$13,045 98	\$45,472 13
Can. Iron Furnace Co.....	2,150 71	12,973 29	15,077 51	12,581 00	11,215 24
Nova Scotia Steel Co.....					42,470 50
New Glasgow Iron, Coal and Ry. Co.....	25,571 23	55,292 00	33,695 00		
Pictou Charcoal Iron Co.....	1,420 00		3,440 00		
Hamilton Blast Fur. Co.....					7,201 97
Macdougall & Co.....	2,077 42	3,725 63	5,651 88	621 37	3,356 17
Total.....	\$30,291 37	\$93,896 48	\$125,044 49	\$63,333 95	\$109,716 01

TO JUNE 30, 1897.

Canada Iron Furnace Co., Radnor, Quo.....	\$14,211 27
Hamilton Blast Furnace Co., Hamilton, Ont.	7,575 68
Londonderry Iron Co., Londonderry, N.S....	7,070 85
Nova Scotia Steel Co., Ferrona, N.S.....	37,650 89
Total to June 30, 1897.....	\$66,508 69

TO JUNE 30, 1898.

(Production for June, 1898, not included.)

Canada Iron Furnace Co. (\$21,804.29).	
Produced in 1896-7:—	
715.04 tons from Canadian Ore at \$2.00.....	\$1,438 08
Increased Allowance (61 Vic. C. 11.)	
1,589 tons from Canadian Ore at \$1.00.....	1,589 09
88 " " Foreign Ore at \$2.00.....	176 00
Produced in 1897-8:—	
6163.86 tons from Canadian Ore at \$3.00.....	18,491 58
58.77 " " Foreign Ore at \$2.00.....	117 54
Hamilton Blast Furnace Co. (\$90,610.43).	
5,425.97 tons from Canadian Ore at \$3.00....	16,277 91
37,166.26 " " Foreign Ore at \$2.00....	74,332 52
Nova Scotia Steel Co. (\$48,127.27).	
5,693.296 tons from Canadian Ore at \$3.00..	17,079 88
15,523.696 " " Foreign Ore at \$2.00 ..	31,047 39
John McDougall & Co. (\$5,112.26).	
1,704.087 tons from Canadian Ore at \$3.00...	5,112 26
Total paid to June 30, 1898.....	\$165,654 25

BOUNTIES PAID ON STEEL BILLETS.

By order in Council under date of June 22, 1835, the Dominion Government granted a bounty of \$2 per ton on all steel billets manufactured in Canada from Canadian ore. As already stated this bounty was increased in April, 1897, to \$3 per ton. The following amounts have been paid to June 30, 1898:—

NOVA SCOTIA STEEL CO.

1896. Received for steel manufactured from March 27, 1894, to March 1, 1896....	\$56,925 26
Received for steel manufactured from April 1, to June 1, 1896.....	4,393 26
Total.....	\$61,318 52
Less refund for bounty on 910 tons, the product of 1,218 tons, 1,844 lbs. of foreign pig.....	1,820 00
Total paid in 1896.....	\$59,498 52
1897. Received for July and August, 1896.....	\$2,714 75
Paid for steel made November 1 to April 23, 1897.....	14,651 41
Total paid in 1897.....	\$17,366 16

1898. Received for March 1896 on 1,201.583 tons at \$2.00.....	\$2,403 15
Received for June, 1896, on 422.265 tons at \$2.00.....	844 73
Received for Sept.-Oct., 1896, on 2,497.60 tons at \$2.00.....	4,995 20
Received for April 23-30, 1897, on 268.136 tons at \$2.00.....	532 27
Received for May —, 1897, on 961.441 tons at \$2.00.....	1,922 88
Received for June 1-28, 1897, on 1,189.017 tons at \$2.00.....	2,374 04
	<u>\$13,072 28</u>

Less balance as per adjustment: Over-payments on production from July 1, 1895, to May 31, 1896..... \$1,849 93  
Less amount refunded in error in 1896..... 1,820 00  
29 93

Total paid in 1898..... \$13,042 35

BOUNTY ON STEEL INGOTS.

Nova Scotia Steel Co., on production from June 28, 1897, to May 31, 1898, 18,137.227 tons, at \$3.00.....	\$54,411 68
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BOUNTIES PAID ON PUDDLER BARS.

By Order in Council under date of February 24, 1896, the Dominion Government granted a bounty of \$2 per ton on all puddled bars made in Canada from Canadian ore. As stated, this was increased in 1897 to \$3 per ton. Under this appropriation the following amounts have been paid to June 30, 1898:—

Londonderry Iron Co.—Received prior to June 30, 1896, on puddled bars.....	\$3,352 32
1897—Received on do. to June 30	2,914 36
Total to June 30, 1897..	<u>\$11,266 68</u>
Pictou Charcoal Iron Co.—Received prior to June 30, 1896, on puddled bars.....	\$172 00
Ontario Rolling Mills Co.—Received prior to June 30, 1896, on puddled bars.....	\$183 23
1897—received to June 30th.....	104 46
Total to June 30, 1897 ..	287 69
	<u>\$11,726 37</u>

—1898—

Londonderry Iron Co.—707.797 tons from Canadian ore.....	\$2,123 39
Ontario Rolling Mills—1,860.797 tons from Canadian ore at \$3.00	5,582 39
Total to June 30, 1898.....	<u>\$7,705 78</u>

CANADIAN PIG IRON.

Mr. James M. Swank has just published in The Bulletin a statement regarding the production of pig iron in Canada in the first six months of 1899. He says:

The production of pig iron in the Dominion of Canada in the first half of 1899, according to reports which have been received by the American Iron and Steel Association from every manufacturer of pig iron in the Dominion, amounted to 43,156 gross tons. The total production in the whole of 1898 amounted to 68,755 tons, against 53,796 tons in the whole of 1897. The production in the first half of 1899 exceeded by 5,327 tons the total production of the whole of 1895, when only 37,829 tons were made. Of the production of pig iron in the first half of 1899 about one-sixth was made with char-



coal as fuel, the remainder being produced with coke alone or with charcoal and coke mixed.

Canada produced both Bessemer and basic pig iron in the first half of 1899, all of which was manufactured by the Nova Scotia Steel Company, Limited, of New Glasgow, Nova Scotia. The production of Bessemer pig iron was less than one third of the production of basic pig iron.

Spiegeleisen and ferromanganese are now being produced in Canada, the Mineral Products Company having blown in its furnace at Bridgeville, Nova Scotia, on May 11th, 1899. On June 30th the furnace was producing on an average about 70 tons per week. So far as we know this is the first time that either spiegeleisen or ferromanganese has been made in the Dominion.

The unsold stocks of pig iron in Canada on June 30, 1899, in the hands of manufacturers or their agents, none of which was intended for consumption by the manufacturers, and all of which was for sale, amounted to 13,954 gross tons. A small part of the total was spiegeleisen and ferromanganese. About one half of the unsold iron was made with charcoal as fuel and about one half with coke.

The number of completed blast furnaces in Canada on June 30, 1899, was 9, of which 4 were in blast and 5 were out of blast. On December 31, 1898, there were 3 furnaces in blast and 6 out of blast. Of the total number of furnaces in Canada 4 use coke as fuel, 4 use charcoal, and 1 uses charcoal and coke mixed.

**WHY NOT CANADIAN TOOL STEEL?**

In an editorial which appeared in the December 2, 1898, issue of this journal in which some particulars were given regarding the celebrated Dannemora ores of Sweden, and which showed the similarity of some rich Ontario iron ores, we asked the question "Why not Canadian Tool Steel?"

Owing to the great demand for iron and steel, and better prices for iron ores, several Ontario iron mines are being developed with encouraging results. Four car loads have recently been shipped from the Belmont iron mine to the Deseronto furnace, that have been found so satisfactory that further supplies have been ordered, and it is probable that regular shipments from that mine to Deseronto will now be made.

The Deseronto Iron Company make charcoal iron of such high grade that they have just sold 1,000 tons in England, which is now going forward, the furnace requirement for this order being for ore very free from sulphur. Hitherto it has been difficult to find Canadian ores sufficiently pure for such iron. The following analysis has been made by the Deseronto Company of seventy-one tons of Belmont ore sent to them, viz.:

Metallic iron.....	61.29
Silica.....	6.91
Limo.....	2.82
Phosphorus.....	0.003
Sulphur.....	0.027

Since this shipment to Deseronto development has been steadily going on at the Belmont mine and richer ore has been mined, the following analyses having been made from three different pits considerable distances apart, viz.:

	Metallic iron.	Silica.	Phosphorus.	Sulphur.
No. 1. "Nichol" Pit.....	64.88	5.11	0.003	None
" " ".....	65.80	4.23	0.006	Trace
" 2. "MacDonnell" Pit.....	70.02	.92	0.004	"
" 3. "Blacksmith's Shop" Pit.....	68.03	3.66	0.006	"

The "Nichol" pit is close to the railway track, the "MacDonnell" pit is about 150 feet to the west (rather N.W.) and the "Blacksmith's Shop" pit is about 300 feet north of

the "Nichol" pit, and there appears to be almost an unbroken body of ore between them, while to the west, north and east the dip-needle shows as heavy an attraction for considerable distances where the ore is not yet uncovered.

The above analyses show the Belmont ore to be richer in iron than most of the Swedish ores, while in freedom from impurities it is about equal to the best, and furnishes further evidence that it is suited to make fine tool steel.

The Lake Superior iron districts of the United States furnish by far the largest proportion of Bessemer ores, but for Bessemer purposes an ore does not require to be below .05 and very few of the best are below .03, but some analyses of the Belmont ore show only .003 or one tenth of the amount of phosphorus in the best Bessemer ores.

More than five million tons of Spanish ore were used in England for making steel last year, and large quantities on the Continent. The ordinary Spanish ore contains fifty per cent of iron, and .05 phosphorus. Their special ore contains .03 and their extra quality .015 phosphorus, the best being several times more than the "Belmont."

Dr. James Douglas, the well-known metallurgist of New York, in a recent paper on "Swedish iron metallurgy" says "Although rails are enumerated as one of the many articles "into which Swedish crude material is manufactured, comparatively few are made. Swedish steel is too precious to be turned to such vulgar use, and therefore in the very "yards of the steel works themselves one generally sees "English or Welsh rails."

If we have Canadian ores equal to the Swedish, there is no reason we should not make steel equal to theirs, and the present is a most favorable time to start such an enterprise.

**EDITORIAL NOTES.**

An advertisement in THE CANADIAN MANUFACTURER will reach the parties whom you would like to do business with. The investment pays manyfold.

The Deseronto Iron Furnace Co. have just made a shipment of one thousand tons of charcoal pig iron of special grade, made from ore obtained from the Belmont mine, Ontario, to parties in England who require iron of quite as high grade as the best Dannemora. Our American friends have of late been felicitating themselves upon their shipments of Alabama iron to Great Britain, but it was for use in foundry work, while Canada is sending iron equal to the best Swedish article.

Hon. A. S. Hardy, Premier of Ontario, has received a letter from Professor Mavor, of Toronto University, who is now in Great Britain making an investigation into the operation of the Workmen's Compensation Act. In the communication Professor Mavor stated that in addition to studying labor conditions in England, Ireland and Scotland, he proposed extending his enquiries to Germany. His report to the Ontario Government, which will deal comprehensively with the subject, is awaited with much interest.

Toronto's Exhibition this year will undoubtedly be held on a greater scale than ever, that is, if an increased expenditure of money and a ransacking of the corners of the earth for novelties can make it so. The dates chosen are from the 28th



of the present month to September 9th. The entries for live stock, dairy products, ladies' work, manufactures, grain, field, root and horticultural products closed last week, but entries of dogs and poultry will be received up to August 19th. The indications favor the grandest exhibition in every department that Canada has ever seen, many novelties in manufacture and the latest inventions being shown. A large amount of money has been expended in the erection of new buildings, and the improvement of others, while to show that the Exhibition exists for practical as well as amusement purposes, the prizes for cattle and horses have been materially increased, and classes added for butter-making competitions and export bacon hogs. But the amusement programme this year will be a wonderful one in extent as well as in variety. Several high-priced acts never before seen in this country, and that will not be seen elsewhere, have been secured, while a comprehensive demonstration of electrical development, including wireless telegraphy, wireless telephoning, and the Improved X rays will be presented, as well as explosions at sea, managed by Royal Engineers, and an exhibition of life-saving from shipwrecked steamers by professional life-saving corps. The evening spectacles will be on an exceptionally brilliant scale, representing the battles of Omdurman in Egypt, with the Sirdar in command, and of Iloilo in the Philippines, the whole concluding with the greatest fireworks display yet witnessed, and a grand tableau illustrating Anglo-Saxon unity. On all lines of travel exceptionally low rates have been arranged for.

A correspondent in Toronto sends us an interesting list of the articles imported by Canada in connection with which British manufacturers experience the most severe competition from the United States. The goods mentioned are on the free list, and they show that in many instances the position held by our manufacturers is still extremely creditable. But for the most part it proves that the advantage possessed by the United States in their proximity to the Canadian market, and in the knowledge of its requirements, more than counterbalance any benefit which this country derives from its policy of free imports. Doubtless it is the geographical position of the United States which has enabled them to obtain so large a share of Canadian trade, yet their natural advantages, our correspondent argues, would not have been developed had there been no protective duties. In this he is probably right. The industrial development of foreign states does not in the long run appear conducive to the welfare of British export industries, although some economists argue that it must inevitably benefit us. They lose sight of the fact that when a country has a surplus of any particular commodity, the prices of that commodity will fall and release it for export. It is quite immaterial whether it has been produced in its own territory or whether it is being imported freely from all parts of the world.—British Trade Journal.

The annual convention of the Canadian Manufacturers' Association which recently met at Toronto, developed the fact that the organization is against any kind of a reciprocity treaty with the United States likely to do good to the producers of this country in giving us a larger market.—The Paper Mill.

Would our esteemed contemporary kindly say if the National Association of Manufacturers of the United States are in favor of any kind of a reciprocity treaty with Canada that

would admit Canadian manufacturers to the United States on the same terms that similar American products are admitted to this country? We pause for a reply.

The subject of giving a Government guarantee on the bond issue of the company which Mr. McLeod Stewart has organized in England, for the purpose of building the Montreal, Ottawa and Georgian Bay Canal, cannot fail to be of interest to Montrealers and Canadians generally. It has been brought to the attention of the Federal Parliament by Mr. W. I. Poupore, who, in an able address, lucidly set forth the transcendent merits of the scheme, as being the most direct all water route from the head of the lakes to the foot of navigation at Montreal, and 367 miles shorter than the St. Lawrence route. The cost of construction, which was first estimated at \$17,000,000, has, upon maturer deliberations of all the facts, been raised to \$25,000,000, upon \$20,000,000 of which the Government is asked to guarantee bonds at 2½ per cent. for a term of years. It is held, that, as the deepening of the St. Lawrence canal to fourteen feet will shortly be completed, no more fitting opportunity could be presented for the commencement of the project of constructing that far greater canal (so far as results tending to increase the trade of Canada is concerned), namely, the Montreal, Ottawa and Georgian Bay Canal. Last year about 600,000,000 bushels of grain and flour were received at American lake ports, over 300,000,000 bushels of which were shipped from the Atlantic seaboard, and of this immense quantity Montreal only exported 10,000,000 bushels. And why was this? Because the Erie route was cheaper than the St. Lawrence route for the great bulk of the freight taken to the seaboard, and because of the lack of proper terminal facilities at this port. But with the completion of the Ottawa, Montreal and Georgian Bay Canal, and the increased terminal facilities at this port soon to be commenced, Canada will be in possession of a route that no other can begin to compete with on this North American Continent; thereby controlling the vast trade of the North-West, which now finds its way south of the line. British capital is now ready to be invested in this great project, as soon as the Government will guarantee the interest of 2½ per cent. on the bonds of the company to the extent of \$20,000,000.—The Trader.

We quite fully agree with The Trader in its estimate of the importance of the canal in question, but since it is of such great importance we contend that it should not be built by private enterprise, but by the Government.

A successful manufacturer, says an exchange, when asked why he patronized trade papers so largely to the neglect of other methods of advertising, replied: "Men who do not read their trade papers and keep posted in their business are usually poor customers. If I sell them a good lot of machinery they do not know how to use it and report it a failure, or, we have to run after them, lose time and money to get them a-going, and make the sale stick. But those who read and are posted know how and succeed. Such men would not read circulars if I were to mail circulars to them. They see my 'ad.' regularly in the trade paper and know I have an established business, and when they want anything in any line write me, and don't whine about price or what time they can get from others, buy, try and have no trouble and pay the bill. Give me such a class of customers as I get by such judicious advertising all the time." His experience is that of successful merchants. The trade paper keeps its readers in touch with the times, with the currents of trade and commerce, it puts money in his purse in many ways. It is a preventive against sloth and rust. It helps develop the best side of a man's commercial life.

Is your advertisement in this issue of THE CANADIAN MANUFACTURER? If not, why not?

# CANADIAN MANUFACTURERS' ASSOCIATION.

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**J. F. ELLIS.**

First Vice-President:

**P. W. ELLIS.**

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**R. E. MENZIE.**

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**GEORGE BOOTH.**

Chairman Executive Committee:

**R. W. ELLIOT.**

Chairman Tariff Committee:

**W. K. McNAUGHT.**

*The Executive Committee meet on the Second Tuesday of each month.*

OFFICES

**McKinnon Building,**

**TORONTO.**

**Tel. 1274.**

**J. J. CASSIDY, - 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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GLOVE MANUFACTURERS' ASSOCIATION,

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

REPRESENTATIVES TO

**TORONTO INDUSTRIAL EXHIBITION ASSOCIATION.**

**R. W. ELLIOT.**

**GEORGE BOOTH.**

**W. K. McNAUGHT.**

**A. E. KEMP.**

**J. J. CASSIDY.**

## 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. Ronnie**, 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.
- G. 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. Cassidy**, 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.

## THE NEW JAPANESE TREATY.

The new treaty between Japan and the United States, which was negotiated in 1884 by Secretary Gresham, becomes operative on July 17, and its operations mean the beginning of a new era in Japan. A statement prepared by Mr. Jutaro Komura, the Japanese Minister in Washington, thus explains the significance of the new convention:

"The 17th of July marks the turning point in the diplomatic history not only of Japan but of the Oriental countries in general. It will be the first instance in which the Western powers have recognized the full sovereignty of an Oriental State. This action of the enlightened nations of Europe and America shows that if any country is ready to assume a full share in the responsibility and affairs of the world at large, these old and enlightened powers are ready to admit such a country to full comity among nations. So we regard the advent of this treaty as a very important step, not only for Japan, but for all the nations of the East. The countries with which Japan has made new treaties are the United States, Great Britain, Germany, France, Russia, Austria, Italy, Spain, Portugal, Belgium, Holland, Denmark, Sweden and Norway, Switzerland and Peru. All of these go into effect July 17, except those with France and Austria, which are deferred until August 4. With most of these countries Japan had treaty relations before, but they were crude and unsatisfactory.

"To understand the change it is necessary to look at them under the old treaties. This was essentially based on two principles: First, that foreign residents in Japan shall enjoy the privileges of extra territoriality—that is, they should be amenable to the laws and jurisdiction of the consul of their

own country, and not to Japanese jurisdiction; and, second, that foreign residents in Japan shall be confined to certain open ports, outside of which foreigners could not reside, own property or engage in trade. The result was in effect about fifteen or sixteen systems of courts in Japan, for the purpose of trying foreigners who commit offenses in Japan. Furthermore, most of the powers claimed that Japanese laws were not binding upon foreigners. For instance, take our quarantine laws. While it protected us as against our own people, there was no protection in the case of an infected foreign ship. The only exception to this refusal to recognize Japanese law was the United States, which recognized from the first the binding force of the Japanese law. One of the bad effects of this system was that foreign residents had entire immunity from taxation while Japanese paid all the taxes. All this has now disappeared and foreigners have the same privileges as well as the same obligations as the Japanese citizens, no more and no less. The first step in the new system is to put an end to the old fiction of extra territoriality, by which foreign citizens were judged by different standards from Japanese.

"The second essential thing is the opening of the entire interior of Japan to foreign residents and trade. Until now there have been only five treaty ports—Yokohama, Nagasaki, Kobe, Hakodate and Nigata. In these places foreigners had been able to live, to purchase property and to trade, but outside of these they could not even travel without a special permit. These five places are an insignificant part of Japan. Henceforth the entire interior of the Empire, with its populous cities and inviting fields of industry, is thrown open to foreigners. They may live anywhere, engage in any kind

of business, and will be assured of the same protection to life and property that is given to the Japanese. In bringing about the new system of treaties Japan naturally feels most friendly towards the United States, because she always has shown a most sympathetic interest in Japan's desire to adopt modern methods and to deal on even terms with the rest of the world. The messages of several of the Presidents have spoken in most friendly terms of this matter. And so, as the Government and people of the United States have taken such friendly interest under the old system, I hope and believe that the United States Government and people will take a most friendly interest in the carrying out of the new treaty."

### IMPORTS OF NATAL, SOUTH AFRICA.

Consul-General Stowe, of Cape Town, sends the following partial table of imports into the colony of Natal in 1898:

Articles.	Quantity.	1898	Value.
Agricultural implements .....			\$75,897
Ale:			
In bottles .....	gallons	182,646	
In wood .....	"	84,826	
Apothecary ware, drugs and chemicals .....			570,991
Apparel and slops .....			1,798,227
Bicycles .....			283,682
Brass and copper wares .....			29,310
Brush ware .....			45,827
Butter, including margarine, pounds .....		1,870,497	
Cabinet and upholstery .....			512,865
Carriages, carts and other vehicles .....			110,119
Cheese .....	pounds	802,491	
Cocoa and chocolate .....	"	97,789	
Confectionery .....	"	1,062,878	
Barley .....	cwts.	1,222	
Beans and peas .....	"	2,173	
Maize .....	"	289,397	
Malt .....	"	29,463	
Oats .....	"	23,027	
Wheat .....	"	37,656	
Other grain .....	"	28,923	
Flour:			
Wheat .....	pounds	53,288,328	
Bran .....	"	7,281,855	
Cotton piece goods .....	yards	5,193,292	
" blankets and sheets .....	pairs	357,026	
Forage and hay .....			67,498
Fruit:			
Dried, of all kinds .....	pounds	1,125,659	
Fresh .....	"		6,652
Haberdashery and millinery .....			2,398,298
Hardware, cutlery, ironmongery .....			1,477,484
Hats of all kinds .....	dozen	26,235	
Hoes and picks, Kafir .....	number	65,106	
Hops .....	cwts.	1,067	
Hulls of ships, masts, spars, sails, etc. ....			26,089
Hosiery .....			131,395
India rubber, manufactured .....			2,783
Instruments, musical .....			148,293
Wire for fencing .....			132,582
Lard .....	pounds	427,205	
Leather:			
Manufactured .....			1,197,421
Unmanufactured .....			10,093
Saddlery and harness .....			187,924
Machinery and component parts of machinery of all kinds .....			1,489,319
Matches .....	gross	206,337	
Meats:			
Salted and cured, not hermetically sealed .....	pounds	24,005	
Chilled or frozen—			
Beef .....	"	802,581	
Mutton .....	carcasses	27,832	
" .....	pounds	1,318,093	
Pork .....	"	6,767	
Game .....	crates	180	
Poultry .....	"	210	
Painters' colors and pigments .....			109,883
Paper for newspaper and book-printing purposes .....			58,419

Articles.	Quantity.	1898	Value.
Perfumery .....			\$9,037
Plate, jewelry, and plated ware .....			161,431
Fish, salted and cured .....	pounds	358,427	
Fruits (bottled and tinned), pickles, sauces, preserved vegetables, etc. ....	pou. ds	1,233,291	
Hams and bacon .....	"	847,676	
Jams .....	"	510,308	
Meats, preserved and salted .....	pounds	2,315,687	
Tinned fish .....	"	798,017	
Milk, condensed .....	"	4,434,936	
Seeds, garden .....			43,660
Bulbs and plants, living .....			3,489
Soaps of all kinds .....	cwts.	53,687	
Spirits:			
Whisky .....	gallons	148,827	
Wine .....	"	2,219	
Methylated spirits .....	"	2,019	
Stationery .....			238,954
Tallow and grease .....	cwts.	9,427	
Tobacco:			
Manufactured .....	pounds	137,159	
Unmanufactured .....	"	105,391	
Cigars .....	"	54,914	
Vegetables, onions and potatoes .....			39,078
Wood and timber:			
Unmanufactured .....	cubic feet	1,687,052	
Manufactured—			
Boards and planks .....	"	1,552,822	
Other than furniture .....			179,130

The total value of imports for 1898 was £5,323,216 (\$25,905,430.66), exclusive of bullion and specie, the value of which was £35,898 (\$174,697.62).

### REGULATION OF IMPORTS OF PETROLEUM.

Regulations have just been promulgated by the Inland Revenue Department of the Dominion Government for the importation of petroleum of a minimum flash test of 80 degrees in tankship at the following customs ports:—Halifax, St. John, Quebec, Montreal, Prescott, Brockville, Kingston, Port Hope, Cobourg, Toronto, Hamilton, Port Dover, Port Stanley, Windsor, Sarnia, Goderich, Port Arthur, Owen Sound. It is provided that the tanks to be used for storage at the foregoing ports shall be approved by the Customs and municipal authorities, and no other cargoes may be carried with petroleum.

Among other regulations for safety from fire are these: Every tank ship arriving at any of the said ports having on board petroleum in bulk shall hoist a red flag bearing the word "petroleum," and shall keep such flag flying during the hours of daylight, while any petroleum is on board, and thereafter so long as she shall remain in Canadian waters, and during the same period shall by night display two red lights vertically, not less than twenty feet above the deck.

During the time any tank ship having petroleum on board is within Canadian waters, no fire or lights except the electric light shall be used on board or in the immediate vicinity of the ship while the tanks or petroleum compartments are open or are discharging petroleum, or when the hatches are off, and no person on board shall smoke or carry matches.

The discharge of petroleum imported in bulk from a tank ship shall be effected by means of a hose and wrought iron pipes between sunrise and sunset.

No discharge of petroleum, whether mixed with water or not, shall be permitted into the harbour from any tank ship.

The discharge of petroleum from any one tank ship shall not occupy more than 24 working hours unless the time has been extended by the harbourmaster for sufficient and specific reasons.

No other ship or vessel of any kind except the steam tug in attendance shall go alongside any wharf at which a tank ship is discharging her cargo. Every tank ship shall, as soon as the cargo has been discharged, be cleaned and ventilated by the removal of all oil and vapour, unless she forthwith

with the permission of the harbourmaster proceed to leave the waters of Canada.

### AGRICULTURAL MACHINERY IN THE ARGENTINE REPUBLIC.

The rapid development of the cultivation of cereals and lucern renders Argentina an important market for agricultural machinery of all kinds. Owing to the inexperience of those to whom its management is entrusted, the plant rapidly wears out and must frequently be renewed. The threshing machines in use in the province of Entre Rios are in such a state of deterioration that they are a source of danger to those using them, and even cause the farmers to run the risk of losing the crops for lack of machines. Our manufacturers, therefore, cannot pay too much attention to a market the demands of which are increasing incessantly; it is, doubtless, almost monopolized, but if we were to follow their example, and open depots at Buenos Ayres, Rosario, and even Cordoba, we could easily compete with them. It must also not be lost sight of that the cheapest machines have the easiest sale; country landowners here are speculators rather than veritable farmers, and attach but little importance to the finish and durability of the plant they employ. As regards the province of Cordoba in particular it may be pointed out that the plant in use in its agricultural colonies amounted in 1892 to merely 19,909 implements; since then this total has been increased by 57,497, or in detail: 39,474 ploughs; 11,192 harrows; 4,375 rollers; 285 maize hullers; 320 steam threshers; 852 maize cob cutters; 686 mowers and binders; 1,692 seed drills; 11,805 waggons; 2,725 carts of all kinds. This list does not include 180 steam threshers which travel through the country at harvest time and hire their services to the small farmers. The machines most generally employed in the province of Cordoba are as follows: Ploughs.—Those selling best are of American origin with one share, Nos. 11, 2½ and 8½, their price ranging from P.4 50 to P.5 and P.6 50 gold. Hulling machines.—The American Virginia brand is most used, its price is P.28 gold. The Clinton hand machine sells at P.6 gold. Scythes. Scythes sell at P.5 to P.6 gold per dozen, they are generally of French origin. Shovels.—American shovels sell at P.6 70 gold per dozen; English at P.5 gold per dozen. Picks and hoes.—American "Collins" brand hoes sell at P.14 gold per dozen, "Colorado" brand at P.2 70 gold; the French "Peugeot" brand is worth P.3 50 gold per dozen. Reaping machines.—The English brand "Albion," Nos. 5 and 7, sell at 70 and 80 piastres gold; the American "Osborn" at 70 piastres gold; and the "Eureka" brand at 110 piastres gold. Threshers and seed drills.—These two articles have but little sale here; the southern provincial farmers purchase them in Buenos Ayres. Sales are made either on a basis of five months' credit or for cash with 5 per cent. discount.—French Consul at Cordoba.

### 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.

64. A Hamburg printer of illustrated post cards, placards, chromos, lithographs, etc., desires to be placed in communication with firms in Canada who would be willing to take up his agency.

65. The names of one or two firms who would be interested in the manufacture of auto-cars, are required by an engineer of good standing.

66. Hickory, suitable for golf sticks, 4½" x 7" square, well dried and straight, is again enquired for.

67. A firm asks for the name of a Canadian house shipping wooden mantel-pieces who would be willing to appoint them sole agents for the sale of such goods in the United Kingdom.

### CANADIAN PULP IN ENGLAND.

The recent shipment from Canada to England of the largest cargo of wood pulp that ever crossed the sea has aroused the enthusiasm of our English contemporaries. We are pleased to learn from one of these enthusiasts that "the discharging of this immense wood pulp cargo was effected in a comparatively short time, and that the cargo has turned out to be in perfectly sound condition." Another large steamer of about 4,000 tons, the "Mendota," is now loading in Canada an entire cargo of wood pulp, which is also destined for England.—The Paper Mill.

### SADDLERY AND HARNESS IN BRAZIL.

The manufacture of saddlery and harness has developed to such an extent that it forms quite an industry, capable of producing goods of a certain national character. Indeed, silver mounted saddles and harness are very costly and fetch very good prices. So-called English saddles and harness are only used in the towns and centres of communication where there are a great many strangers. Almost all the high-class harness used by private people, and a large amount of that required for public vehicles, comes from abroad, chiefly from England, and to a smaller extent from France. The duty amounts to 60, 120 and 240 frcs. each for complete sets of harness, according to size, quality and richness of finish; men's saddles pay 15 to 45 frcs. each, according to quality and size, and ladies' saddles from 30 to 50 frcs.—French Consular Report from Rio de Janeiro.

### FURNITURE IN RUSSIA.

A shop has been recently opened at Warsaw for the sale of portable furniture, which has been hitherto practically unknown in this part of Russia, and for which there would appear to be a very large opening indeed, if it were made to suit local requirements and well introduced to buyers' notice, as throughout the whole of the Russian Empire it is the universal custom for everyone who can afford it to spend the summer months in a small villa, or "datcha" as it is called, where they camp out with what furniture they have been able to take with them from their town house, families contenting themselves as a rule with one-third to one-half the number of rooms they occupy in town, as they intend to spend most of the time in the open air. Another style of portable furniture might find an extensive demand amongst officers, as the whole of the Russian troops pass from four to six months under canvas each summer, and, to judge from what I have seen, the camp furniture now used by individual officers and messes, most of which is made at St. Petersburg, is far inferior to that used by British officers under similar circumstances, both in quality and comfort.—British Consul General at Warsaw.

### OBSTACLES TO TRADE.

In a letter to the National Association of Manufacturers, Juan Gay & Co., of Montevideo, write.

"We regret that your manufacturers do not name representatives in this country, putting their samples on exhibition in imitation of the manufacturers of Europe, and especially of Germany.

"Other difficulties are the language and the conditions of sale.

"The majority of these markets are cosmopolitan, and for the most part Latin, therefore, due to these conditions and not to others, the English language is not very well known. It would be more convenient if your manufacturers would adapt their correspondence and print their catalogues in the Spanish language.

"With respect to the conditions of sale, if these cannot be modified it will be very difficult to compete with the European manufacturers, importers and commission merchants, who sell their products through their representatives on terms of three, four or six months, sending merchandise of first order, in good packages, and selling the goods f. o. b. steamer. It would be very convenient if the manufacturers of your great nation would make here a permanent exhibition of their products, putting them in the hands of active, competent experts.

"It is well to observe to the gentlemen interested in doing business with these countries that we are continually in receipt of correspondence from the United States, a portion of which reaches us insufficiently prepaid, obliging us to pay the difference, and this has compelled us to decide to refuse to receive all letters not reaching us in the condition prescribed by the postal laws."

#### CANADIAN EXHIBITS AT EDINBURGH.

Canada was represented in an interesting and attractive way at the Highland and Agricultural Society of Scotland's Show. Mr. H. M. Murray, the Canadian Government Agent at Glasgow, was in charge of the Canadian exhibits, consisting of cereals in straw and threshed, various native prairie and other grasses, and a large number of mineral products. Among the most noticeable of these were gold, silver, copper, lead, asbestos, mica, iron and nickel. The specimens of beech, birch, pines, all kinds of maple, cherrywood, walnut, ash, and oak were much admired. A series of views were shown, representing the scenery on the journey through the Rocky Mountains, and another series illustrated the multitudinous industries of the Dominion, such as lumbering, dairying, fruit growing, mining, farming. The attendants distributed pamphlets setting forth the conditions of Canada, and supplying all necessary information for prospective settlers.—The Canadian Gazette.

#### CANADA AT THE PARIS EXPOSITION.

Although less than one thousand square feet of space has been allotted to Canada at the Paris Exposition, well-directed steps are being taken to make the Canadian exhibit as complete and attractive as possible. Nearly every industry will be represented, but it is the intention to give special attention to the forestry exhibit. In British Columbia, Manitoba, Ontario and Quebec the provincial governments have undertaken to collect the necessary specimens for a complete representation of the woods of these provinces, while the entire exhibit is under the supervision of an official of the Dominion Government. While all the usual features of such an exhibit will be retained—sections of trees, square timber, deals, pulp wood, etc.—it is understood that a special effort is being made to secure material which may lead to an extension of trade in lines now only partially developed, or to

the opening up of new industries. Canada is not going to neglect this important exhibit, and her action is looked upon by American paper manufacturers as of significant importance.—The Paper Mill.

#### CANADIAN PAPER PULP IN JAPAN.

The Sault Ste. Marie Pulp and Paper Company are shipping five hundred tons of pulp per month to Japan. This is about one-fifth of the total production of these mills. The pulp is shipped by way of Vancouver, Seattle and San Francisco, where it is loaded on vessels for Japan. It will be remembered that Mr. George Anderson, special commissioner to Japan and China for the Dominion Government, reported favorably as to the prospects for Canada supplying these countries with pulp, and the trade which has been secured is probably the outcome of his report. These countries have received almost their entire supply of pulp from Norway and Sweden, but it now appears as though Canada would capture much of the trade.

#### LEATHER BELTING IN RUSSIA.

In the leather belting trade the British article, which had been almost entirely supplanted by belting made in Germany, is steadily gaining ground. Mill-owners in this country have come to the conclusion that it is bad economy to give the preference to a cheaper article that will only last a short time. Leading British makers of belting have appointed agents in the chief industrial centres and are giving dealers big stocks on commission. A Manchester manufacturer, in order to better satisfy his Russian clients, has opened a branch factory for the manufacture of belting in Russia, and there is certainly a good opening for any one who would start a similar factory in this district, as there are but a limited number of belting manufacturers, and they, for the greater part, import hides tanned in England.—British Consul-General at Warsaw.

#### THE GRAND TRUNK AT PORTLAND, MAINE.

It is announced that contracts recently signed by the Grand Trunk Railway promise to give Portland a big shipping business, as they provide for a foreign steamer every day during cold weather. The contracts include the following:

Weekly boats to Liverpool by the Allan and Dominion lines and to London by the Thompson line.

Fortnightly boats to Glasgow by the Donaldson and Allan lines; to Bristol by the Elder-Deupster line; to Hamburg by the Hamburg-American line; to Antwerp by the Leyland line, and to Manchester by the Manchester line.

The fortnightly boat to Antwerp and the service to Manchester are entirely new to Portland.

Other lines may also sign contracts similar to those already made.

# Transfer Ornaments, AMERICAN MADE.

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 in these pages, and to every concern in Canada interested in any manufacturing industry whatever, this interest extending to supply houses also.

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

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

The capital stock of the Otterville Mfg. Co., Otterville, Ont., has been increased to \$20,000.

Lever Brothers, Limited, Toronto, have been incorporated with a capital stock of \$1,000,000. The incorporators are Alfred Robinson, manager; John MacKay, accountant; W. P. Robinson, advertising manager; S. A. Marvin, office manager; and Z. A. Lash, barrister, all of Toronto. The purpose of incorporation is to take over as a going concern, the business now carried on in Canada by Lever Brothers, Limited, an English concern who are manufacturers of Sunlight Soap. The Canadian company have already secured a suitable location in Toronto where they are erecting extensive works for the manufacture of soap, candles, etc.

The Hoepfner Refining Co., with head office at Hamilton, Ont., has been incorporated with a capital stock of \$600,000 to refine metals, etc.

A meeting of the shareholders of the Cataract Power Company was held at the company's headquarters in Hamilton, Ont., last week. The shareholders, who were all represented, either personally or by proxy, were called together for the purpose of laying before them the chief points in connection with the big electric railway scheme and to have them sanction, if so disposed, the deal made by the directors for the acquirement of the Hamilton street railway, the radial railway, and the Hamilton and Dundas railway. The shareholders were satisfied with the directors' work and they endorsed the by-laws, etc., of the syndicate company,

including the proposed extension to Galt and Guelph. It was decided to apply at once to have the capital stock increased from a quarter of a million dollars to three million dollars. It is understood that the money for the street railway will be forthcoming in a few days, when the railway will pass into the hands of the Cataract Power Company syndicate. A new transmitting line will be put between Decow Falls and Hamilton, and in a few months the electric railways in the company's system will be run by power from Decow Falls.

James Robson & Son's tannery at Oshawa, Ont., was destroyed by fire Aug. 13th. Loss about \$30,000.

The works of the Ontario Lithographing Co., London, Ont., were damaged by fire to the extent of about \$500 on Aug. 5th.

Mr. Holzkamp will build a new flour mill at Granton, Ont.

The London, Eng., Westminster Gazette says:—After much consideration and the ultimate exclusion of all but English firms, the tender of Messrs. Gillett & Johnson, of Croydon, has been accepted for the manufacture and erection of the largest clock and bells in Canada at Toronto Town Hall. This clock will be similar in size to "Big Ben," having four illuminated faces twenty feet in diameter, at an elevation of 250 feet, and will strike the hours and quarters on bells several tons in weight.

In the discussion of artificial vs. mechanical draft, to which the B. F. Sturtevant Co., of Boston, Mass., has contributed so much in its admirable treatise entitled "Mechanical

Draft," there occurs the following pertinent quotation from W. S. Hutton: "Artificial draft can be readily adjusted to effect the combustion of different kinds of fuel at different rates of combustion. It permits efficient combustion of fuel of inferior quality, and enables a steady supply of steam to be maintained, independent of climate and weather. It enables the supply of air to be properly distributed to the fuel in the furnaces to effect economical combustion. The supply of air above the fuel can be readily adjusted to effect combustion of the gases evolved by the fuel, and the supply of air below the fuel can be regulated to effect the combustion of the solid portion of the fuel, and the movement of the hot gases can be readily controlled."

The Xochimilco Peat Fuel Co., Toronto, has been incorporated with a capital stock of \$100,000, to manufacture peat fuel. Messrs. A. A. Dickson, E. W. Spragge, D. A. McPherson, J. S. London and J. A. G. Ardagh are the provisional directors.

The Brantford Packing Co., Brantford, Ont., has been incorporated with a capital stock of \$150,000 to establish and operate a factory for canning, pickling, curing and preserving fresh meats, vegetables, fruits, etc. J. M. Shuttleworth, Christopher Cook and Lloyd Harris are provisional directors.

The Alberta Railway & Coal Co., Lethbridge, N.W.T., have ordered two 150 h.p. Mumford Improved boilers from the Robb Engineering Co., Amherst, N.S. They have had three of them in use for about a year and this order speaks well for the satisfaction they have given. The makers of these boilers claim they are more efficient than any other type in use, while they cost less than a water tube boiler.

Work has been begun on the development of the Shawenegan Water & Power Co's plant at Shawenegan Falls, Quebec, and is being pushed night and day. The Royal Electric Co. have installed for the contractors one of their T.H. Arc Machines and lamps, lighting the entire work.

The British Columbia Southern Mine, Limited, operating the Gertrude Mine in Rossland Camp, B.C., have placed their order for a complete lighting plant with the Royal Electric Co., Montreal.

The Miami Farmers' Elevator Co., of Miami, Man., has been incorporated with a capital stock of \$10,000.

The Dowling Milling Co., of Edmonton, N.W.T., has applied for incorporation, with a capital stock of \$40,000.

## 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.O. RAT PORTAGE, ONT. HALIFAX, N.S.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



The earnings of the Toronto Street Railway continue to increase in a marvellous manner, and in the ten months of the present fiscal year have already passed the million dollar mark, consequently the company contributed ten per cent. of its receipts for last month, and for a part of June. The City Treasurer has received a cheque for \$12,721 percentage on earnings for July. The following shows the way the gross receipts and percentages have jumped up in four years :

	Gross Receipts.	Per-centage.
July, 1899 .....	\$117,688 80	\$12,721 03
July, 1898 .....	103,670 00	8,293 60
July, 1897 .....	106,750 00	8,540 00
July, 1896 .....	87,761 37	7,020 90

It appears that we are not only catching small herring and putting them in pure olive

(cotton-seed) oil in American tins with French labels on them to testify that they are genuine sardines from the Mediterranean, but we are also in the caviare business. We are taking the eggs out of native fish, salting them and putting them together in delightful form for the epicures of Europe to roll under their tongues. It was a long time ago that caviare came to Europe out of the East, like the rugs, cloths, spices, and other fine things that princes enjoyed, while England, France and Germany were still enveloped in medievalism. The roe of the sturgeon seemed first to have been preferred. The product became associated with Russia and the lakes and rivers of that country have been drawn upon for Europe's supply. It was long so distinctly a food for the delicate palate that Shakespeare was led to say of a play which he thought the vulgar would not relish, that

"'Twas caviare to the general." The 'general' got \$12,712 worth of this fine food from the United States of America in August, 1898, eight times as much as he got in the same month of 1897, while for the eight months ending with August he took \$192,947 worth, a snug little sum to the credit of the salmon or some other respectable American fish.

The Sterilized Milk Supply Co., City of Quebec, has been incorporated with a capital stock of \$10,000.

The Schloman Mfg. Co., Montreal, has been incorporated with a capital stock of \$50,000 to manufacture shirts, collars, white wear, etc.

The capital stock of the Chatham Hedge Fence Co., Chatham, Ont., has been increased to \$30,000.

**REDDAWAY'S ORIGINAL**

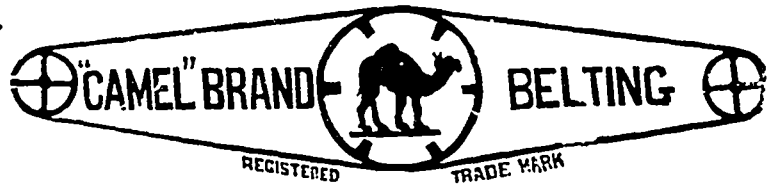
**CAMEL BRAND HAIR BELTING**

**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

**MORE MAGNETIC THAN EVER**

**Manufacturers**

Who would increase their output—  
Retain their present customers  
and secure new ones, will  
not fail to exhibit at



CANADA'S GREAT

**Industrial Exposition**

**TORONTO**  
**AUGUST 28 to SEPTEMBER 9, '99.**

Great Demand for Space.

Applications should be made forthwith.

Entries Close Aug. 5.

For Prize Lists, Entry Forms and all information address the Manager.

**JOHN J. WITHROW, President.**

**H. J. HILL, Manager, Toronto.**

The attendance of Visitors last year was greater than ever before and this year will be greater still.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Messrs. E. F. Shipe, R. R. Shipe, J. H. Avey, James Wood and associates, all of Toronto, have been incorporated with a capital stock of \$20,000 to acquire the interest of E. F. Shipe and others, in an invention of a machine, for the manufacture of wooden meat skewers, and to manufacture such machines and skewers.

From the recent report of the U.S. Commissioner of Patents, it appears there were received in the last fiscal year 35,352 applications for mechanical patents; 2,292 applications for designs: 91 applications for reissues 1,610 Caveats; 1,861 applications for trade marks; 612 application for labels; and 112 applications for prints. There were 23,550 patents granted, including reissues and designs; 1,406 trade marks, 372 labels, and 76 prints were registered. The number of patents that expired was 16,670. The number of allowed applications which were by operation of law forfeited for non-payment of the final fees was 4,021. The total receipts of the office were \$1,209,554.88, the total expenditures were \$1,148,663.48, and the surplus of receipts over expenditures, being the amount turned into the Treasury, was \$60,891.40. This information is received through Messrs. Marion & Marion, Patent Solicitors, Montreal.

The growth of the modern system of heating by a forced circulation of warm air presents an interesting example of the influence of commercial practicability upon

the introduction of a given method or system. For fully a century prior to 1870, various means many of them extremely crude had been adopted for forcing heated air through pipes from a central heater, and thereby warming distant apartments. In the period from 1840 to 1870, large fans moving air over steam heated surfaces, were introduced here and there in large buildings such as hospitals and asylums. But such applications were distinctly limited, because both fan and heater had to be specially designed and constructed for the work. It was not until 1868 that such a heating apparatus became commercially practicable. At that time B. F. Sturtevant, of Boston, Mass., having been for some years engaged in the manufacture of fan blowers, conceived the idea of attaching a small tubular heater, through which the air was drawn and heated and forced by the fan to the distant points. The entire arrangement was compact, portable, and easily applied, particularly to small apartments. Large installations, however, required a sectional type of heater, and in course of time there was evolved the present type of Sturtevant heater, consisting of a series of cast iron sections, into which a system of steel steam pipes are screwed, and through which the steam circulates. These sections, made in quantity in standard sizes, are grouped to conform to the requirements, and connected to the fan in such a manner as to insure its most efficient action. Without some such simple and marketable

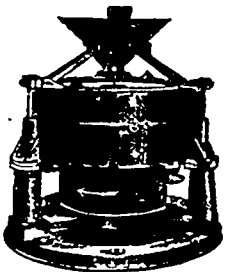
arrangement, it is doubtful if even to this day the benefits of mechanical ventilation and heating would have been realized. As it is, however, no large building is to-day considered complete unless thus equipped with a system that both ventilates and heats.

A number of Ontario architects have asked the Provincial Government to instruct the School of Practical Science to undertake a scientific test of Canadian timbers, with a view to ascertaining their structural strength and other features. The School of Science possesses the necessary machinery for testing timber, but a government grant is necessary to meet the expense of cutting the wood, under proper supervision, selecting the proper varieties for comparison, and obtaining data as to the age of each tree and the condition of growth. In this connection Mr. Thomas Southworth, head of the Forestry Department of Ontario, draws attention to the increasing use of wood for street paving purposes in England. He does not see any reason why some of the coarser varieties of Ontario woods cannot be used in connection with street paving. For example, the jack pine of Ontario, he thinks, is far superior to the Baltic or Norway timber, being a heavier, stronger and denser wood. Mr. Southworth is of opinion that it would be an excellent thing to test the durability of jack pine as street-paving material by laying a quantity of it on some Toronto thoroughfare as an experiment.

ROCK

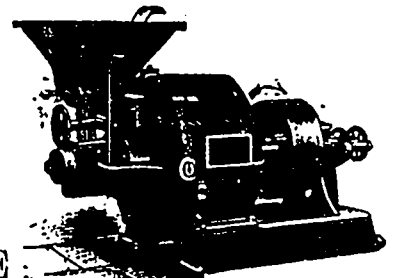
**EMERY**

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

FRICITION 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.



Messrs. Robert Sangster, E. B. Hoover, Thomas Williamson and associates, of Stouffville, Ont., have formed a joint stock company with \$200,000 capital to engage in pork packing chiefly for foreign markets. The construction of the necessary buildings will be begun without delay, the intention being to have the works in operation before the close of the current year.

The works of the Guelph Iron and Steel Co., of Guelph, Ont., now being operated by Messrs. White & Kloepper, are to be enlarged by the addition of a puddling and a heating furnace and a pair of steam shears. These works now give occupation to over 60 hands.

The Croft Acetylene Gas Co. offer the Toronto city authorities to put in an acetylene gas generator at the Toronto Island, having a capacity of 5,000 lights, with building complete to shelter the same, for the sum of \$15,000. Adding to this \$13,000 for piping the total cost would be \$28,000, or \$7,000 less than the Engineer's estimate of the cost of the necessary plant. The company will guarantee the generator for ten years and will give to the city an approved bond to that effect, and if they receive the order they promise to have the generator in operation within sixty days. With regard to the safety of the machine they refer to the Canadian Underwriters' Association.

A committee has been formed at Mattawa, Ont., for the purpose of insuring that the products of the Nipissing District are fully represented at the Paris Exposition and that they receive as prominent a place as possible. The first meeting was held on Tuesday, when Mr. G. Smith was appointed Secretary. Prominent lumbermen and miners and others have contributed largely to the funds and arrangements are being

made for a very interesting exhibit, consisting principally of mining products, lumber of various kinds and game of all kinds. Each member of the committee has his separate part of the exhibit to prepare and in this way no duplicates will be made, but the whole exhibit secured.

Some of the most valuable, as well as important inventions have been patented to women, among which may be numbered the first cook stove, a permutation lock having 3,000 different combinations, a machine for making screws (invented by a little girl) which revolutionized that industry, and the valuable Burdon process for making horse-shoes, which resulted in a saving over the old process, of many millions of dollars per year. The first patent to a woman was granted in 1808, and since then the number has increased to many thousands. These facts are interesting not only because indicating the rapid and almost marvellous growth of woman's intellect, but also from the fact that the inventive genius of women invades fields one would scarcely credit her with any interest, much less knowledge. We would not be surprised that a hat-pin, corset, glove-fastener, etc., should be invented by women, but when we learn that such inventions as telescopes, making marble from lime-stone, dams and reservoirs are evolved, people begin to be interested. In Canada also, women are becoming interested in inventions as is evidenced by the number of women applicants seeking patents through Marion & Marion of Montreal.

The Aplus Veneer Company, of Albert, N.B., have placed their order with the Royal Electric Co., for a complete electric lighting plant for their works, to be in operation within four weeks.

The Hamilton Steel & Iron Co., Hamilton, Ont., has been incorporated with a capital stock of \$2,000,000.

The Colonial Bleaching and Printing Co., Montreal, has been incorporated with a capital stock of \$500,000.

The Eclipse Acetylene Gas Co., Montreal, has been incorporated with a capital stock of \$50,000, to manufacture acetylene gas generators, etc.

The St. John Iron Works, Limited, St. John, New Brunswick, has been incorporated with a capital stock of \$60,000 to take over and operate the machine shops and iron working establishment lately operated by Waring, White & Co., of that city. The directors are John E. Moore, Chas. McDonald, Walter W. White, James Pender, W. H. Murray, H. D. Troop and Chas. Miller.

Messrs. Seaman, Kent & Co., Toronto, manufacturers of window blinds, fly screens, etc., whose factory is now on Northcote Avenue, are erecting a fine three story brick factory at the junction of King Street and Atlantic Avenue, this city.

The Dominion Bridge Co., Montreal, whose works are at Lachine Lock, Quebec, near that city, are making important additions to their plant which will enable them to increase their output of iron and steel products to the extent of about 8,000 tons per year.

McDougall's Caledonia Works, Montreal, are taxed to their utmost capacity in foundry, machine shop and boiler shop. In the latter they are now building two "Kingsley" boilers for a large Montreal edifice. Quite a number of these boilers have been contracted for this season.



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



Wire Screens for Every Class of Material.  
Perforated Metal of Steel, Copper, Brass, Zinc for all purposes.  
Special Attention given to Miners' Requirements.

# The Economical Development of Water Power



Horizontal Setting, with Quarter Turn Elbow.  
CROCKER PATENT TURBINE COMPANY.

Requires, where the supply of water is limited, that every available foot pound of energy contained in it be properly set to work. On the other hand, if the source of power is abundant, your interests suggest that the plant be made as compact and powerful as possible, to reduce the space occupied and the first cost.

## The Crocker Patent Turbine...

Is peculiarly adapted for service under any of these conditions, as it possesses great efficiency under varying degrees of gate opening, and the ratio of power developed to diameter of wheel is remarkably large. To those interested we will supply catalogues and particulars of leading plants, together with a copy of latest official Holyoke test, 1892. Water powers reported upon, and estimates prepared. Correspondence invited.

## The JENCKES MACHINE CO.,

42 Lansdowne St., Sherbrooke, Que.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Eastern Townships Electric Co. has been incorporated with a capital stock of \$30,000 to manufacture electricity and other illuminants.

The capital stock of the Laurentide Pulp Co., Grand Mere, Que., has been increased from \$1,200,000 to \$1,600,000.

The Atlantic Washing Machine Co., Aylmer, Ont., has been incorporated with a capital stock of \$1,000.

The Wire & Cable Co., Montreal, has been incorporated with a capital stock of \$100,000.

The C. Beck Manufacturing Co., Penetanguishene, Ont., had their lumber factory destroyed by fire recently.

Messrs. Body & Noakes, linseed oil manufacturers, Winnipeg, Man., had their warehouse destroyed by fire a few days ago.

The Wentworth Knitting Co., Hamilton, Ont., has been incorporated with a capital stock of \$20,000 to manufacture all kinds of knitted goods.

The Imperial Copper Co., Parry Sound, Ont., has been incorporated with a capital stock of \$5,000,000.

The electric light station at Wolfville, N.S., was destroyed by fire July 30th, loss about \$14,000.

The premises of Whitworth & Restall, Toronto, manufacturers of mattresses, etc., were gutted by fire Aug. 15th, loss about \$6,000.

The Massey-Harris Company are completing plans for the erection of a fine club-house and library for the use of their employees on the north side of King street, opposite their premises in Toronto. The site consists of a block of 120 feet frontage on King street, covering the space between Strachan avenue and Massey street, with a depth also of 120 feet. The building, which will

probably cost from \$50,000 to \$75,000, will include baths, reading room, library and social rooms, with a fine hall for public recitals.

When the iron ore deposits of eastern Ontario, the Georgian Bay and the Rainy River country are opened up, this Province will become a big competitor of Michigan and Minnesota in the supply of ore. These two States in the north and Alabama in the south have a practical monopoly of the supply of ore in the United States. The production during the year just ended was the greatest in the history of the United States, totalling 19,278,369 tons. The various States contributed to it in the following proportions—Michigan, 7,346,846; Minnesota, 5,963,509; Alabama, 2,401,748; Pennsylvania, 773,082; Tennessee, 593,227; Virginia, 557,713; Wisconsin, 509,645; Colorado, 318,480; New Jersey, 275,438; New York, 179,951; Georgia and North Carolina, 160,083; Montana, Nevada, New Mexico, Utah and Wyoming, 55,969; Missouri, 50,000; Ohio, 43,868; Kentucky, 12,913; Connecticut and Massachusetts, 20,251; Texas, 9,705; Maryland, 5,941.—The Globe.

T. H. and A. H. Dryden, of Toronto, have lately commenced building for Canadian millers the Olivey Scalper. This machine is made in the United States by one of the largest firms there building mill machinery and has been placed in a large number of mills. The Scalper is now working in the mills of Stuart Bros., Mitchell, James Goldie, of Guelph, and the McLaughlin Milling Company of Toronto, where it is giving good results.

The Beaver Woollen Mills Company, Limited, of Toronto, has been incorporated with a share capital of \$200,000 to deal in and manufacture woollen, cotton and knit ted goods, and for that purpose are authorized to acquire the property of the Streets-

villo Woollen Manufacturing Company. The personnel of the company consists of S. G. Treble, Hamilton; Alex. Buntin, R. S. Williams, Stapleton Caldecott and A. S. Irving, Toronto.

The St. Eustache Canning Co. St. Eustache, Que., are applying for incorporation with a capital stock of \$15,000.

The Montreal Dry Plate Co., Montreal, has been incorporated with a capital stock of \$20,000.

The Ogilvie Milling Co., are about to erect a flour mill at Fort William.

The Manitoba Union Mining Co., Winnipeg, Man., has been incorporated with a capital stock of \$500,000.

The Cartwright Farmers' Elevator Co., Cartwright, Man., has been incorporated.

The Elgin Elevator Co., Elgin, Man., has been incorporated.

The St. Catharines Hydraulic Co., St. Catharines, Ont., has been incorporated with a capital stock of \$40,000.

The Roxton Novelty Chair Co., Montreal, has been incorporated with a capital stock of \$4,000.

A new wing will probably be added to the County Court House at Ottawa, to cost \$15,000.

A new factory to cost \$30,000 will be built at Lachine, Que., by the Schloman Mfg. Co.

The Canadian Food Supply Co. have applied to the Cornwall, Ont., Council for a site for a factory.

The new factories building on Pearl street Toronto, for the Luxfer Prism Co., will cover a space 115x100 feet, while the offices facing King street and adjoining the factories will have a frontage of thirty feet and a depth of 100 feet.

FOR

# Mechanically Drying Everything

THE

## CUMMER

DRYERS.

THE F. D. CUMMER & SON CO.,


HUNDREDS IN OPERATION.

CLEVELAND, OHIO.

# Use Syracuse Babbitt Metal

IT IS THE BEST AND CHEAPEST FOR

**WORKS:**  
332 WILLIAM STREET,  
MONTREAL,  
Canada  
AND  
SYRACUSE,  
N.Y., U.S.



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.

Messrs. Brown Bros., Toronto, are erecting new premises on Wellington street west, 200x50 feet to cost \$60,000.

The Renfrew Electric Light and Power Co., Renfrew, Ont., is applying for incorporation with a capital stock of \$50,000.

The Hamilton Bridge Co., Hamilton Ont., will erect additional buildings to meet their increasing business.

An evaporating factory is about to be erected at St. Mary's, Ont., by Mr. James Ross.

Messrs. G. A. Siesman, of Guelph, Ont. and H. Kuntz, of Waterloo, Ont., are forming a joint stock company with a capital stock of \$100,000 to establish a brewery in the city of Ottawa.

The Hull, Que., City Council, has decided to give Mr. H. J. Beemer a bonus of \$30,000 towards the erection of railway shops, etc., in Hull. A by-law will be submitted to the people.

The Beaver Clothing Co., Montreal, are applying for incorporation with a capital stock of \$50,000.

Fire caused damage to the extent of about \$3,000, in the Deseronto Chemical Works, Deseronto, Ont., a few days ago.

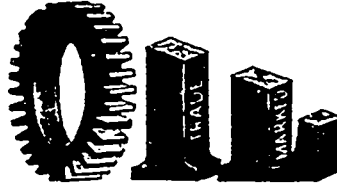
G. Hasenslug, Waterloo, Ont., is about to establish an evaporating factory.

Mr. J. M. Macoun, of Ottawa, who has charge of the Forestry exhibit for the Paris Exposition, 1900, called at the Paris Exposition office in the Parliament buildings this week on his return, after spending a week in interviewing the manufacturers of wood materials in Western Ontario. He found them much pleased to assist in furnishing an exhibit, and as a result he has succeeded in securing a complete representative exhibit of the various woods of the Province. Those interested in the business, expressed great pleasure with the Dominion Government and their efforts to obtain a full exhibit, which would be the means of opening up new markets and advertising this rapidly increasing industry. "I find," said Mr. Macoun, "that every establishment visited in Western Ontario is running with a full force of men, both night and day to keep up with their orders and many orders have been cancelled only to be replaced again in a few days, so great is the demand in that line."

The James Smart Mfg. Co., Brockville, Ont., are supplying the Kelsey generators, by which two public schools at Seaford, Ont., will be heated.

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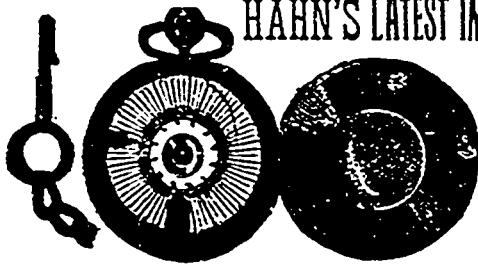
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PHILADELPHIA, PENN.

The grist mill of Manson and Bright at Magog, Que., was destroyed by fire Aug. 15th.

The factory of the Dominion Cotton Mills Company at Kingston, Ont., are being enlarged for the accommodation of 250 additional looms.

Messrs. James Jolley & Sons, Hamilton, Ont., will erect a brick addition to their harness factory.

**OPPORTUNITIES FOR TRADE.**

Agricultural Implements in Chile.—The farming is carried on in the ordinary native way and improved methods are only very gradually coming into use. Machinery is used to a considerable extent. The greater portion of the threshing machines are of North American manufacture, but in nearly all cases the engines are of British manufacture. The reaping machines are mostly of North American make, such as the Randolph header and Hodges reaper. Nearly every farmer has given up using the binders on account of so much expense in time, etc., while the Hodges and Randolph

header throw the wheat, as they cut, right into the car or cart which is used for that purpose.—British Vice-Consul at Traiguen.

Blankets in New Zealand.—Strong, pure woolen blankets are made in the country. But in spite of these good qualities and an import duty of twenty per cent. ad valorem, they cannot check the imports of the English article (33,905 pairs, value £14,428), which is cheaper and of better appearance.—Belgian Consul at Melbourne.

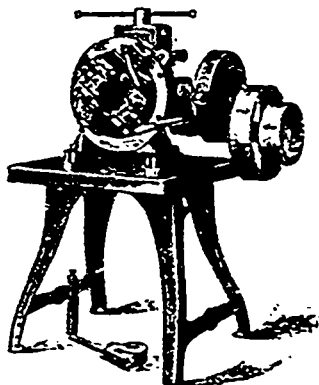
Canned Meats in South Africa.—The price recently asked for Australian corned, roast, or boiled beef or mutton in 1 lb. tins has been 3s. 8d. per dozen, and 2 lb. tins 6s. 3½d. per dozen, both first cost, f.o.b. steamer. At the same time, the price asked for "Libby, McNeill & Libby" (United States) beef was: For 1 lb. tins, \$1.15 per dozen, 2 lb. tins, \$2.10 per dozen, f. o. b. New York. This shows a difference in favor of Australian of 26 cents per dozen on the 1 lb. and 57 cents per dozen on the 2 lb. tins. This class of goods is usually carried by the steamers, and the rate of freight from Australia just now is £2 5s. per ton of forty cubic feet. There is, however, a new line of steamers which offers

the rate of £1 15s. From New York the freight is £1 13s. per ton of forty cubic feet. The quality of the Australian meats seems to give entire satisfaction, and the packers are making every effort to push their goods, to keep up to date, and, if possible, to improve them. They have obtained such a foothold that in a contract now under consideration the tenders call for 50,000 lbs. of American tinned meats and 100,000 lbs. (double the quantity) of Australian.—United States Consul-General at Cape Town.

Plough Shares in Turkey-in-Europe.—After a cessation of trade for three years, a large consignment of plough-shares was again imported a short time ago from Leipzig. Mk. 4.25 per centner was paid, f.o.b. Salonica. There is now a demand for complete No. 7 ploughs, which cost about mk. 54 apiece (exclusive of freight).—Handels-Museum: Official Report from Monastir.

Agricultural Machinery in Egypt.—A French Consular Report from Egypt states that in consequence of the progress it has made in agricultural matters, and of the rise in wages for agricultural laborers, Egypt has become a constantly increasing buyer of agricultural machinery of every kind.

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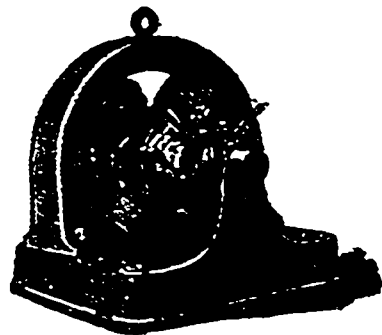
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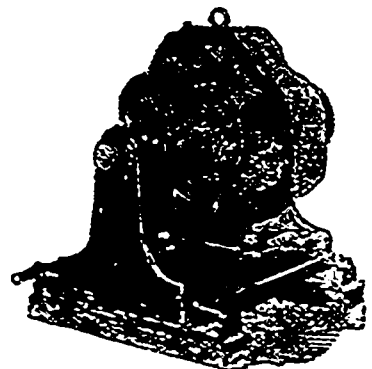
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**THE MATHESON SAMPLE CARDS.**

The Wm. J. Matheson & Co. have sent us a synopsis of the sample cards of new colors issued by them for the past month, from which we make some selections.

**Paper Dyed in the Pulp.**—This new pamphlet contains three hundred and eighty-four (384) dyeings, which have been produced by the application of acid, basic and diamine colors. The dyeings produced with the diamine colors are of particular interest to the paper industry, on account of their extreme fastness to light, in which property they far exceed any other dyeings that have hitherto been produced on paper.

Full dyeing directions are included in this publication, making the application of these dye stuffs to this especial industry of great ease and importance.

**Cyanole F F, Patented.**—Bulletin 75.—This new bulletin contains four (4) dyeings upon woolen yarn and piece goods, illustrating the results obtained with this new brand of the Cyanole group. The shades produced are considerably brighter and purer than those obtained by the use of the older types, and its adaptability for the dyeing of wool is well shown in this bulletin. Its application is also minutely explained.

**Scarlet E P, Patented.**—This new scarlet is particularly well adapted for the dyeing of paper, and is in shade midway between our well-known Roccellino and Croceine A Z. It dyes pulp quite readily and evenly, and is of value where bright shades of red are desired for this purpose.

**Bismarck Brown, O W.**—This new, mordant dyeing brown belongs to the well-known group of Bismarck Browns, which it resembles in all of its properties. It possesses good covering powers, and its cheapness

makes it adaptable for purposes where depth of shade at a low figure is desired.

**Tropaeoline R N, Patented.**—This new wool yellow dyes a very much bluer tint than our well known Tropaeolines, and is well adapted for the dyeing of brownish, yellow shades upon wool. It possesses all the properties of our Tropaeolines.

**Cyanole 3G, Patented.**—This new member of the Cyanole group dyes similarly to the other members of this line of colors, but is more greenish in tone of shade than our older brands. It possesses the well known fastness to light, milling and washing, that has made our Cyanoles of such great value.

**Blue P C.**—This new blue belongs to the Water Blue group, and is particularly suited for the dyeing of hats. Its even dyeing properties and great solubility render it very valuable for the shading of hats, where a bluer tone of color is desired than can be obtained with the colors now on the market.

**Jet Black 09097.**—This new black is of interest for paper dyeing, where a shade of good fastness and great cheapness is desired.

**Juto Black 09624.**—This new black is similar in properties and shade to Jet Black 09097, mentioned above. It finds application in the same industry.

**Diamine Beta Black B B, Patented.**—This new member of our Diamine Beta Black series possesses the properties of our Diamine Beta Black B, mentioned in Dye Stuffs, page 148, except that it dyes considerably bluer. The property of the Diamine Beta Blacks to produce black dyeings when diazotized and developed with Beta-naphthol, makes them of peculiar interest and value where black dyeings are desired, after development with Naphthol.

**Anthracite Black E G, Patented.**—This new member of our Anthracite Black Colors



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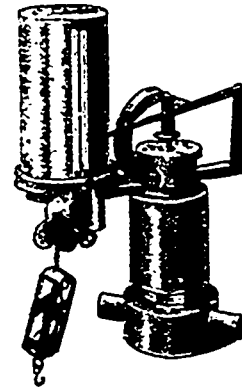
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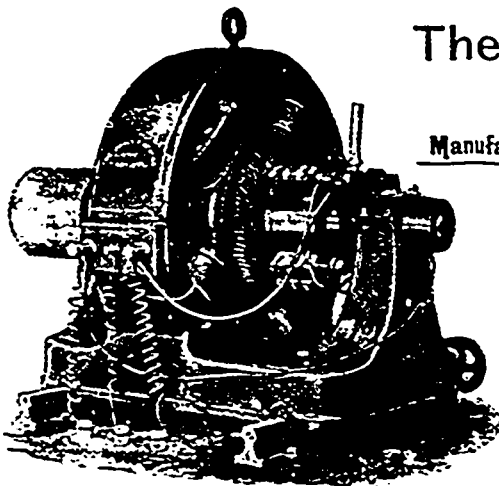
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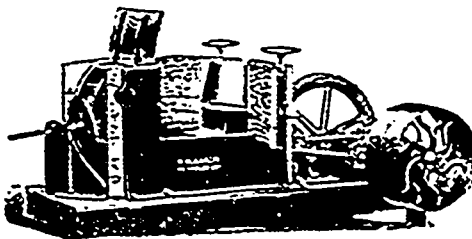
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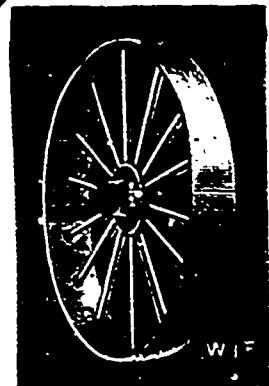
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is well adapted for Vigoureux printing, on account of its satisfactory fastness. This is of special use to printers who are interested in this new method of slubbing printing, which is receiving increased application.

Alizarine Black N B B, Patented.—This new wool black possesses superior fastness to all competing blacks of the same nature. Its brilliancy, depth of shade, and cheapness render it of great interest, where a black of good fastness is desired upon woolen yarns or loose wool.

Diamine Jet Black C R B, Patented.—This new member of the Diamine Jet Black series possesses all the properties of the older brands, but is somewhat browner in

tone of color than our Diamine Jet Black C R, Patented.

It possesses extreme fastness to light and washing, and its great covering powers make it of great interest.

**EARLY IRON WORKING IN NOVA SCOTIA.**

In view of the prominence given at this time the iron industry, and of its expected wonderful development, the Mining Record publishes the following from How's Mineralogy of Nova Scotia (1869).—

The Acadia Iron Works was commenced in 1849 and the first iron was made by the

Catalan forge in 1850. In 1852-3 a blast furnace was erected for the manufacture of pig iron, the Catalan forge being abandoned. Up to the time of my arriving in the province, in the summer of 1857, there had been made altogether about 1,000 tons of iron, from about 4,000 tons of ore. Since that time to the present (1861) we have made about 4,000 tons of iron, using about 9,000 tons of ore. Our present make of bar iron is at the rate of 1,200 tons, of an economic value of about £24,000 per annum. The ores we used are a hematite, yielding about forty-eight, and a brown and red oxide yielding about forty per cent. of iron. The ores are somewhat refractory; this arises mainly from the presence of a stone mechanically mixed through the ore which is very difficult to act upon in the blast furnace. It requires about 160 bushels, imperial, of charcoal, and 200 bushels of limestone (this is found in the vicinity) used as a flux, to smelt one ton of pig iron, and about three and a half cords of wood to convert the pig into bars. The wood used is required to be perfectly dry; for drying it we use artificial means, and also house a large quantity in sheds for winter use—as much this year, as 1,000 cords. We have one blast furnace and three puddling furnaces, with one reheating furnace; the pressure of blast used is about four ounces to the square inch.

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and the quantity of air about 2,000 cubic feet in a minute. We now employ about 230 men; our expenditure for wages, etc., at the works will average about £1,200 a month. The iron made compares very favorably with the best metal brought to market from any part of the world for the same purpose, namely, the manufacture of steel. Thus the Swedish iron, of which there are many varieties, brings from £12

to £25 sterling, one brand as much as £30 to £34, in the Sheffield market. The Acadia iron is worth about £16 sterling per ton, so that it compares with the average Swedish. It should be added that at Londonderry a less expensive mode of manufacture is adopted than that usually pursued in Sweden, on account of the high price of labor in this country." Writing in January 1864, Mr. Jones further informed me. "I

have little to add to the account I gave you of our works, and excepting in the increased production there is no change; we shipped in 1863 900 tons of bars and 402 tons of pig iron, of the aggregate value of \$85,000. We are now driving an adit into the mountain at the head of the river, which will enable us to ascertain the deposit of ore at about 100 yards depth.

"In 1865 there were 250 men and boys and twenty-five horses employed on a daily average. The following statement shows the make of pig and bar iron for several years:—

	Pig iron made.	Bar iron made.
1862.....	1150 tons.	945 tons.
1863.....	1251 "	911 "
1864.....	1663 "	1198 "
1865.....	1784 "	1623 "
1866.....	2124 "	1093 "
1867.....	2068 "	421 "

"The falling off in bars for the last two years is due to the depressed state of the iron trade in England.

"In all there have been made at the Acadia works 15,000 tons of pig and 7,000 tons of bar iron, of the aggregate value of \$1,000,000."

The Schloman Mfg. Co., Montreal, has been incorporated with a capital stock of \$50,000 to manufacture clothing, etc.

The Alberta Railway & Coal Co., at Alberta, N.W.T., have ordered two Mumford boilers of 150 h.p. each from the Robb Engineering Co., Amherst, N.S., for use at the Company's coal mines in Alberta. There are now three such boilers in use at these mines.

The Dr. Hope Medicine Co., Toronto, has been incorporated with a capital stock of \$100,000 to manufacture proprietary medicines, etc.

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A RELIABLE TIME RECORDER MUST POSSESS THESE THREE QUALIFICATIONS:

1.—It must be an accurate Timepiece.

We use the famous SETH THOMAS CLOCK.

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Our Sight-opening feature, whereby each man can inspect his record when made, eliminates all chance for dispute.

3.—IT MUST BE SIMPLE, POSITIVE, AND QUICK OF OPERATION.

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SOLE AGENTS FOR CANADA:

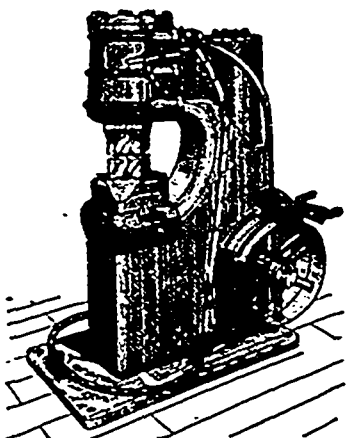
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Numerical (or Key) Recorder



## The Yeakley Vacuum Hammer.

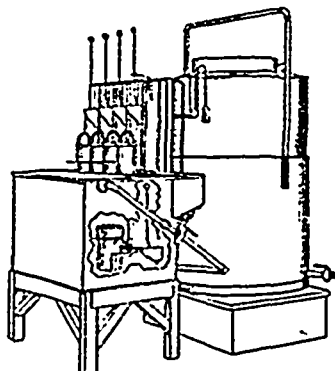
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Sizes—25 light to 2,000 lights.

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Enamelled Oil-Cloth,

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**SPRUCE TIMBER IN QUEBEC.**

A scheme to bring within the range of development one of the great timber areas of Canada that is now out of reach is engaging the attention of a number of large capitalists. The area in question is that part of the Province of Quebec lying about the headwaters of the Ottawa and Gatineau Rivers. Here are immense timber resources which have remained so far unviolated by the ax of the woodman.

Over the rich timber lands southward and westward the lumbermen have long held sway, and as larger and larger tracts of these lands become bare, and as the remainder of them keep on appreciating in value, the desire to penetrate to the high plateau of hitherto inaccessible virgin forest has been becoming stronger and stronger. The source of the Ottawa, though long held to be Lake Temiscamingue, on the boundary line between Ontario and Quebec, is really far east of this, and within the latter province. Rising a short distance away from the headwaters of the main stream is the Gatineau, which, starting so close to the trunk stream, flows two hundred miles and joins the latter far down its course. Now what is proposed is to join the source of the Ottawa (Lake Ashawakan) with the Gatineau by a canal seven or eight miles long. The way for

such a canal is already prepared by a string of tiny lakes hyphening the main stream and its tributary together at the points from which they respectively take their rise. This work would have been done many years ago but for the fact that the supply of timber nearer the mouth of the Gatineau was still abundant. Some of the timber tract which would be thus tapped is in some seasons brought within striking distance by the freshets of the Upper Ottawa. When these are high enough and of sufficiently long duration, it is possible to take out some timber from the far northern regions. But it seldom happens that the freshets are so favorable. At all events by the Ottawa route it is impossible to get the timber down in one year. That being so, no lumberman cares to buy limits in this grand spruce region and pay dues upon the same, as it is most injurious to timber to have it remain over a season in the river or forest.

By way of a canal to the Gatineau, however, it could be easily brought down to the lumber or pulp mills in a single season. The line of the proposed canal is about 20 miles south of the height of land, in 48° N. Lat., between 76° and 77° W. Long., or about 100 miles north of the present highest point of operation. About 10,000 square miles of new timber land would be opened up by it. A New York man is interested in the scheme. A subsidy is to be asked from the Quebec Legislature. —The Paper Mill.

**ACETYLENE MACHINES.**

The Acetylene Machine Mfg. Co., London, Ont., have sent us a very beautiful pamphlet having reference to acetylene apparatus and the use of the gas for light, heat and power purposes. It says:

The problem of artificial illumination has engaged the brightest minds of each successive age, and has been one of the most important with which science has had to deal.

The flint and the pine knot of the savage served their purpose; the wick and oil, sperm candles, and the dim light of camphene and sperm oil, were each in their time great luxuries. Kerosene superseded all these, and is to-day the most common illuminant. Gasolene, coal gas, water gas and electricity have all been improvements, at least so far as light is concerned, if not in economy.

Now comes acetylene—pre-eminently the best known illuminant, lacking the disadvantages of other kinds of light, and almost identical with pure natural sunlight.

In this pamphlet we do not purpose presenting a treatise on acetylene, assuming that the public is more interested in the light, its cost, advantages, and application, rather than in its discovery and history. We will simply mention a few of the advantages to be obtained by its use, together with the description of the apparatus for produc-

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**TO FOUNDRYMEN . . . .**

To the Superintendent of the Foundry Department : DURANGO, MEXICO, July 31, 1899.

DEAR SIR,—We are desirous to establish an agency in Toronto, Canada, and it will give us pleasure and you satisfaction to allow us to express to you a sample keg of hundred kilos of our new Ferro-Nickel Manganese Calcium Fluoride for trial in cupola and ladle use.

This alloy, like yeast, not an expensive article, gives new life to the metal in purity, ductility and softness.

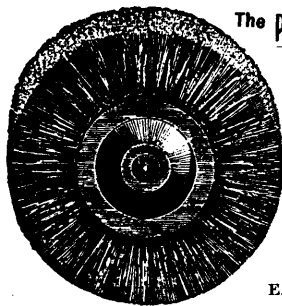
Upon receipt of this, please telegraph at once to our exclusive Sole Agents, Messrs. Stahknecht y Cia., Bankers, Durango, Mexico, for a trial sample keg alloy, which we will be pleased to forward to you immediately by Wells, Fargo y Co.'s Express direct to your foundry. Twenty-four page catalogue free.

Awaiting your immediate reply, we are, your faithful servants,

**The National Ore and Reduction Co.**

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P. O. BOX 83.

Howard Chemical Works, Howard Station, St. Louis, Mo., Agents for U.S.



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**CANADIAN RAND DRILL COMPANY, Montreal**

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ing it. Acetylene is a gaseous compound of 24 parts by weight of carbon and two parts of hydrogen, and is evolved from calcium carbide, by the application of water thereto.

Calcium carbide is made by fusing lime and carbon (coke) at a very high temperature in an electric furnace. When this carbide is brought in contact with water, acetylene gas is immediately evolved. The gas being generated and collected in a suitable apparatus, and being passed to the proper burners, forms the most brilliant illuminant yet discovered. The light is without the glare of the arc lamp, the reddish glow of the electric incandescent lamp, the ghastly green of the Auer or Welsbach mantle, the flickering flame of the ordinary gas burner or the offensive odor of the oil lamp.

The pure white light of an acetylene flame so nearly resembles sunlight that all shades of color are accurately distinguished by its rays.

Acetylene possesses hygienic advantages not found in other methods of illumination. An acetylene flame gives off about as much heat as an ordinary incandescent lamp of equal candle power, so that it has no effect on the temperature of a room.

Combustion is complete, a very important point, as there is no escape of unconsumed gas. Acetylene burns down close to the burner, leaving no blue zone as in ordinary gas. The atmosphere is not vitiated by carbon dioxide, which is given off in large quantities by the ordinary gas flame. It burns with a clear, white steady flame, without smoke or odor, but if the gas is allowed to escape from the burner unconsumed, it gives off a strong odor which would cause it to be immediately detected. Acetylene is

not poisonous, hence, there is no danger from application if the light should be blown out. House plants cannot be kept in a room where ordinary illuminating gas is used, while acetylene is in no way injurious to them.

An acetylene burner, consuming one cubic foot of gas per hour, gives a light of 50 candle power, or fifteen times as much as by an ordinary gas burner, consuming the same amount of gas. While acetylene possesses this advantage in power, its diffusive properties are twice as great, making the ratio 30 to 1 instead of 15 to one.

Speaking of the different styles of machines constructed by this company, we are informed. —

Our Sun lighting machine is constructed on the sprinkling system, and is undoubtedly the best in its class. By this process the water is sprayed on the carbide in sufficient quantity to supply gas for the burners in use. This machine is in every way automatic; it dries, cools, condenses and purifies the gas, thus delivering it to the burners pure, dry and cool. The residue left after the carbide is consumed can be removed as easily as the ashes from a stove and just as dry. The hundreds of these machines now in use bear testimony to their successful and satisfactory operation.

There are those, however, who prefer a system of generating acetylene wherein the carbide is deposited in a body of water sufficient to entirely decompose it. For this system we manufacture our Beacon acetylene machine. In this machine quantities of carbide, varying in amount according to the size of machine, are automatically deposited in a large body of water in the generating chamber. The gas passing thence to the

gasometer, which is of sufficient capacity to contain the gas evolved from the quantity of carbide deposited at one time. This machine is decidedly the simplest and best made on this principle, and has advantages for certain purposes over any other system.

One of the largest fields for acetylene is for cooking purposes, provided the plant may be used in combination with the lighting apparatus. The Duplex machine is intended for supplying both light and heat from one and the same machine. This machine gives identically the same light as this company's other machines, and without any complications whatever or other machinery, supplies a heat two and a half times greater than that of ordinary gas. The company make Duplex machines in both Sun and Beacon styles. They manufacture a line of gas stoves and ranges for use with this machine.

The company carry in stock a full line of acetylene burners of various makes, and themselves manufacture several styles. They also make acetylene gas meters.

CANADIAN IRON MAKING.

The Montreal Star of August 4th, reviewing the conditions of the iron market and the progress of the industry in Canada, says:—

A panic ruled in the pig iron market at Glasgow yesterday, and iron was thrown over to catch any profit. The bars joined in the selling, and on the day Scotch iron lost 3s. 6½d., Cleveland iron, 5s. 1½d., and hematite 3s. 7d. per ton, for cash. Since the top was touched at 25s. 7d., Scotch iron declined 9s. per ton; Cleveland, 12s. 4½d., and hematite, 8s. 10½d. per ton for cash.

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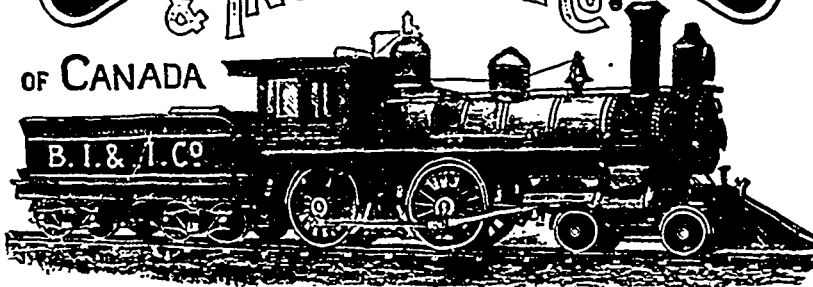
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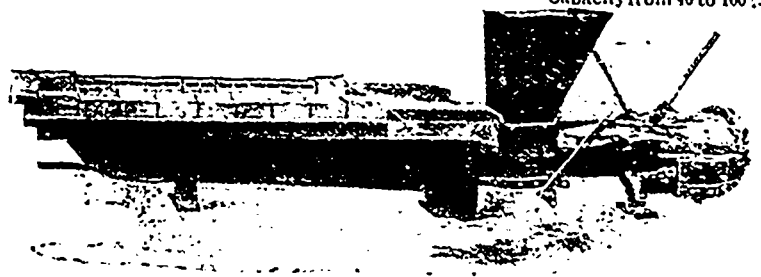
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Head Office 80 CANADA LIFE BUILDING, - TORONTO.

Montreal—A. TREVETHICK, - Box 1123.

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In talking to a Star reporter Mr. George E. Drummond, managing director of the Canadian Iron Furnace Co., made a statement covering the entire conditions of the market for pig iron, showing among other things that the panic in no way affected the Canadian market. He said.

The panic was purely local in character, and does not change in the slightest degree the fact that the world's supply of iron is insufficient to fill the actual requirements of consumers for the immediate present and future.

In the United States the governing factor in the condition of the market is the scarcity of ore for actual daily requirements, for the furnaces of the country.

Of the eighteen million tons of iron ore mined in the United States during the year 1897, more than one half came from the shores of Lake Superior. The same proportions obtain to day in the greater tonnage that is being mined, but there are not vessel bottoms enough to carry the necessary supplies at the present rate of consumption to the furnaces, nor can the carrying capacity be brought up to the requirements of business within a period of, at least, one year.

If the present demand for finished iron and steel continues, even in a moderate way, prices must remain firm, simply on account of first cost of raw material.

Aside from that, a visit to Pittsburg, or any other great iron or steel producing centre, in either the United States, or for that matter, Great Britain, Germany, or even Canada, will convince the most skeptical, that pig iron is being consumed at a greater rate than ever before, and that most leading firms have orders booked for months ahead.

The condition in Canada is that stocks of pig iron, in consumers' yards, are much lower than usual, and that the iron furnaces have practically nothing to offer for the remaining months of this year.

American firms are in exactly the same condition, with regard to their Canadian customers, so that for the next six months Canadian iron founders will have to draw more or less upon Scotch and English iron

masters for necessary supplies of metal. Under these circumstances there is certainly no good reason why there should be a panic upon the Scotch market, except that reason works in with the calculation of the bears, who have been looking for a considerable time for just such an opportunity to "make a tur" as yesterday's panic seems to have afforded.

With the new furnaces in Cape Breton and Midland, Ont., and elsewhere Canada will be within a year or two independent of the world in the matter of her iron supply, and thus likely to be more or less free from the ill effects of panics that may occur from time to time in other markets.

It is not hard to seek an explanation of the eighty or ninety per cent. advance in the price of pig iron that has occurred since July a year ago. At that time stocks were already comparatively low in all the producing markets. This applied not only to the finished article but, more important still, to the stocks of raw material both at mines and also in consumers' yards. Provisions for mining the iron ores and fuel, and for transporting the same by water and rail, were all on a basis barely sufficient for merely normal requirements at that time.

Iron and steel in the meantime has been and were rapidly superseding wood in structural work, building of railway cars,

## Felts for Pulp Mills

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

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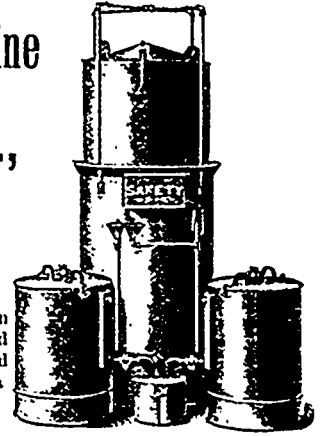
THE SAFETY LIGHT AND HEAT CO.,  
DUNDAS, ONT.

WHAT SOME OF OUR FRIENDS  
SAY OF US:

DEAR SIRS, We find the machine to give perfect satisfaction in every respect. We have had several in looking at the light and machine of late, and I am sure you will hear of many being sold in the near future in this vicinity. In our mind the Dundas machine is the best in the market.

PORT HOPK.

THOS. MILLER & SONS.



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

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

Having recently sold our patterns and plant to the A. R. Williams Co., of Toronto, retaining only such machinery 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 favors for the future.

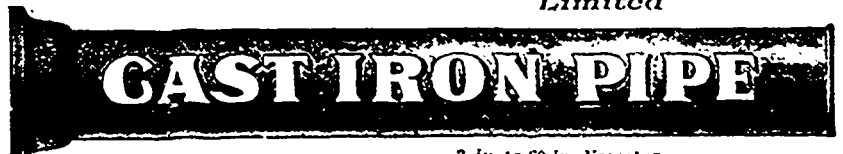
All correspondence relating to the following Tools will be promptly answered, viz:

- LATHES—Engine, Gap, Break, Turret, Fox, Spinning, Etc.
- PLANERS—Standard, Crank, Plate, Etc.
- DRILLS—Standard, Sensitive, Multiple, Radial, Etc.
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- HAMMERS—Steam, Sandago Drop, Stiles Drop.
- BULL-DOZERS for all purposes.
- PUNCHES AND SHEARS for Plate, 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.

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Cotton Blankets,  
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AGENTS

MONTREAL and TORONTO.

and in many other lines. It only needed a general revival of business to prove how inadequate, in good times, were the facilities and the supplies that were good enough for dull years. The increased consumption simply brought a famine in supplies; and the consequent increase in the cost of manufacture a rapid rise in the cost of material to the consumer.

The reported contract made by the Canegies to supply one thousand tons per day of material for the building of pressed steel railway cars, furnishes a single but convincing instance of the increasing use of iron in channels, hitherto practically untouched. "The famine" in railway freight cars, reported by such leading lines as the G.T.R., furnishes another evidence that demand will continue for some little time to come and at pretty firm prices too.

Messrs. Freyner, Manager, and Hatmeyer of the Westinghouse Electric Company, of Buffalo, and Edwy Baxter, of Fort Erie, called on Mr. J. W. Langmuir, Chairman of the Niagara Falls Park Commissioners, at his office in Toronto last week, and talked over a plan for the building of an electric railway along the Canadian bank of the Niagara River from Fort Erie to Chippewa. They are anxious to secure the privilege from the Ontario Government of running along the chain reserve, and are endeavoring to make terms and conditions in order that a company may be formed for the carrying out of the project. The matter will be brought up at the next meeting of the Park Commissioners, when a more definite proposition will be submitted. The railway, if completed, would form the last link in the chain of electric roads along both

sides of the river. Mr. Baxter is the owner of a line of ferries which operate between Buffalo and Fort Erie, and these would probably be used to convey the trolleys to Buffalo, where connection with the lines of the International Traction Company would be secured.

Fire in the refrigerator works of Messrs. John Hillock & Co., Toronto, on Aug. 10th, did damage to the extent of about \$3,000.

The Grenfell Milling Co. will build a new grain elevator in Summerberry, N.W.T.

It is stated that J. D. King & Co., manufacturers of boots and shoes, who have operated a large factory in Toronto for a number of years and who a few years ago established an additional factory at Levis, Que., will abandon the latter plan and remove that plant to Toronto.

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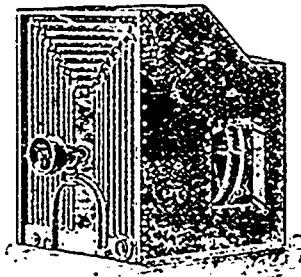
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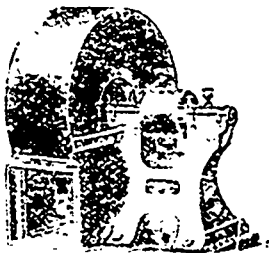
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One Dip Alizarines,  
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Fan.

**ISLE OF MAN TRAMWAYS.**

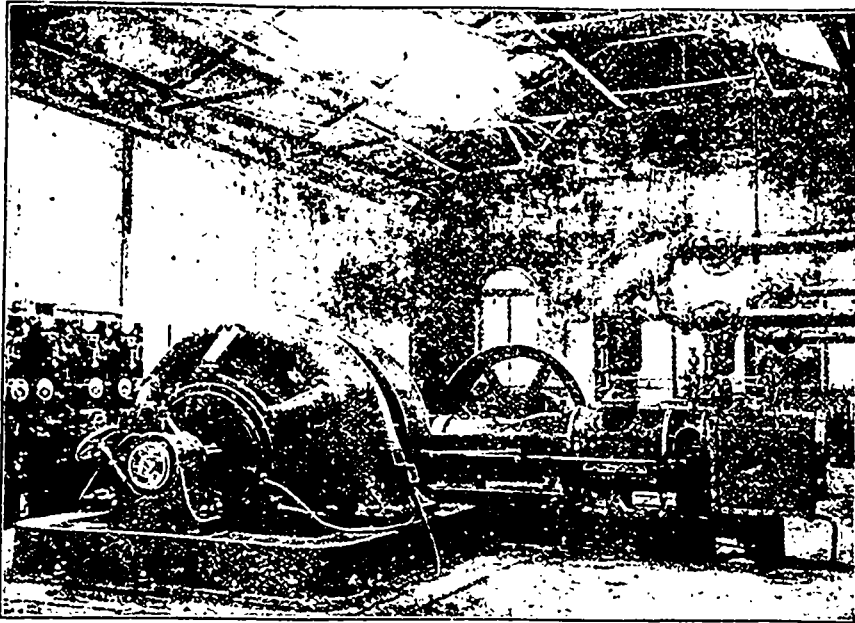
The Isle of Man is the gem of the Irish Sea. It is only about 33 miles long and 12 miles wide, but every acre of its green gorso-

almost in the centre between England, Ireland and Scotland, and, being within easy reach, by swift steamers, of Manchester, Liverpool and Glasgow, has become a favored summer resort.

and other ports, of which there are several daily, bring hundreds who spend a few hours, days or weeks in this lovely spot.

One of the chief attractions is the beautiful glens which indent the coast line, running up into the interior of the island between the hills.

The Isle of Man Tramways Co., which



Interior Power Station, Ballaglass, Isle of Man.

grown hills and rugged coast line is beautiful, and the quaint Manx language and customs which still survive make it doubly interesting to the visitor. It is situated

Douglas, the principal town, situated on a beautiful bay, has a fixed population of about 30,000, which in summer rises to about 50,000. Every steamer from Liverpool

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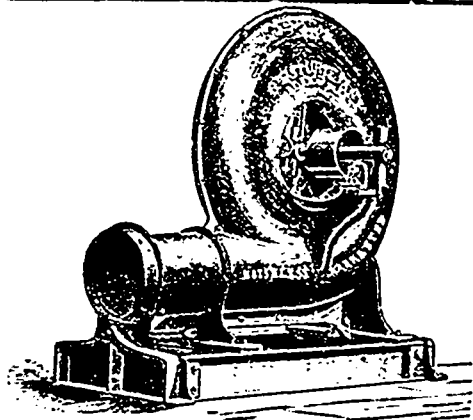
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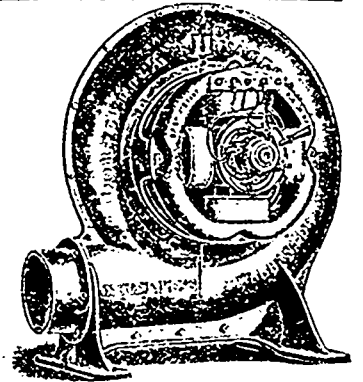


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Blowers**

—FOR—

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Fires**

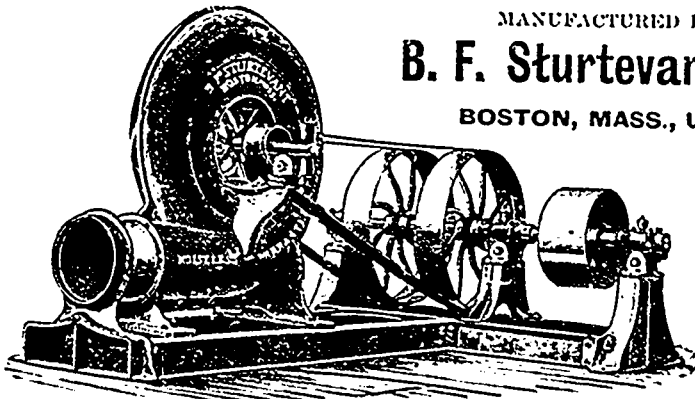


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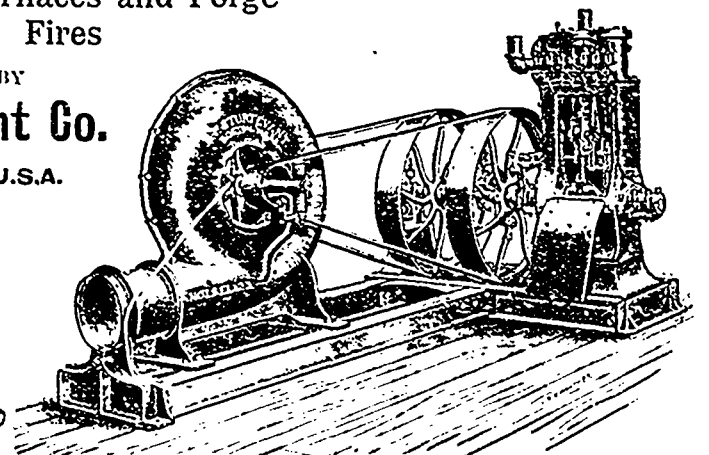
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**B. F. Sturtevant Co.**

**BOSTON, MASS., U.S.A.**



Blower on Adjustable Bed with Combined Countershaft.



Blower on Adjustable Bed, with Double Enclosed Engine.

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

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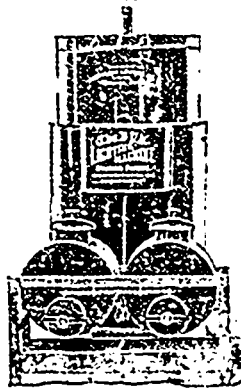
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The Acme of Perfection in Lighting.

At the Minimum of Cost.

Suitable for any place where Artificial Light is required. Dwellings, Stores, Churches, Factories, Hotels, Street Lighting, etc.

Write for Catalogue.

THE  
**Acetylene Lighting Co.**  
(LIMITED).  
LONDON, ONTARIO.

operates an extensive system of cable and electric tramways in Douglas, has recently extended its electric line from Douglas to Ramsey, the next largest town in the island. The tramway runs around the precipitous cliffs overlooking the sea, skirting the beautiful Groulle, Laxey and B. Haglass glens.

This drive, about 14 miles in length, winding in and out in full view of the sea, in an open electric car on a bright summer day, is superlatively beautiful and most invigorating.

The recently completed extension of the Isle of Man Tramways Co's. line is a fine example of modern railway building and electrical construction. It is double tracked throughout, the road bed is rock ballasted, and the bridges and culverts are of solid masonry.

The overhead trolley is used, all details of electric work being of the latest and best design and construction. Two large accumulator stations are used to equalize the load and assist the cars over the steep grades.

The motive power of the tramway is supplied from five power stations placed at various convenient points throughout the extensive system. The illustration herewith presented represents the interior of the latest and most complete power station at Ballaglass. It contains two 150 k.w. electric generators manufactured by the Electric Construction Co., of Wolverhampton, England, directly con-

nected to two 250 h.p. tandem compound condensing Robb-Armstrong engines, manufactured by the Robb Engineering Co., of Amherst, Nova Scotia, for Messrs. Dick, Kerr & Co., of London, who were contractors for the equipment. The station is also provided with two standard Galloway boilers and Ledwards electrically driven ejector condensers. Adjoining the power station is a large accumulator house. The whole making one of the most complete railway power houses in Great Britain.

All the work of the Ramsey extension, including road bed, electric lines and power stations, was engineered by the Company's most efficient staff of engineers.

Alexander Bruce, Esq., Manager of Dumbel's Bank, is chairman of the company, and with his usual energy and persistence has done much to advance its interests.

Dr. Farrell, one of the original owners, of the tram car lines in Douglas, is also an active director.

### THE CANADIAN CANNING INDUSTRY.

The Toronto Globe has had a Commissioner in the county of Prince Edward, Ont., enquiring concerning the fruit and vegetable canning industry there, who, writing from Picton, says:

"The farmers have now pinned their faith to the canning industry, and from present

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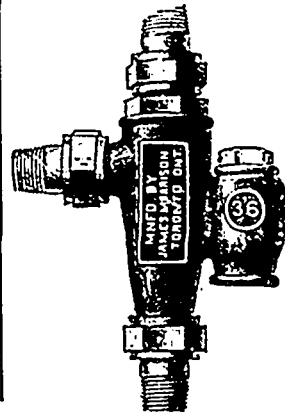
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indications it will be a more stable one upon which to depend. The development of it has been wonderfully rapid. There are half a dozen large factories doing business in the county, each of which has a ready sale for all it can possibly produce. An example of the great expansion of the industry is furnished by A. C. Miller and Co., whose output for the year twelve years ago was 136,000 cans, while for 1899 it is expected to reach 2,500,000 cans, or a quarter of a million more than last year. It is estimated that the various factories in Picton, Bloomfield, Belleville and Trenton will this year turn out over six million cans, nearly all of which will have been produced in Prince Edward County. It must be remembered, of course, that there are numerous factories in many other parts of Ontario, including Northumberland, Wentworth, Lincoln, Norfolk and Elgin Counties. The extent of the output is the more remarkable when it is remembered that the great bulk of it is marketed in Canada. The canners say their goods are rapidly replacing the old-fashioned home preserves. Even the farming element of the county, who might be expected to continue to preserve fruit which they themselves produce, are abandoning the practice and taking the factory product, which is clean and cheap, and saves the housewife a lot of disagreeable work in fly time. One cause of the increased consumption is the war in prices which took place a couple of years ago. The lowness of the price increased the consumption enormously, and

while the canners lost money, they cleaned out all their old stock and secured new customers, who have since continued to buy the goods. There is a market in England, too, for most of the varieties of canned goods, which is exploited whenever the Canadian market is glutted. One of the articles the Englishman does not want, however, according to the statement of a Picton canner, is sweet corn. The way this is chopped off the cobb and served up does not appeal to the Englishman's taste.

Speaking of the growing of seed corn for both the Canadian and the United States market the writer says: "Mr. J. H. Allan was the pioneer in the business in the county, but it is now being carried on by the J. H. Allan Seed Company and the Cleveland Seed Company. The companies, after furnishing seed to the farmers, buy back the product, less the quantity supplied. The grain is now ripe and deliveries have commenced. From now until March 1st next the seed companies will employ a couple of hundred women who will pick over and grade the seed by hand. The employees come from all parts of the county and receive about \$3 a week, at which price there are any number of applicants. The price paid the farmers for the peas was low for the past two years owing to the operation of the Dingley tariff, but it has increased this year to from 80 cents to \$1.35 per bushel. The crop is an excellent one this season, so that considerable profit will be derived from it."

L. Beck has commenced work on a new brick flour mill at Yorkton, Man. It will have a capacity of 100 barrels of flour daily.

It's the business of the E. Desbarats Advertising Agency, Montreal, to plan advertising campaigns and carry them out in every detail. Their many customers like their system.

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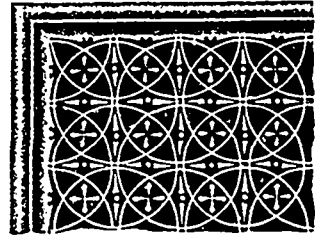
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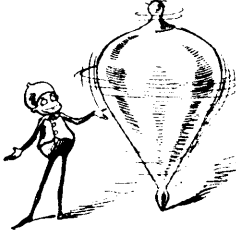
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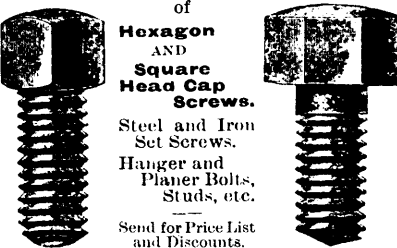
Practical Painters prefer to bridle their own brushes with twine. With the help of the **JENKINS PATENT BRIDLE CATCH.** This is now easily accomplished. These Catches are attached to all our large Paint Brushes without extra cost.  
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Katigen Yellow Brown G.G. Patented. While the method of dyeing with this new Katigen dyestuff is very simple, yet it possesses excellent properties. It dissolves very readily in boiling hot water, with the addition of an equal quantity of Sulphide of Soda, and dyes cotton in a boiling bath, containing 25 to 50 per cent. common salt. Katigen Yellow Brown G.G. exhausts very well and produces even shades of a fine Cutch tone which are very fast to acids, and extremely fast to milling.

This color is also very fast to light, rubbing, perspiration, ironing and stoving. It is an excellent self color or combines well with Katigen Black Brown N. On account of its low price and excellent fastness to all agents, it should meet with considerable attention.

Thiazole Yellow R. (Patented). The older brand, Thiazole Yellow, will hereafter be known as Thiazole Yellow G. The new brand, Thiazole Yellow R. does not differ in properties from the older brand, the fastness to alkalis, and light, etc., being exactly the same. The only difference between the two dyestuffs is, that the shade of the new brand is not quite so greenish, although just as clear. Thiazole Yellow R. is a true cotton dyestuff and is adapted for the production of sulphur yellow shades on cotton in all branches of manufacture, as well as for half silk and half wool, and further for shades on wool fast to milling and stoving.

Method of dyeing. For a very full shade use, —1½ lbs. Thiazole Yellow R.; 15 lbs. Glauber Salt; ½ lb. Soda for every 100 lbs. cotton goods. Boil one hour, lift and rinse.

Alizarine Cyanine W.R.N., Paste. Alizarine Dyestuffs have, in course of time come very much to the front, and are now being more and more used as the shades produced by them are marked by their extreme fastness.

Alizarine Cyanine W.R.R., and W.R.B., produce excellent navy blues and are often used.

Alizarine Cyanine W.R.N., Paste, possesses all the well-known qualities of W.R.R. and W.R.B. and its shade lies between these two colors. It is specially adapted for producing fast navy blues, and any depth of shade may be obtained by darkening with Alizarine Blue Black B. Can also be used to advantage in fashion shades. Pattern cards now ready.

Phenylamine Black T. and 4 B. These two new wool Blacks are inexpensive colors. Owing to the general downward tendency in prices of wool blacks, these colors should meet with some demand. They are especially adapted for piece dyeing. The 4.B. brand shows a fine bluish black shade over hand, whereas with the "T" brand a deep black is obtained, both being of good fastness to rubbing. They penetrate evenly and their fastness to shrinkage (steaming) is good. They are fairly fast to light. Owing to the fastness of the 4.B. brand to washing, it should be employed for knitting yarns. Both colors are admirably adapted for hat dyeing, producing fine useful Blacks and standing the various operations which hats have usually to undergo in finishing.

Shade cards of any of these new products, dyed samples on your own goods, samples of color, or instruction circulars with fuller information, to be had gratis from the Dominion Dyewood and Chemical Co., Toronto, sole agents in Canada for the Farbenfabriken vorm Friedr Bayer & Co., Elberfeld, Germany.



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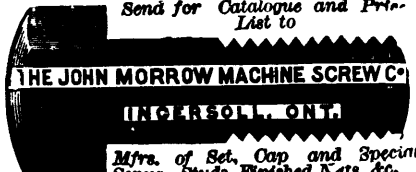
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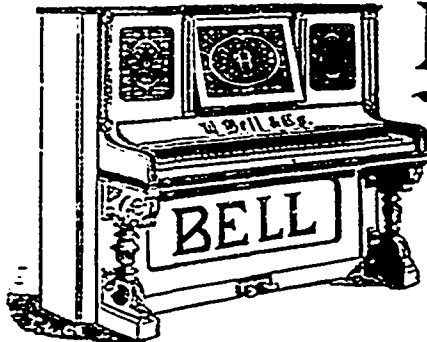
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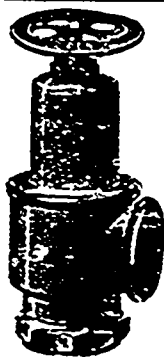
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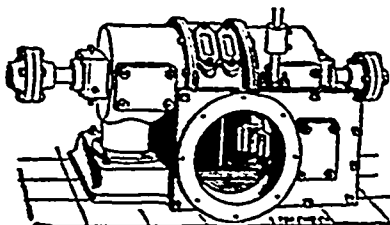
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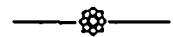
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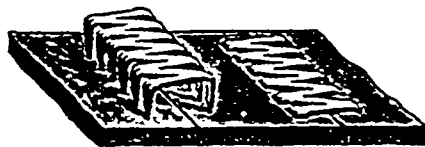
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