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CAVEATS ETC.

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 DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

*The Best Quality of Goods*  
*THE PROVERB IS*  
*NATION THAT MANUFACTURES FOR ITSELF PROSPERS*

Vol. 43. TORONTO, SEPTEMBER 20, 1901. No. 6.

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 FOR ALL PURPOSES  
 ECONOMY DURABILITY SAFETY  
 HEATERS, SUPERHEATERS, ECONOMIZERS AND STEAM ACCESSORIES  
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 For all TEXTILE PURPOSES  
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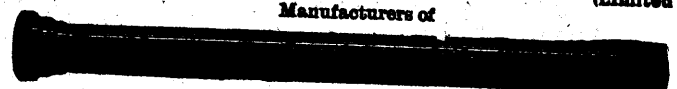
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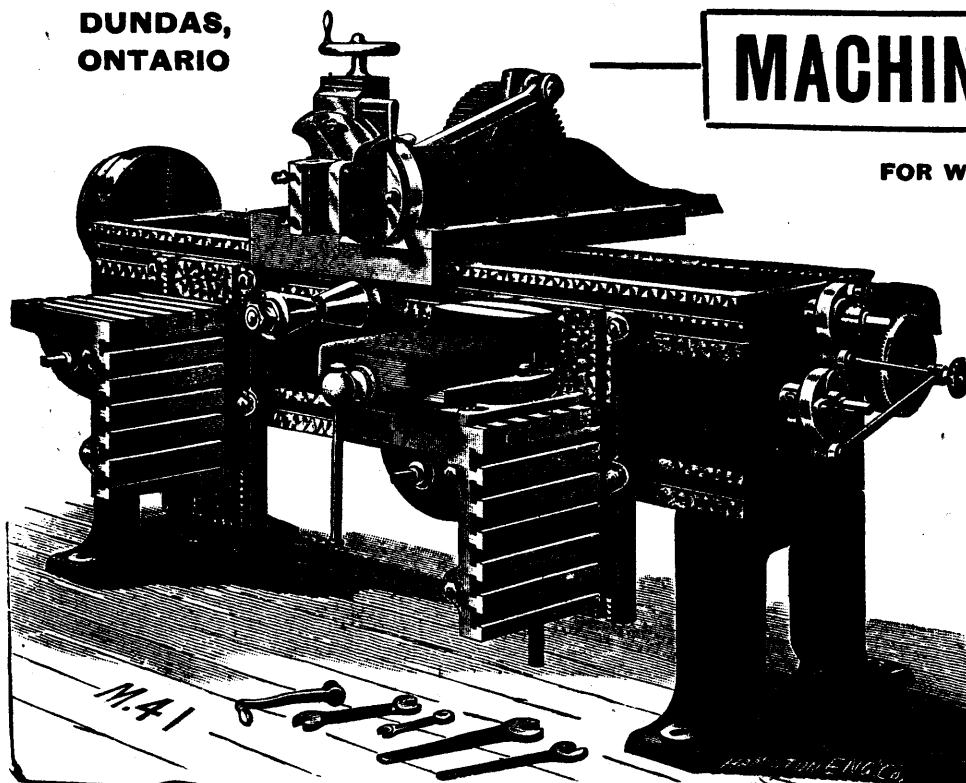
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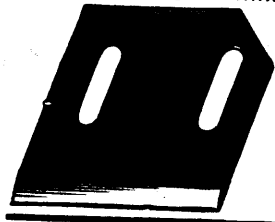
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Yarns of all kinds for Manufacturers' use.

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Manufacturers  
OF



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Fine News, Book, Lithograph, Tub and Engine  
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Soda and Mechanical Pulp

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CLAPBOARDS and SHINGLES.

CABLE ADDRESS—"OBBAPER," EAST ANGUS—A.B.C. and Lieber's Code.

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Patent Rock Wall Plaster

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TORONTO.

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BANK and OFFICE RAIL-  
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of IRONWORK

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Manufacturers of

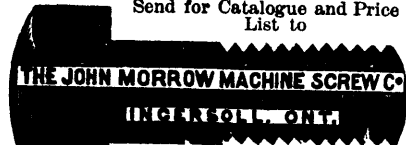
Square and Hexagon

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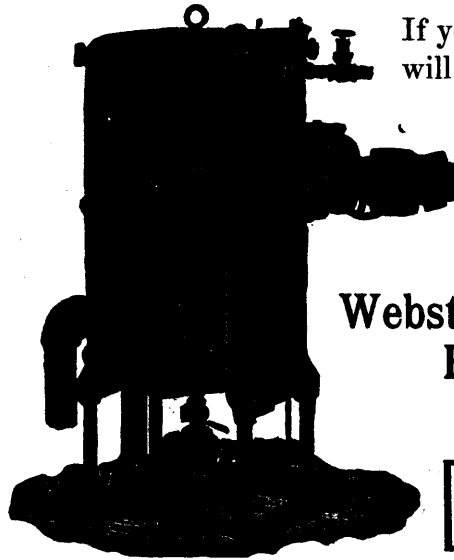
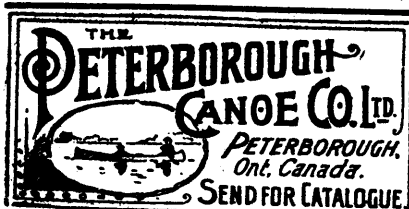
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Screws, Shds, Finished Nuts, etc.



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FOR HEATING BUILDINGS  
BY THE WASTE EXHAUST STEAM

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And we will explain HOW  
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**DARLING BROS.** RELIANCE WORKS,  
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Montreal.

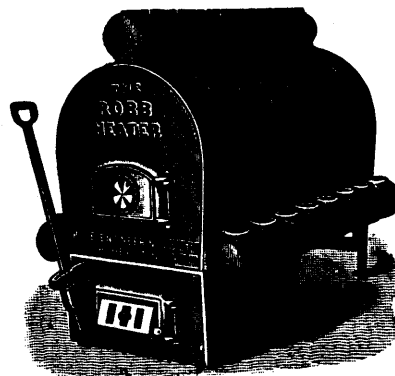
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DELIVERY MADE AT NEW YORK, MONTREAL OR HAMILTON.

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# A CUSTOMER SAYS:

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less attention, uses **LESS FUEL**, and gives **MORE HEAT**  
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Importers and  
Manufacturers of

**..DYE STUFFS..**

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Philadelphia  
Providence  
Charlotte, N.C.  
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"We replaced two years ago a certain number of your belts that had been in use night and day for fourteen years, which is equal to an ordinary service of twenty-eight years."

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*Twice the strength of Leather  
Used by all the large manufacturers  
Very much cheaper  
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*Every Belt Guaranteed*

*Specially suitable for Damp Work  
All sizes up to 20 inches in stock for  
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**THIS IS OUR SPECIALTY**

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AND A FULL LINE OF

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**TORONTO, CANADA**

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"For all Duties"

THE  
NORTHEY  
GAS AND  
GASOLINE  
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Air Pumps  
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Canadian Manufacturers and Engineers will find it to their interest to refer to us when in need of anything in the shape of Pumping Machinery.

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Supplies a cheap, simple, easily applicable form of power that is filling the necessity for such a motor very extensively and satisfactorily. The running expenses are very light. It requires no experience to handle, and runs for hour without attention. Well adapted for running independent electric lighting plants or pumping and elevator plants.

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THE *Northey*  
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## THE MASON REGULATOR CO.

ESTABLISHED 1883

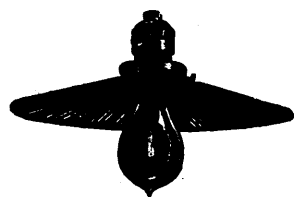
### Standard Steam Specialties

Reducing Valves, Damper Regulators, Pump Governors and Automatic Appliances of all Descriptions for the Regulation and Control of Steam, Water and Air Pressures.

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Works at MILTON, MASS., U.S.A.

**RODERICK J. PARKE,** CONSULTING ENGINEER TO MANUFACTURERS.—Competent and impartial advice on Industrial Electrical Systems of Lighting, Power Distribution, Heating and Welding, Etc. Plans, Specifications, Tests, Reports, Valuations.  
Temple Bldg., - TORONTO.  
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We Stock a Large Variety of SHADES  
and REFLECTORS in

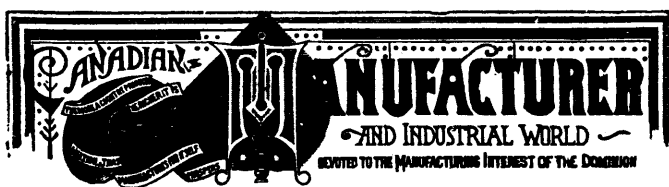
ALUMINUM, MIRROR, CELLULOID, PAPER, PORCELAIN,  
FOR FACTORY AND OFFICE.

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

Write us about Lighting  
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ESTABLISHED IN 1890.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

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

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

**MESSRS. DAVISON & CO.,**  
164 Federal Street, Boston, Mass.  
AGENTS FOR UNITED STATES.

Index to Advertisers ..... Page 42

*J. J. CASSIDEY,* Editor and Manager

**PRESIDENT MCKINLEY AND HIS SUCCESSOR.**

The most sympathetic feelings of all Canadians go out towards the people of the United States in the great affliction that has befallen them in the tragic death of their beloved President, William McKinley. The bullet of the anarchist assassin was intended, as far as possible, to disrupt a stable and good government, and to throw a great country into confusion. The only apparent result has been to darken the home of a once happy family, and to plunge a loving and devoted woman into a grief that will, most probably, soon end her life.

President McKinley's speech at Buffalo the day before he was struck down by the assassin's bullet, was an inspiration. He had previously inspected various notable exhibits shown at the Pan-American, among which was the Canadian Building and its contents, and his speech delivered to thousands of listeners, was a remarkable one. It was not a studied farewell address, nor a comprehensive survey of the whole field of national policy, but rather one of those occasional orations which he had so often been called upon to make as he travelled about his country. It discussed a series of questions happening to be before his mind as appropriate to the time and place, but it related to subjects in a manner which attracted much attention at the time all over the world.

Some of the notable passages from that speech, some of which may in some degree at some time affect the commercial intercourse between Canada and the United States, were as follows:—

My fellow-citizens, trade statistics indicate that this country is in a state of unexampled prosperity. The figures are almost appalling. They show that we are utilizing our fields and forests and mines, and that we are furnishing profitable employment to millions of workingmen throughout the United States, bringing comfort and happiness to their homes, and making it possible to lay by savings for old age and disability.

Only a broad and enlightened policy will keep what we have. No other policy will get more. In these times of marvelous business energy and gain we ought to be looking to the future, strengthening the weak places in our industrial and commercial systems that we may be ready for any storm or strain.

By sensible trade arrangements which will not interrupt our home production, we shall extend the outlets for our increasing surplus.

A system which provides a mutual exchange of commodities is manifestly essential to the continued healthful growth of our export trade. We must not repose in fancied security

**The Canadian Manufacturer**

**Reaches all the Blast Furnaces, Iron and Steel Works, Rolling Mills, Manufacturers of Iron and Wood-Working Machinery, Steam Engines and Boilers, Pumping and Mining Machinery, Electric Machinery and Appliances, Machinery Dealers and Steam Fitters' Supplies, all Hardware Dealers, Cotton, Woolen, Knitting and Yarn Mills, Pulp and Paper Mills, etc., in Canada.**

that we can forever sell everything and buy little or nothing. If such a thing were possible it would not be best for us or for those with whom we deal. We should take from our customers such of their products as we can use without harm to our industries and labor.

Reciprocity is the natural outgrowth of our wonderful industrial development under the domestic policy now firmly established. What we produce beyond our domestic consumption must have a vent abroad. The excess must be relieved through a foreign outlet, and we should sell everywhere we can, and buy wherever the buying will enlarge our sales and productions, and thereby make a greater demand for home labor.

The period of exclusiveness is past. The expansion of our trade and commerce is the pressing problem. Commercial wars are unprofitable. A policy of good will and friendly trade relations will prevent reprisals. Reciprocity treaties are in harmony with the spirit of the times; measures of retaliation are not.

If, perchance, some of our tariffs are no longer needed for revenue or to encourage and protect our industries at home, why should they not be employed to extend and promote our markets abroad?

It was barely six months after his induction into the office of Vice-President of the United States, and within a very few hours after the death of Mr. McKinley, that Theodore Roosevelt took the necessary oath of office in Buffalo, and became President. Before taking the oath of office Mr. Roosevelt made the following statement:

I wish to state that it shall be my aim to continue absolutely unbroken the policy of President McKinley for the peace, prosperity and honor of our beloved country.

Since then he has invited all the members of the McKinley Cabinet to retain the offices they held, and to be his official advisers during his presidency; and to them and to the public he has imparted such ideas as he had already established in his mind for the conduct of public affairs and his own policy. In no sense are they divergent from those already promulgated by Mr. McKinley. The views of the President are here made public in almost the exact language used in discussing them with the Cabinet:—

A more liberal and extensive reciprocity in the purchases and sales of commodities, so that the over-production of this country can be satisfactorily disposed of by fair and equitable arrangements with foreign countries.

The abolition entirely of commercial war with other countries and the adoption of reciprocity treaties.

The abolition of such tariffs on foreign goods as are no longer needed for revenue, if such abolition can be had without harm to our industries and labor.

Direct commercial lines should be established between the eastern coast of the United States and the ports in South America, our Pacific coast ports, and Mexico, Central and South America.

The encouraging of our merchant marine and the building of ships which will carry the American flag, to be owned and controlled by Americans and American capital.

The building and completion as soon as is possible of the Isthmian Canal, so as to give direct water communication with the coasts of Central America, South America and Mexico.

The construction of a cable owned by the Government connecting our mainland with our foreign possessions, notably Hawaii and the Philippines.

The use of conciliatory methods of arbitration in all disputes with foreign nations, so as to avoid armed strife.

The protection of the savings of the people in banks and in other forms of investment by the preservation of the commercial prosperity of the country and the placing in position of trust men of only the highest integrity.

#### CANADA'S FOREIGN TRADE.

The Department of Customs has published a statement of the imports and exports of Canada by countries during the fiscal year ending June 30, 1901. The total value of goods imported was \$190,415,525, as against \$189,625,513 in the previous year, or an increase of \$793,012. The total value of the goods entered for consumption was \$181,237,988, an advance of \$433,672, as compared with the preceding twelve months, when the figures were \$180,804,316. Of the total imports \$105,969,756 were dutiable and \$75,268,232 were free, as against \$104,346,795 dutiable and \$76,457,521 free in 1900. The total duty collected amounted to \$29,106,979, or \$217,869 more than the previous fiscal year. The imports from Great Britain for consumption amounted to \$43,164,297, as against \$44,789,730 for the year previous, a reduction of \$1,625,433. The value of free goods was \$11,316,510, as against \$13,227,974 in 1900. The dutiable goods from Great Britain show a slight increase over the figures for last year, \$31,701,654, compared with \$31,561,756. The value of goods imported from the United States for consumption was \$110,485,008, while in the preceding year it was \$109,844,578, an increase of \$640,430. The dutiable goods totalled \$53,600,278 in value, as against \$53,897,561, whilst the free goods were \$56,884,000, compared with \$55,946,817. The imports for consumption from France show an increase of \$1,029,519, the figures being, 1901, \$5,398,021; 1900, \$4,368,502. The increase was altogether in dutiable goods, which amounted to \$4,569,060, as against \$3,503,609. The free goods from France amounted to \$828,961, while for the previous year they were \$864,893. Canada took \$7,021,405 worth of goods for consumption from Germany last year, a falling off, as compared with the year previous, when they amounted to \$8,383,498. The value of dutiable goods was \$6,121,190, as against \$7,465,447, and that of free goods \$900,215, compared with \$918,051.

The grand total of exports was \$196,487,632. In making up these figures no amount was included for exports "short returned" to the United States, as in previous years. If the practice of making an estimate of "short returned" had been followed this year the estimate would be \$6,108,789. It has been deemed advisable by the department to discontinue the practice this year, in view of the fact that a new system of recording export entries was inaugurated at the commencement of the last fiscal year, under which it is hoped that greater accuracy will be secured. It is not considered possible to devise a system regarding export entries which will insure a complete record of all merchandise exported from the country

being obtained, inasmuch as considerable quantities of merchandise go by road in districts remote from custom houses, and for other reasons. Notwithstanding this, it has been considered wise to base the statistics of exports for the present year and for the future on the actual figures recorded by the entries made at the ports of exit. The exports of Canadian merchandise to Great Britain last year amounted to \$92,857,525, as against \$96,562,875 for the year previous, a reduction of \$3,705,350. The value of foreign exports sent from Canada to Great Britain was \$12,471,431, as against \$11,173,093. The exports of Canadian merchandise to the United States (not including estimate short) were \$67,983,673, while for the year previous they were \$59,666,556, including "short returned," an increase of \$8,317,117. The increase of exports to the United States is accounted for largely by the bullion shipped from the Yukon. The foreign merchandise sent from Canada to the United States was \$2,423,168, an increase of \$456,751 over the previous twelve months. The exports of Canadian merchandise to France were \$64,369 ahead of 1900, amounting to \$1,436,628. In 1900 the exports of foreign merchandise to France were \$2,411; last year they reached a total of \$144,703. The exports of Canadian merchandise to Germany increased by over a quarter of a million, the figures being \$1,374,716, compared with \$1,108,163. Of foreign merchandise Canada sent \$766,836, or \$159,096 more than in 1900.

The manuscript of the trade and navigation returns for the fiscal year ended June 30, last, has been placed in the printers' hands, and is expected to be printed and ready for distribution some time next month. The report has been completed much earlier than has heretofore been the case. In the past the printed copies have not usually been distributed until January or February in each year, but Hon. Wm. Paterson, when he took charge of the Customs Department, saw that to be of any practical value statistics should be prepared and issued as promptly as possible. Accordingly he took the necessary steps to institute a reform in this direction, and the result gives every cause for satisfaction. The statistical staff have not only got the report out within a couple of months of the close of the fiscal year, but they were able to keep up with the monthly statements, which are of the most detailed and comprehensive character.

#### CANADIAN MANUFACTURING INDUSTRIES AND THE TRADE INDEX.

We have heretofore alluded to the extreme unreliability of the Trade Index, recently published by the Canadian Manufacturers' Association, and the facts we produced have brought us many criticisms from correspondents regarding the matter, one of whom, after pointing out a number of these inaccuracies, says:—"Instances of this character could be given ad libitum. The whole work is misleading to a degree, and detrimental and inimical to the best interests of the country."

The introductory of the Index, speaking of manufactures from agricultural products, tells us that the large grain fields of Canada have led to the establishment of huge milling industries, and that our exports of flour last year amounted to \$2,800,347. In page 155 of the Index is recorded the names of but ten concerns who manufacture wheat flour; and it might be reasonably supposed that these were the ones who exported nearly three million dollars worth of that article; seven of these operate mills in Ontario, two in Manitoba and one in British Columbia; but one of these does not manufacture wheat flour. The name of the second largest flour milling concern in Canada, who are large exporters, does not



appear in the Index, and the name of a large Toronto concern, a member of the Association, is not recorded.

The Index tells us that our exports of butter in 1900 were valued at \$5,429,563, and of cheese, \$20,483,481, a total of nearly \$26,000,000, but it records the names of but four concerns as manufacturers of butter, not one of which produce the article, and of but six as manufacturers of cheese, only one of which is engaged in producing cheese. The Index also informs us that our exports of bacon last year were valued at \$12,471,848, and it produces the names of an even dozen concerns who manufacture bacon, all in Ontario, but one of whom is not a packer or curer, but a retail dealer in apples, onions, potatoes, turnips, carrots, cabbage, tomatoes, celery, horse-radish, parsnips, etc.

The fishing industry of Canada, according to the Index, employs about 100,000 men and a capital of \$10,000,000, the value of our exports of fish in 1900 aggregating \$11,169,083. British Columbia contributes largely to this trade, particularly with regard to salmon, many large ships being engaged in carrying canned salmon from our Pacific Coast ports to European and other countries, yet the Index mentions the names of but two concerns in British Columbia as being engaged in the salmon canning industry. So, too, regarding the codfish industry of our Maritime Provinces: the Index gives the names of but five concerns, all in Halifax, as being engaged in this industry, no concerns in Nova Scotia except these, and none whatever in New Brunswick or Prince Edward Island.

Speaking of manufactures of wood, the Index tells us that the lumber industry has always been one of the most important, especially as regards foreign trade. The census of 1891 placed the amount of capital invested in the wood-working industries of Canada at \$97,637,522, and the annual value of the product at \$120,415,516, which figures are not representative of the great capital invested now. Our exports of sawn lumber last year were valued at \$27,821,389. According to the Index under the head "Lumber—dimension," and "Lumber—dressed," the names are given of eight lumbermen in Quebec, seven in British Columbia, seven in Ontario, two in Nova Scotia, two in New Brunswick, and one in Manitoba, total twenty-seven; but THE CANADIAN MANUFACTURER is a regular bi-monthly visitor to more than twice that number of important lumbering mills in Ontario alone.

Speaking of wood pulp, the Index tells us that in 1900 Canada's exports of the article were valued at \$1,816,016, and that between thirty and forty pulp establishments have already been located in important timber areas—that the output of Canadian wood pulp is coming to have an important influence on the markets of the world; but it enumerates the names of only ten wood pulp manufacturers, eight of whom have mills in Quebec, and two in Ontario, no mention being made of the industry in other provinces.

Alluding to the paper industry the Index tells us that our paper mills make not only enough for the domestic trade, but are seeking foreign markets, particularly in book or news paper; and it enumerates the names of only nine concerns as being engaged in the business, one of whom is not a paper maker at all. Ontario is credited with four mills and Quebec with five; but there are important paper mills in every province of the Dominion.

Closely identified with other manufacturers of wood is the musical instrument trade comprising pianos and organs, reed and pipe. The Index has good words to say regarding such instruments, and mentions the names of fifteen concerns, all but one in Ontario, as being engaged in the industry, but a

visitor to the recent Toronto Industrial Exhibition could have seen more than twice fifteen pianos and organs, made by more than twice fifteen different Canadian manufacturers.

The Index, speaking of the vehicle industry, informs us that there are several manufacturers of carriages who practically supply the whole Canadian trade, and are also branching out in export trade; and that "carts are also manufactured to a considerable extent;" and it enumerates one concern in Manitoba, two in Quebec, and seven in Ontario as being producers of carriages and carts. What an opening for vehicles is here, where, according to the Canadian Manufacturers' Association Index, but a half score of concerns are engaged in supplying more than five million of inhabitants with wheeled vehicles, and are "branching out in export trade."

"The iron industry is not an old one in Canada" says the Index, which assertion is no doubt interesting to the Canada Iron Furnace Co., whose furnaces, some of them, were in active existence in Quebec when that province was a dependency of France; and it will be equally interesting to the Clergue syndicate to learn that "the recent discoveries of extensive mines in Algoma, Ontario, indicate that there are large and valuable deposits yet to be opened up." Some one should inform the Index that Algoma ores are a constituent in the manufacture of pig iron in a number of furnaces not only in Canada but in the United States also.

The Index abounds with such misleading representations regarding the manufacturing industries of Canada, and cannot but be detrimental to the best interests of the country. It should never have been published, and the Association should endeavor, even now, to withdraw it from circulation.

#### AUSTRALIAN TRADE CONDITIONS.

A report from Mr. J. S. Larke, Canadian Commissioner to Australia, received at the Trade and Commerce Department, states that business in the Commonwealth was very quiet at the time of writing. There was, however, little feeling of depression in commercial circles, and it is believed that immediately trade has settled itself after the passage of the pending tariff, there will be a marked improvement. The volume of exports is at present satisfactory, and a fair season is looked for. Mr. Larke discusses the probable effect of the new Commonwealth tariff, which would be protective in its incidence, and may equal a 25 per cent. rate, and reaches the following conclusions:—"That the tariff, unless it should be much higher than anyone now believes it can be, will not materially change the existing conditions of trade. That the growth of manufactures will not in the future differ from the growth in the past. That Canadians should be very cautious in investing in manufacturing enterprises here until conditions are more settled." Mr. Larke points out that other important matters beside the tariff must be taken into consideration. Amongst the most important of these are labor troubles and labor legislation. Australian parliaments are following in the footsteps of the New Zealand Legislature in the passage of laws bearing on the relation of capital to labor. The introduction of the New Zealand legislation as respects arbitration into New South Wales, and similar acts in other states, has created some concern amongst capitalists. It is not intended to reproduce the New Zealand Act, but to so change it as to avoid the errors which have created some objectionable consequences in the colony which first adopted the law. It is possible that this can be done, but it will be determined only by experience of the working of the act. For some time there will be uncertainty that will cause a hesitancy to embark upon



new enterprises. The census has disclosed the fact that Australia is gaining little increase of white people from abroad. The immigration scarcely balances the emigration. There is no surplus of useful labor in the Commonwealth. It is true that several governments are much troubled by the demands of the unemployed, but the great majority of these men are either disinclined to steady work or unfit for it. The opening of new industries would seriously disturb the labor market and render it difficult to man the factories. Mr. Larke hears that it is proposed to ship large quantities of frozen fish to Australia shortly, but advises that it will be unwise to do so unless proper arrangements have been made for distribution.

#### CANADIAN DAIRYING INDUSTRY.

The Canadian Trade Index gives the names of four concerns, all in Ontario, and none anywhere else, as engaged in the manufacture of butter, not one of which are in the business; and the names of six concerns, all in Ontario, and none anywhere else, as engaged in the manufacture of cheese, but one of which is in the business.

The Winnipeg Commercial, the publisher of which is, we believe, a member of the Canadian Manufacturer's Association, publishes an interesting article re the dairying industry, in which we are told as follows:—

The phenomenal development which has taken place in the export trade in Canadian butter and cheese in the past five years may be seen from the following statement of the amount and value of the exports:—

BUTTER.		
Year.	Quantity—Pounds.	Value.
1896.....	5,889,241	\$1,052,089
1897.....	11,453,351	2,089,173
1898.....	11,253,787	2,046,686
1899.....	20,139,195	3,700,873
1900.....	25,259,737	5,122,156
CHEESE.		
1896.....	164,689,123	13,956,571
1897.....	164,220,699	14,676,239
1898.....	196,703,323	17,572,763
1899.....	189,827,839	16,776,765
1900.....	185,984,430	19,856,324

The great bulk of our exports of both butter and cheese goes to Great Britain. In fact, almost the total export goes to Great Britain. Germany takes a few thousand dollars worth of butter and no cheese, and a few thousand dollars worth of each go to the United States and some other countries.

Ontario is the centre of the dairy interests at present, there being 1,203 cheese factories in that province in 1899 (latest official report), and 323 butter factories. In 1893 there were 897 cheese and 74 butter factories. In New Brunswick there were 54 cheese factories and 83 butter factories or skimming stations. Nova Scotia had 33 butter and cheese factories. The industry is comparatively new in the maritime provinces, but is now making good headway.

Last year (1900) there were reported to be 32 cheese and 29 butter factories in Manitoba. During the year 1900 the total output amounted to 3,338,431 pounds, valued at \$541,661.04. The total output of cheese was 1,021,258 pounds, valued at \$102,330.05; making the grand total of dairy products for the province \$643,991.09. The production of butter and cheese in Manitoba during each year since 1895 is set forth in the following table:—

Year.	BUTTER. Pounds.	CHEESE. Pounds.
1895.....	1,763,252	553,192
1896.....	2,245,025	986,000
1897.....	2,397,464	978,007
1898.....	2,116,644	800,084
1899.....	2,357,049	848,587
1900.....	3,338,431	1,021,258

In the Territories there are 20 butter factories and 15 cream separating stations, which are operated by the Dominion Government, with a view to encouraging the establishment of a dairying industry in that part of the country.

The misleading and inaccurate statements of the Index makes it not only worthless, but absolutely pernicious as a hand-book of Canadian industries.

#### EDITORIAL NOTES.

It is the aim of the Canadian Manufacturers' Association to make the visit of the Duke of Cornwall and York a lever whereby the British empire may be enlightened as to the wealth and resources of Canada. With this object in view, at the last meeting of the Executive Committee, a special committee was appointed to draw up an article for the information of the newspaper correspondents who accompany the Duke; and it is stated that it is in contemplation to tender a banquet to these newspaper reporters when they reach Toronto. Considering the fact that the Executive Committee, after a year's preparation, have already and recently issued a Trade Index having reference to the wealth and resources of Canada, it would seem that all that remains to be done will be, at the proposed banquet, to present copies of it to the reporters.

The Canadian Trade Index tells us that the fishing industry of Canada, so far as the product is smoked, or canned, or pickled fish for export to foreign countries is concerned, is very largely located in Nova Scotia and British Columbia; and under the item "Fish, canned (salmon)" it enumerates the names of only two concerns engaged in that industry, both in British Columbia. The Winnipeg Commercial, the publisher of which, we believe, is a member of the Canadian Manufacturer's Association, publishes a very interesting account of the salmon fishing industry of British Columbia, in which it is said that there are about seventy canneries in that province which give employment during the fishing season to some 21,000 men. In 1899 the pack for the province amounted to 734,437 cases, this season promising to be a record one. The Commercial publishes a very beautiful photographic view of ships loading salmon at Steveston, B.C., by which it can be seen that some of the largest and finest sailing ships of the world, as well as steamers, are employed in the distribution of this wealth; and it is quite ridiculous for the Index to intimate that there are only two concerns in British Columbia engaged in the salmon canning industry.

Mr. C. D. Massey, of the Massey-Harris Co., headed a delegation of agricultural implement men who waited on Premier Laurier, Messrs. Paterson, Sifton and Tarte, a few days ago, in regard to some changes they want in the tariff. The Massey-Harris Co. is a member of the Canadian Manufacturers' Association. What's the matter with the Association?

The big steel strike in the United States, which was begun July 15, and which, for several weeks, has shown signs of cessation, was definitely settled last week at a conference held in New York between leaders of the Amalgamated Association of Tin, Iron and Steel Workers, and officers of the subsidiary companies of the United States Steel Corporation which were involved in the contest. At this conference an agreement was signed, under which the men returned to work on Monday in the mills which have been idle. President Shaffer and the other officials of the Amalgamated Association made a fatal miscalculation when they ordered the strike, and their methods alienated public sympathy from the beginning. The steady disintegration of the strike is sufficient proof that the leaders no longer have the moral support of a majority of the rank and file of the steel workers. No battle was ever won by men who had lost confidence in their leaders.

## CAPTAINS OF INDUSTRY.

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

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

The starting of any such concern means a demand for some sort of machines, machinery, or supplies, such as steam engines and boilers, shafting, pulleys, 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 of La Fonderie de Plessisville, Plessisville, Que., has been increased to \$150,000.

The Roberval Pulp & Paper Co., City of Quebec, has applied for incorporation with a capital of \$75,000, to manufacture pulp, paper, etc. The applicants include W. J. Tremblay, Roberval, Que., J. F. Gauvreau, Quebec City, and A. L. Rinfret, Montreal.

The Dominion Paving Co., Toronto, have had a large asphalt plant installed by the Smart-Eby Machine Co., Hamilton, Ont.

A company is being organized at Thorold, Ont., by James Battle, to establish a system of waterworks at an estimated cost of \$30,000.

The Bissell Mfg. Co., will receive \$5,000 as a loan from Elora, Ont., and to induce them to establish their proposed disc harrow and land roller works, at that place.

The Canadian Cordage & Mfg. Co., will spend \$60,000 in buildings and machinery. Peterborough, Ont., has passed a by-law for \$4,500 to aid them.

The Dufferin Coffin & Casket Co., will receive a loan from Orangeville, Ont., of \$5,000.

The Thomas Organ Co., Woodstock, Ont., is erecting a four storey addition to their factory, 80x50 feet. They will install a 100 h.p. engine and have their own lighting plant.

The Joseph Dixon Crucible Co., Jersey City, N.J., has just issued a neat postal

card bearing an imprint of the Louisville bridge of the Kentucky & Indiana Bridge & Railway Co., which is protected with Dixon's silica-graphite paint. This paint is made in four colors, but of only one quality.

The General Fire Equipment Co., Toronto, have installed their sprinkler system in the Wm. Davies Co's factory, Toronto, and W. E. Sanford Co's factory, Hamilton, Ont.

The Winnipeg, Man., Electric Railway Co., are erecting shops at a cost of about \$50,000.

The International Railway Co., has purchased thirty-eight acres of land at St. John, N.B., for the site of their proposed engine house and yards.

Granby, Que., will have a new post office building.

Barford, Que., will have a new town hall.

Stratford, Ont., will issue debentures to the extent of \$20,000, for the purpose of completing the sewerage disposal works of that town.

The Northern Elevator Co., will erect a 25,000 bushel elevator at Wolseley, N.W.T.

Messrs. Myer & Hammond, Orillia, Ont., will erect an addition to their carriage factory.

Wm. Power, Quebec City, and H. Calvin, Kingston, Ont., have purchased 500 square miles of virgin forest lands on the Metabetchouan River, where they will establish large pulp mills.

Wm. A. Kribs, Galt, Ont., will erect a large planing mill and box factory, at a cost of about \$15,000.

The Diamond Lighting Co., Montreal, has been incorporated with a capital of \$500,000, to manufacture gas, gasoline and acetylene for commercial purposes.

The Cleveland-Sarnia Saw Mills Co., Sarnia, Ont., has been incorporated with a capital of \$500,000, to build and operate a lumber mill at Sarnia.

The Beaver Oil & Gas Co., Brantford, Ont., has been incorporated with a capital of \$250,000, to exploit for petroleum, natural gas, etc.

The erection of a large beet-sugar factory at Galt, Ont., is being considered by the members of the Board of Trade at that place.

Messrs. Park, Blackwell & Co., Toronto, will build a four-storey extension of their packing factory at a cost of about \$30,000.

J. H. Gignac's sawmill, Quebec city, was partially destroyed by fire September 1. Damage about \$7,000.

The flax mill at Thedford, Ont., was destroyed by fire September 11.

The Imperial Dry Dock Co., St. John, N.B., writes to the Cleveland, Ohio, Marine Review, saying that the project for the establishment of a dry dock at St. John is progressing favorably. The company is now arranging for plans and specifications and hopes to be able to ask for tenders for construction within three months.

S. A. Lazier & Sons' paper mill, at Belleville, Ont., was destroyed by fire September 7. Loss about \$35,000.

The British Columbia Electric Railway Co. is about to expend \$600,000 in installing an electric plant capable of generating 5,000 h.p. at Coquitlan Lake, for the purpose of supplying additional electric light and power to Vancouver and New Westminster, B.C.

The Laurie Engine Co., Montreal, have sent us a copy of the official programme of the Royal visit to that city by their Royal Highness the Duke and Duchess of Cornwall and York, September 18, 19 and 20. The information contained in the publication constitutes it a souvenir of a very interesting occasion, relating, as it does to our Royal visitors and the others of the Royal family of Great Britain.

# 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 steamer William L. Brown, recently brought a cargo of 253,130 bushels of wheat to Parry Sound, Ont., from Chicago.

J. A. Jamieson, Montreal, has been awarded the contract for the construction of the million-bushel fireproof elevator, to be erected in Montreal harbor.

Negotiations are in progress for the installation of an electric lighting plant for the proposed new summer hotel at Burlington, Ont.

Messrs. Mackenzie & Mann, will use rails to build 200 miles of railway made by the Dominion Iron & Steel Co's new mill at Sydney, N.S.

The Philadelphia Textile School will open for its eighteenth season on Monday, September 30, under conditions which are most satisfactory to its many friends. The staff of instructors which has proved so efficient in past seasons remains unchanged, and under the able guidance of Director, E. W. France, who has just returned from an inspection of similar European institutions and manufacturing establishments, it will offer even greater opportunities for the student. Dr. J. Merritt Matthews, under whose direction the work in chemistry and dyeing has shown such marked advancement, has also spent the summer months on a tour of investigation abroad. The rooms and the machinery and other apparatus which constitute this institutions unexcelled plant have had a thorough overhauling and renovating, and without exception the equipment of the various departments has been augmented. The incoming class will be by far the largest in the school's history, showing that public appreciation continues to smile on this, the first effort, at textile education in America. The old saying is again exemplified "Nothing succeeds like success."

The Graham Co., Belleville, Ont., has been incorporated with a capital of \$250,000, to manufacture machinery for evaporating fruits, etc. The provisional directors include R. J. Graham, J. R. Finkle and H. E. Fairfield, all of Belleville.

The proprietors of a number of glass factories in Danbury, Ind., are looking for a site to establish one in Canada.

The New Brunswick Petroleum Co. claims to have discovered oil at Memramcook, a few miles south of Moncton, N.B.

T. Meany, acting for capitalists with New York and Toronto connections, has purchased a site near the village of Seven Islands, Que., where they will establish a pulp mill with a capacity of fifty to one hundred tons per day. It is estimated that the company will expend \$3,000,000 in this enterprise.

A comparison of the various exhaust heads on the market vividly illustrates the difference between so-called practical designs and those which are based on scientific study. In the former category are to be classed those heads in which baffle plates and tortuous passage predominate. On the other hand a typical example of well-applied scientific reasoning is presented in the centrifugal head manufactured by the B. F. Sturtevant Co., Boston, Mass. Recognizing the fact that centrifugal force is proportional to the weights of the bodies in motion and that water is nearly 1,600 times heavier than steam, this head is so designed that the exhaust steam is given a vigorous whirling motion within the case, thus throwing the water outward with such excessive force as to absolutely prevent its escape through the large central exit opening provided for the steam. The water and likewise the oil trickles quietly down the sides of the case, which is in the shape of an inverted cone, and finally escapes through a special drip pipe at the bottom.

Although linotype operators have been using graphite to a more or less degree for years, it is only within the last few months that they have found the kind peculiarly suited to the actual needs of the machine. The Joseph Dixon Crucible Co., Jersey City, N.J., prepare a special linotype graphite, and send samples free and testimonial letters to any one interested.

The Cramp Steel Co., who purpose building extensive steel works at Collingwood, Ont., are letting the contracts for the erection of some of the necessary buildings. One of these, the blooming train mill, will have the following dimensions: 210x50x30 feet. The dimensions of other buildings will be as follows: Bar and rod mill, 200x70x30 feet; boiler house, 200x60x30 feet; pit furnace house, 105x60x30 feet. The company will instal to start with two seven-ton converters, with a daily capacity of 300 tons, and two open-hearth steel furnaces.

Large gangs of men have been getting the property into shape for building operations.

The Collingwood Shipbuilding Co., whose plant is at Collingwood, Ont., and from which the large screw steel steamer HURONIC was launched last week, and where a large freight steel steamer with a carrying capacity of 7,000 tons is now being built, was organized only about a year ago with a capital of \$200,000, the officers of which are J. J. Long, president; Capt. Alex. McDougall, Duluth, vice-president; Thos. Long, Toronto, secretary; Hugh Calderwood, general manager; other directors, Chas. Cameron and Capt. Campbell, both of Collingwood. We learn that the capacity of the present works is to be enlarged by the extension of the present docks and yards and the instalment of new machinery. By next year the yards will allow of the simultaneous construction of six full-sized canal steamers or of three 500-foot boats. The steel plates used in building the HURONIC came from the United States, but it is expected that next year the Cramp Steel Works of Collingwood will be able to furnish this material.

The Canadian Rubber Co., Montreal and Toronto, have placed on the market a new floor tiling, called the Interlocking Rubber Tiling, made of hard rubber. It is made of pieces cut in geometrical designs, neatly interlocking into each other so as to form a patterned and practically solid flooring. The designs are in various colorings, and its claims are briefly stated as follows: It is noiseless, sanitary, water-proof, elegant in appearance, more durable than tiling, and you cannot slip upon it.

The General Fire Equipment Co., Toronto, have received the contract for installing a fire protection system of exterior cornice sprinklers for the Bell Telephone Co's building, Montreal.

Steinhoff & Gordon's stave and hoop mill at Wallaceburg, Ont., was destroyed by fire Sept. 7. Loss about \$8,000.

The Copp foundry, Hamilton, Ont., was damaged by fire, Sept. 7, to the extent of about \$8,000.

The council of Orangeville, Ont., has passed a by-law to lend H. G. F. Pett \$10,000 to induce him to establish a biscuit and confectionery factory at that place.

# Transfer Ornaments, AMERICAN MADE.

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Largest Makers in the World of Guaranteed Decalcomania Transfers.

Canadian Travelling Representative,  
CHAS. H. JAGGER, Hamilton, Ont.

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The Ontario Beet Root Sugar Co. are considering the claims of Dunnville, Ont., and several other towns, for erecting their factory. The selection will depend upon the suitability of the place for the purpose indicated.

The Richelieu Cordage Co., St. Johns, Que., has been incorporated with a capital of \$75,000, to manufacture cordage and binder twine. The charter members include M. E. Ager, St. John, N.B.; W. A. Campbell and F. C. Chubb, both of St. Johns, Que.

Immediately after the launching of the steel steamer Huronic last week from the shipyard of the Collingwood, Ont., Shipbuilding Co., the keel was laid for a large steel freight steamer for the Clergue Syndicate, which will be pushed to completion as rapidly as possible. The dimensions of this steamer will be 390 feet long over all by forty-six feet beam by twenty-six feet deep, and when full loaded will have a carrying capacity of 7,000 tons. She will be in every respect an up-to-date freighter, being fitted with two large

duplex pumps for the handling of water ballast, of which she has a total capacity of fully 2,000 tons. A large steam towing machine is fitted, and she will tow with a two-inch steel hawser 1,200 feet long; three steam winches are fitted on deck for the handling of both ship and cargo. The vessel will be steered with a steam steering gear, and will be lighted throughout with electricity from a duplex set of generators. Three steel pole spars will be fitted, on which she will carry considerable sail, consisting of one fore sail and three large fore and aft sails. Commodious quarters for the officers and crew will be provided for in a large deck-house located aft.

The United States Steel Corporation, the billion dollar concern, are using in their mills over one hundred Cross oil filters, installed by the Burt Mfg. Co., Akron, Ohio.

The report of the United States Commissioner of Patents just printed, shows that there were received in the last fiscal year 42,082 applications for mechanical

patents, 2,368 applications for designs, 101 applications for re-issues, 1,860 caveats, 2,312 applications for trade marks, 1,036 applications for labels, and 176 applications for prints. There were 26,481 patents granted, including re-issues and designs, and 1,826 trade marks, 824 labels and 124 prints were registered. The number of patents that expired was 20,690. The number of allowed applications which were by operation of law forfeited for non-payment of final fees was 4,288. The total receipts of the office were \$1,408,877.67, the total expenditures were \$1,288,970.13, and the surplus of receipts over expenditures, being the amount turned into the treasury, was \$119,907.54. Communications of Messrs. Marion & Marion, Patent Attorneys, Montreal.

The St. Lawrence Furniture Co., Frasersville, Que., have placed their order with Cowan & Co., Galt, Ont., for large engine, boiler and Dakin heater, and a complete outfit of wood-working machines. The Canadian General Electric

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**BALATA**  
**RUBBER**

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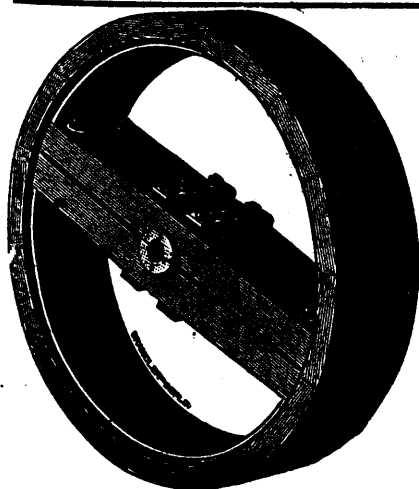
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BUILT RIGHT

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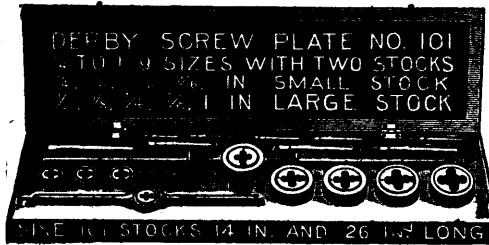
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## BUTTERFIELD & CO., - Rock Island, Que.

Co., Peterboro, Ont., have recently placed one of Cowan & Co's band saw machines.

The Preston Glove Co., Preston, Ont., has been incorporated with a capital of \$20,000, to manufacture gloves, etc. The provisional directors include C. Dolph, C. R. Hanning and P. Bernhardt, all of Preston.

The British America Can Co., Sarnia, Ont., has been incorporated with a capital of \$100,000, to manufacture cans, etc. The provisional directors include W. S. Cumming, Chicago, Ill., T. H. Cook, Sarnia, Ont., and C. R. Morrison, Port Huron, Mich.

Cowan & Co., Galt, Ont., have supplied the Canadian Northern Railway Co., Winnipeg, Man., with a large tenon machine.

The Dominion Iron & Steel Co. will commence to make steel at their Sydney, N.S., works about January 1. The two furnaces now in operation are producing about 475 tons of pig iron per day. There are 200 coke ovens now in operation, which produce 600 tons per day. They have 1,500 hands employed.

The Morin Mills Co., Morin Flats, Que., have applied for incorporation with a capital of \$25,000, to manufacture pulp wood, etc. The applicants include C. M. Davis and J. E. Seale, both of Morin Flats.

Messrs. Rueckwald & Schach, Lady-smith, Que., have an order with Cowan & Co., Galt, Ont., for a sixty-horse power engine and boiler.

The St. Johns Straw Works, St. Johns,

Que., have applied for incorporation with a capital of \$75,000, to manufacture straw hats. The applicants include J. E. Molleur, C. A. Molleur and I. Molleur, all of Montreal.

The American Steel & Wire Companies of United States have sent out representatives to look for sites to establish a branch factory in Canada. They require fifteen acres, and if the industry is established it will give employment to 2,000 men.

A. D. Schaeffer, representing The Hartford City Paper Co. and The Diamond Paper Co., both of Anderson, Ind., was recently at Manitoulin Island, Georgian Bay, looking for a site suitable for establishing a pulp mill. If the report be favorable the pulp departments of The Hartford City Paper Co. and The Diamond Paper Co. will be removed to the Island. We are informed that the water power is very favorable for their plans.

A new and what promises to be an important era in the manufacturing industry of Ontario, was inaugurated by the Collingwood Shipbuilding Co. in the launching of the Steamer Huronic, the largest fresh water vessel ever built in Canada. The steamer, the launching of which was entirely successful, was built for the North-West Transportation Co., of Sarnia. The vessel, which is 325 feet over all, forty-three feet beam by twenty-seven feet mould depth, has a capacity of 80,000 bushels of wheat besides 700 tons of other freight, is thoroughly up-to-date in the matter of equipment, and the appointments throughout are in keeping

in every respect. The Huronic is a floating example of the enterprise and business capacity of Canadian capitalists, and is but the forerunner of what promises to become a very important and extensive industry on the Georgian Bay. The Hon. J. I. Tarte, Minister of Public Works, and others who were present at the launching, made some important suggestions regarding the industry of shipbuilding in Canada. It was pointed out that the total tonnage of Canadian bottoms was not nearly large enough yet to take care of the tonnage that has to be handled from one Canadian port to another. The Minister of Public Works reminded his gathering that Canada should keep its trade for her own people, referred to the possibility of which they had heard, that the Government might see fit to bonus shipbuilding, and highly complimented President John J. Long, of the Collingwood Shipbuilding Co., and the gentlemen associated with him, on the successful issue of their grand enterprise. This company is now engaged in the building for Mr. F. H. Clergue, of Sault Ste. Marie, of a 7,000 ton ship.—Bradstreet's.

The Ontario Portland Cement Co., St. George, Ont., has been incorporated with a capital of \$450,000, to work and develop marl and cement at Blue Lake. The provisional directors include E. L. Gould, W. S. Wisner and H. Cockshutt, all of St. George.

The B. F. Sturtevant Co., Boston, Mass., has upon the press a very complete catalogue of its motors, generators and

## THE BEST PIPE THREADING and CUTTING-OFF MACHINES

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

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

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**MACHINIST TOOLS, PIPE FITTINGS,**

**Bar Iron, Steel, Boiler Plate Tubes**  
**COMPLETE STOCK OF STOCKS AND DIES. PIPE VICES.**

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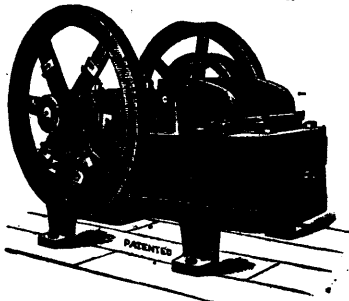
**STEAM PIPE.**

**CORNER KING AND VICTORIA STREETS, TORONTO.**

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ROLL JAW CRUSHER.



# Crushes

Large Rock

to

# 4 inch.

Send for Circular.

**STURTEVANT MILL CO.,**

104 Clayton St.  
Boston, - Mass.

generating sets. Previous publications have been in the form of bulletins descriptive of special types: this catalogue will present them all, and will in some degree reveal the fact that although the Sturtevant company has a world-wide reputation as blower manufacturers, its business is by no means limited to the production of these useful machines, but that it is also equipped with a complete line of engine and motor designs in small and medium sizes.

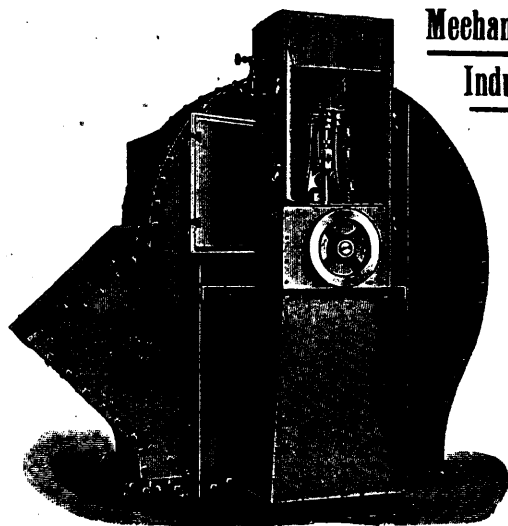
The luxurious electric car, "Duchess of Cornwall and York," which has been provided by the Ottawa Electric Railway Co. expressly for the use of their Royal Highnesses upon the occasion of their visit to Ottawa, commands great attention and admiration. The car is fifty feet in length, has straight sides, is vestibuled at both ends, and has a full monitor roof of the Pullman pattern. The color is also Pullman standard, with the British coat of arms in gold, conspicuous on both front and rear. The interior of the car is finished in antique polished oak, the ceiling being covered with three-ply birdseye maple veneer and decorated. There are four large British plate mirrors set in frames, two at either end of the car. All the trimmings, such as hat racks, hooks, etc., are of solid bronze. The window curtains are of the latest design, and are very ornamental. The car is brilliantly

illuminated by five clusters of incandescent electric lamps, twenty-one in all. The floor is covered with a rich royal blue velvet carpet. The car contains fourteen large easy chairs, beautifully upholstered in olive-green plush. The trucks are double, and of the swing motion pattern, with graduated springs. The electric equipment is very complete, and consists of four Westinghouse fifty-horse power motors. The car is also fitted with the Westinghouse automatic air brake, and is capable of attaining a speed of fifty miles per hour. This is the first electric tram car ever provided exclusively for the use of royalty. The car was manufactured by the Ottawa Car Mfg. Co.

### THE ROYAL TRAIN.

The Royal train, which has been constructed by the Canadian Pacific Railway Co., for the use of the Duke and Duchess of Cornwall and York during their tour of the Dominion, is probably the most magnificent product of railroad architecture ever seen on the continent. The Canadian Pacific have demonstrated that it is not necessary to go outside of Canada to produce the very best that workmanship and skill are capable of accomplishing. The Royal train proper consists of nine cars. Of these, two, the York and the Cornwall, are especially for the use of the Duke and

Duchess. The armorial bearings of the Duke of Cornwall and York adorn the outside of the cars, while the interior is a very dream of luxury and comfort. There are five coaches for the accommodation of their Highnesses' suite, and these are named respectively, the Canada, the Australia, the Sandringham, the India and the South Africa. Telephones and call bells permit of communication from one end of the train to the other, and the system is so arranged that all may be using the telephone at once. The rear car, the York, is fitted with an observation platform properly sheltered from dust and smoke, which will allow the occupants of the car to obtain a splendid view of the whole country through which they are traveling. The work of the cars was done in Montreal, at the company's shops, under the direction of Mr. Aps, the company's master car builder. The other trains will be made up to precede and follow the Royal train proper. One of these will be for the detectives and other officers who are looking after the safety of the party, and the other will take along the horses, carriages, and heavier baggage. Two new engines have also been built at the Montreal shops to draw the trains. These will, like the cars, be of the very latest and best design, and calculated to make the journey as comfortable as possible.



Bottom Angular, Up Discharge Right Hand Fan.

## Mechanical Induced DRAFT FANS

Installed in connection with a Boiler Plant, will prevent smoke, will give greater fuel economy and increased boiler capacity, besides which the initial cost is far less than that of a chimney.

Mechanical Draft may be applied to old boilers to increase draft at a minimum initial outlay.

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**GALT, ONT., CANADA**

## Electrical Construction Co. of London, Limited.



### MULTIPOLAR MOTORS & DYNAMOS

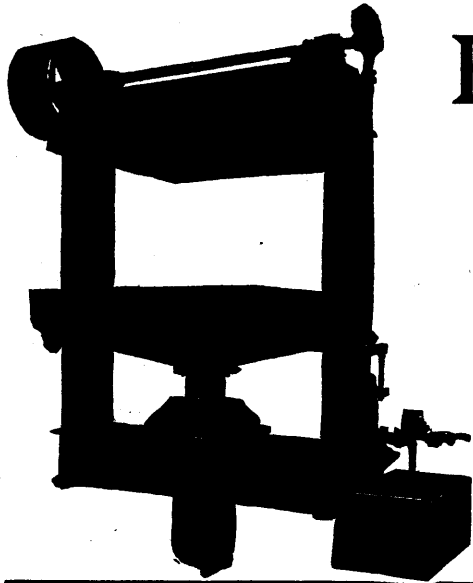
And Direct Connected Plants for Isolated Lighting.

Repair Work a Specialty.

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We Build Presses  
for...

**PRESSING VENEERS**  
**TANNERS' USES**  
**BALING, Etc.**

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AND PRICES

## William R. Perrin & Company

TORONTO, - CANADA

### MEAFORD, ONT.

The steamer Spokane of the Wilson line, Cleveland, Ohio, has been chartered for the season by the Port Huron and Duluth line, and opened the port of Meaford, Ont., a few days ago, with a cargo of 155,000 bushels of grain. As the port is entirely new, Mr. William A. Williams, the master of the Spokane, sent the following description of it to the Cleveland, Ohio, Marine Review:

The harbor of Meaford is formed at the mouth of a small stream known as the Big Head River. At present there is a breakwater on the east side projecting out into the lake, about north by west, 750 feet. On the west side is a pier about 500 feet long, with east breakwater and west pier to form a protection from the lake. There is a harbor enclosure about 1,450 feet long and varying in width from 140 feet to 700 feet at its widest part. There is an arm extending from west pier to the breakwater within a distance of about 150 feet, forming the entrance. At the present time a channel 150 feet wide and twenty-two feet deep is dredged from the harbor entrance up to the elevator. The improvements to be made and which are going ahead rapidly are as follows: To extend the east breakwater out into the lake 600 feet, curving it more to the west so as to protect the harbor entrance; also taking off 150 feet of the

arm at the west pier so as to give a wide entrance of about 250 feet to the harbor. The whole area enclosed is to be dredged to a depth of twenty-two feet. The bottom is hard clay, and will carry seven fathoms of water within 1,000 feet of the harbor entrance. The elevator, owned by The Meaford Elevator Co., has a capacity of 750,000 bushels. It is a new house, and first-class in every respect. The Spokane opened the port Monday, Aug. 26, drawing seventeen feet six inches of water, and had no difficulty in going right up to the elevator dock.

### THE HURONIC.

The Collingwood Shipbuilding Co., Collingwood, Ont., is to be congratulated upon the successful launching of the steel steamer Huronic, which event occurred at their shipyard September 12. The Huronic is built for the Northwest Transportation Co., of Sarnia, Ont., from designs by Hugh Calderwood, manager of the company. She is intended for both freight and passenger service, and will obtain the highest classification given by the Bureau Veritas International Registry of Shipping, namely, A1 with a star, for twenty years. She is built of open-hearth steel throughout, and is of the following dimensions:—325 feet over all, 308 feet between perpendiculars, 43 feet beam and 27 feet moulded depth.

The vessel will have accommodation for 250 cabin passengers. A feature of the design which will be appreciated by the travelling public is the dining-room, which is placed athwartships, extending the full width of the lower cabin, is 50 feet by 32 feet in size, and will accommodate at one sitting 120 passengers, seated at 15 tables. The lower cargo-hold is divided into five compartments of a combined capacity for 80,000 bushels of wheat, and in addition to this there is a storage capacity on the main deck for 700 tons of package freight, making a maximum load on 18 feet of 3,100 tons, with 300 tons additional allowed for fuel.

She is divided by six water bulkheads into seven watertight compartments, extending from the keel to the main deck. She has a water ballast capacity in her water bottom of about 800 tons, divided into eight compartments, and is lighted throughout from a duplicate electric lighting plant, fully 500 lights being provided throughout the entire ship. The propelling machinery was built by Messrs. John Inglis & Sons, Toronto, from designs by their superintendent, Mr. J. H. Smith. The machinery consists of triple expansion vertical engine, with cylinders 26, 42 and 70 inches in diameter, by 42 inch stroke. It is expected that the steamer will make 15½ miles an hour when loaded, and about 17½ miles when running light.

## CONTRACTORS, ATTENTION!

If you are excavating in stone, use

# THE "LITTLE GIANT" ROCK DRILL

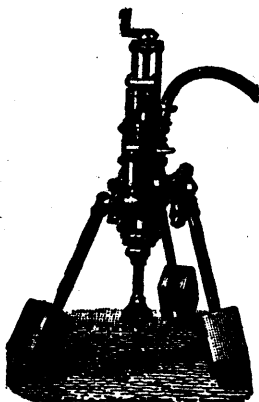
... NINE SIZES ...

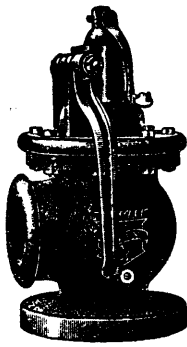
*Adapted for Steam or Air*

## THE CANADIAN RAND DRILL COMPANY

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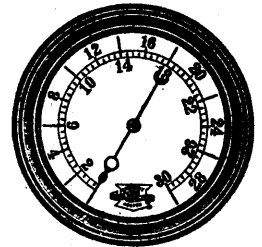
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Single Bell Chime Whistles.  
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**CROSBY STEAM GAGE and VALVE CO.**  
BOSTON, NEW YORK, CHICAGO, LONDON

A TRUTHFUL GAGE IS THE ONLY GOOD GAGE



### SHIP BUILDING IN CANADA.

The Boston Transcript publishes the following article from its Halifax correspondent, upon ship building in the Maritime Provinces:—

Canada has yet to build its first ocean-going vessel of steel; and as yet no large vessel, nothing corresponding to the freighters built at Cleveland or other lake cities of the United States, has been built in a Canadian lake port. It will not, however, be for lack of government aid, if there are not soon several large ship building yards on the Nova Scotia and New Brunswick coast; and it will not be for lack of agitation if the Dominion Government is not before long giving bounties for steel tonnage built on the coast and on the lakes. In the Maritime Provinces the ship building fever is now running high. It had its origin in the installation of the great plant of the Dominion Iron & Steel Co., at Sydney, Cape Breton. Sydney, with the coming of the steel plant, has in eighteen months increased its population from 3,000 to 15,000; and an erstwhile small and decaying country town has now become the leading industrial centre of Nova Scotia. Sydney's proximity to bituminous coal and its famous harbor have combined to give to it its new pre-eminence. Every coast town in Nova Scotia cannot become a great centre of the steel trade, or even a great shipping port for coal; but nearly every town in the province with a frontage to tidewater conceives that it is admirably adapted for the site of a steel ship building plant; and never in the history of the Maritime Provinces were there such opportunities for promoters and bonus schemers as there are to-day, all arising out of the attempt to boom steel ship building.

The steel plant at Sydney is but partially complete. Only one of the blast furnaces is at work. It will be October or November before the blooming mill and the rail mill are in operation. At present it is no part of the plan of the steel company to make structural steel such as is required for ship building; and there is to-day nowhere in Canada a steel plant equipped for this work. In spite of this fact, the coast towns of Nova Scotia are possessed with the idea that the installation of the furnaces and rail plant at Sydney must at once bring steel ship yards in their train; and at the last session of the Nova Scotia legislature so many towns applied for power to bonus steel ship building yards that the government carried through the Legislature an

act giving any municipality power to make a grant in aid of any such enterprise.

Under the new law, after a favorable vote of the electors, any municipality can grant a bonus not exceeding \$100,000 for the establishment of a ship yard, and also can free the plant and the earnings of the company from municipal taxation. Any municipality in Nova Scotia can now avail itself of these powers; while for Halifax a special law was passed under which this city can grant a bonus of \$100,000, and can pay tonnage bounties to the amount of \$25,000 for four years. The requirements of the Halifax Act, however, are more exacting than under the general law; for the Halifax bonus can be paid only in respect of a plant equipped to construct not less than 20,000 tons of shipping annually. Halifax already possesses a magnificent stone dry dock to which the city, the Provincial, the Dominion and the Imperial Government all contributed, and at which for years past, warships belonging to the British North Atlantic Squadron have been docked; and it is felt that the existence of this dry dock, the finest stone dock on the Atlantic Coast, should be a factor in bringing business to a well equipped ship yard here.

The boom has not been confined to

Nova Scotia. It has extended to New Brunswick, and at the present time the municipality of St. John is negotiating with the Imperial Government and with the Dominion Government for subsidies for a dry dock; and with the dry dock undertaking well started, it is expected that St. John will also have a steel ship building yard. Half a century ago, the Maritime Provinces built tonnage for service all over the world. But these were the days of wooden sailing ships; and at that time and until so much of the world's carrying trade passed to iron and steel ships, vessels were in building on nearly every creek in Nova Scotia and New Brunswick. Timber was cheap, and the ship building yards came into existence at scores of places on tidewater, which happened to be in proximity to timber. Once again Nova Scotia through the development of its mineral resources, is to be in command of the material that goes to the makeup of modern fleets. Steel is soon to be made in Cape Breton cheaper than anywhere else in the industrial world, and with the coming of cheap steel it is perhaps only natural that Nova Scotia should see an opportunity of regaining some of its old pre-eminence in the maritime world, and be even a little over eager to push its new opportunities.

**MARSH STEAM PUMPS**  
AMERICAN STEAM PUMP CO.  
BATTLE CREEK MICH.

35,000 SOLD IN SEVEN YEARS  
FOR DEEP WELLS  
MAXIMUM EFFICIENCY AND SERVICE  
LARGE TANK

MANUFACTURED BY MARSH STEAM PUMP CO. BATTLE CREEK MICH.

Canadian Agents **The A. R. WILLIAMS MACHINERY CO. LIMITED**

Head Office, — — — TORONTO

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Great Britain for many years to come will of necessity be adding continuously to her war navy, and there is little doubt that if Halifax, or Sydney, or St. John should become possessed of a well equipped ship yard, work for the Imperial Government would soon find its way to this side of the Atlantic. The policy of the Imperial Government as regards the building of the navy has for many years past been to divide the new work between the government yards and those of the British ship building companies, so as to secure the establishment and maintenance in a high degree of efficiency of the largest number of plants at which war vessels can be built. It would be in line with this policy to give Canadian yards a share in the new war tonnage; and at the present time, when the colonies are nearer in feeling and sympathy to Great Britain than they have ever been, and when the imperial spirit is so strong and dominant all over the empire, such a policy would receive strong popular indorsement in Great Britain.

There are on the lakes to-day three Canadian ship yards at which torpedo boats, torpedo boat destroyers, and even large-sized gun boats can be built; and with the deepened St. Lawrence canals there are no obstacles to the bringing of such vessels from the lakes to tidewater. There is, however, a convention between the United States and Great Britain which would prevent additions to Great Britain's war fleet from being built at Canadian lake ports. No such obstacle stands in the way of ship yards on the coast; and it is

exceedingly probable that if ship yards in Nova Scotia or New Brunswick attained the standard of excellence required by the admiralty, they would seldom lack some government work. But until structural steel plants are established in Canada, the Maritime Provinces could not meet the competition of the Clyde and the Tyne, Tees and Wear. Vessels now built on the Canadian lakes are mostly of steel imported from Pennsylvania. Public opinion in England would never tolerate American structural material in British warships, although within the last two years several hundred thousand tons of Pennsylvania steel have gone into vessels built at Glasgow and at Belfast for Great Britain's mercantile fleet.

The movement to boom ship building in the Maritime Province has up to the present been confined to municipal bonuses, municipal tonnage bounties and tax exemptions. The movement for dominion tonnage bounties, to which I referred at the outset of this letter, has had its origin in Toronto. It may be said to have arisen as the direct and speedy outcome of the deepening of the St. Lawrence canals. Before the canals had their present depth of water and their enlarged locks, it was a work of difficulty and much cost to get a Clyde or Wear built steamer from the St. Lawrence to the lakes. The cost and the delay were so great that had there been no deepening of the canals the ship yards on Lake Ontario and Lake Huron might have been free from any competition

from Great Britain. Now, however, with fourteen feet of water in the canals, British built vessels are easily passed from the St. Lawrence to the lakes; and in 1900, the first navigation season during which the deepened canals were available, a fleet of British built steamers was brought out for the ore carrying service between Michipicoten Bay, Lake Superior, and Midland on Georgian Bay, where in December last, a new pig metal making plant using Ontario ore was put into blast.

The Canadian lake ship builders are now disturbed by this new competition from Great Britain, and have recently begun an agitation for Dominion bounties to offset it. In 1897, when the preferential tariff lowered the duties all round on British imports, the protection hitherto afforded to Canadian iron and steel plants was reduced. But to offset this change the Laurier government liberally increased the bounties on pig metal and steel ingots, and thus put the Canadian manufacturers in a better position, both as regards American and British competition than they were in before the introduction of the preferential tariff. Canada's lake ship builders now contend that they are as much entitled to government aid in meeting the new competition as the manufacturers of iron and steel were in 1897, and they are demanding tonnage bounties sufficiently liberal to prevent British ship builders from underselling them. They are seeking to persuade the government that this help will not be needed for any long period. They point

# COWAN & CO.

GALT, - ONT.

**Wood-Working Machinery**

**Patent Feed Water Heaters and Purifiers**

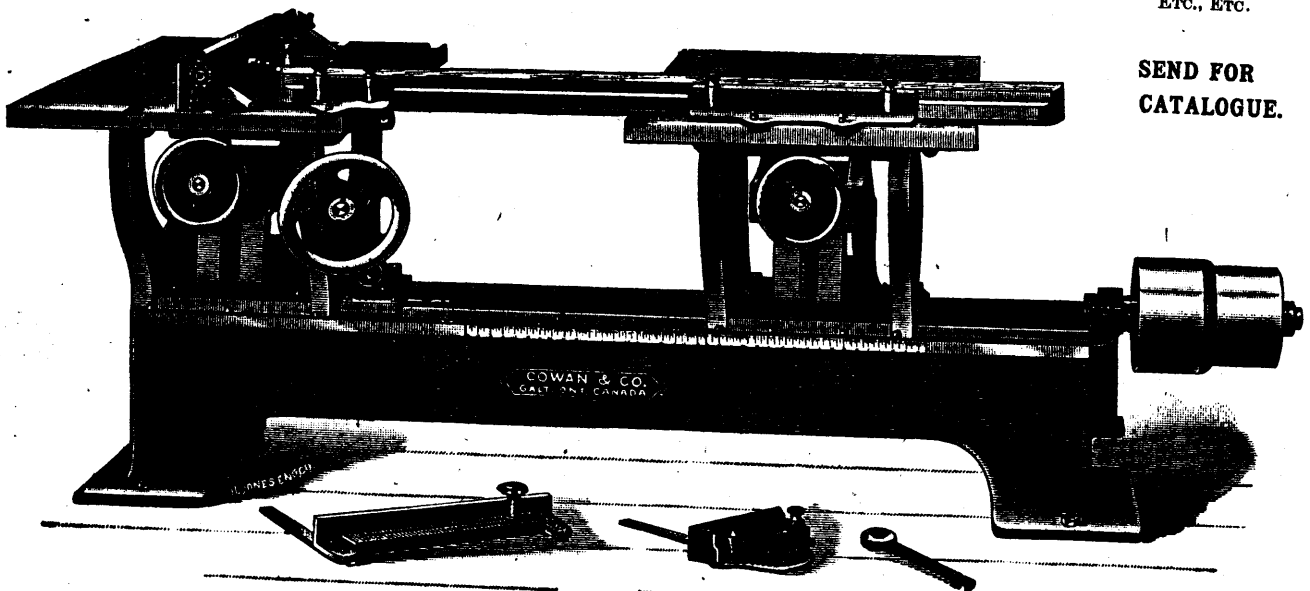
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**NEW IMPROVED PATENT RIP AND CROSS-CUT SAW.**

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to the development now going on in the iron and steel industry at Sydney and at Sault Ste. Marie, Ont., where a plant even larger than that at Sydney is to be installed. When these plants are at work it is affirmed that structural steel will be obtainable by Canadian ship builders as cheaply as ship builders in Great Britain obtain their plates, channels and angles; but until these conditions are an actuality, and the ship building industry has established itself, they contend that they are as much entitled to protection by bounties as are the Canadian manufacturers of pig metal and steel ingots. So far this movement is confirmed to the lake ports of Ontario; but it will not be long before the Maritime Provinces associate themselves with it, and unless the Laurier government is prepared to turn its back on its protectionist and bounty record, on the record which it has made since 1897, in connection with government aid to the iron and steel industry, it will find it difficult to withstand the new movement.

**HEATING AND DRYING COMPRESSED AIR.**

A patent entitled a "Process of Heating and Drying Compressed Air," has recently been granted by the Canadian Patent Office to John J. Collins and Edmund J. Walsh, of the City of Ottawa, the former being the discoverer and the latter an interested party in the invention.

A description of the process, published in Canadian Mining Review, is as follows: The discovery made by Mr. Collins is

of the most important nature, is based on thoroughly scientific principles, and by its application the use of compressed air, liquid air and air power, in all its various forms, will be rendered so complete as to revolutionize the economic application of all natural forces, whether utilized for driving stationary machinery, moving trains, operating street railway systems, navigating the oceans, rivers and lakes, cooling and ventilating, and for every purpose for which power, other than manual labor, is desired.

Compressed air is one of the most valuable and most economical powers in use to-day, and while it has been largely used hitherto, its general application, in preference to other forces, has been somewhat curtailed in view of the fact that serious difficulties have arisen in the use of it at an atmospheric temperature of 40 degrees Fahrenheit or lower, on account of the freezing of certain essential portions of machinery which are necessary for utilizing this power. The inventor, having been associated with various large undertakings on this continent where compressed air plant had been installed, but which, in every instance, had been rendered useless for several months in each year by reason of the freezing, as referred to above, applied his energies to overcome those difficulties, with the result that his efforts have been crowned with success, and the use of compressed air in any form is now available in all latitudes, all altitudes, and at any degrees of temperature. I can personally vouch for this, as Mr. Collins' process was adopted

at the mine of the British and Canadian Lead Co., Limited, at Lake Temiscamingue, Quebec, in November, 1900, and has constantly been in use since.

The temperature during the past winter has frequently been as low as forty degrees below zero, yet not the slightest difficulty was experienced in operating the machine drills, the hoist engine and the mine pump by compressed air. Previous to this we were unable to operate the hoist engine by compressed air, and had to use steam for the purpose; even difficulties were experienced in operating the mine pump. I tried various means to overcome the freezing of the air, and consulted several manufacturers of compressed air machinery on the subject, and while some advised the adoption of various expedients, yet none were positive as to their efficacy. Being aware that the difficulty regarding the freezing of compressed air in operating machinery had always existed, I was unwilling to incur any expense in experimenting, but when Mr. Collins placed his proposition before me, and satisfied me that he could put in his process without any expense I readily acquiesced, and he applied it while the hoist was still in operation, increasing its power in effectiveness, and also enabling us to largely reduce expenses in the matter of fuel and wages.

This discovery will place compressed air in the forefront of all physical forces, whether used as a power or for ventilating, and there can be no question but that its adoption will become universal in a very short time.

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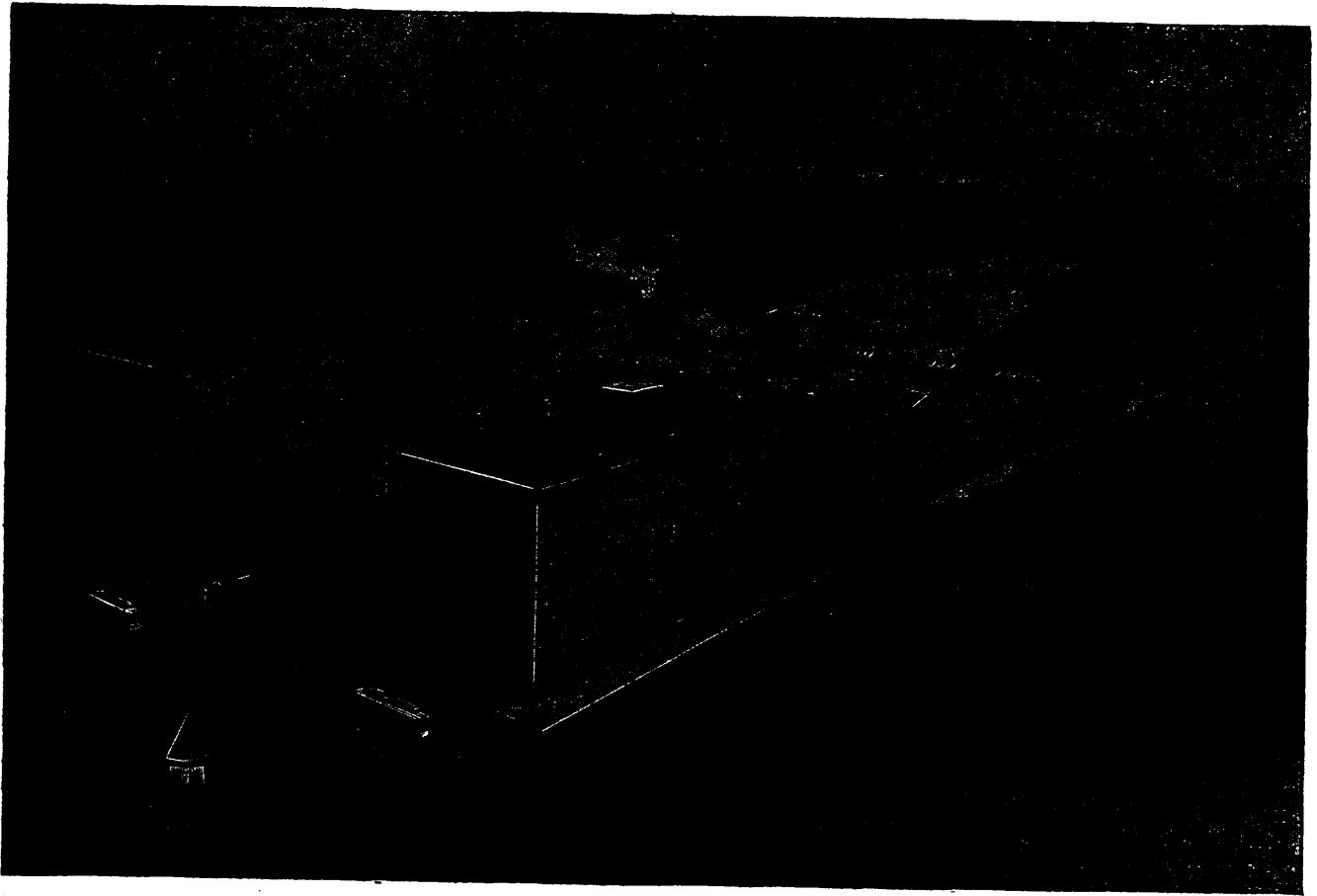
**THE BUFFALO FORGE COMPANY.**

With regard to those advantages of location which largely determine the relative commercial and industrial standing of a city, Buffalo, N.Y., is especially favored. Within easy reach of New York on the east for foreign shipping, and in close connection on the west with the great consuming centres, its commercial facilities are superb. The city

city, occupy the entire block bounded by Broadway, Mortimer, Tousey and Champlain streets. The electric railway lines afford ready access to the works.

The first floor of the five-storey south-east building is occupied by the offices of the company; on the second are the draughting rooms and pattern shop, while the three upper floors are devoted to the construction of Buffalo disc wheels,

shop motors. The centre front building is the sheet iron department. In the northeast building is the fan system heater department, where immense quantities of pipe are used annually. Here also is situated the forge shop, equipped with the Buffalo down-draft forge system, the efficiency of which is so marked that the smoke does not pervade the adjacent open shops.



View of Buffalo Forge Co's Works, at Buffalo, N.Y.

enjoys a bounteous power supply, for Buffalo is a great distributing centre of coal, while the Falls of the Niagara, twenty miles distant, stand alone in the world for vastness of water power. Falls power, extensively used in Buffalo, is connected with the shops of this company for use as desired.

The works of the Buffalo Forge Co., less than a mile from the centre of the

blowers and exhausters. Adjacent to this building is located the new power house. The Buffalo mechanical induced draft system is arranged in conjunction with the boiler plant to supply the requisite draft, which is automatically regulated by a constant steam pressure sufficiently high for the most rigid tests. Buffalo direct-connected tandem compound engines furnish current for the

On the top floor of the new six-storey building, Buffalo portable forges, hand blowers and other blacksmith tools are built, and on the fifth floor Buffalo down-draft and heating forges. The fourth floor is devoted to the construction of Buffalo steel pressure blowers. The painting, crating and temporary storage of light machines is done on the third floor, where also are located certain shop

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**FURNACE**

(Inside) Length, - - - - -	6'
" Height, - - - - -	5' 8 1/2"
" Width, - - - - -	4' 7"

**TUBES.**

Number of - - - - -	112
Length, - - - - -	16' 3"
Diameter, - - - - -	3"
Water Leg Space, - - - - -	4 1/2"

**FURNACE DOOR,** - - - - - 16" x 18"

**SMOKE STACK**

Height, - - - - -	33'
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offices. The second floor provides space for the tool room and finishing of engine parts. On the first floor, and extending into the adjacent central building, are the engine machine shops, thoroughly equipped for engine building. The basement makes a convenient stock room.

In the adjacent central building is located a thoroughly equipped engine-testing room. In this building also, the large steel plate heating and ventilating fans are constructed, with facilities for thorough testing. A modern foundry occupies the northwest building, and adjacent thereto are the pattern vaults. A one-and-a-half storey gallery type building on an adjacent street, not shown in the cut, furnishes a warehouse for storage purposes.

**CANADA'S INTEREST IN PEAT FUEL.**

Speaking of the absence of coal in Ontario, and the great drawback our manufacturers will experience from that cause when contraction of present values sets in, as will occur sooner or later, and pointing out the great wealth of our peat bogs, the Mining Review says:—

We are aware that difficulties have attended every effort in the Western Hemisphere to place peat on the market in competition with coal. The peat bogs of the Middle Atlantic and New England States have been fitfully worked, but such enterprises have failed because of the cheapness of coal. It must be borne in mind that peat is a weak fuel as compared with coal, having an efficiency of from forty per cent. to fifty per cent. less. This will enable coal to travel a long distance from the mines and still drive peat out of the market. No method has yet been devised by which peat may be dug, dried and briquetted at a cost as low as that for which coal may be mined and laid at the pit's mouth. In order to compete in this respect peat must be prepared for market at considerably less than one dollar per ton. Again, most peats are unfortunately high in ash. It is only the exceptional bog which will yield a peat containing less than ten per cent. of inert matter, which is about the average ash content of good anthracite, and where anthracite will yield about 8,000 heat units the peat will give only about 3,500 units. Furthermore, peat contains exceptionally large quantities of volatile combustible material, which occasions some serious difficulties in economical combustion under boilers. Firing in the ordinary way, with the usual draft, is out of the question. In fact, we may say, that it cannot be used with entire success without automatic stokers and mechanical draft. But these limitations are not so serious, especially in a country so remote from the coal fields as is Central Canada. A thoroughly up-to-date power plant using coal is in these days equipped with stokers and mechanical draft, and the pressure of competition will gradually cause all plants of even modern size to discard the old unscientific method of hand firing. If then peat can be produced at the bogs in briquette form at one dollar per ton, allowing it to possess half the

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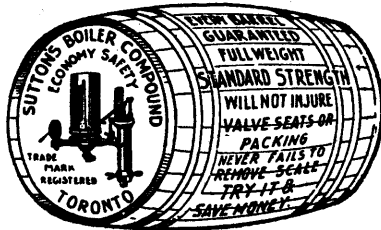
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value of coal as a fuel, it can be sold at less than half the price of its competitor and still allow a good profit to the peat manufacturers.

Another important matter remains to be noticed. The tendency in later years has been steadily toward the production of gas from fuels, especially from those of inferior grade, and then using the gas for steam generation, or for direct application in metallurgical processes. Owing to the high percentage of volatile

combustibles in peat this material is singularly well adapted for gas making. As a source of illuminating gas its value doubtful, though it is not proven, that it may not to some extent be used to replace coal for this purpose. In the manufacture of producer gas, however, it seems indubitable that peat has a large future. For this purpose it does not need to be briquetted, so that a large cost in its preparation is saved. Experiments along this line have been making for some time, and recently a small plant has been erected at the Trent Valley Peat Fuel Works, near Kirkfield, Ont., whose operations will be watched with interest.

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**THE WATER WAYS OF CANADA.**

From the point where the waters of Canada mingle with those of the Atlantic to a Canadian port at the head of Lake Superior, along the entire course of which a vessel may sail in Canadian waters, the distance is 2,260 statute miles.

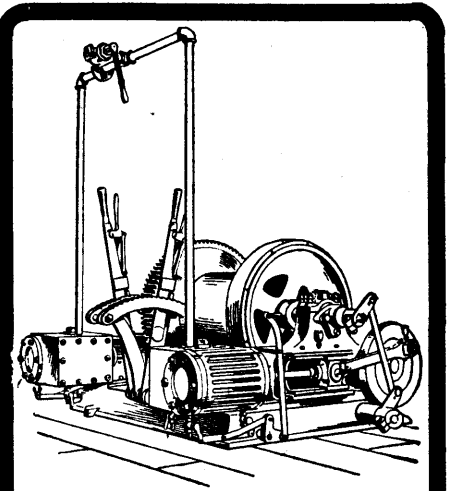
From the Straits of Belle Isle to Montreal, the St. Lawrence River extends 986 miles, with a channel wide enough and deep enough for ocean steamers.

From Lake Superior to Three Rivers, on the St. Lawrence, where tidal influence ceases, a few hours' sail from Montreal, there is a drop in level to the extent of 600 feet; that is, a vessel from Montreal on its voyage to Port Arthur has to ascend 600 feet. To attain this height, there is a system of locks in operation by means of which vessels are lifted 551 feet, leaving forty-nine feet to be overcome by working against a downward stream, which at one place near Iroquois often necessitates the employment of a tug to help a steamer up the river.

Between Montreal and Kingston, the canals, with their length and height of lift, are as follows:

Canals.	Length. Miles.	Lift of Locks Feet.
Lachine .....	8½	45
Soulanges .....	14	84
Cornwall .....	11	48
Farran's Point.....	1	3½
Rapide Plat .....	3½	11½
Galops .....	7½	15½
Murray .....	5½	..

The width of the locks is forty-five feet and depth of water on the sills fourteen feet. On their course down from Kingston to Montreal, several of the canals are not used, as the rapids are run with safety. From Kingston, the course west is through Lake Ontario until Port Dalhousie is reached, where the Welland Canal is entered. This splendid construction extends twenty-six and three-quarter miles; the total lift is 326½ feet, which is effected by twenty-seven locks, each 270 feet by forty-five feet, with a depth of fourteen feet. From the end of the Welland Canal—Port Colborne—there is deep water to Sault Canal, 394 miles. The Sault Ste. Marie Canal extends 5,967 feet; it has only one lock, which is 900 feet by sixty feet, and lowest depth twenty feet three inches, the total rise being eighteen feet. Another water course runs from Montreal to Ottawa and turns down to Kingston, a total distance



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of 245 miles. The rivers Ottawa and Rideau are part of this water way. The canals on this route are: Lachine, eight and one-half miles; St. Anne's lock and piers, one-eighth of a mile; Carillon Canal, three-fourths of a mile; Grenville, five and three-quarter miles. From Ottawa to Kingston—126½ miles—there are thirty-five locks. Besides these main-line canals, there are others on the line of the Richelieu River; in Ontario, through the Peterborough district; in Cape Breton; and a number of branches acting as feeders to the Rideau and Welland systems.

The total quantity of freight passed through the several divisions of the canals during 1899 was as follows:—

Canals.	Tons.
Welland .....	789,770
St. Lawrence.....	2,349,098
Chambly.....	362,635
Ottawa.....	520,105
Rideau.....	69,905
St. Peters.....	70,804
Murray.....	16,788
Trent Valley.....	40,160

According to a recent report of the Department of Railways and Canals, the total traffic through the several canals of the Dominion for the season of 1899 amounted to 6,225,924 tons, a decrease of 392,551 tons compared with the previous year. This includes 3,006,664 tons passing through the Sault Ste. Marie canal, which is free of toll.

In his report the Minister of Railways and Canals says:—

On the opening of navigation in the spring of 1900, by means of the enlarged canal system and the intermediate waterways (though not fully completed), passage to vessels, drawing fourteen feet of water, from Lake Superior to the head of ocean navigation at Montreal was afforded. The extent of the improved facilities of communication so obtained, and their value to commercial interests, may be understood from the fact that in place of the old limit of lock dimensions, viz., length, 200 feet; width, 45 feet; depth of water on the sills, 9 feet. The enlarged locks are 270 feet in length, 45 feet in width, with 14 feet of water on sills, accommodating vessels 225 feet long and 44 feet wide. As an index to the carrying power of the new canal works, it may be observed that a typical vessel—the propeller Aragon, whose length is 247 feet and width 42.6 feet—has passed through the enlarged Welland canal, drawing 14 feet of water and carrying 2,212 tons of corn. The through route between Montreal and Port Arthur, at the head of Lake Superior, now open for 14-foot navigation, comprises 73 miles of canal and 965 miles of river and lake waters, or a total of 1,038 miles. To Duluth, the total distance is 1,162 miles.

The approaches to the canals and the channel through the intermediate river reaches are well defined, and are lighted with gas buoys, rendering their navigation by night, as well as by day, feasible and safe. In the case of the Soulanges canal, the canal is well lighted throughout

by electricity, a system which will be extended to other canals before long. With the more intimate knowledge of the new channel through the St. Lawrence, now possessed by the river pilots, full advantage will no doubt be taken of the improved facilities afforded by the enlargement works; and this great water highway from the West will realize the aims of its projectors and constructors in giving rise to the establishment of lines of deep-draft vessels on the route, with the beneficial result of a vast impetus to the trade and commerce of the country. Already indications of movement on all sides promise the early and rapid development of the new era of progress, not only in the direction of the production and transport of crude materials, ores, grain, coal and lumber, but in the enormous expansion of manufactures and industries on the shores of the Great Lakes and their connecting rivers, notably the iron and steel and shipbuilding industries, to all of which the ability to employ vessels carrying 3,000 tons of freight direct to the seaboard and Europe, which Canada has now afforded, must inevitably prove a great stimulant.

Though naturally not marked in equal degree as on the American side, the tendency to a similar industrial development on the Canadian side is very evident, especially at the Sault Ste. Marie, where, in addition to the existing important pulp and paper mills, the establishment of large iron and steel works is in progress. At Collingwood

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also, and Kingston, like works are projected, while at Depot harbor, on Georgian bay, a system of wharfs and elevators has been constructed for the accommodation of the grain trade. The very extensive harbor-improvement works at Montreal will naturally tend to attract traffic down the canals to that port. The improvements at Port Colborne, the Lake Erie entrance of the Welland canal, are in progress. They comprise the deepening of the approaches to the canal to 22 feet, and the construction of two docks with piers 200 feet wide, upon which grain elevators will be erected to transfer grain to the 14-foot draft canal boats when required. The deepening of the approaches to the Sault Ste. Marie canal, at present limited to accommodating vessels of 17 feet 6 inches draft, so as to give a depth of 22 feet, thus enabling the canal works to be utilized to their full extent (which is the same as the American canal on the other side of the river), will probably be carried out next year.

The revenue from all Canadian canals has been as follows:—

1899.....	\$291,652
1898.....	341,679
1897.....	346,759
1896.....	350,061
1895.....	283,211
1894.....	307,825
1893.....	348,012
1892.....	358,711
1891.....	350,352
1890.....	338,059

The total expenditure charged to capital account on the original construction and the enlargement of the several canals of the Dominion up to June 30, 1900, was \$79,043,784.09. A further sum of \$16,273,125.98 was expended on the repairs, maintenance and operation of these works, making a total of \$95,316,910.07. The total revenue derived, including tolls and rentals of lands and water powers, amounted to \$12,401,917.32.

**CANADIAN CORUNDUM DEPOSITS.**

United States Consul, General Bittinger, at Montreal, sends the following statement regarding the corundum deposits of Canada to his government at Washington:

Corundum is an article of great use in the industrial world for its very high abrasive powers, being used instead of emery as a grinding material. Emery is, in fact, but an impure and consequently much inferior grade of corundum.

Corundum until recently was very little used, as the expense of its mining and its rarity kept its price too high for general use. But the deposits in Ontario are of such value and are so easily worked that it is expected it will henceforth be placed on the market at a more reasonable price. Corundum is a compound of aluminum, and is of the same material as the sapphire and ruby, merely lacking their brilliant colors.

The Ontario deposits lie north of Kingston, and cover a large area. The corundum occurs along with mica and other substances. It is tamped up into powder and separated from the rest of the rock by washing, its weight being much greater

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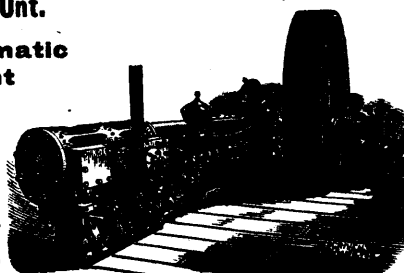
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than that of the other constituents of the rock. The deposits have only recently been discovered, and are as yet almost undeveloped.

A company is starting to work some of the deposits purchased from the Government. The specimens so far tested have proven rich, and the extent of the deposits is probably quite large, though that has not been thoroughly investigated. There is no impediment in the development of these mines at present. They are easily worked, rich in the mineral, and conveniently situated, so that transportation will be cheap.

With the discovery of the corundum deposits in such pure condition has arisen the somewhat vague hope that its more precious relations, the ruby and the sapphire, might also be found in the same region, and this has led to considerable investigation. In some places corundum has been found which shows plainly the blue line of the sapphire, but as yet no real gems have been discovered.

Corundum of a very high grade—viz., ninety-five per cent. pure—is now being produced at Combermere by the Canada Corundum Co. When it is remembered that manufacturers have heretofore been satisfied with an eighty per cent. product, the outlook for the Canadian industry seems bright.

The Canadian deposit is found in the Apalachian mountain range which runs through the eastern townships of Quebec, and as the rock formation is the same as in North Carolina, there is every reason to believe that corundum exists there also.

**BRITISH COLUMBIA'S COAL AREAS.**

When the Dominion Government made its bargain with the Canadian Pacific Railway, soon after Sir Wilfrid Laurier took office, for the construction of the Crow's Nest Pass Railway, one of the principal points in the agreement was a clause preventing a monopoly of the coal lands of that region. The Canadian Pacific Railway was to build a road from Lethbridge, in the territory of Alberta, through the Crow's Nest Pass to Nelson, in the province of British Columbia, for a subsidy of \$11,000 per mile for 330 miles. The object of this road was to enable the farmers of the West to provide the food supply of that growing centre of population, which was, up to that time, dependent upon the American market for its food products. In return for the subsidy the railroad company made certain concessions in the way of reducing rates, and permitting the governor-in-council to revise the same, as well as giving to other railways running powers over the road and its branches.

In addition to these concessions the Dominion Government became possessed of 50,000 acres of coal lands, belonging to the Canadian Pacific Railway, situated in the neighborhood of the Crow's Nest Pass. These lands are one-fifth of the coal lands granted by the British Columbia Government to the British Columbia Southern Railway Co., whose charter was subsequently acquired by the Canadian Pacific Railway. In British Columbia, as

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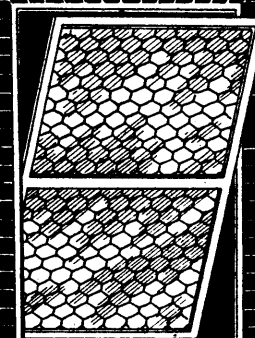
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in the older provinces, the lands are owned by the province. It is estimated that the coal obtained by the Dominion from the Canadian Pacific Railway in this way is worth \$20,000,000 at a value of five cents per ton. But it is not the money value to the government that makes important the ownership of these lands, but the control of prices of coal to the mining centres and the preventing of monopolies among private owners of coal lands.

The time has arrived to select these coal lands by the Government, so that a portion of them may be ready to be placed upon the market should occasion arise. The Hon. Clifford Sifton, Minister of the Interior, who has charge of the administration of these lands, has engaged Col. Taylor, chief engineer of the Pittsburgh Coal Co., to make a final choice for the Government of the coal lands in the pass, which were provisionally selected by the officials of the department. Col. Taylor is regarded as one of the best mining experts in the United States. The mineral wealth of the entire coal fields is something marvelous. The total estimated area of the coal lands covers about 230 square miles, and the total thickness of coal is over 216 feet. It is not thought, however, that this entire thickness is profitably workable on account of impurities in the coal and irregular intervening layers of foreign noncombustible materials. After making a generous allowance for these and deducting the smaller and unimportant seams from the general thickness, it is estimated that there is a thickness of at least 100 feet of workable

coal in the beds. Using this calculation as a minimum basis, one acre of the coal lands, with 110 feet of coal, would yield 153,480 tons, and the total yield of the entire area of 230 square miles, or 147,200 acres, would be 22,595,200,000 tons. The present output of the Crow's Nest Pass mines is over 1,000 tons a day, and at this rate of consumption the vast quantity of coal would not be exhausted for 72,189 years. It is expected, however, that the approximate output will soon be 100,000 tons a day, and, even at this rate of depletion, the workable coal will last for over 721 years.

In shape, the coal area is described as "a long pointed triangle, with its base to the south." Its greatest length is about thirty-five miles, north and south, and its greatest width about thirteen miles. The good quality of the coal itself is well established, and as its value depends largely upon its coking characteristic, it is interesting to note that the coke product is described as of "superior quality." Some difficulties and dangers will have to be contended with in the proper utilization of the fields, as, owing to the bituminous character of the coal, dangerous accumulations of gas are encountered. With adequate and effective ventilating apparatus there is, however, very little to be feared from this unpleasant feature of mining. The great thickness of the seams and the tenderness of the coal composing it will, it is expected, also prove to be obstacles in the way of cheap and complete extraction. Great pressure upon the workings will probably be experienced, as the levels

run in seams from the bottoms of the valleys some 3,000 feet below the surface of the plateaus. Modern engineering science may safely be depended upon to overcome or considerably to lessen these difficulties. On the whole, the seams are of easy accessibility and the conditions for mining are described as favorable.

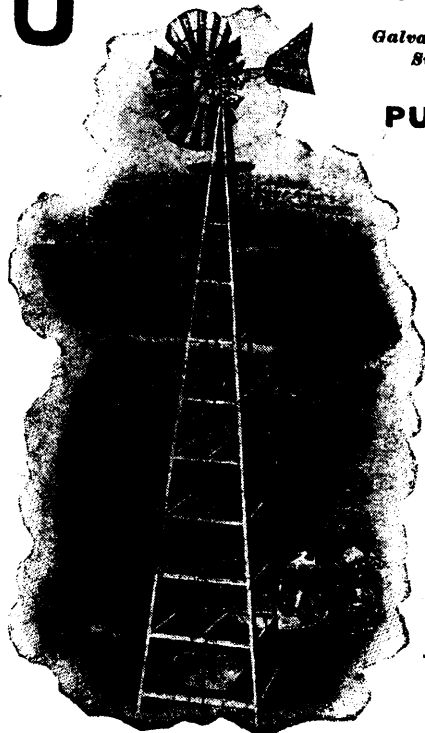
When the district is properly served by railways—and a road is now under construction from Fernie to connect with the roads from the south—the advantages of a near and a cheap supply of coke for smelting and refining purposes will be of inestimable value and a great stimulating force to the entire mining industry of British Columbia. The further advantages of a cheap coal supply for general domestic and manufacturing purposes can hardly be estimated.

#### STREET RAILWAY FENDERS.

The problem of street railway fenders in Ontario appears to have been solved so far as legislation goes, an order-in-council having been signed, whereby three inventions are authorized and approved for use on street cars in this province. Those to which the Provincial Engineer, Mr. Robert McCallum, gives his official approval are the Providence, now in use in Ottawa; the Twentieth Century and the Improved Sleeman. In his report the Engineer says: "I have examined all the drawings, models and full-size designs of street car fenders submitted to me, and, where possible, I have submitted such designs to practical tests. These

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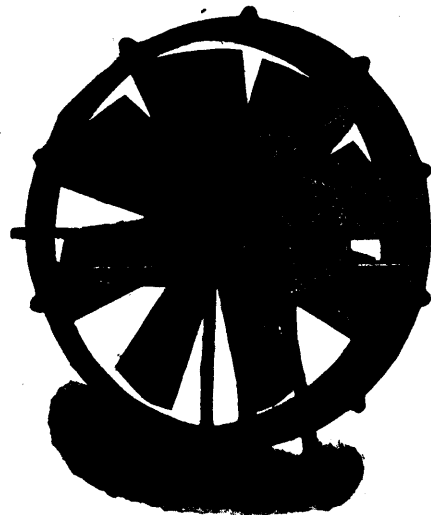
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examinations and tests have demonstrated to my satisfaction the superiority of the Providence, Twentieth Century and Improved Sleeman fenders over any other fenders I have seen, and their suitability for use by electric railway companies, having regard to efficiency for life-saving purposes and the other considerations mentioned in the said act. I therefore beg to recommend the adoption of one or more of these fenders by the street railway companies of the Province."

The deadlock over the fender question has existed for some time, but legislative action was rendered necessary by the neglect or refusal of many of the companies to equip their cars with a fender which would be of any use in saving the life of a person whom the car might strike. In the 1900 session of the Legislature an act was passed providing for the adoption by street railway companies of a fender approved by the Provincial Engineer. In accordance with this the engineer approved the Providence fender. There was, however, no provision in the act for a penalty in case of failure to use such a fender, and the companies naturally did not adopt it, giving as a reason that they did not want to be "held up" by one fender company. The Legislature at its last session amended the act by providing that the Provincial Engineer might from time to time give his official approval to certain fenders. It also provided that companies failing to comply with this within three months from the passing of the order shall pay a fine of ten dollars per day for each car so unequipped to the municipality. Exception is made in the case of companies, such as London, which have existing agreements with the municipality as to the use of any particular fender.

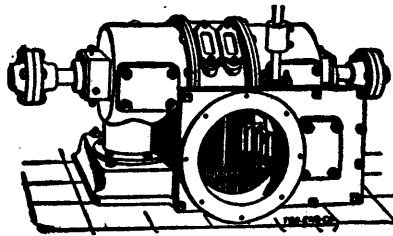
The principal advantage which these fenders are claimed to have over that now in use in Toronto, for instance, is their adaptability to the exigency of an accident. In the Providence and the Twentieth Century the motorman can, by either hand or foot, instantly lower the fender to the track so as to prevent a body from going under it and under the wheels. The Sleeman, it is claimed, will, in addition to falling by the will of the motorman, drop automatically on striking an object.

**A CANADIAN INVENTION.**

Critics have lately been telling us that the Lee-Enfield rifle is scarcely good enough for Canadian militia-men, yet with that same weapon a team of Canadian riflemen defeated a picked eight of Yankee shots in New Jersey last week.

Mr. James P. Lee, who is now residing in Galt, Ont., does not claim that the British national arm—his invention—is the best one in existence. Since the British Government accepted his model he has improved the magazine arrangement, but when conferred with the War Office refused to adopt the improvement. The latest Lee gun is the arm of the American navy; not, however, of the army, which uses the American Krag. People who do not understand the ways of Yankee politicians will doubtless be puzzled over the

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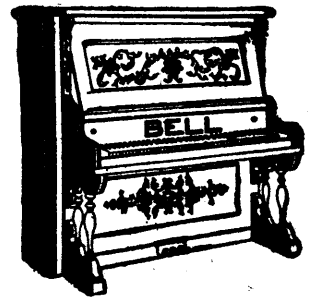
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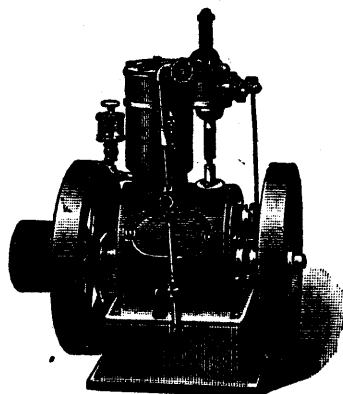
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rejection of the Lee gun by the War Department at Washington. The manufacturers of the Krag rifle have displayed a vast amount of finesse in securing recognition for their gun, but it must rather stagger them to find that in a duel between the national arms of the two nations Canadian shots were able to prove conclusively the superiority of the Lee-Enfield. At the longest range, especially, was the British weapon in the hands of our riflemen most effective.

Had justice been done Mr. Lee, the United States army would to-day be using his gun—the weapon now in the hands of the United States navy. As things stand, experiments show that the weapon bearing Mr. Lee's name, and which the inventor claims as just a little inferior to the latest product of his mechanical skill, has outpointed the American Krag in a test that must be regarded as a fair one, though the conditions favored the Americans, shooting as they were on home ranges. We don't think Canada is yet ready to discard the Lee-Enfield—or look with contempt on the Lee-Metford—for the Krag-Jorgensen or the Mauser. The gun now in our hands seems to be just as good as any of them.—Galt Reporter.

## UTILIZATION OF TIN SCRAP.

When first I turned my attention to the subject I found that large quantities of tin scrap and galvanized iron were every day carted to the dumps. I found that the average coating on scrap tin, tin as tin on plate, was three per cent.; that the iron, if properly cleaned, could be used in the knobbling furnace and in the puddling furnace; that the use of galvanized iron was a necessary part of the process; and it looked so encouraging that we decided to build a plant to work it on a commercial scale.

I procured a half-dozen of the larger beer casks used for storage, and which are about six feet in diameter and six feet deep. After removing the heads they were placed in the ground in a semi-circle and a crane was rigged up that commanded all the tanks. In the first tank was charged hydrochloric acid; in the second, water; in the third, water with a little lime; in the fourth, water;

and in the fifth, a solution of copper sulphate.

The plan of work was to fill a large wooden cage that would hold loosely about 200 pounds of the clippings. This was swung on the crane and placed in No. 1 tank. In ten minutes' time the crane was raised and the clippings examined to see if the tin was dissolved. If so, the cage was then lifted out of the acid tank and another cage filled with clippings took its place. The cleaned scrap was washed in the water tank No. 2, lifted up and down to well wash it, and then immersed in the lime tank, No. 3. This neutralized all the residual acid that was left in the pores of the iron. The untinned and limed scrap was then moved to water tank, No. 4, for final washing, then plunged for a moment, just enough to submerge it, in the copper sulphate solution, then immediately removed. The object of this treatment was to form an exceedingly thin film on the iron, to prevent the rusting of the clean iron, which is so sensitive when exposed to the air that it will almost immediately cover itself with rust. The cleaned scrap was compressed in a drop press into balls, and in this form was shipped to the iron works and worked

into blooms for sheets, commanding a price of from \$10 to \$12 per ton.

After the process had been continued for some time all the acid in No. 1 tank would become neutralized and we would have a solution of chloride of tin.

The process of tin cleaning stopped here for a while. We then took a cage of galvanized iron scraps, filling the cage loosely. When the zinc came in contact with the tin solution the metallic zinc took the place of the tin, forming zinc chloride, and all the tin was precipitated as metallic tin, in a finely divided state. We worked this plant successfully for some time, recovering, when melted into ingots, about 600 pounds of tin from ten tons of scrap. The recovered iron commanded \$10 per ton and the zinc chloride \$20 per barrel, for disinfectant purposes, and for treating wood to make it fire proof.

We finally closed the works because of the objectionable vapors that annoyed our neighbors, with the intention of rebuilding on the swamps near Chester; but other things prevented us doing so. I yet think it is the best and most profitable means of utilizing this scrap, especially if electricity is used for the deposition of the tin.—Prof. Joseph Richards in Journal of the Franklin Institute.

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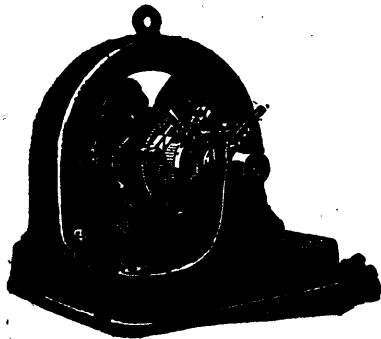
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**THE IRRIGATION PROJECT.**

The Canadian Pacific Railway Co. has now under consideration a scheme for the irrigation of some 3,000,000 acres of land between Medicine Hat and Calgary. That arid plain, called the great American desert, extends north of the boundary line, and we have a considerable extent of land too dry for farming purposes. There are areas where the absence of water makes successful ranching impossible—where land is as worthless, under existing conditions, as if it did not exist. The rivers that arise on the eastern slope of the Rockies have worn deep channels for themselves in their journey toward Hudson Bay, leaving the adjacent country dry and unfruitful. There is water in abundance, and it is only necessary to revise nature's handiwork and distribute it throughout the districts now dry and barren. The Globe says that surveys have been made by Mr. Anderson, an irrigation engineer of recognized ability, and it is stated on good authority that his report presents a feasible scheme of irrigation that can be carried out at comparatively small cost. The Winnipeg Telegram publishes plans and details of the scheme, which show that the entire system can be operated by gravitation from a proposed dam on the Bow River, about a mile east of Calgary.

The western half of the continent has been tilted upward by the convulsion that reared the great mountain chain, and the land at Calgary is about 3,300 feet above sea level. At Medicine Hat the altitude is only 2,300 feet, and that gradual slope from the foothills makes the problem of irrigation comparatively easy. The intervening land is a plateau, watered on either side by the Bow and Red Deer Rivers. There are no hills to interrupt the regular distribution of water along irrigation canals, and the soil is perfect, requiring only moisture. The Bow River is one of the largest of the many streams issuing from the foothills of the Rockies and finding a perpetual source in the snows and rains of the lofty peaks and ridges. With a dam on the river to give the requisite initial elevation, the irrigation of the gradually-sloping land by a network of canals will present no serious engineering difficulties. If the Bow River should not afford sufficient water there are many natural basins among the foothills that can be utilized as reservoirs. Late summer is the season of high water, for it is then that the sun melts the accumulations of snow at the higher altitudes of the mountains, and it will be a comparatively easy matter to store an artificial supply if the waters of the Bow are found inadequate. The practical scheme under immediate consideration is the irrigation of 300,000 acres, about one-tenth of the land that may finally be included in the operations of the company. Smaller irrigation works already established have proved the possibility of satisfactory results, as the land has all the requisites of abundant fertility with the exception of moisture. The arid districts of the West may have an important part to play in the agricultural production of the Dominion.

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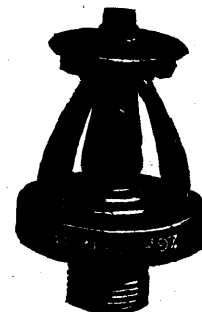
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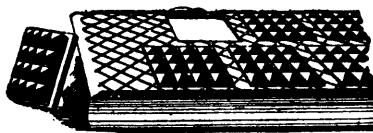
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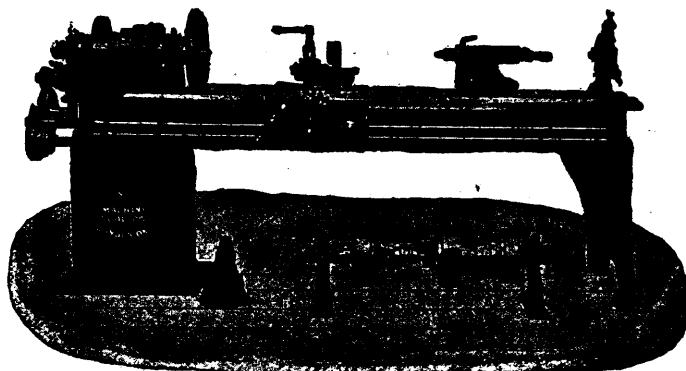
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**A NEW IRON ORE MINE.**

Nineteen years ago George Wagner discovered a fine iron ore property in Canada, about twenty-four miles from the "Soo." It was secured from the Canadian government, but when the parties behind Wagner undertook to build a railroad they found it would cost not less than \$1,000,000, and the project was abandoned. Now it is only one and one-half miles from Wilde station on the Algoma Central & Hudson's Bay railway. The Breitung Iron Co. has been organized by the original owners, with Mr. Wagner as president, and development work is in progress. The property comprises 1,000 acres, and is described as a mountain of specular ore similar to that in Negaunee, running sixty per cent. pure on the surface, with a practically inexhaustible supply. Mr. Wagner was a member of the State Legislature four terms, and has many friends through the State of Michigan who will be glad to hear of his fine prospects.—Marine Record.

**OPPORTUNITIES.**

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

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

563. Enquiry has been received from a correspondent in Rome for quotations for Canadian oak, unsawn; presumably oak logs.

564. A gentleman who is about to proceed to Canada with a commission to purchase butter in the centres of production, asks for information respecting the situation of factories, creameries, etc., and particulars concerning same.

565. Several business men who are shortly starting business in South Africa as general merchants, with departments for hardware, fancy goods, crockery, groceries, etc., are desirous of hearing from Canadian manufacturers requiring representation.

566. An Antwerp importer asks for names of British Columbian packers of canned salmon.

567. The agency for one or two large packers in Canada, of canned goods, is required by a London firm who are prepared to push the sale of such goods.

568. The engineer and surveyor of an important district in London makes enquiry respecting the suitability of Canadian woods for paving purposes.

Christie Bros. & Co., Amherst, N.S., will be incorporated with a capital of \$100,000 to manufacture coffins, caskets, undertakers' supplies, etc. The applicants include G. W. Christie, Charles Christie and J. C. Harlow, all of Amherst.



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and Elm, all thicknesses  
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**MARKETS.**

Following are reports and observa-  
tions relating to the markets of Can-  
ada and elsewhere, having reference to  
hardware, metals, paints, oils and such  
specialties as are usually handled by  
jobbers and dealers in such goods. Fol-  
lowing these items will be found cur-  
rent market quotations of such goods,  
and the trade are requested to suggest  
to the publishers any improvements by  
which it is believed the quotations may  
be rendered as correct and valuable as  
possible.

TORONTO, September 20, 1901.

Toronto's big Fair is over, and while  
the result to the Association has not been  
a financial success, to the business world  
has been shown marked progress in  
various lines of manufactures. The  
closing day of the first week brought  
to the attention of the directors a forcible  
argument in favor of more suitable build-  
ings, for the exhibition of goods. In  
many of the buildings the rain came  
through the roofs as through a sieve,  
damaging goods to the value of several  
thousands of dollars. While an effort  
was made recently to obtain public  
approval of expenditure to meet the re-  
quirements of the Association, but met  
with defeat, it is to be hoped that  
before next fair time something will be  
done to place the buildings in a more  
satisfactory condition. Exhibitors were  
loud in their denunciation of the state  
of the pavilions, many of them stating  
plainly that they would not come again  
unless improvements were made.

As was expected, the report of the  
shooting of President McKinley had a  
depressing influence on the share mar-  
ket, values opening several points below  
the previous night's closing quotations.  
A much further decline would have  
occurred if the big operators and bankers  
had not during the night taken precau-  
tions to protect values. However, sev-  
eral big "long" deals were liquidated,  
and this selling of itself was sufficient to  
ease the market several points. It is  
difficult to see how the President's death  
will have more than a sentimental effect  
on the situation, for with Roosevelt as  
President, the country will have a man  
controlled by the same influences as the  
late popular magistrate. It is not  
known that he is at all inimical to the  
trusts and big capitalists of the United  
States.

During the Fair a Toronto gentleman  
who has been a resident of the United  
States for a number of years, and who is  
visiting friends in Toronto, remarked  
upon the growth of industries in the  
western part of the city. He said:—"I  
have not seen any more convincing  
evidence of the growth of Toronto than

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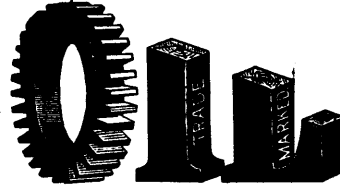
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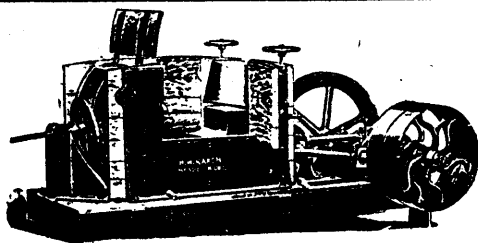
Is unique and unequalled by any other Power Hammer for its  
Simplicity, Power, Ease in Operating and Fewness of Parts;  
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Patent Double-Acting Gig Dyeing Machines.

that on King Street West. Those new factories stand out prominently in support of the prosperity, not only of the city, but of the whole of Ontario."

The customs department has issued to collectors at the various ports a summary of the manifesting and coasting regulations. Goods transported in bond shall be marked "in bond" on the railway way-bill and on the manifests and reports of the vessels and vehicles used for such transportation. Fractional numbers (as  $\frac{1}{2}$ ,  $\frac{3}{4}$ , etc.) must not be used in numbering manifests.

The colors approved for manifests are as follows: — On railways (dutiable), pink; by express, yellow; by vessel, white; and for posted packages, green. In cases of urgency a press copy of the manifest, taken on green glazed paper, may be accepted for filing at the sending port only; provided, however, in all cases the original manifest, legibly filled in with ink or indelible pencil shall be forwarded by mail from the sending port to the receiving port, and that such original manifest always remains on file at the receiving port.

With respect to the transfer of merchandise in course of transportation through Canada, the following regulation has been adopted:—

When cars partially loaded arrive under United States Customs seal at any railway station at which there are both Canadian and United States Officers of Customs in attendance, such car may be unsealed by a United States Officer in the presence of a Canadian Officer, and the contents transferred to another car under the joint supervision of the said officers, and all such changes and transfers shall be duly recorded on the back of the manifest accompanying the car in same manner as is permitted in case of accidents, and be signed by both of said officers.

Goods the growth, produce or manufacture of Canada, including goods in excise bond under the usual removal entry, and foreign goods, duty paid or free of duty, may be transported from one port to another of Canada over the territory of the United States by railway with the consent of the proper United States authorities, by routes duly designated and bonded for such purposes. Imported goods in bond may be transported in like manner.

The announcement of the death of President McKinley, it was thought, would influence a further decline in prices of securities, but the action of the governors of the New York stock exchange in closing down on Saturday, gave the large operators and capitalists an opportunity of organizing to protect the market. Monday, the first day of trading after Mr. McKinley's death, witnessed a recovery in values that encouraged the bulls and influenced outside buyers. London was the leader in the upward movement and the leading American and Canadian exchanges followed closely. The reasons for this upward movement are given out as follows:—Roosevelt's conservative and level-headed statement, that he would carry out the policy of the late president, sufficed to re-establish

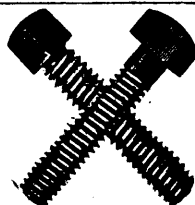
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confidence, and the reported practical settlement of the steel strike and the return of thousands of men to their daily labors constituted another hopeful argument. There are, of course, many who expect a re-action before the end of the week, but the crisis has been passed, and if values decline there is a feeling among holders that it will only be temporary.

The strength on stocks extended to the Canadian exchanges, where the situation was strengthened by the announcement of an increase in the quarterly dividend of the Toronto Street Railway, placing the property on a five per cent. basis. The advance of Toronto railway dividend will, no doubt, influence good buying of Twin city, which is now selling over 102. Canadian Pacific and Dominion coal shares also show a higher tendency.

The results of such an event as the death of the Chief Magistrate, are usually two-fold in their influence upon business affairs, one, which is felt in the hours immediately after and comes from shock pure and simple, and the other, a general scrutinizing of business conditions and prospects. The advent of the latter is

slow. Whatever the general drift of the market may be, the large reduction in values which took place has gone a long way towards discounting the immediate effect of the President's death. Those who believe that the market is in a period of decline ought to remember that however satisfactory to themselves may be the reasons which they can adduce for this belief, stocks are still lodged in strong hands that are both willing and able to protect them, and that this concentrated control is full of danger for overventure-some operators for the fall. One thing can be announced with certainty, that there will be no panic because of what has happened. While it is improbable that money available for stock speculation will be in plentiful supply until the December settlements are over, it is equally improbable that the immediate future has money stringency in store.

BRITISH PIG IRON MARKET.—Messrs. Wm. Jacks & Co., 49 Leadenhall street, London, E.C., Eng., under date of September 7, 1901, write us and quote as follows:—"Since writing you last the market has been steady, the American

strike causing orders for steel to come to this country. That and the good trade in tin plates have stiffened prices for Hematite pig iron, but the position of Scotch and Middlesbro' Foundry iron is weak, owing to absence of usual German autumn demand, and large arrivals of 'Disc' iron from Canada. No. 1 Gartsherrie, 67/-f.o.b. Glasgow; No. 3 Gartsherrie, 57/-f.o.b. Glasgow; Nos. 1, 2 and 3 Cumberland Hematite, 68/-f.o.b. Liverpool; Refined DTN Hematite, in small pigs, 86/-f.o.b. Liverpool."

BUFFALO PIG IRON MARKET.—Office of Rogers, Brown & Co., Buffalo, N.Y., Sept. 17, 1901.

The capacity of all furnaces whose product naturally comes into this market is well engaged ahead. Shipping specifications are increasing, if anything.

In face of a really strong situation, however, some furnaces in neighboring states are struggling for orders in new fields. The only reasonable explanation is that they must be the exceptions and be out of orders. This feature lends steadiness to the market and is really beneficent, as without it there would surely be a panicky advance.

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This creativeness of the market usually is prophetic of an advance.

The above refers to foundry iron. Malleable and Lake Superior charcoal are very firm all along the line.

We quote below on the cash basis, f.o.b. cars Toronto, in bond :

Lake Superior Charcoal.....	\$20 00
No. 1, X. Tonawanda Scotch iron.	16 50
“ 2, “ “ “ “	16 00
“ 1, “ Niagara iron.....	16 00
“ 2, “ “ “	15 50
5/16 Silicon Mannie Charcoal softener.....	16 50
3/16 Silicon Mannie Charcoal softener.....	16 00
CConnellville 72 hour Foundry coke.....	5 00

**INCREASED OUTPUTS OF COPPER.**—The United States Government are publishing a brochure regarding the remarkable development of the copper producing industry of that country during the fiscal year ending June 30, 1900.

The industry, the report says, was exceedingly prosperous during the year. Values remained at a relatively high level, and, while some of the great producers, through a variety of specific causes, did not contribute as much metal as in former years, others largely increased their output. There was very great activity in the opening of old mines and the development of new properties, but only a few reached the productive stage in 1900. One by one, the report says, they will appear as sellers in the copper market 1901 and in 1902.

The report contains figures showing the great strides made in the mining of copper since its inception as an industry in the United States. In 1845 the total output of the entire country was only 100 tons, in 1850 it was 650 tons, in 1869

12,500 tons, and in 1880 it was 27,000 tons. Since 1880 Montana and Arizona have entered the field, and the yearly output has increased by leaps and bounds. In 1883 the output was 51,574 tons, in 1890 115,966 tons, and in 1900 the gross total tonnage of mined copper was 270,588 tons.

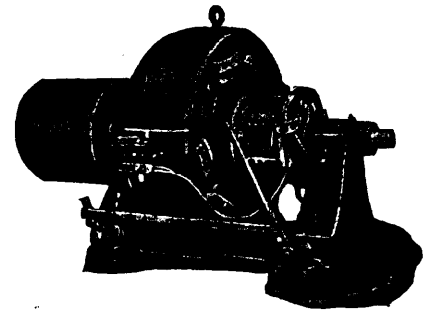
Prior to 1880, when the new fields in Montana and Arizona began to make themselves important factors in the output of the United States, by far the greatest percentage of the total output came from the Lake Superior region. In 1849 the percentage of the Lake Superior product of the total output was 96; in 1850, 38; in 1869, 95.1, and in 1880, 82.2. With the discovery of the Montana and Arizona mines, however, the percentage of the total product of copper mines in the Lake Superior region began to decrease. It was 20.07 in 1883, 13.4 in 1890, and 19.5 in 1900.

The exports of copper from the United States have steadily increased during the last few years. In 1893, 80,392 tons of fine copper were exported; in 1896, 125,605 tons; in 1898, 145,115 tons, and in 1900, 160,082 tons. The heaviest exports took place in the first half of 1900, when 90,743 long tons were shipped. The product of Montana in 1900 broke all records, being 770,738,439 pounds, while in Arizona there was a slight falling off.

**DECLINE IN LINSEED OIL.**—The month of August, 1901, will long be remembered in the paint and oil trades as witnessing a record-breaking decline in the price of linseed oil. Indeed, the first year of the new century has a record for extraordinary fluctuations in the price of oil, June and July witnessing advances at a rate not before experienced, and the suddenness and extent of these has only been exceeded by the declines which took place in August, there having been a drop of twenty-seven cents per gallon, or an average of one cent for each business day. The decline, however, has not been gradual, but has been by breaks of from three to ten cents at a time. The causes for the break in prices are regarded as naturally leading to these results, the principal one, of course, being the assurance of a large crop of seed and consequently lower prices for new crop seed. It is yet too early to venture upon an estimate which may not be subject to radical revisions later on, but a crop exceeding 20,000,000 bushels appears to be conceded by all, and the estimates by those who are ordinarily well posted run all the way up to and even exceeding 25,000,000 bushels. With a crop of 20,000,000 bushels there would be an excess over home requirements which would necessarily be marketed abroad. It is therefore probable that the situation in England will, to a great extent, govern seed prices here. The Russian crop, it is believed, will prove an average one, and as prices for seed ruled high last year, it is believed that the acreage in Argentina is larger, and the production there will be correspondingly greater. Supplies from the latter country will, of course, not be available until months after the

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extent of other sources are definitely determined, but they will nevertheless exert a potent influence. With a surplus of from two to five million bushels, the export value of seed must, of necessity, to a great extent govern the prices here, and the prospects must be regarded as indicating a declining market for seed.

Under these conditions the rapid decline in the price of oil is perfectly natural, and that the market should be somewhat unsettled is not to be wondered at, as there naturally follows a sharp rivalry to sell oil at current prices, and seed may be purchased at steadily declining prices and the oil replaced at lower cost. It is useless to speculate as to how low in price oil will go, as the exact conditions and extent of the seed crop is not yet determined, but harvesting will be practically completed in the course of a couple of weeks, and with favorable weather during this time the conditions may be regarded as determined, and an approximate estimate of the condition and extent of the crop be made, but the belief is general that prices must go still lower. Buyers of oil had allowed their stock to run low and have for some time purchased in a hand-to-mouth way, but they have for some time been accustomed to high prices, and when the break came purchasers were quite liberal, but probably few have anticipated later requirements and will continue to purchase on the downward course of prices.—Oil, Paint and Drug Reporter.

**SAULT STE. MARIE ENTERPRISE.**—A correspondent of the Paper Mill says:—The preparatory work for damming St. Mary's rapids is well under way. It was begun a few weeks ago with the laying down of a switch on Gorby's island, just below the northern end of the International bridge. A large warehouse with offices has been erected. In this will be stored material for the erection of the piers and dams. The track has been extended under the bridge into the rapids above, upon stone work that has been filled in to make a roadbed for it.

A blacksmith shop, two hoisting derricks, and two engines which operate them are situated below the bridge. A large mixing plant is to be erected here. Eastward, the track extends from Gorby's island toward a smaller island lying in the rapids, upon which, it is hinted, that Mr. Clergue's new flour mill will be erected. The preparatory dam begins over toward the head of the Canadian ship canal, and runs parallel with the Canadian Pacific Railway track, at a few hundred feet from it.

About 800 feet of this dam has been put in. The cribs are built and filled with stone, then floated down with the aid of a scow to the required spot and sunk. The filling in is then completed with a scow. The cribs are strongly joined with timber work, upon which runs a movable dredge. This is employed in groping for stone in the river bed, and filling in the cribs and intervening spaces. Stop logs are being put in between every two cribs, planks driven down and stones filled in between them.

About forty carloads of stone are brought out daily from the power canal on the American side, and used for filling in the cribwork, making roadbeds, etc. For the present purpose only two more cribs are required to be put in, and as soon as the intervening spaces are filled the water below will be in a condition to allow of the building of the coffer dam. This will be over 300 feet in length and 100 feet in width, and will require an immense quantity of timber. Inside of this will begin the construction of the piers.

The present contract, to be completed in 1901, calls for the erection of five of these piers, between which will be placed five immense steel gates, sixty feet in length. It is expected that the work on the coffer dam will be well under way in about six weeks. The whole undertaking will take over two years.

In a postscript to a recent letter to the B. F. Sturtevant Co., Boston, Mass., the F. M. Sibley Lumber Co., Detroit, Mich.,

says: The Sturtevant Exhaust Head we bought of you, last winter, is perfection itself. We are very much pleased with it. It keeps our mill roof as dry as if there were no exhaust at all.

**BUSINESS CHANGES.**

FROM BRADSTREETS.

**ONTARIO.**

BURLINGTON—Handy Crate & Basket Co., assigned.  
 GUELPH—Robertson, Taylor Mfg. Co., mfrs. cream separators, etc., corporate name changed to Petrie Taylor Mfg. Co.  
 HAMILTON—Lawry & Son, pork packers, style changed to Fowlers' Canadian Co.  
 MARKHAM—Underhill & Sisman, mfrs. boots & shoes, removing to Aurora.  
 MERRITON—Riordan Paper Mills Co., increasing capital to \$1,000,000.  
 OSHAWA—Lander Bros., hardware, meeting of creditors.  
 PRESCOTT—James H. Whitney (Estate of), machine shop, business advertised for sale.  
 PRESTON—Preston Glove Co., obtained charter.  
 SARNIA—British American Can Co., obtained charter.  
 WINDSOR—Morton & Christie, hardware, advertised business for sale.

**QUEBEC.**

FRASERVILLE—Sea Moss Carpet Co., applied for charter.  
 HEDLEVILLE—Edmond Julien, mfr. patent leather, assigned.  
 MONTREAL—Richelieu Cordage Co., obtained charter.  
 PLESSISVILLE—La Fonderie de Plessisville, increasing capital to \$150,000.  
 St. GREGOIRE—Gedeon Hebert, mfr. threshing machines, meeting of creditors.  
 St. JOHN'S—Campbell & Parvia, Caledonia Pottery, dissolved, W. A. Campbell continues.  
 St. John's Straw Works, applied for charter.  
 QUEBEC—Roberval Pulp & Paper Co., applied for charter.

**NEW BRUNSWICK.**

FREDERICTON—James Barnes Construction Co., applying for incorporation.

**NOVA SCOTIA.**

AMHERST—Christie Bros. & Co., mfrs. coffins, trunks, etc., applying for incorporation.

**BRITISH COLUMBIA.**

VERNON—Vernon Hardware Co., opening branch at Armstrong.

**MANITOBA.**

SELKIRK WEST—W. S. Young, hardware, sold out.

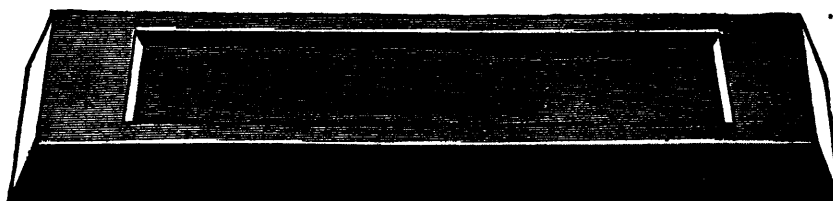
**NORTH-WEST TERRITORIES.**

LACOMBE—Morris & Taylor, hardware, succeeded by C. E. Morris & Co.

**THE BEST IS NONE TOO GOOD.**

The largest machinery builders in Canada and United States use our Babbitt Metal. Is this not sufficient proof of its superiority over other anti-friction metals? If the largest users are satisfied with our Babbitt Metals, why should it not suit you? We can furnish you with numbers of testimonials.

Importers and Dealers in  
**PIG TIN, ANTIMONY  
 INGOT COPPER  
 ALUMINUM  
 NICKEL, BISMUTH  
 IRON AND STEEL  
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Manufacturers of  
**BABBITT METALS, SOLDER  
 TYPE METALS  
 COLUMBIA PHOSPHOR TIN  
 AND  
 ALL OTHER WHITE METAL MIXTURES**

**SYRACUSE**

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**BABBITT**

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**BEATS  
 THEM ALL**

**SYRACUSE SMELTING WORKS**

WILLIAM AND ST. THOMAS STREETS, - - MONTREAL

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# HARDWARE, METALS, PAINTS and OILS

Current Prices, Revised September 20, 1901.

The following quotations represent the prices current in the market, as obtainable by the trade, whether from the manufacturers or the jobbers. Small orders and broken packages usually command higher prices, while lower prices are usually given to larger buyers.

The Canadian Customs Duties imposed upon all imported articles enumerated in these lists are published in full in the 1900 Tariff Edition of THE CANADIAN MANUFACTURER. Price 50 cents per copy.

The publishers request the trade to suggest any changes and improvements which might be made in these lists, with a view to rendering quotations as correct and useful as possible.

ADZES.—Duty 30%. \$13 to \$20 per doz.	Prices are f.o.b. Toronto, Hamilton, Montreal, St. John and Halifax. Terms 3% cash, freights equalized.	BANDS.—Duty 30%. Carriage Hub, 2" x 13", \$13.00 per set.
AMMUNITION.—Duty 30%. Caps, Gun, gross. Cartridges, B.B. Cap, Dom., 50 & 5% discount, Can. list. Cartridges, B.B. Cap, Amer., 40% discount, Amer. list. Cartridges, Central Fire, Military and Sport- ing, Amer., add 5% to list. Cartridges, Central Fire, Military and Sport- ing, Dom., 15 & 5% discount. Cartridges, Central Fire, pistol size, Dom., 30% discount. Cartridges, Central Fire, pistol size, Amer., 10% discount. Cartridges, Central Fire, rifle size, Amer., 10% discount. Cartridges, Rim Fire, pistol, Amer., 40% dis- count. Cartridges, Rim Fire, pistol, Dom., 50 & 5% dis- count. Powder, sporting, Can., \$4.50 per keg 25 lbs. " " " Eng., " " " " " Amer., \$5.50 per keg 25 lbs. " blasting, \$2.50 per keg. Primers, Dom., 30% discount. Shells, Brass, Shot, 55% discount. " Trap, loaded or empty, 25% discount. " Rival and Nitro, net. Shot, Buck, Seal or Ball, \$6.62½ per 100 lb. net. (duty 35%). " Chilled, \$6 per 100 lb. net. " Common, \$5.50 per 100 lb. net.	ANCHORS. Small, 30 to 50 lbs., \$7.00 per 100 lbs). 100 lbs. and larger, \$5.00 per 100 lbs). ANVILS.—Duty 30%. Boker & Co., 12 to 15 cents per lb. Brook's, 10 to 13 cents per lb. Peter Wright's, 12 to 15 cents per lb. AUGERS.—Duty 30%. Eye Augers, 60% discount. Forstner's, 20 " " Gilmore's, 50 " " Irwin's, 30 " " Jenning's, 30 " " Nut Augers, 60 " " Ship Augers, 10 " "	" " 2½" x 13", 14.00 " " " " 2½" x 13", 15.00 " " " " 2½" x 13", 16.00 " " " " 2½" x 13", 17.00 " " " " 2½" x 13", 18.00 " " " " 2½" x 13", 19.00 " " " " 2½" x 13", 20.00 " " " " 3" x 13", 21.00 " " " " 3½" x 13", 24.00 " " " " 3½" x 13", 25.00 " " " " 3½" x 13", 26.00 " " " " 3½" x 13", 27.00 " " " " 3½" x 13", 28.00 " " " " 3½" x 13", 29.00 " " " " 3½" x 13", 30.00 " " " " 4" x 13", 31.00 " "
	AXES.—Duty 25%. Bench, \$6.50 to \$14 per doz. Broad, \$26.25 to \$40 per doz. Double-bitted, \$11 to \$13 per doz. Handled, \$8.50 to \$12 per doz. Regular, \$6 to \$10 per doz. Ship Carpenters, \$22 to 25 per doz. AXLE GREASE.—Duty 25%. Ordinary, box, \$5.75 to \$6 per gross. AXLES.—Duty 35%. Half patent, short beds, 60% discount per set. " " " long " " 60% BAGS.—Duty 20%. Cotton, seamless, \$14 @ \$24.50 per 100. Jute, \$7.75 @ \$9 per 100.	BARROWS.—Duty 30%. See Wheelbarrows. BELLS.—Duty 30%. Church, 35 cents per lb. Cow, 60% discount. Door, \$5.50 to \$12 per doz. Farm, \$1.75 to \$4.50 each. BELLOWS.—Duty 25%. Blacksmiths', Canadian, 10% discount; Amer., 50% discount. Moulders, \$9.50 to \$15 per doz. BELTING (Leather).—Duty 20%. Amer., Hoyt's, regular, 35% discount. Canadian, 55% discount. BELTING (Rubber).—Duty 20%. 50 to 60% discount.

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# Engineers' Supplies?

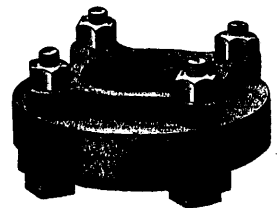
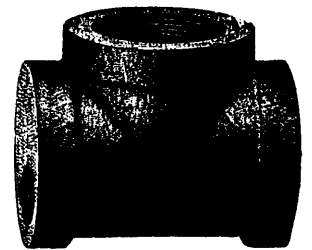
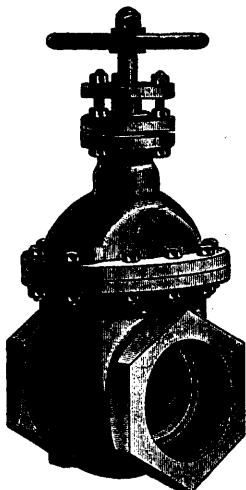
IF YOU ARE WE WOULD LIKE YOU TO GIVE US A TRIAL ORDER

WE KEEP A LARGE SUPPLY OF

**BLACK and GALVANIZED PIPE,  
IRON and BRASS VALVES,  
CAST and MALLEABLE FITTINGS,  
STEAM TRAPS and RADIATOR VALVES,  
SAFFORD STEAM and HOT WATER RADIATORS,  
STEAM and HOT WATER BOILERS**

We can forward goods same day as we receive  
orders. Write for Latest Price List.

**THE DOMINION RADIATOR COMPANY, Limited,  
TORONTO, ONT.**



When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.







**POLISH.**—Duty 25%.  
Liquid Stove, \$5 per gross.  
Paste, \$5 per gross.

**PULLEYS.**—Duty 25%.  
A wning, 25 to 60 cents per doz.  
Clothes Line, 50 cents per doz.  
Dodge wood split, 50% discount.  
Sash, 25 to 27 cents per doz.

**PUMP CYLINDERS.**—Duty 25%.  
Regular patterns, 65% discount.

**PUMPS.**—Duty 25%.  
Cistern, 50% discount.  
Force, 50

**PUNCHES (centre).**—Duty 30%.  
Assorted sizes, \$1.80 per doz.

**PUTTY.**—Duty 20%.  
In bbls. (Bladders), \$2.10 per 100 lbs.  
In kegs, boxes or loose, \$2.25 per 100 lbs.  
In 25-lb. tins, \$2.35 per 100 lbs.  
In 12½-lb. tins, \$2.65 per 100 lbs.  
In bulk or tins less than 100 lb., \$2.90 per 100 lbs.  
Bulk, in bbls., \$1.90 per 100 lbs.  
" in less quantity, \$2.05 per 100 lbs.

**RASPS.**—Duty 30%.  
Blacksmiths, Woodworkers, etc., see Files.

**REGISTERS.**—Duty 30%.  
Floor and Wall, 50% discount.

**RIVET SETS.**—Duty 30%.  
Canadian, 35 to 37½ discount.

**RIVETS AND BURRS.**—Duty 30%.  
Copper Rivets and Burrs, 35 & 5 off; cartoons, 1 cent per lb. extra.  
Extras on Iron Rivets in 1-lb. cartoons, ½ cent per lb.  
Extras on Iron Rivets in ½-lb. cartoons, 1 cent per lb.  
Extras on Tinned or Coppered Rivets, ½-lb. cartoons, 1 cent per lb.  
Iron Rivets, black and tinned, 60 & 10% discount.  
Iron Burrs, 55% discount.

**ROPE, ETC.**—Duty 25%.  
Cotton, 3-16 in. and larger, 16 cents per lb.  
" 5-32 in., 21 cents per lb.  
" ¼ in., 22½ cents per lb.  
Crucible Steel Rope, 25% discount.  
Galvanized Wire Rope, 25% discount.  
Jute, 8 cents per lb.  
Lath Yarn, 9½ cents per lb.  
Manila, 7-16 in. and larger, 13½ cents per lb.  
" ¼ in., 14½ cents per lb.  
" ½ and 5-16 in., 15½ cents per lb.  
New Zealand Rope, 10 cents per lb.  
Russia Deep Sea, lines 154 cents per lb.  
Sisal, 7-16 in. and larger, 10 cents per lb.  
" ¼ in., 11 cents per lb.

**RUBBER.**  
Reclaimed.

**RULES.**—Duty 30%.  
Boxwood, 75 and 10% discount.  
Ivory, 37½ to 40% discount.  
Lumbermans'.

**SAD IRONS.**—Duty 30%.  
Mrs. Potts', No. 65, polished, 62½ cents per set.  
No. 50, nickel-plated, 67½ cents set.  
"Sensible," 55 and 60 cents set.  
"Toy," \$13.00 gross.

**SAND AND EMERY PAPER.**—Duty 25%.  
B. & A. Sand, 40 & 5% discount.  
Garnet, 5 to 10% advance of list.

**SAP SPOUTS.**—Duty 30%.  
Bronzed iron, with hooks, \$9.50 per 1,000.

**SASH WEIGHTS.**—Duty 25%.  
Sectional, \$2.75 to \$3 per 100 lb.  
Solid, \$1.25 to \$2.25 per 100 lb.

**SAWS.**—Duty 30%.  
Crosscut, Disston's, 35 to 55 cents per foot.  
Hack, complete, 75 cents to \$2.75 each.  
Hack, frame only, 75 cents each.  
Hand, Disston's, 12½ discount.  
S. & D., 40% discount.  
S. & D., 35 off on Nos. 2 and 3.

**SCALES.**—Duty 30%.  
Champion, 60% discount.  
Gurney's, 40  
Troenmer's, 30 " Canadian list.

**SCREEN'S.**—Duty 30%.  
Door, \$7.50 to \$12 doz.  
Window, \$1.75 to \$2.75 doz.

**SCREWS.**—Duty 35%.  
Bench, iron, \$4.25 to \$5.75 per doz.  
" wood, \$3.25 to \$4 per doz.  
Drive Screws, 87½ & 10% discount.  
Hexagon Cap, 45  
Set, case-hardened, 60  
Square Cap, 50 & 5  
Wood, F. H., bright and steel, 87½ & 10% discount.  
" R. H., bright, 82½ & 10% discount.  
" F. H., brass, 80 & 10  
" R. H., brass, 75 & 10  
" F. H., bronze, 75  
" R. H., bronze, 70

**SCREWS, (Machine, Iron and Brass)**—Duty 35%.  
Flat head, 25% discount.  
Round head, 20

**SCYTHES.**—Duty 25%.  
Grass, \$8 to \$10.  
Grain, \$12 to \$14.

**SHEARS.**—Duty 30%.  
Tailors, 30 % discount Amer. list.

**SHELLS (Cartridge).**—See Ammunition.

**SHOT.** See Amunition.

**SHOVELS AND SPADES.**—Duty 35%.  
Burns, 40 and 5% discount.  
Ely's, " " "  
Gray's, " " "  
Jones, " " "  
Steel, Snow, \$2.45 @ \$2.60 per doz.  
Wood, " " "

**SKATES.**—Duty 35%.  
American Hockey.  
Canadian " 40 cents to \$2.50 pair.

**SNAPS.**—Duty 30%.  
Harness, 40% discount.

**SNATHS.**—Duty 25%.  
Sythe, \$5.25 to \$8 per doz.

**SOLDER (Plumbers).**—See Metals.

**SOLDERING IRONS.**—Duty 30%.  
20 to 90 cents each.

**SPIKES.**—Duty ½ cent per lb.  
Rail, 20% discount.  
Ship, \$5 per 100 lb.

**SPRINGS.**—Duty 35%.  
Bright Carriage, 6½ per lb. net.

**STAPLES.**—Duty 30%.  
Barb wire, \$3.75 per 100 lb.  
Bed, 50% discount.  
Blind, 25  
Wrought iron, 75% discount.

**STEEL**—see Metals.

**STOCKS AND DIES.**—Duty 30%.  
Blacksmiths', Lightning, 25% discount.  
" Green River, 25 " "  
" Reeces, 30% discount.  
" Jardine, 25  
Pipe, Solid, 70 & 10% discount.  
" Duplex, 33½ discount.  
" Jarecki, 33½ " "  
" Oster, 30% " "  
" Armstrong, 35% " "  
Wiley & Russell's, 25% discount, Canadian list.

**STONES.**—Duty 30%.  
Arkansas, \$1.50 per lb.  
Hindustan, 6 to 7 cents per lb.  
" slip, 9 cents per lb.  
Labrador, 13 cents per lb.  
" axe, 15 cents per lb.  
Scythe, \$3.50 to \$5 per gross.  
Turkey, 50 cents per lb.  
Washita, 23 to 60 cents per lb.  
Water-of-Ayr, 10 cents per lb.

**TACKS, BRADS, etc.**—Duty 25%.  
Carpet tacks, blued, 80 & 15% discount.  
" tinned, 80 & 20  
" in kegs, 40% discount.  
Cheese-box tacks, blued, 85 & 12½ discount.  
Copper tacks, 50% discount.  
Cut tacks, blued, in dozens only, 80% discount.  
" ½ weights, 60% discount.  
Fine finishing, 40% discount.  
Leather carpet tacks, 55% discount.  
Lining tacks, in papers, 10% discount.  
Patent brads, 40% discount.  
Picture frame points, 10% discount.  
Strawberry box tacks, bulk, 75 & 10% discount.  
Swedes, cut tacks, blued and tinned, in bulk, 80 & 10% discount; in dozens, 75% discount.  
Swedes, upholsterers', bulk, 85, 12½ & 12½ dis.  
" brush, blued and tinned, bulk, 70% dis.  
" gimps, blued, tinned and japanned, 75 & 12½ discount.  
Trunk tack, black and tinned, 85% discount.  
Zinc tacks, 35% discount.

**TAGS.**—Duty 25%.  
Shipping, 50 @ 70 cents per M.

**TAR.**  
Coal \$2.75 bbl.  
Refined, \$4 per bbl.

**TENTS.**—Duty 30%.  
Canadian list, 20% discount.

**TONGS.**—Duty 30%.  
Ice, \$9 per doz.  
Pipe, " Brown's," net.  
" Brock's, 25% discount.  
" Trimo, 25

**TRAPS.**—Duty 30%.  
" Hawley & Norton's," 65% discount.  
" Newhouse," 45% discount.  
" Victor," 75% discount.

**TRUCKS.**—Duty 30%.  
1, \$3.75; 2, \$5; 3, \$6.75 each.  
" Handy" Canadian, \$16 to \$18.

**TUBES FOR BOILERS.**  
1½, 1½, 2, 2½, 3, 3½, 4  
15, 12, 12, 10½, 13, 14, 14½, 16½, 24½ ft.

**TURNBUCKLES.**—Duty, ½ cent per lb., 25% ; 33½ discount.

**TURPENTINE.**—Duty 5%.  
55 cents per gal.

**TWINES.**—Duty 25%.  
Bag twine, 3-ply, 20 cents per lb.  
" 4-ply, 20 cents per lb.  
Binding, 12½ cents per lb.  
Colored, 27 cents per lb.  
Cotton bag, 30 cents per lb.  
Cotton, White, 20 to 30 cents per lb.  
" Colored, 30 to 40  
Hemp, 20 cents per lb. "  
Jute, 20 cents per lb. "  
Mattress, 45 cents per lb.  
Sewing, 45 cents per lb.

**TWINE**—Continued.  
Tarrd Lath, 11 cts.  
Wrapping, 22 to 27 cts.

**VARNISHES.**—Duty 20 cents per gal.  
20% off 5-gal. lots.  
Black Japan, \$2 per gal.  
" No. 1, 75 cents to \$1.50 per gal.  
Brown Japan, \$1.50 to \$2.50 per gal.  
Carriage, No. 1, \$2 to \$3 per gal.  
" body, \$4 to \$6 per gal.  
" rubbing, \$2.50 to \$4 per gal.  
Demar, \$2 to \$2.50 per gal.  
Elastic Oak, \$1.50 to \$2.50 per gal.  
Furniture Brown Japan, \$1.25 to \$2 per gal.  
Furniture, extra, \$2 to \$2.50 per gal.  
" No. 1, 75 cents to \$1.50 per gal.  
Gold Size, Japan, \$1.50 to \$2.50 per gal.  
Hard Oil Finish, \$1.50 to \$2.50 per gal.  
Light Oil Finish, \$1.50 to \$2.50 per gal.  
Shellac, orange, \$2 to \$2.50 per gal.  
" white, \$2 to \$2.50 per gal.

**VICES.**—Duty 30%.  
Amer., 13½ cents per lb.  
Brooks', 13½ cents per lb.  
Peter Wright's, 15 cents per lb.

**WASHERS.**—Duty ½ cent per lb., 25%.  
Buggy, 75% discount.  
Wrought iron, 40% discount.

**WASHING MACHINES.**—Duty 35%.  
Re-acting square, \$51.00 per doz.  
" Round, \$48.00  
Rocker, \$48.00 per doz.  
Popular Brands, \$30.00 to \$42.00 per doz.  
Dowswell, \$3.75 each.  
Re-acting (Dowswell), \$5 each.

**WIRE.**  
Barbed Wire, see Fencing.  
Brass Wire, (duty 10%), 50 to 50 & 2½ discount.  
Copper Wire, (duty 15%), 45 & 10% discount net cash 30 days, f.o.b. factory.  
Smooth Steel Wire, (duty 20%), is quoted at the following net selling prices:  
No. 6 to 8 guage, \$2.90 per 100 lbs.  
" 9 " 2.80 " "  
" 10 " 2.87 " "  
" 11 " 2.90 " "  
" 12 " 2.95 " "  
" 13 " 3.15 " "  
" 14 " 3.37 " "  
" 15 " 3.50 " "  
" 16 " 3.65 " "

Other sizes of plain wire outside of Nos. 9, 10, 11, 12 and 13, and other varieties of plain wire remain at \$2.80, base, with extras as before. The prices for Nos. 9 to 13 include the charge of 10 cents for oiling. Extras net per 100 lb.: coppered wire, 60 cents; tinned wire, \$2; oiling, 10 cents; special half-haling wire, 30 cents; spring wire, \$1; best steel wire, 75 cents; bright soft drawn, 15 cents; in 50 and 100-lb. bundles net, 10 cents; in 25-lb. bundles net, 15 cents; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

Fine Steel Wire, 17½ off. List of extras, in 100 lb. lots, No. 17, \$5; No. 18, \$5.50; No. 19, \$6; No. 20, \$6.65; No. 21, \$7; No. 22, \$7.30; No. 23, \$7.65; No. 24, \$8; No. 25, \$8; No. 26, \$9.50; No. 27, \$10; No. 28, \$11; No. 29, \$12; No. 30, \$13; No. 31, \$14; No. 32, \$15; No. 33, \$16; No. 34, \$17. Extras net: tinned wire, Nos. 17-25, \$2; Nos. 26-31, \$4; Nos. 32-34, \$6; coppered, 5 cents; oiling, 10 cents; in 25-lb. bundles, 15 cents; in 5 and 10-lb. bundles, 25 cents; in 1-lb. hanks, 50 cents; in ½-lb. hanks, 75 cents; in ¼-lb. hanks, \$1; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

Galvanized Wire, per 100 lb.: Nos. 6, 7, 8, \$3.50 to \$3.85; No. 9, \$2.85 to \$3.15; No. 10, \$3.60 to \$3.95; No. 11, \$5.70 to \$4.10; No. 12, \$3 to \$3.30; No. 13, \$3.10 to \$3.40; No. 14, \$4.10 to \$4.50; No. 15, \$4.60 to \$5.05; No. 16, \$4.85 to \$5.35. Base sizes, Nos. 6 to 9, \$2.57½ f.o.b. Cleveland.

Clothes Line Wire, solid 7 strand, No. 17, \$4.25; No. 18, \$2.65; No. 19, \$2.35; f.o.b. Toronto, Hamilton and Montreal.

**WASTE (Cotton).**  
Colored, \$5.50 to \$6 per 100 lb.  
White, \$7.75 per 100 lbs.  
" extra, \$8 per 100 lb.

**WHEELBARROWS.**—Duty 30%.  
Garden, \$2 to \$4.50 each.  
Navy, \$19 per doz.  
Iron wheel, \$22.50 per doz.  
Steel tubular, \$7.50 to \$10.50 each.

**WRENCHES.**—Duty 30%.  
Agricultural, 60% discount.  
Alligator, 50  
Coes, 30  
P.S. & W., 30  
Stillson's, 25  
Trimo, pipe, 25

**WRINGERS (Clothes).**—Duty 35%.  
Ajax, \$68 per doz.  
Canadian, \$26 to \$30 per doz.  
Crescent, \$17.50 to \$20 per doz.  
Leader, \$30 per doz.  
Novelty, \$23 to \$27 per doz.  
Popular Brands, \$16.50 to \$22 per doz.  
Royal American, \$26 to \$30 per doz.  
Royal Canadian, \$26 to \$30 per doz.

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Brush, George, Montreal.....	3	34	Karch, H. W., Hespeler, Ont.....	34	Robb Engineering Co., Amherst, N.S.....	6
Brunner, Mond & Co., Northwich, Eng.....	34	28	Keller, John J. & Co., New York, N.Y.....	ifc	Rosamond Woolen Co., Almonte, Ont.....	ibc
Buchanan, R. H. & Co., Montreal.....	7	21	Kelly's Directories, Toronto and London, Eng.....	33	Rossendale Belting Co., Manchester, Eng.....	7
Budden, Hanbury A., Montreal.....	ibc	16	Kemp Mfg. Co., Toronto.....	6	Royal Paper Mills Co., East Angus, Que.....	5
Buffalo Forge Co., Buffalo, N.Y.....	28	ifc	Kerr Engine Co., Walkerville, Ont.....	36	Schoellkopf, Hartford & Hanna Co., Buffalo, N.Y.....	26
Burt Mfg. Co., Akron, Ohio.....	21	obc	Kingston Foundry, Kingston, Ont.....	ifc	Smart-Eby Machine Co., Hamilton, Ont.....	26
Butterfield & Co., Rock Island, Que.....	16	25	Kinleith Paper Co., St. Catharines, Ont.....	32	Smith & Cameron, Toronto.....	obc
Canada Chemical Mfg. Co., London, Ont.....	15	6	Klipstein, A. & Co., New York, N.Y.....	6	Smith Woolstock Co., Toronto.....	ibc
Canada Iron Furnace Co., Montreal.....	ifc	ibc	Laurie Engine Co., Montreal.....	18	Storey, W. H. & Son, Acton, Ont.....	ibc
Canada Switch & Spring Co., Montreal.....	obc	15	Leitch & Turnbull, Hamilton, Ont.....	ibc	Stowell Mfg. & Foundry Co., South Milwaukee, Wis.....	26
Canadian Colored Cotton Mills Co., Montreal.....	25	18	Leslie, A. C. & Co., Montreal.....	ofc	Sturtevant, B. F. Co., Boston, Mass.....	35
Canadian Heine Safety Boiler Co., Toronto.....	19	obc	Lewis, Rice & Son, Toronto.....	16	Sturtevant Mill Co., Boston, Mass.....	17
Canadian Office & School Furniture Co., Preston, Ont.....	ibc	ofc	London Machine Tool Co., London, Ont.....	32	Sutton, Wm., Compound Co., Toronto.....	23
Canadian Rand Drill Co., Montreal.....	18	25	Lumsden, J. & Co., Montreal.....	22	Sylvester Bros. Mfg. Co., Lindsay, Ont.....	29
Canadian Rubber Co., Toronto and Montreal.....	25	20	Marion & Marion, Montreal.....	obc	Syracuse Smelting Co., Montreal.....	37
Carrier, Laine & Co., Levis, Que.....	obc	19	Mason Machine Works, Taunton, Mass.....	ibc	Taft Dr. Bros. Medicine Co., New York City.....	obc
Case, Egerton R., Toronto.....	ofc	6	Mason Regulator Co., Boston, Mass.....	8	Tallman, J. N. & Sons, Hamilton, Ont.....	25
Clercy, Jules de, Toronto.....	25	ifc	Matheson, Wm. J. & Co., New York, N.Y., and Montreal.....	7	Thompson, E. B., Toronto.....	26
Cooper, James Mfg. Co., Montreal.....	13	33	Merrimac Chemical Co., Boston, Mass.....	33	Thompson, W. G. M., St. Catharines, Ont.....	34
Cowan & Co., Galt, Ont.....	20	27	Metallic Roofing Co., Toronto.....	27	Thompson, Worth & Martin, Toronto.....	34
Crosby Steam Gauge & Valve Co., Boston, Mass.....	19	14	Meyercood Co., Chicago, Ill.....	14	Toronto & Hamilton Electric Co., Hamilton, Ont.....	31
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Deseronto Iron Co., Deseronto, Ont.....	ifc	26	Montreal Cotton Co., Valleyfield, Que.....	26	Toronto Fence & Ornamental Iron Works, Toronto.....	6
Diamond Machine & Screw Co., Toronto.....	35	4	Montreal Pipe Foundry Co., Montreal.....	ifc	Toronto Paper Mfg. Co., Cornwall, Ont.....	ibc
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Dominion Bridge Co., Montreal.....	4	17	McArthur, Corneille & Co., Montreal.....	obc	Uulite Syndicate, London, E.C., England.....	33
Dominion Dyewood & Chemical Co., Toronto.....	ofc	17	McEachren Heating & Ventilating Co., Galt, Ont.....	17	Walkerville Malleable Iron Co., Walkerville, Ont.....	ofc
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Fetherstonhaugh & Co., Toronto.....	ofc	29	New Toronto Woolstock Co., New Toronto, Ont.....	ibc	Wilson Bros. Bobbin Co., Todmorden, Eng.....	29
Firstbrook Box Co., Toronto.....	33	ibc	Northey Mfg. Co., Toronto.....	8	Wilson J. C. & Co., Glenora, Ont.....	29
Fleming, W. A. & Co., Montreal.....	15	26	Garfield Oil Co., Cleveland, Ohio.....	26	Wire and Cable Co., Montreal.....	ofc
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Frick, H. C. Coke Co., Pittsburg, Pa.....	obc					
Frost, W. H., Smith's Falls, Ont.....	obc					

ofc ..... outside front cover.

ifc ..... inside front cover.

ibc ..... inside back cover.

obc ..... outside back cover.



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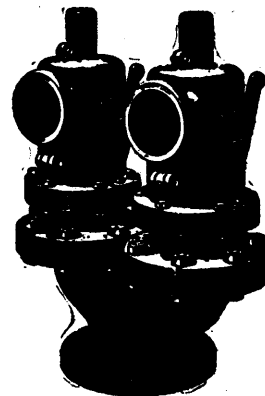
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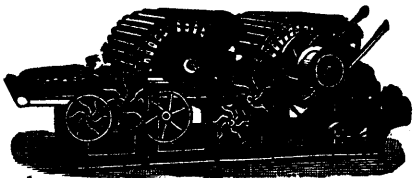
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