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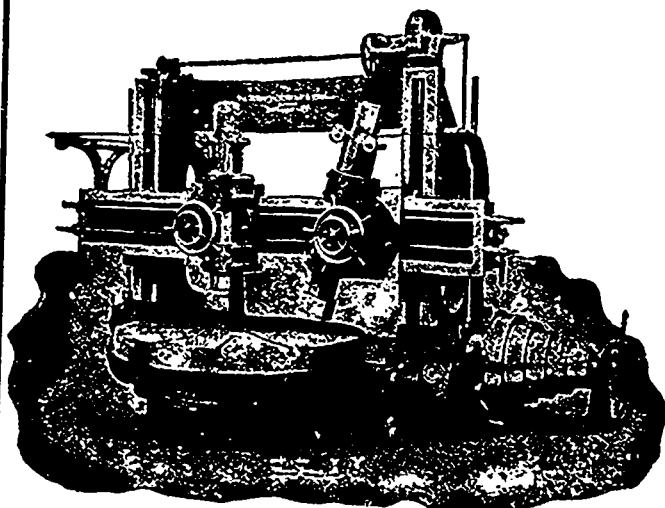
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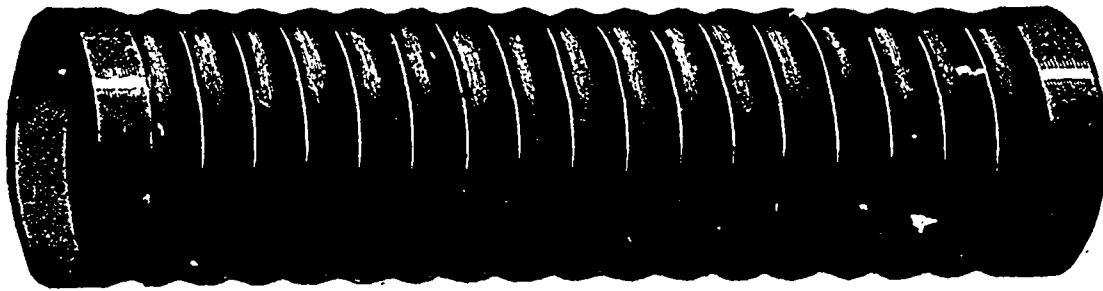


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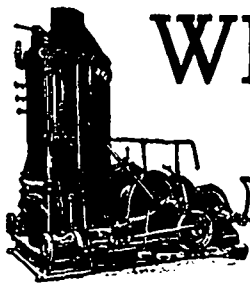
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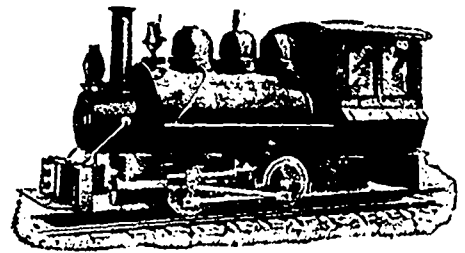
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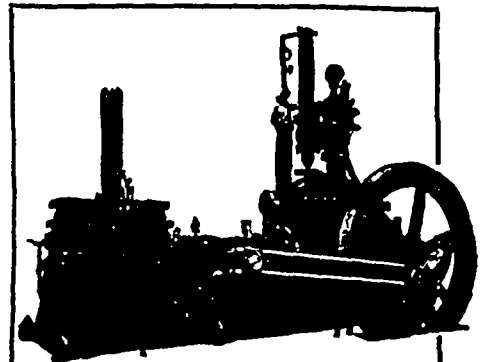
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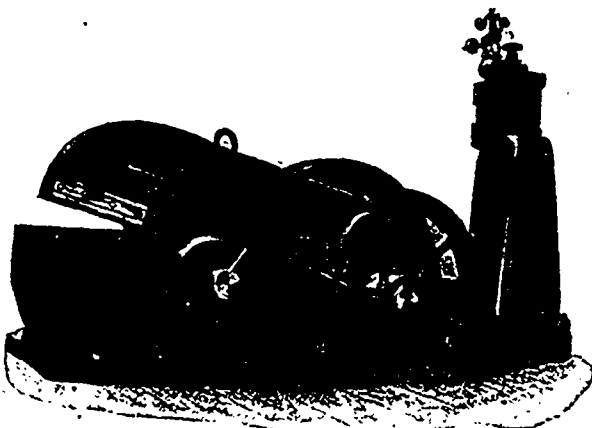
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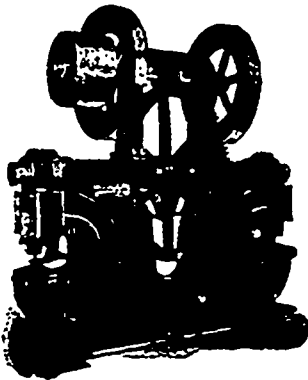
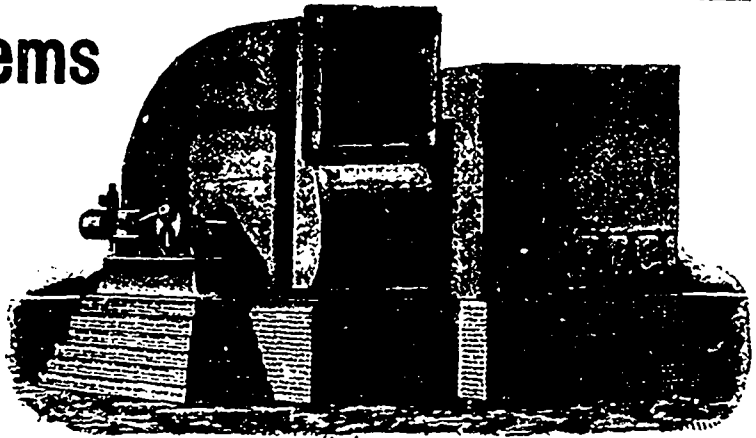
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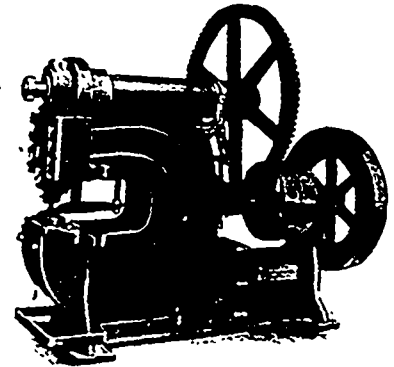
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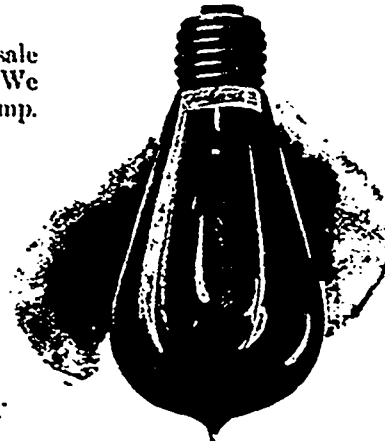
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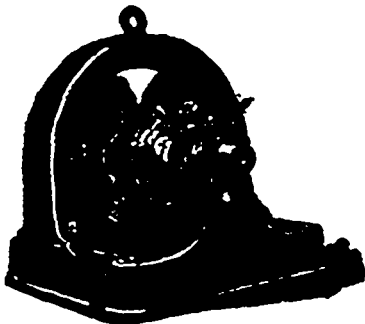
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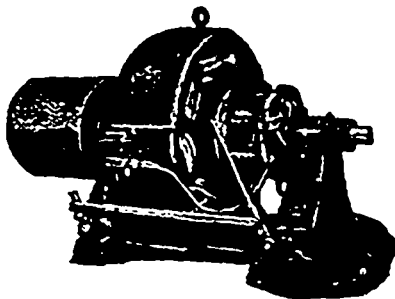
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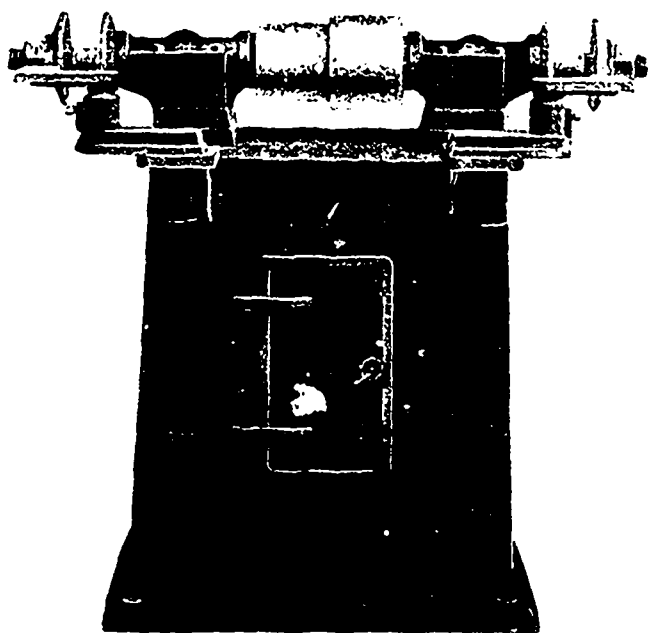
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We Will... start men of ability and good character in every county in the Dominion.

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ESTABLISHED IN 1890.

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J. J. CASSIDEY, Editor and Manager

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THE CANADIAN MANUFACTURER

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

PREFERENTIAL TRADE.

Following is the text of a letter written by Mr. George Johnson, Dominion Statistician, to His Grace the Duke of Argyle in reply to his request for a statement showing the effects of the tariff preference given by Canada to Great Britain. His Grace considered the subject of such importance that he caused the statement to be published in the London Times, and thus circulated throughout the Kingdom, where it is receiving the most earnest attention. Mr. Johnson has kindly sent THE CANADIAN MANUFACTURER a copy of his letter which we have much pleasure in publishing. It is as follows:

Memo. for His Grace the Duke of Argyle, on the operation of the preferential tariff given by Canada.

First Statement: Before the adoption of the preferential tariff the purchases of Canada from the United Kingdom were becoming less and less in value.

Proof—Value of goods entered into Canada (for consumption) from the United Kingdom.

1873.....	\$68,522,776
1883.....	52,052,465
1893.....	43,148,413
1897.....	29,412,188

Second Statement: With the adoption of a preferential tariff of 25 per cent. reduction the purchases of Canada from the United Kingdom began to increase.

In August, 1898, a preferential tariff—25 per cent. off the general tariff—was adopted with a view to increasing the sales of the Mother Country to Canada. That preference was increased to 33½ per cent. off from July 1, 1900.

Under the 25 per cent. off arrangement the sales of the United Kingdom for consumption in Canada were:

Year ended June 30, 1898.....	\$32,500,917
" " 1899.....	37,060,123

Third Statement: With the increase in the rate of reduction, the purchases of Canada from the United Kingdom began to increase more rapidly.

Under the 33½ per cent. off arrangement, the sales by the United Kingdom for consumption in Canada were:

Year ended June 30, 1900.....	\$44,789,730
" " 1901.....	43,018,164
" " 1902.....	49,206,062
" " 1903.....	58,896,901

Your Grace will observe, (a) that between 1873 and 1897 there was a decrease of nearly 60 per cent. in the sales of the United Kingdom to Canada: (b) that under the 25 per cent. off arrangement there was, in 1899, as compared with 1897, an increase of 26 per cent.; and (c) that under the 33½ per cent. off plan, comparing 1903 with 1899, (last year of the 25 per cent. off) the increase of your supply of our consumptive demand was nearly 60 per cent.

I may add that in the six months, July 1 to Dec. 31, 1903, the United Kingdom supplied us with \$32,155,428 indicating that the completed year ending June 30, next will show a near approximation to the record year of 1873, if it does not go beyond that year.

The conclusion I feel warranted in drawing from these figures is that the preferential tariff has saved a business which before the adoption of that tariff was rapidly dwindling, and has in fact so greatly increased it that there is a reasonably sure prospect that the palmiest period of the trade in the past thirty years will be overshadowed in the near future.

When Canada had a three-bar fence against British goods, the customs duty levied upon imports from the United Kingdom, taking the three year period 1895-96-97, was over 30 per cent. on dutiable goods.

With the top bar thrown down, the result is seen in the following table:

VALUE OF DUTIABLE GOODS IMPORTED INTO CANADA FROM GREAT BRITAIN UNDER GENERAL AND PREFERENTIAL TARIFFS 1901-1903

Year ended June 30th	Imports Under General Tariff		Imports Under Preferential Tariff		Duty that would have been payable on Col. 3 had no preference been given	Difference in favor of Great Britain due to Preference
	1 Value	2 Duty Paid	3 Value	4 Duty Paid		
1901	\$ 4,795,973	\$2,810,060	\$25,905,060	\$ 5,020,347	\$ 7,629,529	\$2,513,173
1902	6,332,175	3,029,093	29,730,359	5,335,600	8,093,410	2,697,890
1903	7,046,411	3,334,351	35,163,754	6,507,246	9,769,669	3,253,623
	\$10,174,519	\$9,182,534	\$89,799,209	\$16,929,193	\$23,393,789	\$3,464,596

Your Grace will see that the benefit to British sellers in comparison to sellers not British has a cash value of over eight million dollars in the three years' business.

It seems to me that even though your "leading London Banker and Politician" cannot see it, the fox-hunting squires of England, and others familiar with the sport, can see that a two-barred gate offers an easier jump than a three-barred one. The experience of the six months—July-December, 1903, corroborates that of the three fiscal years ended June 30, 1903.

I have given, I think, prima facie evidence that the

preferential tariff has benefitted the sellers of the United Kingdom.

IT HAS ALSO BENEFITTED BRITISH VESSEL OWNERS.

In 1897 the goods brought over seas into Canada by British vessels were 708,579 tons—567,078 tons weight, and 141,501 tons measured. In 1903 the tons brought in in British vessels were 1,619,788—1,362,917 tons weight and 256,871 tons measured.

In 1897 there were 967 vessels of 1,799,841 registered tonnage, manned by 46,033 seamen. In 1903 there were 2,379 vessels of 4,092,286 tons register manned by 108,842 seamen. Here is an increase in the last full year of the preferential tariff over the last full year with no preference, of 146 per cent. in the number of British vessels* carrying cargo; 127.4 per cent. in the tonnage employed; 128.7 per cent. in the cargo carried and nearly 137 per cent. in the number of men given employment in managing those vessels.

Your Grace will perceive that the tons of cargo carried show a greater increase than the tonnage employed. The vessels, therefore, carried fuller cargoes in 1903 than in 1897. I need not dwell upon that point but may say the fuller the ship the better the earning power.

If, then, the seller sold more, the carrier carried more, and a larger number of seamen found employment, I conclude that there must be a benefit to the United Kingdom in the preference.

I have further tested the value of the preferential tariff by analyzing three or four of the classes of goods exported by the United Kingdom to Canada.

IMPORTS BY CANADA FROM GREAT BRITAIN.

	1895-96-97	1901-02-03
Class 1—Cotton Goods.....	\$9,144,222	\$14,661,277
" 2—Flax, Hemp, &c....	3,600,942	5,284,839
" 3—Iron and Steel....	6,330,134	13,704,947
" 4—Woollens	19,103,929	25,571,661

This growth has been progressive during the period 1901-02-03. It was not so during the period 1895-96-97. Thus, of all four classes in 1895 the import was \$13,051,694 and in 1897, \$11,177,928, a decrease of \$1,873,766. Of all four classes in 1901 the import was \$16,155,707 and in 1903 it was \$24,083,408, an increase of \$7,927,701.

I find on analyzing the remaining articles that there are (1903), 128 different items including silk manufactures (7) and "all other articles": that these had a value of \$11,080,346, and paid a duty of \$2,081,106, which is less by \$1,040,543 than would have been paid under the general tariff.

I cannot imagine manufacturers being so stupid as to continue year after year increasing their sales to a customer if they do not find the business profitable.

It may be that the British seller, in order to meet his competitors in trade, had to sell at a lower rate because some of those competitors were determined to prevent him obtaining any benefit from the preference given.

One competitor is met by a surtax of 33½ per cent. on goods imported by Canada valued at \$2,165,761 in the six months ended December 31 last.

The effect of the surtax on Germany is shown in the decrease of imports from \$6,083,024 to \$4,958,613, in the half year.

Your other competitor has the advantage of closer proximity to our markets and a thorough knowledge of our trade requirements. He also has an advantage in the fact that we must go to him for certain raw products, such as cotton, and therefore having to go for some things we are the more likely, once being there, to buy other things. He is an adept in the art of dumping, but when squarely met is not foolishly persistent. He knows when he is beaten. We have on several occasions broken down a persistent attempt to destroy some particular branch of

*Canadian registered vessels are not included: only British registered.

our industries by increasing the duty and threatening to go higher still if necessary. Whether on the whole he has succeeded in causing the British manufacturer to sell to Canada at a lower rate than to other customers I do not know, but when the United States maker has to meet British goods which pay a duty of 19 per cent. while he has a duty of over 28 per cent. against him he must feel that his geographical advantages are largely offset, and that under the preferential tariff he and his friend the British manufacturer are more nearly on an equality as competitors for Canadian trade than they ever were before.

There is one subject which is intimately connected with the development of trade to which, however, your government does not appear to attach as much importance as I do. Your newspapers do not circulate in Canada. The United States newspapers do. "Trade" we say "follows the flag." It is even more true that trade follows the advertisements of the newspapers.

Now the Mother Country taxes her publications out of the homes of the Canadian people by a prohibitive rate of eight cents a pound, and this handicaps her manufacturers and other business men. The United States and Canada have a reciprocal rate of half a cent a pound. Let your postal authorities do as ours have done with newspapers going into Great Britain, and the indirect return in the form of increased demand for British wares will, I firmly believe, more than compensate for any loss of postal revenue, if there should be a loss and not a gain, while the diffusion of British views, where now United States views are disseminated, would not be, by any means, an injury to our people and to the extension and greater permanency of British Imperial Unity.

GEORGE JOHNSON,
Statistician.

OTTAWA, February 20, 1904.

DUMPING, AND THE REMEDY.

Constant complaint is made by our manufacturers that Canada is being made the dumping ground for the surplus products of other countries; and upon this ground is based a demand for some revision or changes in the tariff which will correct the evil. Were the duty determined by the prices actually charged for the goods, observes The Shareholder, there might be some basis for contention, but the law is very clear upon this point. It provides that "whenever any duty ad valorem is imposed on any goods imported into Canada, the value for duty shall be the fair market value thereof, when sold for home consumption in the principal markets of the country whence and at the time the same were exported directly to Canada. Such market value shall be the fair market value of such goods in the usual and ordinary commercial acceptance of the term, at the usual and ordinary credit, and not the cash value of such goods, except in cases in which the article imported is, by universal usage, considered and known to be a cash article, and so bona fide paid for in all transactions in relation to such article; and all invoices representing cash values, except in the special cases herein referred to, shall be subject to such additions as to the collector or appraiser of the port at which they are presented appear just and reasonable, to bring up the amount to the true and fair market value, as required by this section." While foreign goods may be slaughtered in this market, the prices in the market whence they were exported are maintained, especially in the United States, where they are for the most part controlled by trusts and combines. Special instructions

should be sent out by the customs department to the different collectors at ports of entry throughout the Dominion, requiring them to rigidly enforce the foregoing provisions of the Customs Act. Were this done, and were the instructions faithfully carried out, The Shareholder believes that a brake would be applied which would be attended by beneficial results, one which would materially reduce the volume of imports to this country at slaughter prices. The provisions of the Customs Act should be rigidly enforced and any attempt at infringement should be visited with the full penalty provided by that Act.

As THE CANADIAN MANUFACTURER has frequently pointed out, the theory upon which the tariff as we now have it is chargeable in the first place with the wholesale and continuous evasions of the law by undervaluation of imports; and, in the second place, by the laxity of administration of the law in that case made and provided. As long as the basis of valuation upon imports regulates the amount of duty to be imposed, the utmost regard should be had for the requirements of the law in ascertaining the true market value of the goods in the country where they are produced. Were this done in a thorough and efficient manner the practice of dumping would be prevented or seriously interfered with, much to the pleasure of the manufacturers and to the benefit of the federal treasury.

In the construction of the present tariff the idea was carried out as far as possible that ad valorem rates should be observed, and specific rates avoided; while, in our opinion, the reverse theory should have prevailed. We illustrate this contention by pointing out that under a previous tariff the duty on malleable iron castings was specific, at \$20 per ton, which gave adequate protection to the manufacturers of that article. Under that system there was no inducement to undervalue imports, and no defrauding the customs. But under the present tariff malleable castings are rated for duty at 25 per cent. ad valorem, thus making possible both undervaluation and dumping. Under the present tariff the duty on woolen clothing is ad valorem, making undervaluation and dumping both profitable and pleasant to the importer, distressing to the manufacturer and a fraud upon the customs, a partial remedy for which would be the observance of the theory of the previous tariff where a specific duty was imposed upon the weight of the goods and an ad valorem duty also. The duty imposed upon all imports should be, (a) specific only and always where possible, or (b) compound, i.e., both specific and ad valorem; to be ad valorem where neither specific or compound is practicable.

ELECTRIC MANUFACTURE OF STEEL.

Gustave Gin, an eminent French electro-metallurgist, has invented a new furnace which claims several advantages in the manufacture of special steels.

This furnace does away with the use of slag, and the material to be treated itself forms the resistance in the path of an electric current, and carbon electrodes are dispensed with. Electro-chemical Industry gives an account of M. Gin's furnace, with illustrations, and says that it is arranged in the shape of a channel of considerable length and small cross-section in which the metal is to be

placed and melted by the thermic effects of the current. It is claimed that impurities are avoided and a metal of great purity produced.

Also that the localization of the heating in the metallic conductor makes it possible to obtain temperatures which could not be realized in the Siemens-Martin furnaces without melting the arches.

It is proposed to manufacture special steels in this type of furnace by the direct incorporation of the additional elements, viz., manganese, chromium, nickel, molybdenum, tungsten and vanadium, each of which possesses a peculiar merit of its own, and is sold at a very high price.

Most of these minerals are found in Canada, and with our pure magnetic iron ores and cheap electricity, the manufacture of these articles should be very profitable.

AS TO COAL.

In the last issue of this journal was published an article entitled "Free Coal," in which was shown that the imports of mineral fuel into Canada in the fiscal year ending June 30th, 1903, amounted to 5,575,731 tons valued at \$16,448,445, of which bituminous and slack coal amounted to 3,862,295 tons valued at \$8,197,034. It was also shown that the exports of Canadian bituminous coal in that year amounted to 1,979,951 tons valued at \$5,452,434,—that these exports were almost entirely the output of Nova Scotia mines, 83 per cent. of which were sent to New England states, the balance—17 per cent.—answering the requirements for domestic uses, a portion of it going to Quebec ports. The facts and figures in the article were obtained from the Trade and Navigation Returns for the year named, which we presumed to be correct.

We are in receipt of a communication from a correspondent in New Glasgow, N.S., in which he says that our article is misleading as to the facts stated, which he thinks we should correct, and he shows that Nova Scotia is not a large exporter of coal; that, according to a Nova Scotia blue book issued by the Department of Mines of that province, the official figures relating to coal for the fiscal year ending September 30, 1903, were:—Sales, 4,621,074 tons, of which 1,023,325 tons were exported, 967,832 going to the United States, the balance being used in the home market, including Newfoundland, 1,403,916 tons going to the province of Quebec. He says that the large quantity sent to the United States was largely owing to the abnormal conditions caused by the anthracite strike of last year.

According to the Statistical Year Book the production and distribution of coal in Nova Scotia was as follows:—In 1901, production, 4,158,068 tons, valued at \$6,496,982, the quantity sold being 3,820,462 tons; in 1902, production, 5,161,316 tons, valued at \$9,216,636, the quantity sold being 4,736,614 tons. This was, of course, before the anthracite strike. During the same years the exports of coal from Canada were, in 1901, 1,888,538 tons, valued at \$5,307,060, and in 1902, 1,817,534 tons, valued at \$4,867,088. In 1901 the exports of coal to the United States were:—1,604,203 tons, valued at \$4,418,503; and in 1902, 1,589,469 tons, valued at \$4,318,681. In 1901 the production of coal in British Columbia was:—1,660,516 tons, valued at \$4,447,809, of which 1,023,863 tons was sold

for export; and, it should be said that the exports of British Columbia coal are included in the total export shipments above alluded to. The imports of bituminous coal for home consumption in Canada in 1901 amounted to 2,516,392 tons, valued at \$4,959,025, and in 1902, 3,047,392 tons valued at \$5,712,058. Our correspondent can draw his own conclusions from these facts.

He also raises the question as to what are "natural products?" "To say that coal is a natural product," he says, "might apply to it when lying in the bowels of the earth, but if the application of labor and machinery to a natural product makes it a manufactured article, then coal ready for the market must certainly come under that designation." The same is true as regards the tree in the forest and the fish in the sea, which, like coal, require the application of human labor; but it should be remembered that these crude articles do not reach the ulterior purposes of their existence until the coal has been consumed in the furnace, the tree converted in some of the various uses to which lumber is put, and the fish to satisfy the appetite. The ore in the earth is the natural product of which pig iron, a finished product is made. But in turn, pig iron is a raw material to the foundryman in the manufacture of machinery.

Our correspondent is of the opinion that taking the duty off coal would be a blow at the national policy, not because it would give cheap fuel, but because it is a part of that policy—that coal mining is the one great industry of Nova Scotia which receives benefit from that policy; and if the duty should be removed, Nova Scotia would be justified in pressing for the reduction or abandonment of the duty on many articles which she consumes but does not produce. Just so. The national policy, as we understand it, is composed of "give and take," of compromises and adjustments. It embodies the idea of "the greatest good to the greatest number," not forgetting that adequate tariff protection should be extended to every industry where Canadian labor and Canadian capital are employed. But our correspondent is aware that a struggle is always in activity where the producer endeavors to obtain all he can for his product, and the consumer endeavors to buy it as cheaply as possible; and that is the difference between the coal miner of Nova Scotia and the steam user in Ontario.

EDITORIAL NOTES.

At a meeting of the Dominion Cabinet, held a few days ago, an Order-in-Council was passed extending the trade preference of 33½ per cent. to New Zealand. This has been done in return for the preference granted to Canada by that Colony. The Canadian trade preference now extends to Great Britain, Bermuda, British West Indies, including British Guiana and New Zealand. Canada offered some time ago, the preference to South Africa but it has not yet been accepted.

The London Globe, commenting on the book trade from the United States to Canada, says:

The probable explanation of the large increase in the exportation of books to Canada is that it is easier for Canadians to obtain their literature from the States than

from England, and that books are sent out in bulk from Great Britain to be exported through the States to Canada. It is bad from a financial, and also an Imperial view, that Canadians should obtain their news and their books from the States, but at present the connection between Canada and the States is undoubtedly closer than between Canada and the Mother Country, and some decided effort should be made to put an end to it.

Much to the so-called book trade done with Canada is through the mails, which, under the Canadian-United States postal arrangement, pays postage at the rate of only one cent per pound, while no such matter is admitted to carriage through the mails from Great Britain to Canada at less than eight cents (four pence) per pound. Mr. Mulock, our Postmaster-General, has long sought, but in vain, to induce the British Postmaster-General to reduce the rate of postage on such matter coming to Canada. It is up to Great Britain to apply the remedy.

Col. Gartshore, managing director of the McClary Mfg. Co., London, Ont., was in Ottawa a few days ago, where he interviewed Hon. Mr. Patterson, Minister of Trade and Commerce, on behalf of the Canadian stove manufacturers, with a view of having the duty increased on stoves. The present duty is 25 per cent., and the Canadian stove makers say that this is insufficient to prevent Americans "dumping" their surplus product upon the Canadian market. Col. Gartshore says that Canadian stove manufacturers are a unit on the necessity of higher duties. He maintains that the Canadians make as good a stove as any, and this trade should be preserved to them by shutting out unfair American competition. It would appear that the American stove manufacturers are getting a large slice of Canadian trade, and one that is growing entirely too rapidly to suit the home manufacturers. During the year ending June 30, 1901, Canada imported from the United States stoves to the value of \$127,000. The imports had grown to \$170,000 the following year, and to \$267,000 for the year ending June, 1903.

The Grand Trunk Railway Co. have deposited the sum of \$5,000,000 in cash with the Bank of Montreal as a guarantee for the satisfactory performance of their share of the construction of the Grand Trunk Pacific railway. Only one more preliminary step remains, the ratification of the amended contract by the Parliament of Canada, when the construction work can be undertaken.

The Ontario Government is willing to accede to the request of the Dominion Department of Railways and Canals for a transfer of the dams owned by the Province on the head waters of the Trent Valley Canal. These dams were built and are being maintained for the purpose of facilitating the floating of logs and timber and for improving local navigation. Many of them, owing to their age, require extensive repairs and partial reconstruction, involving an outlay of \$20,000. The necessity for storing water for the use of the Trent Canal, making the works a permanent necessity, will justify an outlay by the Dominion sufficient to gradually rebuild them in a permanent manner, and additional facilities will thereby be

afforded the community served. The transfer will provide that provincial rights as regards water powers shall be in no way prejudiced, and the owners of existing powers are to be guaranteed by the Dominion Government a continuance of them. The Dominion will be asked to refund to the Province the cost, \$31,194, of the Young's Point lock, which has been built in a substantial manner, making it a permanent part of the canal system.

The Protectionist contains the following: "THE CANADIAN MANUFACTURER is a strong advocate of reciprocity with the United States—in natural products. Not a hint in its columns about reciprocity in manufactures. It wants a renewal of the old reciprocity treaty that was abrogated in 1866! If this is the best that the Canadians have to offer they will wait a long time for reciprocity." Alluding to which the Bulletin says:

"The Protectionist is unquestionably right in its condemnation of THE CANADIAN MANUFACTURER'S proposition. What we wonder at is that anybody should seriously imagine for one moment that Canada would consent to cripple any of its manufacturing industries to help its coal, lumber, iron ore, and agricultural industries to wider markets in this country. The Canadians are very properly building up their manufacturing industries through protective duties, and we are glad that they are. That is what we have ourselves done. We wish them well, not ill. And the richer and more prosperous the Canadians become through protection, the better customers they will be in the end, for the products of our own factories and workshops."

THE CANADIAN MANUFACTURER never proposed reciprocity in natural products with the United States. It had noticed the strong and growing movement in that country for such an arrangement, and smilingly remarked that when the United States had anything good in the way of such reciprocity to offer to Canada, the proposition would receive due consideration. There is a spirit of tariff retaliation in this crisp Canadian atmosphere that prevents Canada from becoming a suppliant for commercial favors from anyone.

Speaking at the recent opening of the annual session of the Legislature, Sir J. A. Swettenham, the Governor of British Guiana, announced that the import duties would be lowered by way of preference to the British Empire in favor of such places as have claims on the gratitude of the Colony—for instance, the Mother Country and Canada. His Excellency said that a 10 per cent. remission to the United Kingdom would cost British Guiana in revenue, \$38,000, and a 10 per cent. remission to Canada \$5,400.

An Order-in-Council has been passed making the duty on malleable sprocket chain or link belting chain, imported into Canada for the manufacture of agricultural implements 20 per cent. It was 30 per cent., except for binders. Now it is to be a flat rate of 20 per cent. for agricultural implements.

An Order-in-Council has been passed deciding that cyanide of sodium imported for use in reducing metals in mining operations is entitled to entry free of duty as coming under Tariff item 477 of the Customs Act of 1897, which provides for free entry of "cyanogen or compound

of bromine and potassium for reducing metals in mining operations."

An Order-in-Council has been passed placing petroleum oil on the free list when imported by mining companies for use in the concentration of ores of metal. This is a concession to the Kootenay mining industry.

An Order-in-Council has been passed placing tubes and cones, made of paper, on the free list, when imported by manufacturers of cotton yarns or cotton fabrics to be used when winding yarn thereon in their own factories.

The New York Journal of Commerce, speaking of trade between Canada and the United States, says:

Our nearest neighbors, the Canadians, are still, in proportion to their numbers, far and away our best customers. There are only five and a half millions of them, and they bought from us in the last calendar year close upon \$134,000,000, against only \$46,000,000 for the whole of South America, and \$120,000,000 for all of the Latin-American States, excluding Cuba, of the American continent. Even British purchases, which amount to a little less than \$12 per head of the population of the United Kingdom, represent one-half of the per capita average of Canada.

The Boston Advertiser has made a great political discovery—a way to effect reciprocity between Canada and the United States. Hear it:

The more we study the matter the more clearly convinced are we that the only reciprocity we shall ever have with Canada is by a union of the two countries, following a probable tariff union between Canada and Great Britain. That experiment is evidently going to be tried, with a resulting temporary hostile commercial attitude between us and Canada, to the detriment of both. Then we shall both be ready for union, and, when that time comes, the obstacles will disappear like a snowdrift before an April sun. Canada and the United States cannot be kept apart much longer.

Canada is not inclined at this time to discuss reciprocity. We have given Britain "an option on our market," and can enter into no negotiations with any one else until the British people have spoken. Meantime, it will be no harm for the Americans to come to a realizing sense of its value. Our American friends now realize that there is no market so really precious to them as that of the Dominion; and that it may be lost to them unless the United Kingdom utterly reject our advances.

It will interest parents to learn that by a recent treasury ruling clothing sent from abroad to pupils at schools in Canada, for the personal use of such pupils and not for sale, will be admitted to free entry upon the production of a certificate to the above effect from the teacher of the pupil and an affidavit to the same effect from the person making the entry before the collector at the port where the goods are entered.

The Imperial Russian Minister of Finance has offered a prize of 50,000 rubles (\$25,750) to the person who will invest some way of making alcohol undrinkable. Pamphlets giving the exact requirements governing the competition have been printed in the French language and sent to the Russian consulates in foreign countries.

NEW "DAKE" MACHINERY.

We present, herewith, a short description of new Dake appliances, which consist of reversing air and steam motors, square piston engines, pneumatic chain hoists and trolleys, contractors' hoists, stationary engines, etc.

Foundrymen, steel workers, railways, contractors, and mining men have ever sought a simple and compact device such as the Dake motor and the Dake engine, and in offering these to the long suffering consumer, the manufacturers appear to have hit upon exactly what was required.

Fig. 1, represents the Dake air or steam reversing motor in shape to connect to centrifugal pumps, compressors, fans or hoisting apparatus, where a compact and reliable steam or air motor is desired.

The engine is especially adapted for changing hand to power cranes, for motors on overhead travelling cranes, jib cranes, derricks, and to all forms of hoisting machinery.

There can be no simpler way in applied mechanics, to obtain a rotary motion from the force and expansion of steam than that employed in the construction of the Dake engine. Reduced to its simplest elements it consists of nothing but two moveable pieces, one sliding inside the other, and both floating in a square, steam-tight box or cylinder, and being guided in their movements by the crank on the end of the driven shaft.

In practice the inner piston has removable shoes which can be adjusted to compensate for the wear, when necessary, and the cylinder is also provided with adjustable wedge for the same purpose. The inner piston or cross head has cored through its body four ports, leading to its four sides, which communicate with ports cut in cover or cylinder-head of engine. The engines are built upon correct and liberal lines, the wearing surface being ample for maximum loads. The bearing metal used in these engines is made from the best quality of phosphor bronze; and

when new ones are required, they can be shipped from the factory if desired, and any good machinist can fit them in place on arrival.

The ease with which they can be attached to any form of machine, can be readily understood, and they work as well in a perpendicular

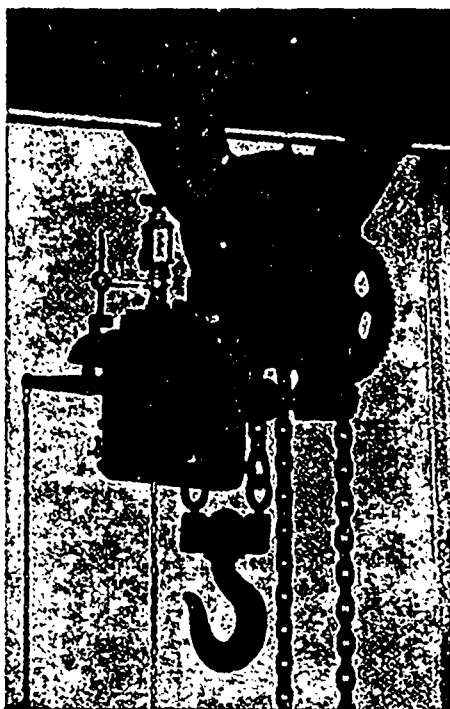


Fig 2 - The Dake Pneumatic Chain Hoist and Trolley.

position, or upside down as in the regular way.

These engines are made in sizes from 1 h.p. to 20 h.p., and weigh from 100 to 1,100 pounds. There is, also, the Dake pneumatic chain hoist, which consists of a Dake reversing air motor directly connected to a standard chain block. Two pendant hand chains control the motor valve, to which is also attached a lever to operate the valve stem on the oil cup, giving automatic lubrication to motor only when hoist is being used. The worm and worm wheel of steel and phosphor bronze are enclosed in an oil-tight case, and all parts of the hoist are of sufficient strength to sustain a load of twice their rated capacity.

Fig. 2, shows the Dake pneumatic chain hoist attached to trolley, which is built to run on the lower flange of single I beams. The trolley is made of cast steel with chilled cast iron wheels and anti-friction roller bearings.

When ordering always give size of beams on which trolley is to run.

These hoists and trolleys are made in capacities of from one ton to



Fig. 3.—Jib Crane operated by Dake Compressed Air or Steam Motor.



Fig. 1.—The Dake Square Piston Engine.

When writing o Advertisers kindly mention THE CANADIAN MANUFACTURER

five tons, and weigh from 200 to 450 pounds.

The manufacturers are also offering one and two motor compressed air travelling cranes which are rapidly displacing the former hand-power machines, and are being extensively operated in the large machine shops and steel plants.

The Duke reversible air or steam motor is applicable to all classes of jib cranes and will perform all operations, holding its load at any point.

Fig. 3, shows a jib crane formerly operated by hand cranks. The cranks being removed and motor applied to side of

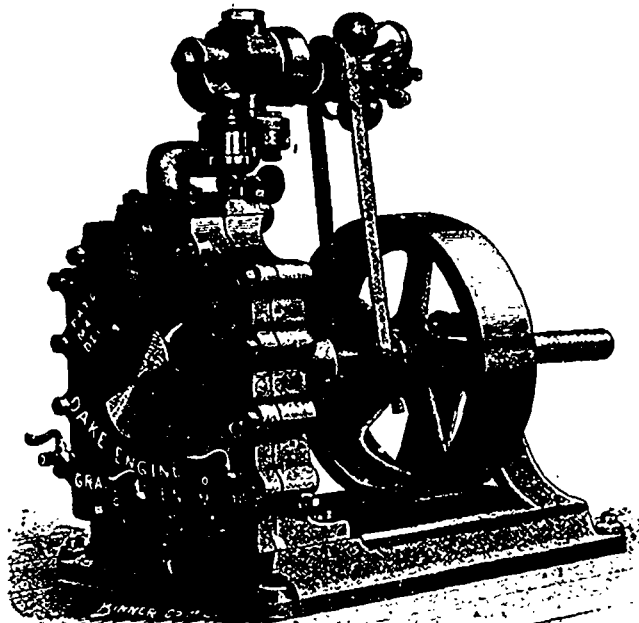


Fig. 4. -The Duke Stationary Engine.

mast without changing the gearing. This is a very effective means of changing jib cranes from hand to power cranes.

In railroad yards, foundries, machine shops, boiler works and steel plants, where compressed air is used, the Duke square piston motor can be very profitably applied to all classes of jib cranes. They are also furnished with single and double drum attachments, which can be bolted to the mast of any jib crane. The single drum hoist is for raising and lowering the load. If it is desired to rack the load on the boom, or raise and lower the boom, in

addition to raising and lowering the load, this can be done by a double drum hoist, operated by the same motor. For swinging the larger size jib cranes, the Duke swinging gear is a simple and effective arrangement, which can also be used with an ordinary double-drum hoisting engine.

Fig. 4, in general form and appearance represents each of the eight different sizes of the Duke stationary engine. These engines are made in sizes of from 1 h.p. to 30 h.p. and weigh from 130 to 2,000 pounds.

Like all Duke appliances, they are

compact, simple and low priced.

While on this subject, we must also mention the Duke marine, builders' and contractors' friction hoist for steam or compressed air. They are made in capacities of from 3 h.p. to 15 h.p., lifting 300 to 3,000 pounds, with single rope at usual speed. They are built with single and double drums, and are equipped with strong friction lever and foot brake.

Full information, circulars and prices on any of these lines may be obtained from the Estate Late James Cooper, 299 St. James St., Montreal.

BUILDING OPERATIONS IN TORONTO.

The indications are not now as favorable for building operations in Toronto as they were a year ago. At that time the "boom," which had gone on for several years, showed no signs of decline, and many important buildings were projected. There was, of course, a collapse in stocks, but architects and builders agree in attributing the apathy this year rather to last year's labor troubles.

Another factor in the depression is the unprecedentedly cold weather. It has been usual to calculate upon a certain amount of work before the cold sets in, with the expectation of finishing interiors at small cost for heating thereafter.

Last season, owing to labor troubles, work all over the city was late, very late, in being started. In many cases when the frost came there had not been sufficient progress with the walls to enable the contractor to finish the building under cover. In other cases the amount of fuel used while finishing the building was so great as to seriously increase the cost. Then, too, the people who in the ordinary course of events would no doubt be planning new buildings and extensions, are busy with their furnaces and water-pipes, and cannot be brought to realize that now is the usual time to prepare for such work. The season is a month behind the ordinary, owing to the cold.

A number of large buildings and extensions were in contemplation when the

labor troubles broke out a year ago. The Confederation Life Company intended to add three stories, but this work was then abandoned, and nothing has been heard of it since. There was another project to erect a lofty office building on King street, opposite the King Edward Hotel. It was delayed, partly owing to stock troubles, partly to labor troubles, but it is understood that a start will soon be made. One thing which will be peculiar to this building, of all in Toronto, is that there will be only a few tenants, half a dozen or so, and they will occupy it all. It is understood that there has been some delay about one or two of the tenants, but the delay is not elemental, and the building will go ahead. There was some talk about adding to the height of the Canada Life Building, but nothing will be done this year. The company has acquired the property on the corner, and the Molsons Bank lease has still a couple of years to run. But for all these buildings there is a demand by tenants which must be acceded to before long.

The contractors are now engaged in making terms with the different unions. With the bricklayers and plasterers agreements for a year have been reached. Others are still negotiating. It might have been thought that the various craftsmen, having been out of work for weeks last summer on strike, and having been prevented from working during a part of the winter, would have been eager to come to terms. But contractors state that there seems to be no such alacrity by some of them. In view, therefore, of the indifference of proprietors and capitalists, it is not surprising that architects and contractors are not rushing matters.

One effect of the troubles last summer was that less than the usual quantity of domestic brick was made. If the usual amount of building had been carried on during the winter the stocks would have been exhausted by now, and there would be no material wherewith to make a start in the spring. The spring bricks are not ready until June 1st, and it would have been impossible to begin new operations before that time.

These are the views of the contractors and architects. The latter, generally speaking, have a fair amount of work under way. It is in the direction of dwelling-houses and warehouse extensions. There is undoubtedly a good demand in Toronto for small, modern houses at a moderate rental, and many such are projected. Rosedale recently has grown rapidly, and there is still a demand for dwellings of a more pretentious character. But the result will largely depend on the decisions of the building trades within the next few weeks.

The receiving station for the Niagara power of the Toronto Railway Co., is to be built almost immediately on a site west of the city limits. From this receiving station the power will be distributed to the present power-house, which will be fitted for such work, and to a new station to be erected on Yonge street near Davenport road. The company have secured sites for both buildings, and work will begin very soon.

CAPTAINS OF INDUSTRY.

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

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

The starting of any such concern means a demand for some sort of machines, machinery, or supplies, such as steam engines and boilers, shafting, pulleys, bolting, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamos, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, 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 Grand Trunk Railway have sent out requests for bids on their season's locomotive coal, run-of-mine and screened lump. The following items are asked for:—90,000 tons at Portland, Me.; 30,000 at Brockville, Ont.; 800,000 at the International Bridge, Buffalo; 200,000 at London, Ont.; via Port Stanley; 250,000 tons at Detroit; 75,000 tons at Wellsboro or South Bend; 70,000 tons at Elston or Thornton. The Portland and Brockville coal is to be delivered from May to November 1, and the rest from April 1, 1904, to March 1, 1905.

Hon. L. J. Rockwood, Minneapolis, Minn., and associates visited Fort Frances, Ont., a few days ago to locate mill sites and powder dam, etc., for his company.

The National Husker Co., Ottawa, Ont., have been incorporated with a capital of \$100,000, to manufacture corn husking and canning machinery. The provisional directors include A. W. Adams, W. McD. Gray, Toronto, and C. T. DeBrisay, Ottawa.

The West Lorne Wagon Co., West Lorne, Ont., have been incorporated with a capital of \$50,000, to manufacture wagons, carriages, etc. The provisional directors include A. McKillop, D. McKillop and D. McPherson, West Lorne.

The Traverse City Gold Reef Co., a United States incorporation, have been licensed to do a general gold mining business in Ontario with a capital of \$2,800,000. F. A. Anglin, Toronto, is their attorney.

The Allith Mfg. Co., a United States incorporation have been licensed to manufacture door-hangers of wood, iron or metal, hardware specialties, etc., in Ontario, with a capital of \$50,000. J. D. Montgomery, Toronto, is their attorney.

The Robb Lumber Co., Guelph, Ont., have been incorporated with a capital of \$40,000, to manufacture lumber, etc. The provisional directors include G. Kloepfer, Waterloo, Ont., Thos. Griffin, and Jas. H. Hewer, Guelph.

Messrs. Maclure & Langley, Limited, Toronto, have been incorporated with a capital of \$40,000, to acquire the business of A. M. Maclure. The provisional directors include A. M. Maclure, E. W. Langley, and C. E. Robertson, Toronto.

The Preston & Berlin Street Railway Co., Preston, Ont., have been authorized to extend their line of railway from Berlin, Ont., through the towns of Waterloo and Preston, Ont.

The A. McGillis Co., Port Arthur, Ont., have been incorporated with a capital of \$40,000, to manufacture wearing apparel, etc. The provisional directors include B. Ratenberg, Toronto, Geo. W. Brown and A. McGillis, Port Arthur, Ont.

A large portion of the machinery in the Montreal shops of the Canadian General Electric Co., has been removed to the Peterborough works. Lines of electric goods formerly made in Montreal will now be manufactured at Peterborough.

The Collingwood Light, Heat & Power Co., Collingwood, Ont., have been incorporated with a capital of \$200,000, to produce natural gas, and electricity for lighting and heating purposes. The provisional directors include Wm. G. Parsons, Wm. Postlethwaite, and A. D. Crooks, Toronto.

The Columbia Phonograph Co., a United States incorporation, have been licensed to manufacture phonographs, music, typewriters, etc., in Ontario with a capital of \$10,000. A. F. Tero, Toronto, is their attorney.

The Canadian Consolidated Oil Co., Limited Toronto, have been incorporated with a capital of \$1,000,000, to acquire the business of the Canadian Consolidated Oil Co.; Canadian Oil Refining Co.; Sun Oil Refining Co., of Hamilton; Grant Hamilton Oil Co., of Toronto; and to manufacture and refine oils, etc. The provisional directors include John Kerr, Petrolia, Ont.; E. R. Clarkson, Hamilton, Ont.; T. H. Hamilton and J. Wright, Toronto.

The Rainy River Pulp Co., have prepared plans for the construction of a dam at Laud Island Falls, on the Seine River, where they propose developing 10,000 h.p.

The J. F. Pease Furnace Co., Toronto, have increased their capital from \$12,000 to \$200,000.

The Eagle Knitting Co., Hamilton, Ont., will enlarge their works.

Messrs. D. Moore & Co., Hamilton, Ont., are inviting tenders for the erection of a new snap shop and cupola house.

The Guelph Worsted Spinning Co., Guelph, Ont., are installing a new set of cards and mules in their plant for making carpet and hosiery yarns.

The National Woolen Mills, Streetsville, Ont., are installing an additional set of cards in their plant.

The Guelph Carpet Mills Co., Guelph, Ont., have recently installed a tapestry and velvet carpet plant in the mill. An addition 175 x 50 feet, three stories, for office and stockroom, and one 125 x 50 feet to the loom-shed, have been erected.

The Elmira Felt Co., Elmira, Ont., have ordered additional machinery.

The John Dick Co., Seaforth, Ont., will install new machinery in their mill.

The Wellesley Milling Co., Wellesley, Ont., have been incorporated with a capital of \$40,000, to carry on a general grain milling business. The provisional directors include J. G. Reiner, F. Debus, Wellesley, and A. R. McEachern, Tavistock, Ont.

The Western Electric Mfg. Co., Berlin, Ont., have been incorporated with a capital of \$50,000, to manufacture electric, gas and water meters, automatic machinery, etc. The provisional directors include W. H. Cone, J. H. Messner, and J. J. A. Weir, Berlin.

The Ragg Publishing Co., Niagara Falls, Ont., have been incorporated with a capital of \$20,000, to carry on a printing and publishing business. The provisional directors include W. L. Dorau, H. W. Smith and A. E. Ragg, Niagara Falls, Ont.

The Essex Flax Mills Co., Essex, Ont., have been incorporated with a capital of \$50,000, to manufacture flax, etc. The provisional directors include A. H. Raymond, S. K. Cohen and E. A. Wismer, Essex.

The McIntosh Brick Machine Co., Warton, Ont., have been incorporated with a capital of \$40,000, to manufacture bricks, building-blocks, tile, etc. The provisional directors include R. V. Le Sueur, Sarnia, Ont.; W. S. Miners, Point Edward, Ont., and W. K. Snider, Warton.

Tolton Bros., Limited, Guelph, Ont., have been incorporated with a capital of \$50,000, to acquire the business of Tolton Bros., and to manufacture agricultural implements, etc. The provisional directors include W. H. Conway, C. Kloepfer and G. A. Dickieson, Guelph.

The motive power of the New York & Ottawa Railroad between Ottawa and Tupper Lake, N.Y., is to be changed to electricity. The distance is about 123 miles. The reason for the change is great reduction in running expenses and more rapid and prompt transportation.

S. M. Hutcheson, Paisley, Ont., is offering for sale his woolen mill at that place. It is well equipped and can be operated by either water or steam power.

The Perth Flax & Cordage Co., Perth, Ont., are making a brick addition to their works 116x42 feet, which when completed, will greatly increase their capacity and enable them to employ twice the present number of operatives.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Premier Ross has given notice of a resolution in the Ontario Legislature to increase the fund for the encouragement of the beet sugar industry in this province. The fund was originally \$225,000, to give aid during three years, and the proposal is now to give an additional \$150,000 to give aid during two further years.

The Clyde Steel Works, ship builders, Toronto, of which Mr. Edward Ramage is manager, have been doing extensive alterations and repairs in the dry dock at Kingston, Ont., to the steamer Chicora, belonging to the Niagara Navigation Co., than which no faster or more popular steamer plies the briny deep between Toronto and ports on the Niagara River. The Chicora was floated out of the dry dock a few days ago, as tight as a cup, no leak whatever having shown itself in the hull, although more than a hundred of the old plates had been removed and replaced with steel plates "made in Great Britain." Mr. Folger, manager of the Navigation Co. has expressed his utmost satisfaction with the job done by Mr. Ramage; a result of which the Lloyds rating of the steamer has been raised from A 2½ to A 1½, a remarkable rating for a vessel of her class.

Messrs. George Foster & Sons, Brantford, Ont., have been incorporated with a capital of \$100,000, to manufacture drugs, chemicals, etc. The provisional directors include F. M. Foster, A. G. Olive and M. H. Robertson, Brantford.

The Cossitt Bros. Co., Brockville, Ont., have decreased their capital from \$400,000 to \$125,000, and have changed their name to the Cossitt Co.

The Standard Paint & Varnish Co., Windsor, Ont., will erect a new plant at a cost of about \$40,000.

The Force Food Co., Buffalo, N.Y., have been licensed to manufacture their product in Ontario, with a capital of \$100,000. A. J. Jahraus, Hamilton, Ont., is their attorney.

The Arlington Co., of Canada, Toronto, have been incorporated with a capital of \$40,000, to acquire the business of A. B. Mitchell and to manufacture rubberine collars, cuffs, etc. The provisional directors include E. N. Crane, Newark, N.J., A. B. Mitchell and W. D. Mitchell, Toronto.

Messrs. Matthews Bros., Toronto, manufacturers of picture frame mouldings, etc., will erect an addition to their factory three stories high.

The Sawyer-Massey Co., Hamilton, Ont., have increased their capital from \$500,000 to \$1,000,000.

The Knox church at Guelph, Ont., was partially destroyed by fire, March 24. Loss about \$7,000. It will be rebuilt at once.

The Montgomery Car Equipment Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture railway supplies and appliances. The provisional directors include F. C. Annesley, A. J. Mitchell and R. P. Ormsby, Toronto.

The Postoffice Department are contemplating the establishment of a pneumatic

tube system between the Union Station, Toronto, and various points of the city, for the distribution of mail matter.

The White Lake Cheese Co., Huntingdon, Ont., will increase their capital from \$2,000, to \$4,500.

The Trinity Methodist congregation at Berlin, Ont., will erect a new church building at a cost of about \$25,000.

A new presbytery will be erected in connection with St. Paul's Catholic Church, Toronto, at a cost of about \$30,000.

The \$500,000 improvements to the Canadian Pacific Railway facilities at Fort William, Ont., will be completed early in June. The power house, which is already erected, and is capable of developing 3,000 h.p. will be utilized in connection with the lighting systems, the operation of elevators, the water works and machine shops.

An English syndicate are negotiating with the Stratford City Council to establish a metal working industry there, the plant to cost about \$100,000, and to give employment to 200 men.

The Cowan Co., Toronto, manufacturers of cocoas, chocolates, etc., are inviting tenders for the construction of a new factory building.

The St. Mary's Roman Catholic congregation, Toronto, will have a tower erected on the church at a cost of about \$9,000. Joseph Connolly, is the architect.

A. F. Leggatt, Ottawa, Ont., has bought a controlling interest in the North Bay, Ont., Gas Co., which supplies acetylene gas from a central plant by means of mains throughout the town. The company have a perpetual franchise for all kinds of gas. It was organized a year ago, and has been most successful. Mr. Leggatt intends to extend the present mains and build up the business which has been well begun.

The Department of Public Works, Toronto, are inviting tenders for the following works:—For boiler plant, steam heating and plumbing, and electric wiring and equipment of the chemistry, mining and milling buildings, School of Practical Science, Toronto; and for the erection of an administration building in connection with the Hospital for Epileptics, near the City of Woodstock, Ont.

The Polson Iron Works Co., Toronto, have built a large ferry steamer at a cost of about \$75,000, for the Vancouver Ferry Co., and is now being shipped in parts to Vancouver, B.C.

The Dominion Bridge Co., Lachine, Que., have been awarded the contract for the erection of a new Grand Trunk Railway Bridge at Kingston Mills, Ont.

It has been determined not only to light the Welland Canal by electricity instead of gas, but by the same motive power to operate the gates, valves, bridges and sluiceways of the canal. The order for the cedar poles and steel poles for carrying the wire has been given. There will be 2,000 cedar poles and about 200 steel poles. The electricity will be furnished by the Cataract Power Co. The whole stretch of the canal will be

lighted instead of merely the locks, as formerly.

The Manufacturers' Lumber Co., Stratford, Ont., have been incorporated with a capital of \$40,000, to manufacture lumber, etc. The provisional directors include A. J. McPherson, J. A. McFadgen and J. L. Kastner, Stratford.

The Ritchie Hearne Co., Toronto, have been incorporated with a capital of \$40,000, to acquire the business of the Industrial Soap & Oil Co., and to manufacture soaps, oils, chemicals, etc. The provisional directors include E. J. Lockie, Brantford, Ont., W. O. Ritchie and F. G. Hearne, Toronto.

Hugh Carson, Limited, Ottawa, Ont., have been incorporated with a capital of \$50,000, to acquire the business of Hugh Carson and to manufacture harness, saddles, etc. The provisional directors include Hugh Carson, C. E. Green and F. W. Howe, Ottawa.

The Martin Electric Supply & Construction Co., St. Catharines, Ont., have been incorporated with a capital of \$40,000, to take over the business of the Martin Electric Supply Co., and to supply electricity, natural gas, etc. The provisional directors include F. W. Martin, Geo. H. Martin and J. S. Campbell, St. Catharines.

The McDonald Furnishing Co., of Chatham, Limited, London, Ont., have been incorporated with a capital of \$50,000, to manufacture furniture, etc., and to acquire the business of McDonald & Co. The provisional directors include John McClary, W. M. Gartshore, and A. M. Smart, London.

The J. P. Cook Co., London, Ont., have been incorporated with a capital of \$50,000, to manufacture boots and shoes, and to acquire the business of J. P. Cook. The provisional directors include J. P. Cook, P. Cook, Jr., and E. O. Cook, London.

The Kent Farmers' Produce Co., Blenheim, Ont., have been incorporated with a capital of \$35,000, to manufacture dairy produce, etc. The provisional directors include J. McDougall, R. Cumming and J. R. Muckle, Harwich, Ont.

The Redeemer Mining Co., will install a ten-stamp mill at the Dryden mines, Ont.

Work has been commenced on the Preston-Bell Furniture & Lumber Co's. mill site at Fort Francis, Ont. The saw mill will be 84x40 feet and will be equipped with all modern machinery and having a capacity of 60,000 feet per day. The mill will be lighted by electricity.

The Great Lakes shipping interests in Canada propose to ask the Dominion Government to further improve the locks at the entrance to the Lachine Canal at Montreal; to lengthen the entrance lock at Morrisburg, Ont., from 280 feet to 300 feet; to deepen the Welland Canal, and to complete the Trent Valley Canal from Lake Ontario to Georgian Bay.

The Department of Public Works at Ottawa, Ont., is inviting tenders for the construction of a pile wharf at Parry Sound, Ont.

Mr. H. Murton, Guelph, Ont., will erect a new mill at a cost of about \$13,000, to replace the one destroyed by fire recently. The machinery will be supplied by the Goldie & McCulloch Co., Galt, Ont.

Messrs. B. & C. T. Lewis, Orillia, Ont., are building a new steamer for the Couchiching and Simcoe trade, to be 75 feet in length, 12 foot beam, with a draft of 5 feet.

Mr. Thos. Wood, Orillia, Ont., is building a new steamer for the Sparrow Lake trade. She is to be 72 feet in length, by 12 feet 8 inches beam, and with a draft of 3 feet. She will be fitted with a 38 h.p. fore and aft compound condensing engine.

The Milner Petrolea Wagon Co., Petrolea, Ont., present an attractive card in page 37. They manufacture a variety of wheel vehicles, including heavy team wagons, log and timber trucks, saw mill dump carts, contractors' dump carts, farm wagons of all kinds, etc. These articles are all strictly first-class, and fully warranted. The company are sending to those who request it a new illustrated catalogue descriptive of their products.

The plant of the Chicoutimi Pulp Co. is situated about a mile from the town of Chicoutimi, Que., which stands on the south side of the river Saguenay, 68 miles from its mouth. The town has a population of 6,000 inhabitants, who are principally engaged in the pulp and lumber trade. The town is reached by the Quebec and Lake St. John Railway, and in the summer by steamboats. Any ocean vessel may come within four miles of Chicoutimi. The property of the company is valued at from \$1,500,000 to \$2,000,000. The original mill, built in 1897, has 9 grinders and 12 wet machines, and turns out 100 tons of ground wet pulp every 24 hours. The new mill, completed last autumn, cost \$600,000. It consumes 3,000 twelve foot logs every 24 hours. This mill has 20 grinders and 18 wet machines, and turns out 200 tons of ground wet pulp every 24 hours. The falls and rapids of the Chicoutimi River from which the mills derive their water power are 170 feet high and are capable of developing 15,000 h.p. The water is conducted to the water wheels by two steel penstocks, one 11½ feet in diameter, 200 feet long; the other, 13 feet in diameter, and 800 feet long.

The John Murphy Co., Montreal, have been incorporated with a capital of \$450,000, to acquire the business of John Murphy & Co., Ottawa. The provisional directors include John Murphy, H. Henry, Montreal, and S. Gamble, Ottawa, Ont.

The St. Raymond Paper Co., Montreal, have been incorporated with a capital of \$500,000, to acquire the business of The St. Raymond Co., and to manufacture wood pulp, paper, etc. The provisional directors include T. M. McCaw, John Adair and A. M. P. Buchanan, Montreal.

The Cold Air Electric Power Co., Montreal, have been incorporated with a capital of \$20,000, to carry on the business of an electric light, heat and power com-

pany. The provisional directors include B. Sawyer, T. H. Schwitzer, and H. Timmis, Westmount, Que.

The Montreal Board of Harbor Commissioners are inviting tenders for the construction of permanent sheds and roadways on the wharves at a cost of about \$3,000,000.

The Canadian Rubber Co., Montreal, recently remodelled their power plant and found that the tall brick chimney, 110 feet high, would not give the proper amount of draft necessary in connection with the four new Stirling boilers they were to install. Mechanical draft was necessary and for this purpose a large Sturtevant steel plate fan driven by a Sturtevant horizontal engine was installed and now the proper amount of draft is easily attained and regulated at will regardless of the weather conditions. This installation is another illustration of the necessity of mechanical draft, especially in connection with the remodelling of old boiler plants.

The Northern Aluminum Co., Shawinigan Falls, Que., have been awarded the contract for the supply of conductors and electrical transmission and distribution circuits along the Welland Canal.

The Dominion Woolen Mfg. Co., Beauharnois, Que., have completed the installation of 20 broad Knowles looms in their plant.

The Sherbrooke Stove Works, Sherbrooke, Que., were partially destroyed by fire, March 14. Loss, about \$3,000.

La Compagnie de Granit d'Argenteuil, Montreal, have been incorporated with a capital of \$300,000, to work stone, marble and granite quarries, etc. The provisional directors include J. Brunet, Notre Dame des Neiges, Que.; N. F. Duquette and L. Beaudry, Montreal.

H. Lamontage & Co's. saddlery warehouse, Montreal, was damaged by fire, March 21. Loss, about \$2,000.

C. E. Shedrick, Sherbrooke, Que., manufacturer of the Whitney electrical instruments, has equipped a complete machine shop, and added a number of new lines to his business.

The Christie Wood-Working Co., St. John, N.B., have been incorporated with a capital of \$40,000, to manufacture articles of wood, etc. The provisional directors include Jas. Christie, C. S. Christie, and W. A. Christie, St. John.

The J. W. Scovil Co., St. John, N.B., have been incorporated with a capital of \$20,000, to manufacture clothing, etc. The provisional directors include J. M. Scovil, St. John, J. W. Scovil and F. E. Grimmer, St. Stephen, N.B.

Messrs. Wm. Currie & Co., Campbellton, N.B., have been incorporated with a capital of \$70,000, to carry on a lumbering business. The provisional directors include Wm. Currie, Campbellton, J. M. Maclean, Sussex, N.B., and D. Maclean, Apple River, N.S.

Messrs. Rhodes, Curry & Co., Amherst, N.S., have been awarded a contract for the building of 100 box cars, and 270 flat cars of 30 tons capacity. The box cars are of the American Railway Association standard dimensions, 36 feet long;

8 feet 6 inches wide; 8 feet in the clear inside.

A new public school building will be erected at Halifax, N.S., at a cost of about \$12,000.

The Dominion Iron & Steel Co., Sydney, N.S., will erect a steel rail mill.

The output of the Dominion Coal Co., Sydney, N.S., for February was 183,500 tons, against 201,721 tons in January and 258,798 tons in February last year.

It is stated that the unusually heavy ice blockade around the Newfoundland coast and in the Gulf of St. Lawrence will have a disastrous effect on the sealing industry of that locality this spring. The season opened on March 10, while at the present time many of the steamers usually fitted out for the fishing are frozen in at St. John's and other outports. Even should the steamers be successful in getting outside, the prospects of their securing a good catch is very poor, owing to the extremely heavy ice that covers the fishing grounds.

The annual meeting of the Nova Scotia Steel & Coal Co., was held at Montreal a few days ago. The report shows that the business of the company for the past year was the largest and most profitable in its history. There has been a large increase in the output of the coal mines. The company is now the second producer of coal in Nova Scotia. The iron and steel plant was kept fully occupied during the year, resulting in a much larger output than in previous years. The profits for the year 1903 were \$859,397.19, as compared with \$609,935.25 for the previous year. After providing for the dividends on the preferred and common stock, and the payment of all other fixed charges, and making the usual large allowance for depreciation, the balance carried forward to the credit of the profit and loss account on the first day of January, 1904, was \$685,642.62, as compared with \$453,149.43 on the first day of January, 1903.

The Dominion Iron & Steel Co., will add a steel rail mill to their plant at Sydney, N.S., at an early date. Some weeks ago a shipment of the Sidney steel billets was sent to one of the large rail mills in England to test quality of steel. These were made into rails under the supervision of the Canadian Government inspector. The report of the inspector says that the rails made from the Sydney billets are first-class and of the very best quality. They will be forwarded to Canada at once and placed on the Inter-colonial, the Grand Trunk and Canadian Pacific Railways to be tested. The company hope to be in a position to supply part of the rails for the Grand Trunk Pacific which under terms of the contract with the Government must purchase rails made in Canada if same are available.

The discovery is announced of nickeliferous copper in large quantities in Cape Breton, N.S. The ore body is reported to be between 270 and 280 feet wide, carries gold and silver, and contains high values in copper and gold. It is said the property will prove to be among the largest copper mines in the world. New gold findings at Poplar Creek, B.C., and an important discovery of asbestos in

Addington County, Ont., are also reported.

The Victoria Mfg. Co., Auburn, Me., manufacturers of acetylene gas generators are considering the establishment of a branch works at St. John, N.B.

The St. John, N.B., city council have awarded the contract for the construction of a ferry steamer at a cost of \$80,000, to Jas. Fleming of that city.

The International Railway Bridge Co., Campbellton, N.B., have been incorporated to construct a railway and highway bridge over the Restigouche river at Campbellton, to connect the Gaspé and Bonaventure railway to the new line now being constructed from Campbellton to Edmundston. The promoters are Thos. Malcolm, Campbellton, and Chas. Riordan, St. Catharines, Ont.

The Imperial Importing & Fur Mfg. Co., Winnipeg, Man., will change their name to The D. Boyaner Co.

The James Innes Milling Co., Hartney, Man., have been incorporated with a capital of \$45,000, to carry on a grain, milling and elevator business. The provisional directors include Jas. Innes, F. Hill and R. A. Creighton, Hartney.

The Western Printers' Supply Co., Winnipeg, Man., have been incorporated with a capital of \$20,000, to manufacture type, ink, presses, etc. The provisional directors include B. A. Huckell, Carberry, Man., James Hooper and H. Chevrier, Winnipeg.

The Hartney Mfg. Co., Hartney, Man., have been incorporated with a capital of \$50,000, to manufacture builders' and contractors' materials, etc. The provisional directors include Alex. Mains, J. A. Scott and A. E. Fry, Hartney.

The Winnipeg Stone Co., Winnipeg, Man., will increase their capital from \$10,000 to \$25,000.

The E. H. Briggs Co., Limited, Winnipeg, Man., have been incorporated with a capital of \$40,000, to acquire the business of E. H. Briggs & Co., and to manufacture brooms, wooden-ware, etc. The provisional directors include E. H. Briggs, J. W. Briggs and E. N. Page, Winnipeg.

The Winnipeg Saddlery Co., Winnipeg, Man., have been incorporated with a capital of \$100,000, to acquire the business of Wright & Vanvliet, and to manufacture saddlery, harness, leather goods, etc. The provisional directors include A. Wright, T. A. Vanvliet and W. W. Veitch, Winnipeg.

Mr. Dickson, linen manufacturer, of Leeds, England, will erect a linen factory in Edmonton, N.W.T.

In 1901 there were 14,650 manufacturing establishments in Canada employing not less than five workers each.

The Manitoba Iron Works, Winnipeg, Man., have under construction a large marine boiler for Capt. F. W. Coates, to be used in a new boat being put on the Saskatchewan river at Prince Albert.

Messrs. Menary & Badger will establish a pump and planing mill at Melita, Man.

A new public school building will be erected in Winnipeg, Man., at a cost of about \$34,000.

The Fairchild Co., Winnipeg, Man., manufacturers of carriages, agricultural implements, etc., will increase their capital from \$100,000 to \$400,000.

A new Western Canada College will be erected at Calgary, N.W.T., at a cost of about \$10,000.

I. C. Nelson, Winnipeg, Man., will open up a wholesale implement and vehicle establishment in that city.

W. T. Grose has commenced business at Winnipeg as representative of the following eastern firms: Bellhouse, Dillon & Co., cements; W. H. C. Mussen & Co., contractors and railway supplies, Montreal; the Portland Rolling Mills Co., and the Maritime Nail Co., of St. John, N.B.

Messrs. Duchesneau & Co. are enlarging their carriage factory and machine shop at Hartney, Man., and are installing new machinery.

The Morris Mfg. Co. will have their new planing mill at Hartney, Man., in operation shortly. They are now installing machinery.

A. Wallace, Vancouver, B.C., is considering the construction of a 1,200 foot marine railway at that port.

H. A. Jones, Vancouver, B.C., is interested in the erection of a large sawmill at a cost of about \$150,000, on Burrard Inlet, B.C.

A large tannery will be erected on Capilano Flats, near Vancouver, B.C., at a cost of about \$1,000,000.

The Reliance Gold Mining & Milling Co., have been incorporated at Victoria, B.C., with a capital of \$600,000, to carry on a mining, milling and reduction business.

The Cascade Copper Mining Co., have been incorporated at Victoria, B.C., with a capital of \$250,000, to carry on a copper mining business.

The Ferguson Mines, Limited, have been incorporated at Victoria, B.C., with a capital of \$1,400,000, to carry on a mining and refining business.

The Water Supply Co., Cranbrook, B.C., have been incorporated with a capital of \$50,000, to operate a waterworks system and to build cisterns, culverts, etc.

The Pacific Coast Logging Co., Vancouver, B.C., have been incorporated with a capital of \$10,000, to acquire the business of N. L. Higgins and to manufacture lumber, bolts, etc.

The Albion Iron Works Co., Vancouver, B.C., have been incorporated with a capital of \$500,000 to carry on a general brass and iron foundry business, and to manufacture stoves, agricultural implements, etc.

The Esquimalt District Drainage Co., have been incorporated at Victoria, B.C., with a capital of \$10,000, to construct drains, sewers, etc.

The Bentley Iron Co., have been incorporated at Victoria, B.C., with a capital of \$30,000, to carry on a mining and refining business.

The Union Machine Co., Fitchburg, Mass., have completed their new Canadian plant, at Lennoxville, Que., and

will occupy it at once, moving from Sherbrooke. The company will do a general machine shop and foundry business in addition to the manufacture of screen plates.

F. E. Reed & Co., Worcester, Mass., whose Canadian agents are the A. R. Williams Machinery Co., Toronto, report good sales of their machine tools in Canada.

The Morgan Construction Co., Worcester, Mass., have recently completed the installation of a rod mill in the plant of the Dominion Iron & Steel Co., at Sydney, N.S. Heretofore the Canadian demand for wire rods was largely supplied from the United States. The new mill will enable the Dominion Iron & Steel Co. to supply about all the Canadian demands for this product.

All modern school houses are provided with some mechanical means of ventilation for the health and comfort of the pupils and teachers. In the new school houses which are all the time being erected throughout the West, the fan system of heating and ventilating is employed as the most positive and economical system. Recently the B. F. Sturtevant Co. installed at the Centralia High School, Centralia, Ill., a complete heating and ventilating equipment, consisting of a large Sturtevant steel plate fan with direct-connected Sturtevant engine, heaters, tempering coils, galvanized iron distributing pipes, etc. With this system, by the mixing of the hot and cold air, the quality and quantity of the air in the school rooms can be varied at will by the mere pull of a cord, and the comfort of the occupants is at all times assured.

The Barney Ventilating Fan Works, Boston, Mass., whose Canadian agents are W. G. Hurdman & Co., Ottawa, report the following recent sales of fans to Canadian concerns—Ontario—Berlin Glue Works, Berlin; Brown & Erbe, Berlin; Breithaupt Leather Co., Berlin; Jno. Wintermeyer, Berlin; Auburn Woolen Co., Peterboro; Beardmore & Co., Acton; W. H. Cross, Georgetown; J. & F. Grant, Woodstock; Shaw, Cassils & Co., Bracebridge; R. H. Smart, Brockville; Jos. Jamieson, Kingston; Elliot Bros., Kingston; Riordon Paper Co., Merriton. Quebec—Fooke Bros., Montreal; Miller Bros. & Toms, Montreal; Temple Electric Co., Montreal; Granby Rubber Co., Granby; Dominou Spath Co., Waterville. Nova Scotia—Ungras Laundry & Dyeworks, Halifax; Royal Fossil Flour Co., Londonderry; Fossil Flour Co., River Phillip.

\$50.00 TO CALIFORNIA AND RETURN.

Via The Chicago, Union Pacific & North-Western Line, from Chicago, April 23 to May 1. Choice of routes going and returning. Correspondingly low rates from all points. Two trains a day from Chicago through without change. Daily and personally conducted tourist car excursions. Write for itinerary and full particulars regarding special train leaving Chicago, April 26. B. H. Bennett, 2 East King St., Toronto, Ont.

INDUSTRIAL PUBLICATIONS.

The Heald Machine Co., Worcester, Mass., have issued illustrated booklets on their piston ring, disc and collar grinder. They are represented in Canada by H. W. Petrie, Toronto.

Messrs. Fogarty Bros., Montreal, representing the Dow Portable Electric Co., Braintree, Mass., and the International Time Recorder Co., New York, have issued catalogues describing these, and other electrical equipment which they handle.

We are indebted to Mr. F. R. Hutton, Secretary, for a copy of the twenty-fifth Year Book, (1904) of the American Society of Mechanical Engineers, the head office of which is at 12 West Thirty-first street, New York City. It contains a list of officers for the current year, an alphabetical list of members, giving occupation and post office address; a territorial list, showing the different states of the United States, and also the foreign countries, in which the members reside. The list shows that there are 2,466 members residing in the United States, and 153 in foreign countries, of which Canada is credited with 31. These Canadian members are: Messrs. A. G. Robb and D. W. Robb, Amherst, N.S.; A. R. Goldie, Galt, Ont.; J. S. Whyte, Glace Bay, N.S.; W. C. Hawkins, Hamilton, Ont.; H. Tandy, Kingston, Ont.; R. Angus, London, Ont.; W. C. Brown, F. D. Buffum, G. H. Cushing, R. J. Durley, C. F. Eicks, H. M. Jaquays, L. B. Melville, R. B. Owens and A. W. Robinson, Montreal; W. G. Matheson, New Glasgow, N.S.; R. D. Hassan and A. C. Tagge, Ottawa; C. E. Brown, U. E. Gibbs, and C. F. McGill, Peterborough, Ont.; M. K. Rodgers, Penticon, B.C.; H. V. Haight and A. Sangster, Sherbrooke, Que.; C. G. Atwater, Sydney, N.S.; and R. W. Angus, A. C. Larkin, A. C. McCallum, A. G. Mattsson and G. W. Watts, Toronto.

The Canadian Casualty and Boiler Insurance Co., Toronto, of which Mr. A. G. C. Dinnick is manager, and A. M. Wickens is chief engineer, have sent us an attractive circular which embodies a business proposition which should receive the attention of manufacturers and all other steam users, to whom they appeal for an opportunity to prove their merits as competent consulting engineers.

"The Milner" Farm Wagons is the title of the new illustrated catalogue just published by the Milner-Petrolia Wagon Co., Petrolia, Ont. It is descriptive of the farm, freight and one-horse wagons, trucks, dump carts, hay and stock racks, sleighs, etc., manufactured by them. It contains as nearly as possible, a complete list of the various vehicles they make. The mechanical departments of this concern are under the supervision of experts who have long experience in the business.

The Jeffrey Mfg. Co., Columbus, Ohio, have sent us their bulletin No. 4, having reference to "Electric Coal Mining Plant"; and Bulletin No. 5 re "Storage Battery Industrial Locomotives." No. 4 embodies a brief description of two sizes

of electric coal mining machine plants, giving approximate cost of equipment, and estimates as to savings effected, constituting a paper prepared by Mr. S. B. Belden in answer to enquiries received from coal companies and individuals re the electric equipment of coal properties. In Bulletin No. 5 an illustrated scene of the different types of storage battery industrial locomotives manufactured by the Jeffrey Mfg. Co., in which is embodied a portion of a paper read at the Niagara Falls meeting of the American Institute of Electrical Engineers in June last. The company invite enquiries, and will give estimates and prices either for their standard line of industrial locomotives, or for locomotives to meet special requirements.

The R. Woodman Mfg. & Supply Co., Boston, Mass., manufacturers of supplies for steam, electric, and traction railroad, steamships, hotels, mills and factories, etc., have sent us their new illustrated catalogue relating to same.

The Knowles Steam Pump Works, New York City, have sent us their catalogue K. 104, having reference to pumping machinery for beet sugar factories, in which is a list of apparatus indicative of the types of pumps adapted to the various services encountered in a beet sugar plant.

The London Machine Tool Co., London, Ont., have sent us their new illustrated catalogue descriptive of the planers, shapers, lathes, presses, punches, shears, rolls, drills, hammers, boring mills, etc., manufactured by them. The details of construction of these tools are given, also best methods of applying power, directions for erecting and operating, etc. Mr. H. W. Petrie, is the Toronto representative of the London Machine Tool Co., and carries in stock a very complete line of these tools.

The B. F. Sturtevant Co., Boston, Mass., have sent us a condensed catalogue of the forges, blowers, exhausters, fans, engines, dynamos, motors, generating sets, steam heating, ventilating and drying apparatus, exhaust heads, steam traps, and industrial equipments generally manufactured by them. In the introductory to their catalogue they say: The great diversity in our products necessitates their comprehensive treatment in separate catalogues. These are now so voluminous,—numbering over thirty and containing in the aggregate some 1,500 pages,—that a complete general catalogue appears impracticable. By a process of almost ruthless selection and condensation it is, however, possible to present in the following pages the essential types with lists of sizes and important features. This publication professes to be no more than a "Condensed Catalogue" compact in form and primarily designed for desk use.

Among the recent achievements of many business concerns of Baltimore in resuming operations after the great fire of February 7 and 8, that of the Manufacturers' Record is worthy of special mention. Its printing house was destroyed together with much matter in type and manuscript for the issue of

February 11. It was impossible to publish the paper in Baltimore, and arrangements were hurriedly made to have the printing done in Philadelphia. The question how to provide cuts for the advertising pages was met with the assistance of photo engraving, which furnished the means for plates for the full advertising pages as they stood before the week of the fire. The Record appeared as a 100-page paper, without a single department omitted, on the regular publication day.

The Westinghouse Companies' Publishing Department, Pittsburg, Pa., have sent us two new circulars which are fresh from the press, entitled as follows:—No. 1077—"Type L Motors, direct current, series wound," and No. 1078. "Westinghouse No. 91 single phase railway motor and car equipment." Large editions of these circulars have been printed, and copies may be had upon request.

Messrs. Morrison & Kennedy, Buffalo, N.Y., have sent us a folder, having reference to the chimney valves made by them in which is reproduced letters from some of the most up-to-date iron furnace men in the United States, who speak highly of the apparatus; and a list is given of some of the furnaces now equipped with these valves.

The Canadian General Electric Co., Toronto, are issuing a folder entitled, "An Economical Method of Bonding Track," which has reference to steel and copper bonding caps, which are described as small metal caps intended for use with ordinary copper wire for bonding track. They are made of steel or copper, drilled to fit the ordinary sizes of bonding wires, and are tapered at one end to enter the rail readily, and slotted to allow the cap to compress firmly over the bond wire, when driven into the rail. The metal in the steel caps is a soft pliable quality of steel of high conductivity; the copper caps are made of specially prepared copper, tempered to a degree necessary to give them the requisite mechanical strength.

Messrs. Marion & Marion, patent attorneys, Montreal, have sent us a circular having reference to patents recently obtained by them, among the more recent of a mechanical character being to George Bryar, St. John, N.B., for joint for lead pipe; Albert L. Mowry, St. John, N.B., for lock nut; R. L. Myres, Winnipeg, Man., for fence construction; J. T. Griffith, Lachute Mills, Que., for carding machine attachment, and F. E. Woodworth, Grafton, N.S., saw mill feed.

The Chicago Pneumatic Tool Co., Chicago, Ill., have sent us a copy of their new complete Hoist-Catalogue, illustrating and describing their line of pneumatic motor hoists, cylinder hoists, trolleys, winding drums, foundry elevators, car jacks, jib cranes, etc. This catalogue, designated as their Special Hoist Catalogue, is printed on pure white coated enamel stock paper, and is a credit to the producers of it. The illustrations, too, are first-class, and convey an accurate idea of the tools they are

intended to represent. The company will be pleased to send copies of this catalogue on request.

The Bourne-Fuller Co., Cleveland, Ohio, have sent us a morocco-bound pocket size copy of their new standard list of extras, having reference to the different sizes, shapes, forms and sections of the structural iron and steel which they handle. About every commercial variety of these goods are alluded to, including weights and dimensions, which cannot but be of great assistance to contractors, bridge builders and manufacturers, to whom such information is of great value. A section is given to the How-Brown tool steels, the purposes for which the different tempers are best adapted, these purposes being also given. The weights and dimensions of both regular and irregular bars are given, and also weights of round and square iron and steel bars per lineal foot are also given.

PERSONALS.

A meeting of the American Society of Mechanical Engineers will be held in Chicago, May 31-June 3 next. It is to be a joint session of the Society, and the Institution of Mechanical Engineers of Great Britain. This latter body holds an American meeting this spring, and will make it a joint session with the American Society at its Chicago meeting. Nearly two hundred members of the British Institution have expressed their intention of coming to America, and taking part in this joint meeting. It is the purpose of these British visitors, not only to attend an American meeting, and thereafter visit the St. Louis Exposition, but to make the visit the occasion of excursions to points of technical and manufacturing interest in the United States and possibly in Canada.

The winter meeting of the American Institute of Mining Engineers which was to have been held in Baltimore, Ind., was changed to Atlantic City. The meeting opened on February 16, and closed February 18. The election of officers resulted in the choice of James Gayley as

president. In a paper on steel-rail making read by Robert W. Hunt, Chicago, the noted rail expert, the surprising statement was made that steel rails of the heaviest sections—90 pounds and upwards—are not giving the service that was expected of them.

Mr. B. H. Warren, who was second vice-president of the Westinghouse Electric & Mfg. Co., for a number of years, has been elected president of the Allis-Chalmers Co. to succeed Charles Allis, who resigned recently on account of the ill-health of his wife.

At the sixth annual convention of the National Metal Trades Association held in Philadelphia, March 23, the following gentlemen were announced as representing the seventeenth (Canada) district:—G. W. Watts, chairman, Canadian General Electric Co., Toronto; J. O. Thorn, vice-chairman, Metallic Roofing Co., Toronto; F. B. Polson, Polson Iron Works, Toronto; C. Bermingham, Canadian Locomotive Co., Kingston, Ont.; Wm. Hamilton, Wm. Hamilton Mfg. Co., Peterborough, Ont.

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 these enquirers can obtain the names and addresses by applying to the CANADIAN MANUFACTURER, Toronto. No charge for giving information. When writing refer to the numerals opposite the enquiries, and enclose 2c. postage stamp for reply.

1232. A manufacturer of fishing rods and tackle is prepared to appoint suitable Canadian resident agent.

1233. A firm manufacturing all varieties of iron and wire fencing, hurdles, gates, etc., wishes to develop trade in Canada.

1234. The makers of a new patent boiler cleaning material seeks the services of an active Canadian agent.

1235. A firm of elastic web and small-ware manufacturers are seeking to extend their business with Canada, and make enquiry about the appointment of agents.

1236. The names of several large grain export firms in Canada are desired by a London agent who seeks to represent them in the English market.

1237. A commission agent and general merchant in Newcastle is prepared to represent a good Canadian house in almost any line of business.

1238. A North of England firm asks to be placed in touch with likely Canadian exporters of pit-props.

1239. A Scotch firm of produce importers are looking for supplies of refined Canadian lard of the quality known on the British market as pure lard.

1240. A London, England, firm of merchants, who have hitherto confined themselves to the South African trade, are desirous of establishing relations with Canadian business houses buying British and French goods.

1241. An Irish produce firm ask to be placed in touch with Canadian curers or shippers of pigs heads.

1242. Enquiry is made respecting producers of rotten stone in Canada, by a correspondent who is interested in this mineral.

1243. A Glasgow firm desires to get into touch with Canadian importers of bricks, fireclay pipes, retorts, and other fireclay goods.

1244. A travelling agent in the North of England is seeking the representation of Canadian manufacturers.

1245. A New Zealand firm have asked to be supplied with names and addresses of Canadian shippers of furniture, hardware, boots and shoes.

1246. A Trinidad firm of shipping and commission agents desire to get into touch with Canadian business houses as they are open to buy or sell produce.

1247. A North of England firm of cheese factors wish to correspond with some Canadian shippers of cheese from the Belleville and Brockville districts. They can also act as buying agents for a new brand of pea-fed bacon.

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EMERY WHEELS and
GRINDING MACHINERY**

**CANADIAN CORUNDUM
WHEEL CO.
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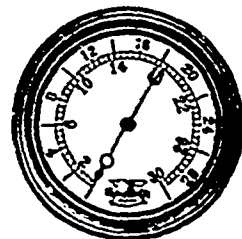
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1248. A firm of petrol and steam motor manufacturers have asked to be furnished with suggestions or information that might be useful in developing a demand in Canada for their productions.

1249. A London, England importer is seeking supplies of maple and hickory skewers from Canada in car loads of 160 barrels.

1250. A capable representative in Canada is required by the Swiss proprietor of a process for preserving boilers against incrustation.

1251. A firm manufacturing preservatives for butter are desirous of extending their Canadian connections by corresponding with butter factories in the Dominion.

1252. A London, England merchant offering good references is open to represent Canadian houses either as a buying or selling agent.

CONCRETE STEEL CONSTRUCTION.

The increasing use of concrete for a variety of purposes, where stone, brick, or steel constructions were previously in favor, had resulted in its application to

bridge construction, and a patent has been applied for by Messrs E. von der Osten & Co., of 507 Manning Chambers, Toronto, in which a combination of steel wire rope and concrete is used. By this method, the advantage of the suspension principle is retained, and whilst the first cost is very much reduced, compared with that of reinforced concrete, the facility with which it adapts itself to changes in temperature is its most valuable feature.

The von der Osten system of bridge construction is a most scientific method of combining a concrete and metallic structure, and can be applied to the construction of both ceilings and floors for fire-proof buildings, being much stronger, cheaper and lighter than other combinations. The patentees will be glad to give further information on application, and would issue licenses to use their system, to any engaged in concrete construction work. Mr. von der Osten was engaged for many years in Germany, Russia and East Africa as a Civil Engineer in similar work, and his experience in such matters is very wide.

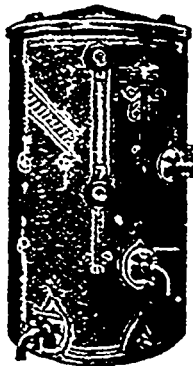
LONDONDERRY IRON & MINING CO.

The Londonderry Iron & Mining Co., of Londonderry, N.S., has recently blown in its furnace A, and is now turning out an excellent quality of foundry pig iron. The plant and property owned by this concern were acquired from the late Londonderry Iron Co., which succeeded other companies which have engaged more or less vigorously in the manufacture of pig and other iron products at Londonderry during the last fifty years. The plant consists of two furnaces, but only one of these has been rebuilt and put into commission. All modern improvements have been put in and as the original structure, built about twenty-five years ago by one of the best English makers, was in excellent condition, the whole outfit should give very good results. Its dimensions are: height 75 feet, bosh 17 feet, hearth 10 feet, stock line 11 feet. The hot blast stoves, boilers, blowing engines, pumps, etc., have all been thoroughly renovated. The company's supplies of ore are drawn almost wholly from ores mined in the immediate vicinity of the works and on

A poor Crucible costs loss in heats, loss in time and loss of metal in the pit. Our Crucibles stop all these leaks, and our reasons why are freely mailed on request.

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Knowing these things why do you delay ordering the Cross Oil Filter?

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LARGEST MFRS. OF OIL FILTERS IN THE WORLD.

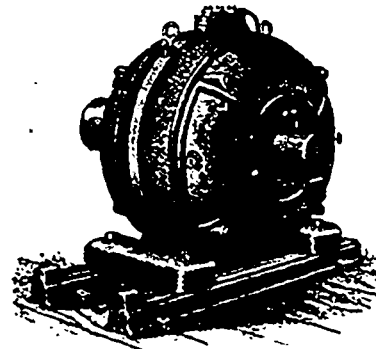
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Supplied also by Oil Companies, Engine Builders and Power Contractors.

STURTEVANT MOTORS



All Types, Sizes and Capacities to Meet Any Requirement.

B. F. STURTEVANT CO.

BOSTON, MASS.

New York Philadelphia Chicago London

the company's property. Over 30,000 acres of mineral and timber land have been acquired by the present management. The old levels and shafts have been put in good working condition and new levels have been driven in promising ground under the direction of W. F. C. Parsons, resident engineer. The result of these new workings has been most satisfactory and large stocks of ore have been accumulated. What little outside ore is required for mixing purposes is brought from other iron mines in the provinces within reasonable distance. Limestone and fuel are plentiful in the vicinity of Londonderry, that town lying equidistant between the coal fields of Pictou and Cumberland counties, N.S. The head office of this company is in Montreal, and Mr. Thos. J. Drummond is president, and Mr. F. G. O'Grady, secretary-treasurer. Mr. Geo. Beatty is superintendent at Londonderry.

The Montreal Pipe Foundry Co., whose Eastern works are located at Londonderry, is a large consumer of the product of this furnace. The pipe company has completed its new buildings and the installing of new plant to replace what was destroyed by fire in July, 1902.

MINING IN BRITISH COLUMBIA.

The operators and managers of the lead ore mines of West Kootenay, B.C., have recently been in session at Nelson discussing the arrangements for the coming season, and the effect of the Government bonus on the trade, all the most influential representatives being present.

The principal topic discussed was the possibility of increasing the output and of developing the zinc ores of the district. At present, with five lead furnaces, having a capacity of 500 tons a day, there is a total capacity in the mines of only 150 tons. In view of the unlimited resources of the Slocan district, this tonnage is insignificant. If, aided by the lead bounty, it is possible to increase production and at the same time to market the zinc, which has hitherto been difficult, the industry would expand enormously.

It has recently been demonstrated that the zinc ores of the Slocan can be successfully and economically treated. In England alone the consumption of zinc last year was 220,000 tons, chiefly in the form of spelter, for galvanizing purposes. Several shipments of ore have been made from Kalso to Antwerp, at the extremely low rate of \$13 a ton, by the C.P.R. The Payne mine has sent shipments to Iola, Kan., and recently made a contract for 10,000 tons. This is the start of a new industry of the very greatest importance to British Columbia, the development of which may solve the problem for the lead mines and lead to a production which a few years ago would have been considered impossible.

In this connection Belgian capitalists who have invested upwards of \$5,000,000 in mining enterprises in the State of Washington, have sent their agents, Messrs. Fernau and Lefebre, through the Kootenays to watch the progress of the new industry, and have already decided to erect a zinc ore concentrator on the

Slocan Lake and a furnace at Fernie. They are also negotiating for the purchase of the Hall mines lead smelter at Nelson.

CANADA COAL OUTPUT—1903.

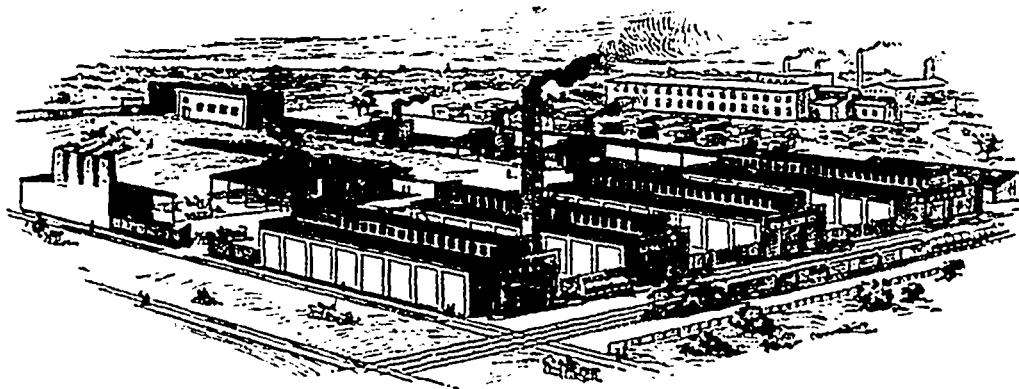
Total coal is reported by the Geological Survey to have been 7,996,634 tons. Of a portion thereof 544,132 tons of coke was made. The report states:

An increased production is reported from all the provinces in which coal mining is being carried on.

The Dominion Coal Co., the largest producing company in Nova Scotia, increased its output, notwithstanding the serious check caused by the fire in Dominion No. 1 colliery in March. The Nova Scotia Steel & Coal Co. also shows very largely increased output from their Sydney mines.

Considerable activity has been displayed in the operation of the mines in the North-West Territories, especially on the eastern slope of the Rocky Mountains in the district about Blairmore.

In British Columbia the output of the Crow's Nest Pass Coal Co. exceeded that of 1902 by 49.8 per cent., and the company has made substantial progress in the development of their properties. On the coast the Western Fuel Co. are actively operating and developing the properties formerly worked by the New Vancouver Coal Mining & Land Co. The Wellington Colliery Co. have been opening up a seam of anthracite coal from which it is expected shipments will soon be made.



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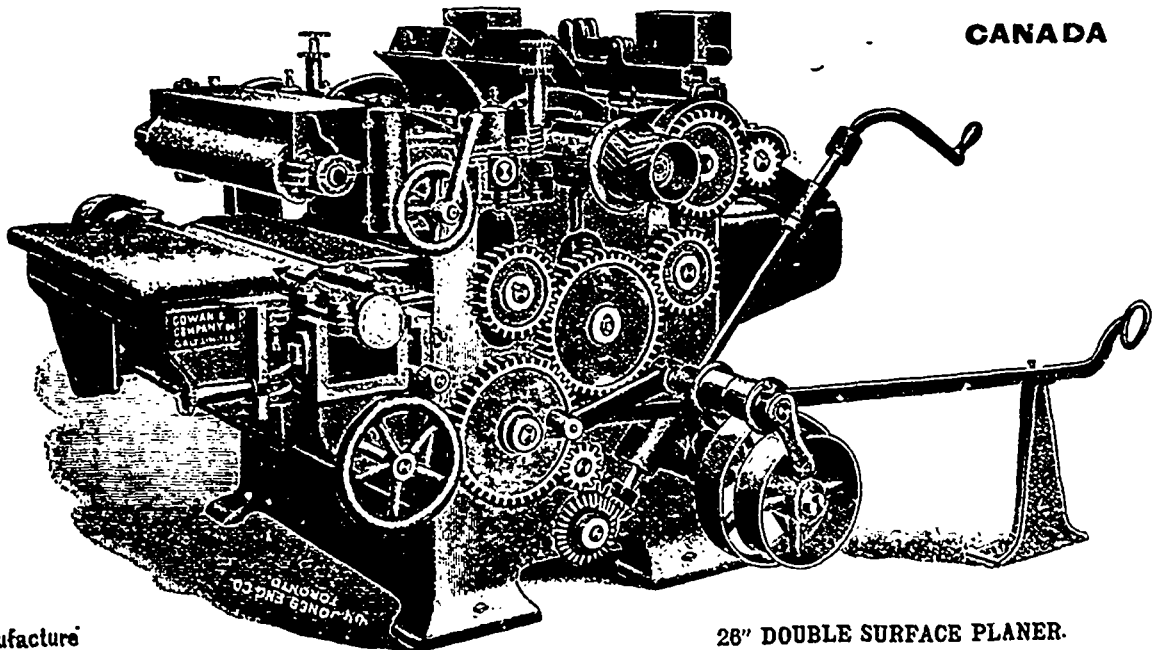
MONTREAL—18 Victoria Sq.
RAT PORTAGE, ONT.

TORONTO—1108 Temple Bldg.
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The Trent Valley Canal (now two-thirds completed) will place Peterboro' on the highway between "Britain's Granary" and Europe. It is Nature's Short-Route Grain-Carrying Waterway.

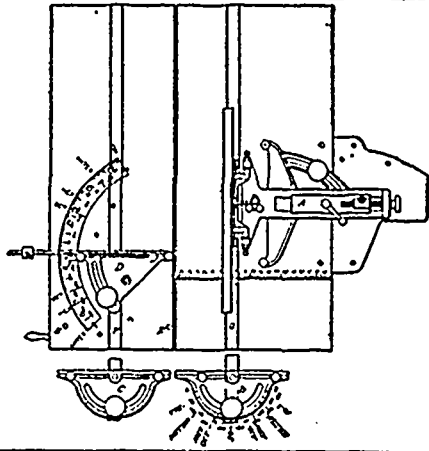
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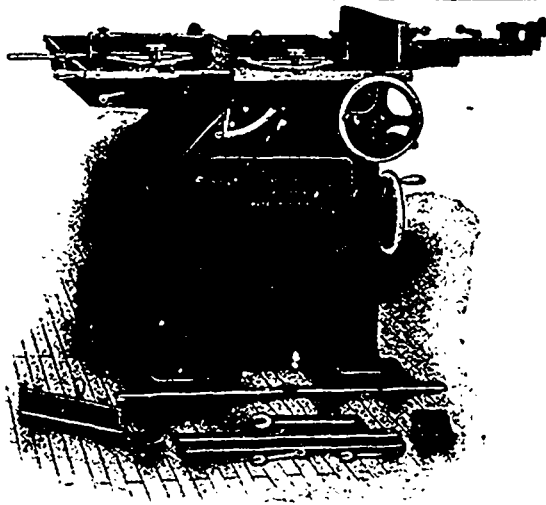
J. ALEXR. CULVERWELL, Managing Director,

Address Branch Office—9 Toronto St., TORONTO.

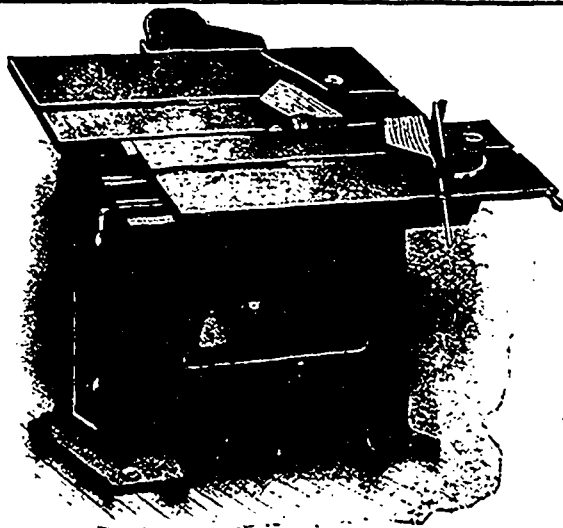
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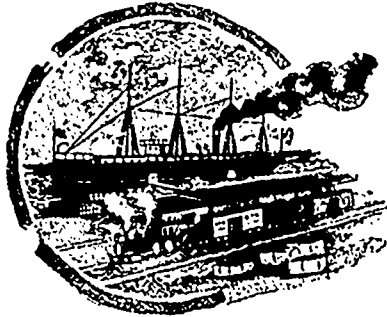
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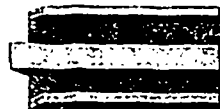
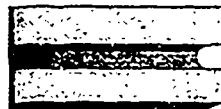
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JOHN DRYDEN, Minister of Agriculture.

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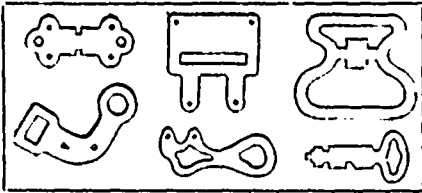
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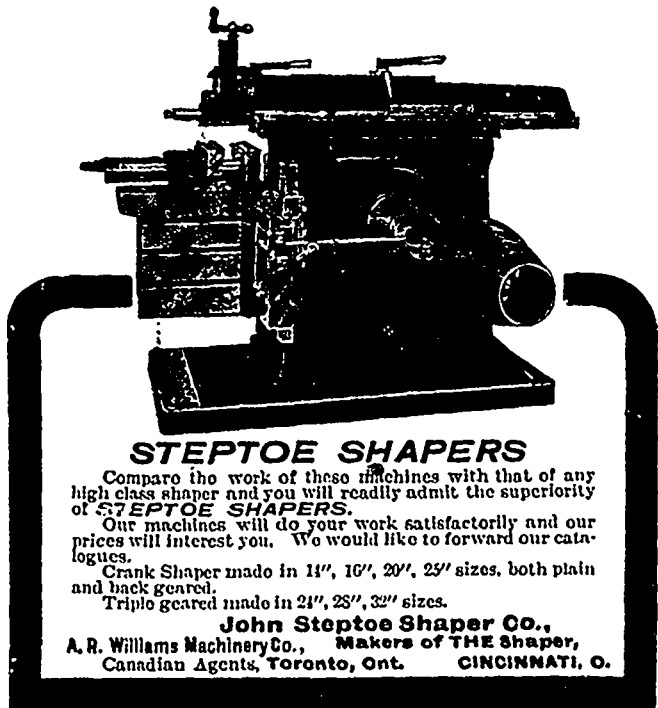
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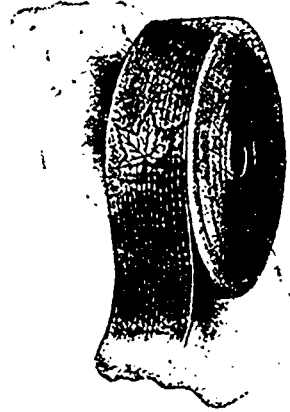
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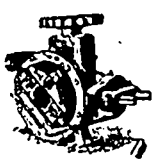
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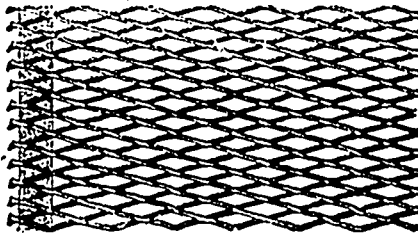


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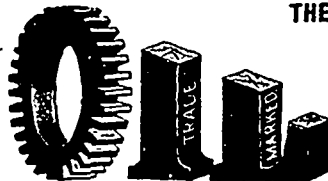
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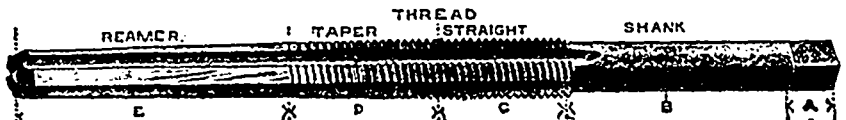
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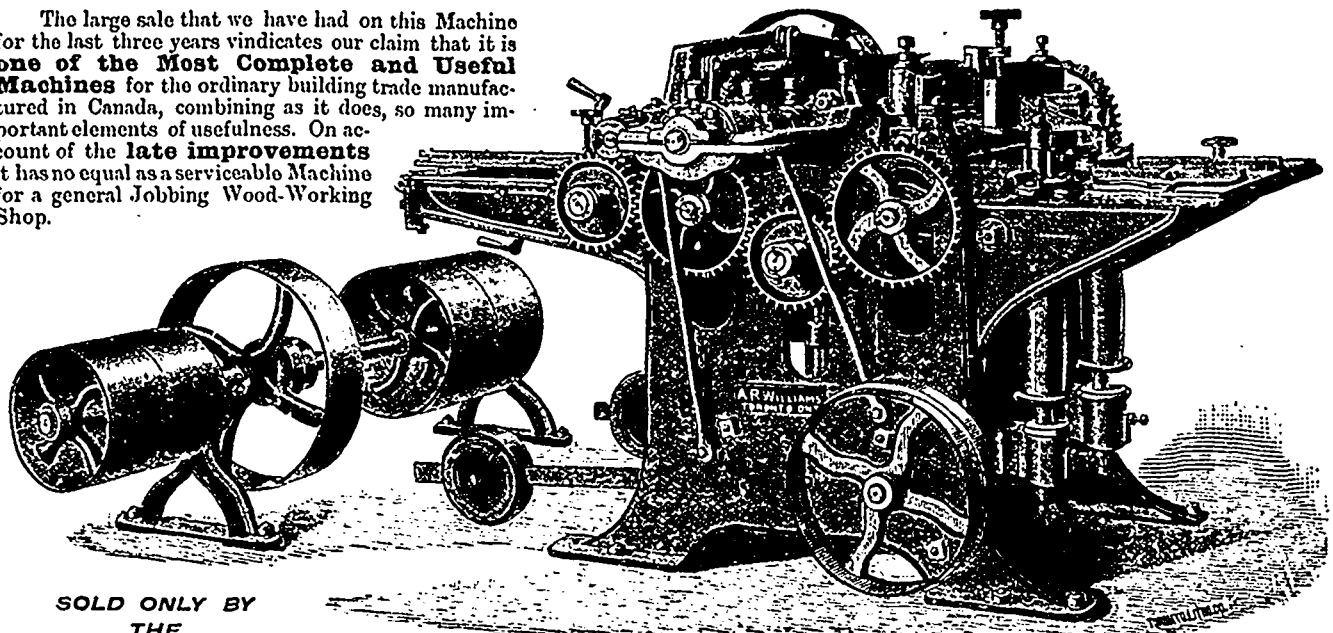
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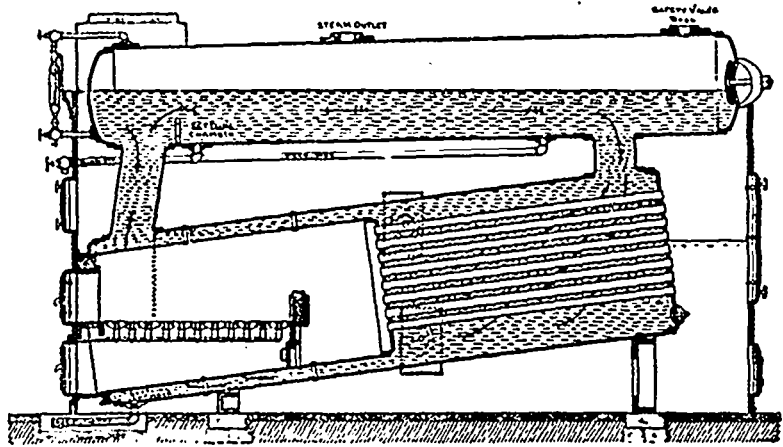
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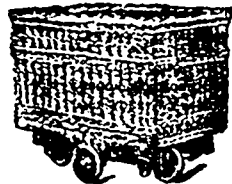
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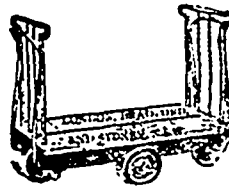
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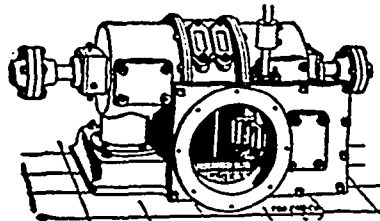
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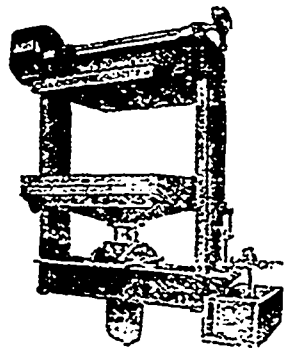
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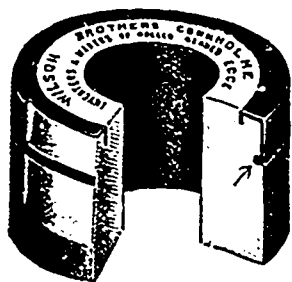
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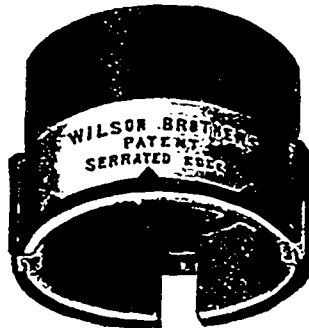
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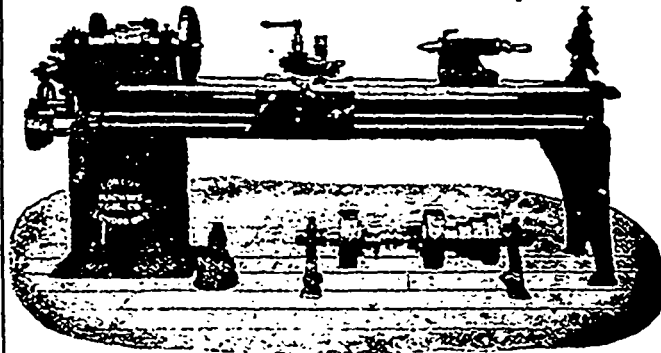
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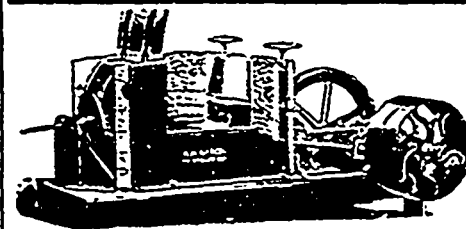
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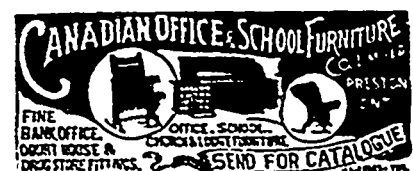
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Williams, A. R., Machinery Co., Toronto.

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Electrical Construction Co., London, Ont.
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Jones & Moore Electric Co., Toronto.
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Canadian Corundum Wheel Co., Hamilton, Ont.
Forman, John, Montreal.
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Petrie, H. W., Toronto.

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

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Hunt, Robert W. & Co., Chicago, Ill.

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Vogel, C. H., Ottawa.

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Electrical Construction Co., London, Ont.

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Canadian Westinghouse Co., Ltd., Hamilton, Ont.
DeLano-Osborn Engineering Co., Toronto.
Electrical Construction Co., London, Ont.
Electric Engineering & Supply Co., Montreal.
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Marion & Marion, Montreal.
Toronto & Hamilton Electric Co., Hamilton, Ont.
United Electric Co., Toronto.
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Vogel, C. H., Ottawa.

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

Founders
Canada Foundry Co., Toronto.
Cowan & Co., Galt, Ont.
Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.
Goldie & McCulloch Co., Galt, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Karch, H. W., Hespeler, Ont.

Foundry Facings and Supplies
Hamilton Facing Mill Co., Hamilton, Ont.

Fuel Economizers
Babcock & Wilcox, Limited, Montreal.
Furniture (Lodge, Opera and School)
Canadian Office & School Furniture Co., Preston, Ont.

Galvanizing
Ontario Wind Engine & Pump Co., Toronto.

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Spelter,
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Yellow Brass Ingots,
Phosphor Copper.**

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Electrical Works, etc.

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(CONTINUED).

Galvanizing and Tinning Machinery and Furnaces (Wire)

Morgan Construction Co., Worcester, Mass.
Turner, Vaughn & Taylor Co., Cuyahoga Falls
Ohio.

Gas and Gasoline Engines

Goldie & McCulloch Co., Galt, Ont.
Morrison, T. A. & Co., Montreal.

Gas Producers.

Morgan Construction Co., Worcester, Mass.

Gauges (Recording Pressure)

Bristol Co., Waterbury, Conn.

Gauges (Steam)

American Steam Pump Co., Battle Creek, Mich.
Crosby Steam Gauge & Valve Co., Boston, Mass.
Penberthy Injector Co., Windsor, Ont.
Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Gauges (Water)

Babcock & Wilcox, Limited, Montreal.
Penberthy Injector Co., Windsor, Ont.

Generators

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

Gloves, Mittens and Moccasins

Storey, W. H. & Son, Acton, Ont.

Government Notices

Factory Inspectors.
Minister of Agriculture.

Grease Cups

Penberthy Injector Co., Windsor, Ont.

Grinding Machinery

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

Grinding Pans

Carlin's, Thomas Sons Co., Allegheny, Pa.

Hand Traveling Cranes

Morgan Construction Co., Worcester, Mass.

Hardware

Butterfield & Co., Rock Island, Que.
Cleveland Twist Drill Co., Cleveland, Ohio.
Cooper, James, Montreal.
Empire Machine & Metal Stamping Co., Toronto.
Gartshore, John J., Toronto.
Globe Machine & Stamping Co., Cleveland, Ohio.
Morrow, John, Machine Screw Co., Ingersoll, Ont.
Rice Lewis & Son, Toronto.
Ryall Machine Screw Co., Montreal.

Heating and Ventilating Apparatus

Darling Bros., Montreal.
Leonard, F. & Sons, London, Ont.
Sheldon & Sheldon, Galt, Ont.
Stevens, Alfred J., Toronto.
Sturtevant, B. F. Co., Boston, Mass.

Hoists (Chain and Pneumatic)

Canadian Hand Drill Co., Sherbrooke, Que.
Chicago Pneumatic Tool Co., Chicago, Ill.
Cooper, Estate late James, Montreal.

Hose (Fire and Pneumatic)

Chicago Pneumatic Tool Co., Chicago, Ill.
Gutta Percha & Rubber Mfg. Co., Toronto.
McLaren, J. C. Belting Co., Montreal and Toronto.

Hydrants

Kerr Engine Co., Walkerville, Ont.

Hydraulic Accumulators

Morgan Construction Co., Worcester, Mass.

Hydraulic Cranes

Morgan Construction Co., Worcester, Mass.

Hydraulic Machinery

Canada Foundry Co., Toronto.
Darling Bros., Montreal.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Morgan Construction Co., Worcester, Mass.
Perrin, William H. & Company, Limited, Toronto.
Petrie, H. W., Toronto.
Wilson, J. C. & Co., Glenora, Ont.

Industrial Plants

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

Insulated Wires and Cables

Wire & Cable Co., Montreal.

Iron and Steel Specialties

Abbott, William, Montreal.
Armstrong Mfg. Co., Bridgeport, Conn.
Bourne-Fuller Co., Cleveland, Ohio.
Brown & Co., Paris, Ont.
Buhl Malleable Co., Detroit, Mich.
Canada Foundry Co., Toronto.
Cleveland Twist Drill Co., Cleveland, Ohio.
Dodge Mfg. Co., Toronto.
Karch, H. W., Hespeler, Ont.
Leslie, A. C. & Co., Montreal.
Meadows, Geo. B. Wire, Iron & Brass Works Co.
Toronto.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Petrie, H. W., Toronto.
Petroleum Iron Works Co., Washington, Pa.
Pittsburgh Shafting Co., Detroit, Mich.
Rice Lewis & Son, Toronto.
Ryall Machine Screw Co., Montreal.

Injectors

Canada Foundry Co., Toronto.
Hamilton Brass Mfg. Co., Hamilton, Ont.
Penberthy Injector Co., Windsor, Ont.
Williams, A. R. Machinery Co., Toronto.

Iron and Steel Inspection

Hunt, R. W. & Co., Chicago, Ill.

Lamps—Electric

Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Forman, John, Montreal.
Packard Electric Co., St. Catharines, Ont.

Lathes

Bertram, John, & Sons Co., Dundas, Ont.
London Machine Tool Co., London, Ont.
Petrie, H. W., Toronto.
Williams, A. R. & Co., Toronto.

Lathes (Wood-Working)

American Machinery Co., Grand Rapids, Mich.
Cowan & Co., Galt, Ont.
Goldie & McCulloch Co., Galt, Ont.
Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Lubricants

Penberthy Injector Co., Windsor, Ont.

Machinists.

Buhl Malleable Co., Detroit, Mich.
Goldie & McCulloch Co., Galt, Ont.
Worth & Martin, Toronto.

Machinists' Supplies

Armstrong Mfg. Co., Bridgeport, Conn.
Buhl Malleable Co., Detroit, Mich.
Butterfield & Co., Rock Island, Que.
Cleveland Twist Drill Co., Cleveland, Ohio.
Cooper, James, Montreal.
Dodge Mfg. Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Gutta Percha & Rubber Mfg. Co., Toronto.
Jeffrey Mfg. Co., Columbus, Ohio.
Morrow, John, Machine Screw Co., Ingersoll, Ont.
Petrie, H. W., Toronto.
Pittsburgh Shafting Co., Detroit, Mich.
Ryall Machine Screw Co., Montreal.
Worth & Martin, Toronto.

Machine Tools

Abbott, William, Montreal.
Bertram, John, & Sons Co., Dundas, Ont.
Cleveland Twist Drill Co., Cleveland, Ohio.
Darling Bros., Montreal.
Petrie, H. W., Toronto.

Malleable Iron Castings

Buhl Malleable Co., Detroit, Mich.
McKinnon Dash & Metal Works Co., St. Catharines, Ont.
Smith's Falls Malleable Castings Co., Smith's Falls,
Ont.

Mechanical Draft

Babcock & Wilcox, Limited, Montreal.
Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Metal Gates

Page Wire Fence Co., Walkerville, Ont.

Metal Shears

Morgan Construction Co., Worcester, Mass.

Metal Stamping

Empire Machine & Metal Stamping Co., Toronto.
Globe Machine & Stamping Co., Cleveland, Ohio.

Metallurgists.

Mills, S. D., Toronto.
Wentz, R. F. Engineering Co., Toronto.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

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Mill Machinery and Supplies

American Machinery Co., Grand Rapids, Mich.
 Armstrong Mfg. Co., Bridgeport, Conn.
 Buhl Malleable Co., Detroit, Mich.
 Cleveland Twist Drill Co., Cleveland, Ohio.
 Cooper, Estate late James, Montreal.
 Cowan & Co., Galt, Ont.
 Darling Bros., Montreal.
 Dodge Mfg. Co., Toronto.
 Fleming, W. A. & Co., Montreal.
 Gartshore, John J., Toronto.
 Goldie & McCulloch Co., Galt, Ont.
 Gutta Percha & Rubber Mfg. Co., Toronto.
 Hamilton Brass Mfg. Co., Hamilton, Ont.
 Hamilton, Wm. Mfg. Co., Peterborough, Ont.
 Hay, Peter Knife Co., Galt, Ont.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Karch, H. W., Huspeler, Ont.
 Leonard, E. & Sons, London, Ont.
 London Machine Tool Co., London, Ont.
 Morrow, John, Machine Screw Co., Ingersoll, Ont.
 McLaren, D. K., Montreal and Toronto.
 Penberthy Injector Co., Windsor, Ont.
 Petrie, H. W., Toronto.
 Pittsburgh Shafting Co., Detroit, Mich.
 Rice Lewis & Son, Toronto.
 Robb Engineering Co., Amherst, N.S.
 Ryall Machine Screw Co., Montreal.
 Spence, H. & Co., Hamilton, Ont.
 Wilson, J. C. & Co., Glenora, Ont.

Mining Machinery

Buhl Malleable Co., Detroit, Mich.
 Canadian Hand Drill Co., Sherbrooke, Que.
 Chicago Pneumatic Tool Co., Chicago, Ill.
 Cleveland Twist Drill Co., Cleveland, Ohio.
 Cooper, Estate late James, Montreal.
 Gartshore, John J., Toronto.
 Hamilton, Wm. Mfg. Co., Peterborough, Ont.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Perrin, William R. & Company, Limited, Toronto.
 Petrie, H. W., Toronto.
 Shaw, Willis, Chicago, Ill.
 Williams, A. R. Machinery Co., Toronto.

Motors and Dynamos

Canadian General Electric Co., Toronto.
 Canadian Westinghouse Co., Ltd., Hamilton, Ont.
 Electrical Construction Co., London, Ont.
 Forman, John, Montreal.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Jones & Moore Electric Co., Toronto.
 Petrie, H. W., Toronto.
 Toronto & Hamilton Electric Co., Hamilton, Ont.
 United Electric Co., Toronto.

Moulding Sand

Hamilton, Facing Mills Co., Hamilton, Ont.

Novelty Manufacturers.

Worth & Martin, Toronto.

Nozzles.

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

Office and Bank Fittings

Canadian Office & School Furniture Co.,
 Preston, Ont.
 Meadows, Geo. B., Wire, Iron & Brass Works Co.,
 Toronto.

Oils and Lubricants

Chicago Pneumatic Tool Co., Chicago, Ill.
 Dixon, Joe, Crucible Co., Jersey City, N.J.
 Fleming, W. A. & Co., Montreal.
 Hart & Co., Chicago, Ill.
 Imperial Oil Co., Petrolia, Ont.
 Queen City Oil Co., Toronto.

Oil Cloth

Dominion Oil Cloth Co., Montreal.

Oil Cups

Penberthy Injector Co., Windsor, Ont.

Paints and Colors

Hellhouse, Dillon & Co., Montreal.
 Fleming, W. A. & Co., Montreal.
 Gelsy Aniline & Extract Co., New York City.
 Klipstein, A. & Co., New York City.
 McArthur, Cornelio & Co., Montreal.

Paper Manufacturers

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

Patents

Budden, Hanbury A., Montreal.
 Case, Egerton R., Toronto.
 Fotherstonhaugh & Co., Toronto.
 Marion & Marion, Montreal.
 Patent Exchange & Investment Co., Toronto, Ont.

Pattern Makers' Machinery and Supplies

American Machinery Co., Grand Rapids, Mich.

Pattern Shop Equipments

American Machinery Co., Grand Rapids, Mich.

Perforated Metals

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

Personal Accident

Canadian Casualty & Boiler Insurance Co.,
 Toronto.

Phosphorizers.

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

Pig Iron

Bourne-Fuller Co., Cleveland, Ohio.
 Canada Iron Furnace Co., Montreal.
 Nova Scotia Steel & Coal Co., New Glasgow, N.S.
 Syracuse Smelting Works, Montreal.

Pipe (Riveted, Iron and Steel)

Babcock & Wilcox, Limited, Montreal.
 Petroleum Iron Works Co., Washington, Pa.

Pipe Threading Machines

Armstrong Mfg. Co., Bridgeport, Conn.
 Butterfield & Co., Rock Island, Que.
 Petrie, H. W., Toronto.
 Rice Lewis & Son, Toronto.

Pipes and Tubes

Abbott, William, Montreal.
 Bourne-Fuller Co., Cleveland, Ohio.
 Canada Foundry Co., Toronto.
 Gartshore-Thomson Pipe & Foundry Co., Hamilton,
 Ont.
 Montreal Pipe Foundry Co., Montreal.
 Rice Lewis & Son, Toronto.

Plaster

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

Plates

Bourne-Fuller Co., Cleveland, Ohio.
 Nova Scotia Steel & Coal Co., New Glasgow, N.S.
 Rice Lewis & Son, Toronto.

Plumbago

Hamilton Facing Mills Co., Hamilton, Ont.
 McCullough-Dalzell Crucible Co., Pittsburg, Pa.
 Pittsburg Crucible Works, Pittsburg, Pa.

Pneumatic Tools

Canadian Hand Drill Co., Sherbrooke, Que.
 Chicago Pneumatic Tool Co., Chicago, Ill.

Pointer Rolls (For Rods and Wire.)

Morgan Construction Co., Worcester, Mass.
 Turner, Vaughn & Taylor Co., Cuyahoga Falls,
 Ohio.

Portland Cement

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

Power-Electric and Water

Central Ontario Power Co., Peterboro, Ont.

Power Plants-Equipments

Babcock & Wilcox, Limited, Montreal.
 Canadian General Electric Co., Toronto.
 Canadian Westinghouse Co., Ltd., Hamilton, Ont.
 Cleveland Twist Drill Co., Cleveland, Ohio.
 Darling Bros., Montreal.
 Delano-Osborn Engineering Co., Toronto.
 Dodge Mfg. Co., Toronto.
 Electrical Construction Co., London, Ont.
 Goldie & McCulloch, Galt, Ont.
 Gutta Percha & Rubber Mfg. Co., Toronto.
 Hamilton, Wm. Mfg. Co., Peterborough, Ont.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Jones & Moore Electric Co., Toronto.
 Kelsch, R. S., Montreal.
 Leonard, E. & Sons, London, Ont.
 Packard Electric Co., St. Catharines, Ont.
 Perrin, William R. & Company, Limited, Toronto.
 Petrie, H. W., Toronto.
 Phillips, Eugene F. Electrical Works, Montreal.
 Pittsburgh Shafting Co., Detroit, Mich.
 Robb Engineering Co., Amherst, N.S.
 Stevens, Alfred J., Toronto.
 Sturtevant, B. F. Co., Boston, Mass.
 Toronto & Hamilton Electric Co., Hamilton, Ont.
 United Electric Co., Toronto.
 Wilson, J. C. & Co., Glenora, Ont.

Presses (Tire, Sewer Pipe, Nozzles and Sleeves.)

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

Pulleys

Darling Bros., Montreal.
 Dodge Mfg. Co., Toronto.
 Goldie & McCulloch Co., Galt, Ont.
 Hamilton, Wm. Mfg. Co., Peterborough, Ont.
 Jeffrey Mfg. Co., Columbus, Ohio.
 McLaren, J. C. Bolting Co., Montreal and Toronto.
 Petrie, H. W., Toronto.
 Pittsburgh Shafting Co., Detroit, Mich.
 Wilson, J. C. & Co., Glenora, Ont.



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Vancouver, B.C.	Winnipeg, Man.

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Pumps and Pumping Machinery

Canada Foundry Co., Toronto.
Downie Pump Co., Downsville, Pa.
Goldie & McCulloch Co., Galt, Ont.
Kerr Engine Co., Walkerville, Ont.
Ontario Wind Engine & Pump Co., Toronto.
Petrie, H. W., Toronto.

Punches and Shears

Globe Machine & Stamping Co., Cleveland, Ohio.
Petrie, H. W., Toronto.

Purifiers

Babcock & Wilcox, Limited, Montreal.
Goldie & McCulloch Co., Galt, Ont.

Purifying and Softening Systems (Water)

Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.

Railroads

Chicago & North-Western Ry., Toronto & St.
Paul, Minn.
Quebec Central Railway, Sherbrooke, Que.

Railway Supplies

Algoma Steel Co., Sault Ste. Marie, Ont.
Cooper, Estate late James, Montreal.
Gartshore, John J., Toronto.
Greening, B. Wire Co., Hamilton, Ont.
Gutta Percha & Rubber Mfg. Co., Toronto.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Phillips, Eugene F., Electrical Works, Montreal.

Reamers

Butterfield & Co., Rock Island, Que.
Chicago Pneumatic Tool Co., Chicago, Ill.
Cleveland Twist Drill Co., Cleveland, Ohio.

Rivets

Bourne-Fuller Co., Cleveland, Ohio.

Roll Lathes

Morgan Construction Co., Worcester, Mass.

Roller Bearings

Pittsburg Shafting Co., Detroit, Mich.

Rolling Mills

Morgan Construction Co., Worcester, Mass.

Rolling Mill Engineers

Bourne-Fuller Co., Cleveland, Ohio.
Morgan Construction Co., Worcester, Mass.

Roofing

Bourne-Fuller Co., Cleveland, Ohio.
Metallic Roofing Co., Toronto.

Rubber Goods

Gutta Percha & Rubber Mfg. Co., Toronto.
Pittsburg Shafting Co., Detroit, Mich.

Rubber Packing

Gutta Percha & Rubber Mfg. Co., Toronto.

Rubber Washing Tubs

Turner, Vaughn & Taylor, Cuyahoga Falls, Ohio.

Rural Mail Boxes

Globe Machine & Stamping Co., Cleveland, Ohio.

Safes and Vaults

Goldie & McCulloch Co., Galt, Ont.

Saws (Band)

American Machinery Co., Grand Rapids, Mich.

Scrows

Morrow, John, Machine Screw Co., Ingersoll, Ont.
Ryall Machine Screw Co., Montreal.

Scrow Plates

Armstrong Mfg. Co., Bridgeport, Conn.
Butterfield & Co., Rock Island, Que.

Shafting

Bourne-Fuller Co., Cleveland, Ohio.
Goldie & McCulloch Co., Galt, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Petrie, H. W., Toronto.
Pittsburg Shafting Co., Detroit, Mich.

Shear Knives

Carlin's, Thomas Sons Co., Allegheny, Pa.
Hay, Peter Knife Co., Galt, Ont.

Sheets (Iron and Steel)

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

Shoot Metal Goods

Empire Machine & Metal Stamping Co., Toronto.
Globe Machine & Stamping Co., Cleveland, Ohio.
Metallic Roofing Co., Toronto.

Shoot Metal Stamping

Empire Machine & Metal Stamping Co., Toronto.
Globe Machine & Stamping Co., Cleveland, Ohio.
Metallic Roofing Co., Toronto.
Ryall Machine Screw Works, Montreal.

Ship Builders

Clyde Steel Works, Toronto.

Smoke Stacks

Hamilton, Wm., Mfg. Co., Peterborough, Ont.
Petroleum Iron Works Co., Washington, Pa.

Solder

Globe Machine & Stamping Co., Cleveland, Ohio.
Syracuse Smelting Co., Montreal.

Special Machinery

Empire Machine & Metal Stamping Co., Toronto.
Globe Machine & Stamping Co., Cleveland, Ohio

Speed Recorders

Bristol Co., Waterbury, Conn.
Chicago Pneumatic Tool Co., Chicago, Ill.

Sprinkler Insurance

Canadian Casualty & Boiler Insurance Co.,
Toronto.

Stamps & Stencils

Globe Machine & Stamping Co., Cleveland, Ohio.
Hamilton Stamp & Stencil Works, Hamilton, Ont.

Steam Pumps

American Steam Pump Co., Battle Creek, Mich.
Canada Foundry Co., Toronto.
Darling Bros., Montreal.

Goldie & McCulloch Co., Galt, Ont.

Leonard, E. & Sons, London, Ont.

Petrie, H. W., Toronto.

Pittsburgh Shafting Co., Detroit, Mich.

Shaw, Willis, Chicago, Ill.

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

Steam Separators

Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.

Steam Specialties

Darling Bros., Montreal.
Penberthy Injector Co., Windsor, Ont.
Sheldon & Sheldon, Galt, Ont.

Steam Valves

American Steam Pump Co., Battle Creek, Mich.
Babcock & Wilcox, Limited, Montreal.
Crosby Steam Gauge & Valve Co., Boston, Mass.

Darling Bros., Montreal.

Kerr Engine Co., Walkerville, Ont.

Petrie, H. W., Toronto.

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

Steel Plants

Morgan Construction Co., Worcester, Mass.

Steel Rails

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

Steel Shafting

Darling Bros., Montreal.
Dodge Mfg. Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Hamilton, Wm., Mfg. Co., Peterborough, Ont.
Leslie, A. C. & Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Pittsburgh Shafting Co., Detroit, Mich.
Wilson, J. C. & Co., Glenora, Ont.

Stocks and Dies

Armstrong Mfg. Co., Bridgeport, Conn.
Butterfield & Co., Rock Island, Que.

Petrie, H. W., Toronto.

Rice Lewis & Son, Toronto.

Worth & Martin, Toronto.

Stoppers.

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

Structural Steel.

Abbott, William, Montreal.
Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.

Cooper, Estate late James, Montreal.

Suspension Furnaces

Continental Iron Works Co., New York City.

Tanks (Oil and Water)

Canada Foundry Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.

Hamilton, Wm., Mfg. Co., Peterborough, Ont.

Ontario Wind Engine & Pump Co., Toronto.

Petroleum Iron Works Co., Washington, Pa.

Taps and Dies

Butterfield & Co., Rock Island, Que.
Cleveland Twist Drill Co., Cleveland, Ohio.
Globe Machine & Stamping Co., Cleveland, Ohio.
Hamilton Stamp & Stencil Works, Hamilton, Ont.

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Toos

Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.

Textile Manufacturers

Canadian Colored Cotton Mills Co., Montreal.
Dominion Oil Cloth Co., Montreal.
Hamilton Cotton Co., Hamilton, Ont.
Morris, D., Sons & Co., Montreal.
Smith Mfg. Co., Toronto.
Storey, W. H. & Sons, Acton, Ont.

Textile Supplies

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

Thermometers (Recording)

Bristol Co., Waterbury, Conn.

Tin

Leslie, A. C. & Co., Montreal.
Syracuse Smelting Works, Montreal.

Tool Steel

Abbott, William, Montreal.
Bourne-Fuller Co., Cleveland, Ohio.
Cooper, Estate late James, Montreal.
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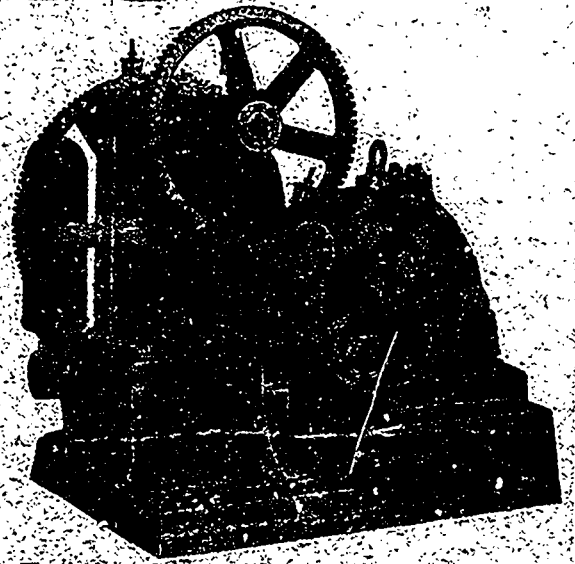
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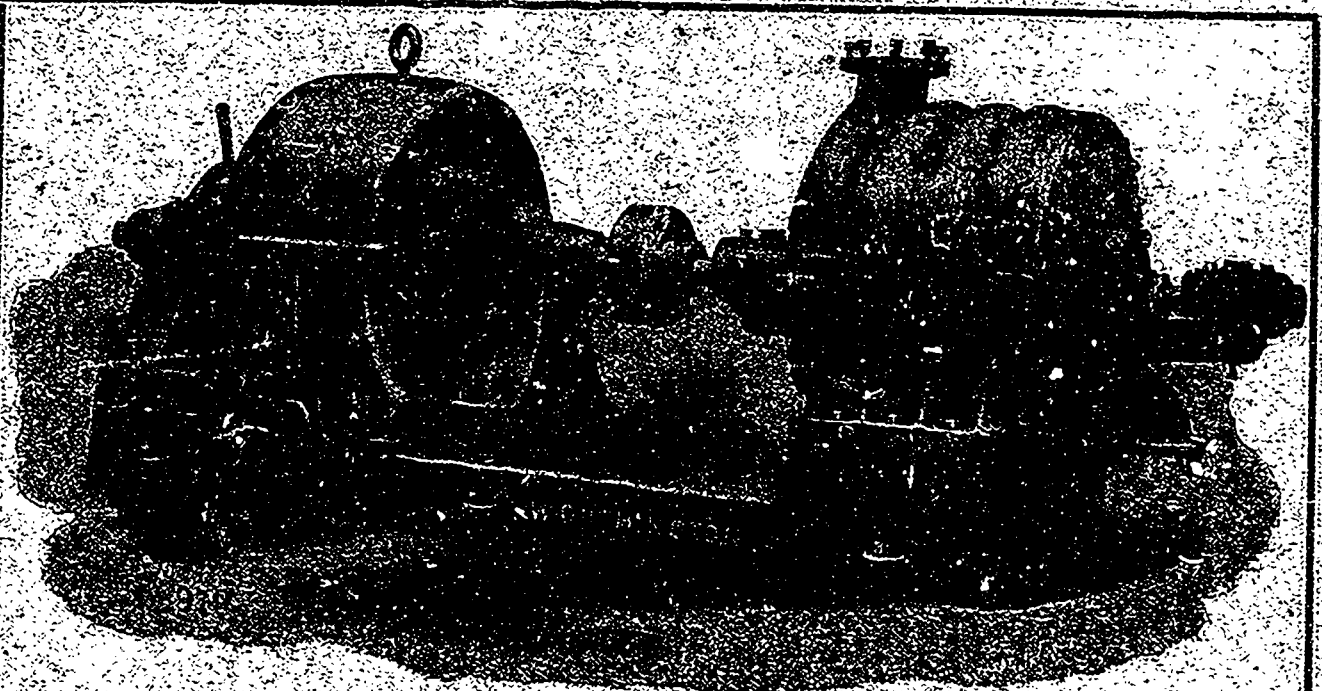
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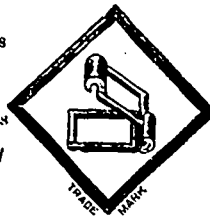
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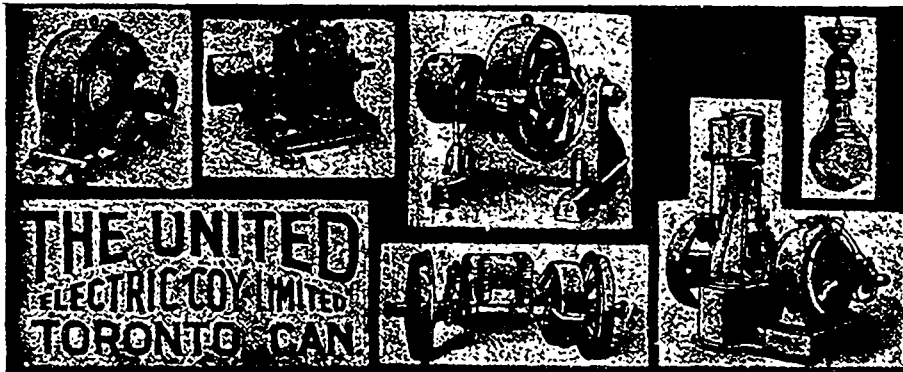


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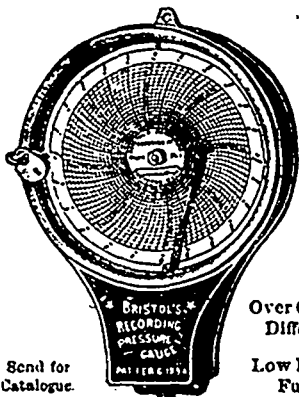
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