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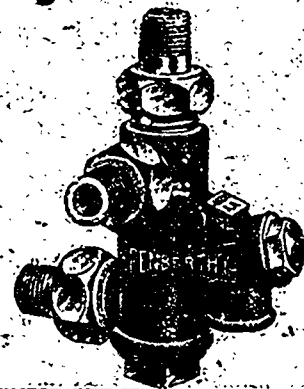
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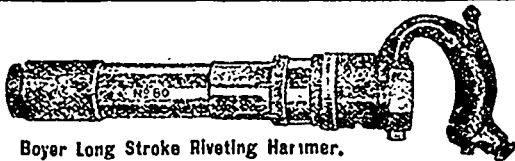
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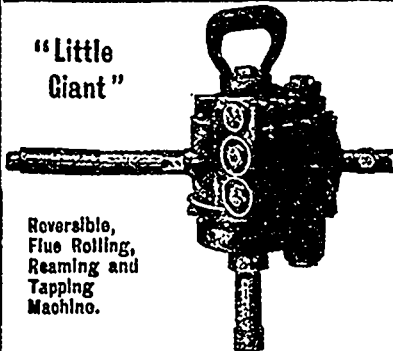


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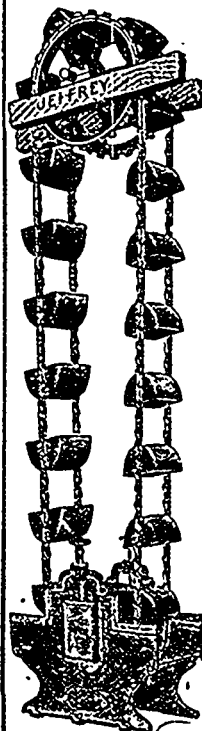
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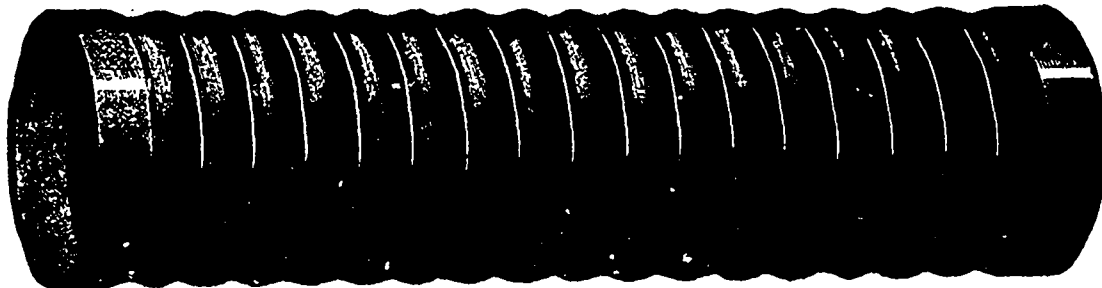


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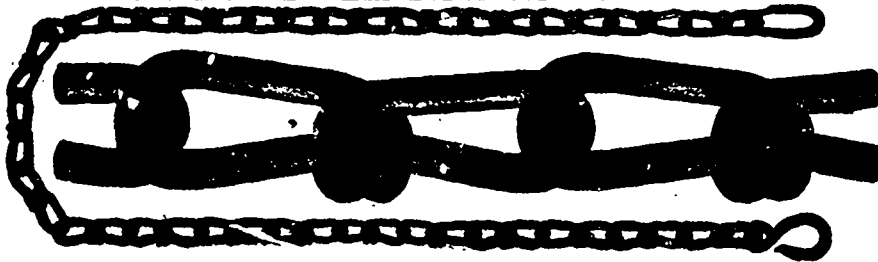
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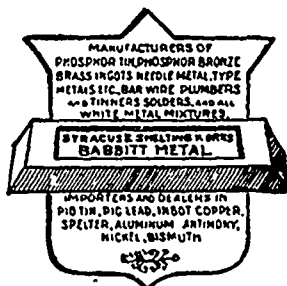
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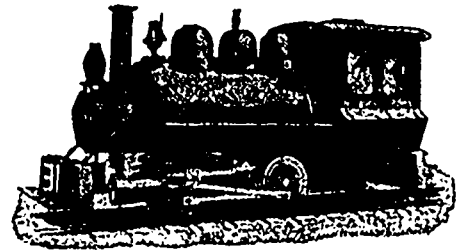


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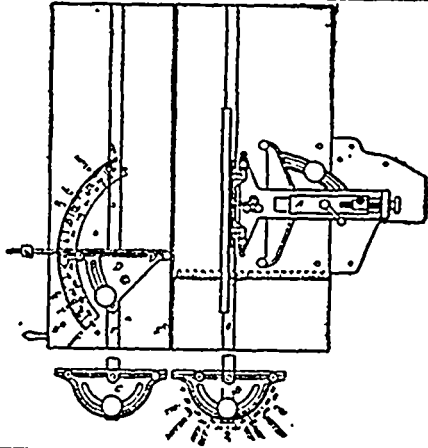
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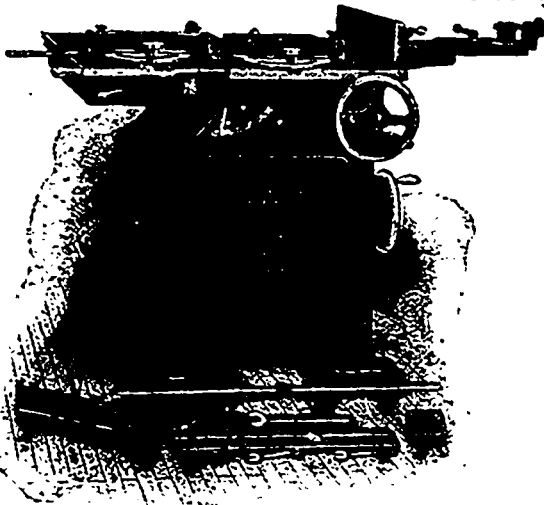
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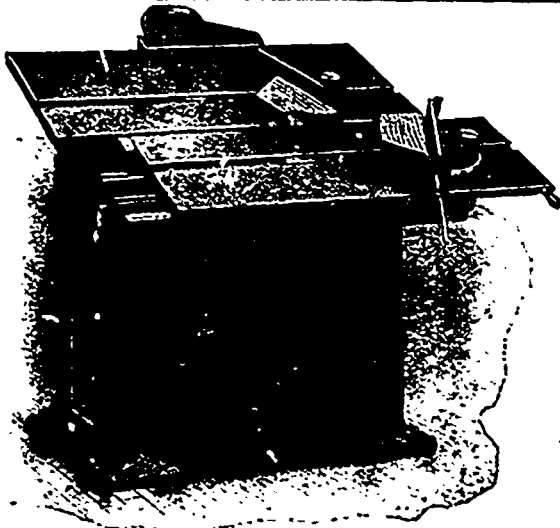
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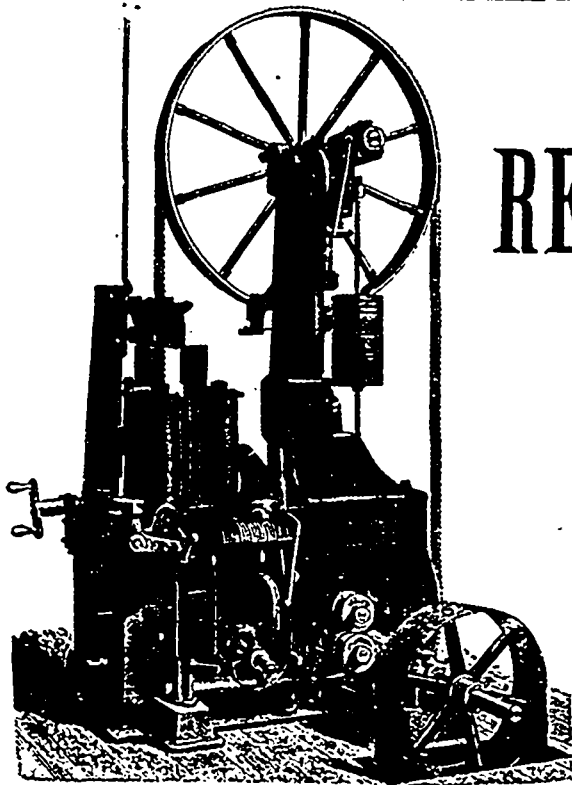
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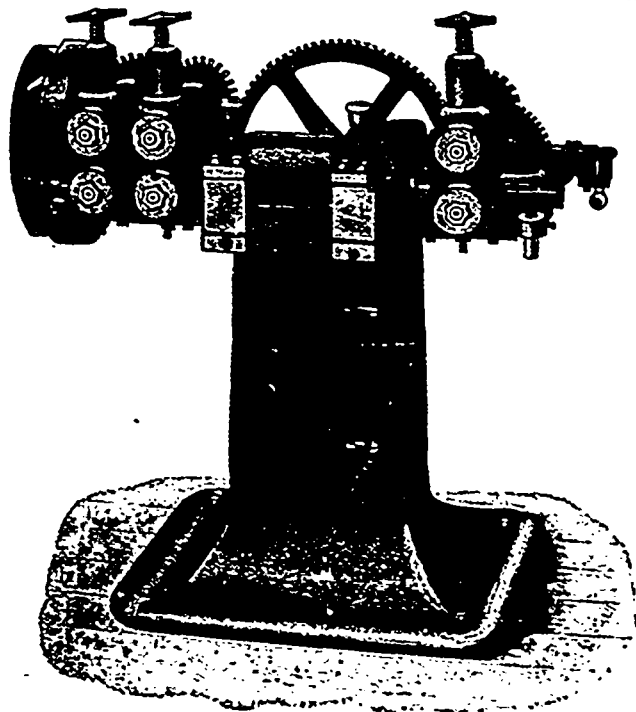
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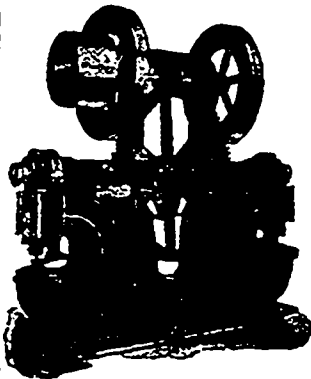
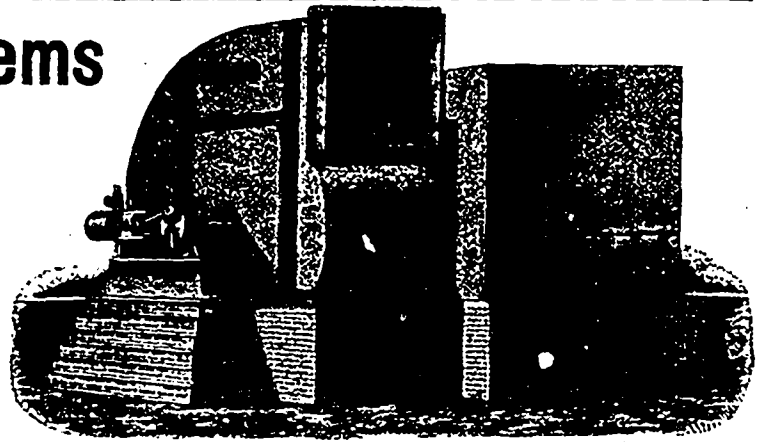
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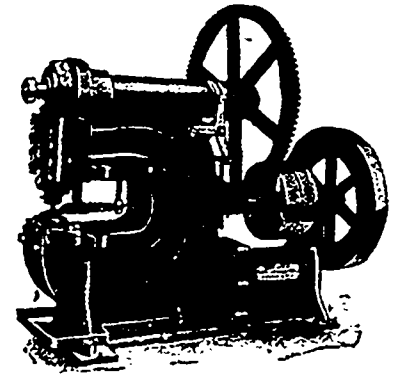
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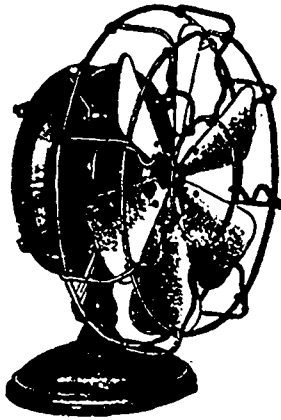
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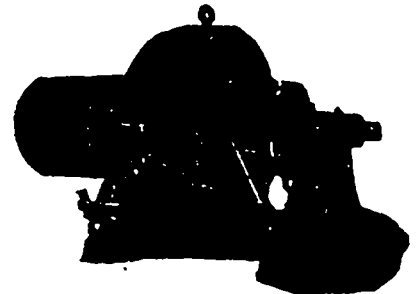
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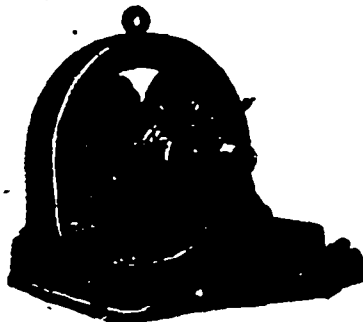
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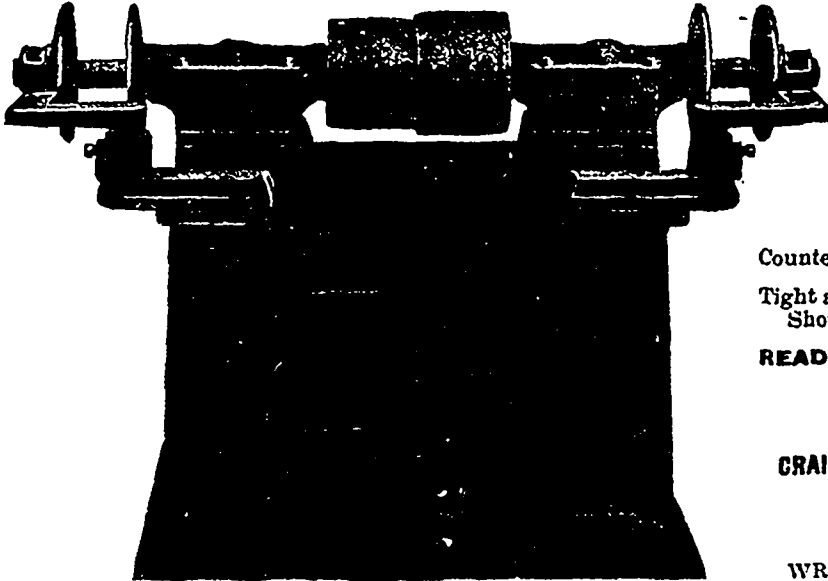
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J. J. CASSIDY, Editor and Manager

Classified Index ..... Page 42

Index to Advertisers ..... Page 49

# THE CANADIAN MANUFACTURER

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## THE PREFERENTIAL TARIFF.

In the April 1 issue of this journal was published the text of a letter written by Mr. George Johnson, Dominion Statistician, to the Duke of Argyle showing the effect of the tariff preference given by Canada to Great Britain. The London, Ont., Advertiser thinks that Mr. Johnson's memorandum is incomplete, and thus comments upon it. It says:

Before the adoption of the preference British exports to Canada were rapidly sinking. The annual values at certain periods were:

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

A few more years would apparently have wiped Canada out of the British exporters' accounts. With the adoption of a preferential tariff of 25 per cent. on British goods the tide turned. British exports rose to \$32,500,917 in 1898, and \$37,060,123 in 1899. The preference was increased to 33½ per cent. with these results:

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

In the first six months of the fiscal year 1904, the imports from Great Britain were \$32,155,428. When the year ends on June 30 next the total will be found to almost reach the record year of 1873 and will be over double that of 1897, when the preference went into effect.

The Maritime statistics show 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 to Canada, 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. Mr. Johnson says:

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.

The Advertiser says that while Mr. Johnson's memorandum, showing the increase in the exports from the United Kingdom to the Dominion of Canada, is fair enough "as far as it goes," it does not go far enough to be a full and compre-

hensive statement of Canadian trade since the preferential tariff in favor of the Mother Country went into effect, and which may or may not have such potential effect as is claimed therein in the enlargement of British imports.

It cannot be said that the preferential tariff of 33½ per cent. in favor of British imports into Canada has had any influence in the enlargement of American imports thereinto, and yet the relative increase in the imports from the United States has been very much greater than the relative increase in the imports from the United Kingdom, as the following statement compiled from Canadian official sources proves. To give the fullest possible "fair play" to Mr. Johnson, the Advertiser begins this statement with the year 1897, when British imports into Canada had touched their lowest level, and when, according to the memorandum, British imports into Canada were in danger of being destroyed, were it not for the interference of the preferential tariff.

The statement shows the value of the imports into Canada, entered for consumption during seven fiscal years as follows:

	Imports from United Kingdom.	Imports from United States.	Total Imports All Countries.
1897.....	\$29,412,188	\$61,649,041	\$111,294,021
1898.....	32,500,917	78,705,599	130,698,006
1899.....	37,060,125	93,007,166	154,051,593
1900.....	44,739,730	109,844,378	180,804,316
1901.....	44,018,164	110,485,008	181,237,988
1902.....	49,206,062	120,814,759	302,791,595
1903.....	58,896,901	137,605,195	283,790,516

A glance at this statement shows that the imports from the United Kingdom into Canada during the foregoing "preferential years" have not kept even relative pace with the increase in the general imports into the Dominion. The imports into Canada in 1903 were \$11,202,474 more than double the imports of 1897. The imports from the United Kingdom in 1903 were a fraction less than double what they were in 1897, while the imports from the United States in 1903 were \$14,307,113 more than double those of 1897.

It cannot be denied that the Canadian bounty of 33½ per cent. preferential tariff paid to British manufacturers looks like a prime factor in the premises, yet looking at the very creditable increase in the import trade of the Dominion it really appears as if British trade would have attained its 1903 maximum had the preferential tariff never been enacted. To



assume the contrary would be to assume the general hypothesis that British manufacturers are able to meet the American manufacturers in the markets of the world only when they are subsidized by a preferential tariff of 33½ per cent.

The preference in favor of British textile manufactures has worked most disastrously to the Canadian industry, and should be abated as a nuisance. As regards manufactures of steel and iron, the preference does not affect trade to any appreciable extent.

#### THE CIRCUMLOCUTION OFFICE.

The methods of the "Circumlocution Office" have permeated the commercial agencies instituted by the Dominion Government in Great Britain and other countries, extending from the office of the High Commissioner in London down to and including all the smaller agencies. It has been and is now the custom of these agencies to make reports at stated intervals to the Dominion Department of Trade and Commerce regarding the enquiries that had been made of them concerning the possibilities of trade between Canada and other countries. The names and addresses of the concerns making the enquiries are made known to the Department, and heretofore have been given to some of the trade journals and newspapers, but this has now been discontinued. The Department now issues a weekly bulletin in which these enquiries are published, but not the names and addresses of the enquirers. If the bulletin falls into the hands of a Canadian manufacturer or exporter who might be seeking an extension of his foreign trade, and an inquiry contained therein interests him, if he wishes to follow it up, he must of necessity first write to the Department at Ottawa for the name and address, which, having obtained, he must write to the enquirer abroad, and thus get into communication with him. There seems to be a sacredness surrounding the names of the enquirers who desire to do business with Canada that can only be penetrated through the intricacies of the Circumlocution Office, with the result generally that no busy man cares to waste his time and patience in investigating the matter. What are the duties of the Canadian Commercial Agents any how, now that it has been decided that they must discontinue issuing the names and addresses of concerns making enquiries at their offices on Canadian commercial matters.

#### BOG FUEL.

Credit is due to Mr. Edward Atkinson in first giving publicity in this country to the fact that the mud underlying the grass and fresh water meadows, which are not known as peat bogs, may be made into a useful fuel. Mr. Atkinson, however, does not claim priority on the discovery or invention, except to the United States, because Irish peasants have for generations been making a fuel from the underlying mud of the hills of their country. Particular attention at this time is shown to this kind of fuel from the recent report upon it, issued by the Insurance Engineering Experiment Station, Boston, Mass.

There is every evidence to believe that bog fuel will in time become a prime factor in the domestic supply, and also a paramount factor in the supply of fuel for industrial purposes.

Bog fuel will cover every type of fuel, either that which will be made from the black mud of the fresh and salt water meadows; that which will be made from the high moss peat bogs of upper Scandinavia and Scotland; that which may be made from the turf overlying the hills of Ireland; or that

which may be made from the ordinary sphagnum moss peat bogs which are usually found behind beaver dams, made by the gradual growth and decay of the sphagnum moss in their ponds. These deposits of various kinds are deposits of coal in the first stage of the formation of a coal measure.

A great deal of the bog mud of Europe in its natural state contains about 85 per cent. water, and 13 per cent. combustible matter, the balance, ash-forming material. Many of the mud bogs of the United States and Canada contain a much less quantity of water. To get rid of this large amount of water and concentrate the combustible matter without any loss in carbon is necessary in order to make it a fuel. The most advanced methods for the manufacture of this class of fuel are now in use in Germany, Holland, Russia and Austria.

The bog mud, unless taken from a great depth, is made up in its solids of 20 per cent. of a fine hair-like fibre which retains mechanically held water; in the ordinary drying process this water is not easily evaporated, and when the moisture is finally carried off, air fills these cells. In consequence, the mass is not readily compressed. Within the bog mud is also an organic compound, developed through the slow decomposition of plant life, which is dissolved somewhat in the water contents of the mud.

All bog fuel contains this powerful binding material, but it is only fully developed when the vegetable character of the mud is entirely destroyed.

It now appears that simple mechanical processes may be substituted for geologic time for the conversion of this crude material, consisting almost wholly of fixed carbon and hydrocarbon, into solid fuel, better in many respects than any existing type of coal, and convertible at moderate cost, into coke and gas. Mud fuel is converted by Dutch farmers for their private supply by taking it from the bogs and working it in a bed by men trampling it, shod in their large wooden shoes. There are numerous establishments in Holland for the manufacture of mud briquettes, making a hard, compact fuel, substantially of the same specific gravity as the best bituminous coal, and nearly equal to it in many respects as a fuel. In Russia many large establishments have been set up, and the matter is of such importance that the government has taken possession of the large bogs, granting leases or permits for working mud fuel, and assessing a heavy tax on the product. A small establishment was recently formed in New Haven, Conn., for making coke from salt marsh mud taken from the sides of a tidal creek. This establishment has now passed into the hands of larger capitalists, who are operating bogs in Brookfield, Mass., where mud appears to be composed almost wholly from decayed grasses, there being few or no shrubs or other plants on the surface. The areas in that region are very large. The Brookfield bog has been sounded to the depth of forty-seven feet, without reaching bottom. These great deposits of mud exist all over the country.

There is no question as to the existence in the United States and Canada of enormous deposits of mud or peat, which may be made into fuel of high heating capacity quite equal to much of the coal that is now being used for manufacturing purposes.

#### BRITISH-CANADIAN TRADE.

At a recent special meeting of the London Chamber of Commerce, the question of British manufactures for Colonial markets was the subject of an address delivered by Mr. H. B. Ames, of the Montreal Board of Trade. Mr. Ames dealt exclusively with the question as it affected Canada, whose

loyalty was shown, he said, by her giving preferential treatment to Great Britain. Prior to preference British trade with Canada was declining, and was threatened, in fact, with extinction. Whereas in 1872, 58 per cent. of Canadian imports came from Great Britain, in 1882 they had declined to 45 per cent., in 1892 to 35 per cent., and in 1902 to 25 per cent. In that period British loss had been a gain to the Americans, whose imports into Canada had increased from 33 to nearly 60 per cent. Since Confederation, therefore, the United States had in the period of thirty years practically changed places with Great Britain. After the preference given by Canada to Great Britain, the decline of British imports was not at first stopped, but in 1903 it was better than in 1902, and 1904 promised to be better than 1903. The most favorable importation, from Great Britain's point of view, was in woollens and cottons. In woollens and worsteds the average rate of duty on British imports was 23½ per cent., as against the United States it was 35 per cent., and against Germany 46½ per cent. Canadian imports from Great Britain had increased 44 per cent. in the preferential period as compared with the anti-preferential period.

Prior to preference Great Britain sent Canada 83 per cent. of imports, and since then 84 per cent. Though the volume of the trade had doubled, the percentage remained about the same. In manufactured cotton goods, the duty on those from Great Britain was 16½ per cent., the duty on American goods was 25 per cent. In the ante-preferential period Great Britain supplied Canada with 74 per cent. of the cotton goods imported, and in the past preferential period with 76½ per cent. In a number of other classes of goods there was a decline in the imports from Great Britain. Mr. Ames assured his audience that Canadians would rather buy and sell British goods than any others. They had in Canada a friendly market, and why was it, then, that the British manufacturers were not capturing a larger portion of their trade? It would be impossible for Canada to grant additional preference. They had made the first move, and now it remained for Great Britain to play the game. There were a great many things which could be done to improve the position of the British manufacturer in the Canadian market.

The chief commercial rival of Great Britain in Canada was the United States, then Germany, then France and Belgium. Geographically America has an advantage. As to some of the reasons why America's imports to Canada had increased, while those of Great Britain had declined, he said that the American was a very enterprising business man, and he offered the Canadians every conceivable advantage in their markets. In the first place, the American usually made his goods in advance of selling, and thus had a stock of goods which he was prepared to deliver at the shortest possible notice. On the other hand British goods had to be ordered, and then the Canadians had to wait their turn before they were delivered. The American quoted for his goods for delivery in Canada, and he quoted in the currency of the country, so that the importer was able to tell exactly what the American goods would cost, but such was not the case in regard to British goods. The American methods of securing business showed greater activity than the British methods. The American traveller frequently went from one end of the country to the other with his samples, which were thus open to inspection. He undertook to advertise the goods and to create a demand for them. The American also offered larger commissions to the merchants who handled the goods.

In other words, the American manufacturer was willing to assume part of the risk of the introduction of the goods, and

the British manufacturer never did so. Again, the American was willing to create special lines, but if the British manufacturer consented to do so he charged extra. Then the American system of packing was much less expensive than the British. Lastly, and most important, the American had an intimate knowledge of Canadian needs, and recognized that the Canadians had trading idiosyncracies. The Canadians demanded certain styles of goods, and if the British manufacturers wanted to get their trade they would have to reckon with that important fact. They must recognize that the Canadian knew precisely what he wanted, and that he would take nothing else. Through failure to recognize this fact, trade had been allowed to slip from the grasp of the British manufacturer. He had issued a question to a number of Canadian commercial men on the matter, and had received replies, which were to the effect that British manufacturers must be prepared to supply goods to suit Canadian requirements. He urged that it was worth an effort on the part of British traders to try to secure the Canadian trade. Canadians in their supplies to the British market had adapted themselves to British needs; they had endeavored to make their commodities exactly what was needed, and they wanted similar treatment.

The trade of Canada this year would probably amount to £100,000,000, and their imports would probably reach £50,000,000. The American highly valued the Canadian markets, and the time might come when the American might make offers of reciprocal trade, and if no appreciation came from Great Britain of what Canada had done for us, and was prepared to do, there might be a danger of the American offer proving more tempting than it should. Canada had given Great Britain preference on her manufactured goods. She gave it cheerfully as a stimulus of trade between the Old Country and the New, and she had not exhausted her power of giving advantages to British manufactured goods. Canada could not make the preference greater; but she was able to raise her tariff walls higher against British competitors. She had done so with regard to Germany. Canada was able to do more against the United States, and she would be prepared probably to do it if Great Britain gave her better treatment. But this point he wished to impress on British manufacturers—that they would have to endeavor to make goods such as the Canadians wanted, so that when the time came, if it ever came, to replace American goods by British goods, Canadians could get what they wanted from British manufacturers. His object was to show the importance of Canada's trade, that it was slipping away from Great Britain, and that it was worth an effort to hold it.

#### A NEW COAL ROUTE.

Though the Tillsonburg, Lake Erie and Pacific Railway has not been leased by the Canadian Pacific Railway, the two lines have, it is understood, reached an agreement under which, during the present season of navigation, at least, coal will be brought across the lake from Ashtabula, Ohio, to Port Burwell, Ont., carried over the T. L. E. & P. to Ingersoll, and delivered to the Canadian Pacific Railway; and it is expected that at least 600,000 tons will be brought in by this route this year. At first the coal will be brought over in barges, but it is intended to have a car ferry in operation before the end of the summer, when the loaded cars will be brought across the lake and transferred to the railway. This arrangement is primarily for the purpose of bringing in the fuel required on the Canadian Pacific Railway lines in Ontario, but it will also enable manufacturers in Western Ontario to procure fuel at a lower cost than heretofore, and the traffic by

this new route should grow to very large proportions, and make Port Burwell an important port.

In order to handle the coal traffic expeditiously, the manager of the T. L. E. & P. is planning many improvements. The roadbed is to be put into first-class condition, and preparations are being made for laying a large number of sidings at Port Burwell. A new track will be laid on the west side of the harbor, and docks will be built on the east side for the storage of coal. The harbor is to be dredged also.

It seems unlikely that the road will be completed from Ingersoll to Collingwood this summer, as the railway company is asking Parliament to extend for two years the time for building this portion of the line, but the work will be started and pushed as fast as circumstances will permit.

#### BRITISH COLUMBIA LUMBER.

Among the laws passed at the last session of the British Columbia Legislature was one which virtually places a tax on all logs, props, railroad ties, shingles, etc., exported from the Province, though expressed in the form of rebates.

Section 8, after enacting that timber licences for logging purposes shall not be granted for a larger area than 640 acres of land, nor for less than five years, establishes the fees for same west of the Cascade Range at \$140 per year, and east of said range at \$115 per year.

The new law imposes on spars, saw logs, and saw bolts of all kinds a maximum tax of \$5.50 per 1,000 feet, with proviso that the whole tax shall be rebated and also 1 cent per 1,000 lineal feet, "if same is manufactured or used in British Columbia." On piles, poles, and crib timbers a maximum tax of \$4 per 1,000 feet and 2½ cents per lineal foot, with same proviso that whole tax on timber used shall be remitted above one two-hundredths of one per cent. per lineal foot "if same is manufactured or used in British Columbia," but the law contains a further proviso that the provincial government may allow such rebate on piles, telegraph poles, "and crib timbers not used or manufactured in the Province as may be deemed advisable."

A tax of 50 cents per cord is also imposed on mining props and railway ties, and 25 cents on cord wood, with proviso that a rebate will be allowed of all the tax over and above 1 cent per cord on railway ties, mining props, lagging, and cord wood used in the Province.

A tax of \$1 per cord is imposed on all "shingle or other bolts of cedar, fir, or spruce," with proviso that there shall be a rebate of all over 1 cent per cord.

This law went into force December 12 last, and has had the effect of raising the price of timber, shingles, etc., to be exported from the Province to such an extent as to virtually prohibit such exportation.

Representations having been made on the operation of this law by manufacturers and dealers, the collector of the Puget Sound district, under the authority of the United States tariff act of 1897, has advanced the regular duties on timber and rough lumber imported into the United States by assessment of additional duties at the rate of \$5.50 per 1,000 feet, equal to the maximum tax for export on logs from British Columbia, making a total duty on the rough lumber entering the United States from the Province of \$7.50 per 1,000 lineal feet.

The effect of this law and ruling has been to put an embargo on all exportations to the United States of lumber, shingles, timber, logs, etc., and to cancel large orders given to dealers in the Province, to the serious embarrassment of the trade. The law forbidding rebates extends to all exportations

from the Province, whether to the United States or to Provinces in the Dominion of Canada.

#### THE WINNIPEG EXHIBITION.

The second Dominion of Canada Exhibition is to take place this year in Winnipeg, and already large and extensive preparations are being made for the celebration in a fitting manner. It is extremely gratifying to the Board of the Winnipeg Industrial Exhibition Association to be able to announce that the Dominion Government has made a grant of \$50,000 for the holding of this exhibition during the present summer, and that the City of Winnipeg will support this important project by assuming all the expense of the enlarging of the buildings. Winnipeg will be the centre to which all eyes will be turned from all parts of the Dominion and from our neighbors across the boundary line. It is impossible to estimate the important bearing which the holding of this exhibition will have upon the future development of the Canadian West, and the whole country will be benefitted by the manner in which such an event will display the resources of Western manufacturers, and will also enable the Eastern manufacturer to become acquainted with the wonderful possibilities and demands of the West. The Dominion, therefore, as a whole, will be benefitted in the bringing together of the East and West by this all-Canadian exhibition. Business men all over the Dominion recognize the importance which attaches to this exhibition, and all classes are united in making it an event of which all alike will be proud. The Canadian West, with its rapidly extending needs, is a large field in which United States goods have been in active competition with goods made in Canada. In order that the Eastern manufacturer should secure this trade they need to study the requirements of the West and its people, and place their goods before the attention of the West generally. This opportunity will be amply provided at the Winnipeg Exhibition.

#### EDITORIAL NOTES.

The Minister of Finance has announced his intention to present his tariff amendment resolution to the House of Commons early next week.

The manufacture of Portland cement in Canada is in a flourishing condition, but no cement has yet been made which can mend the break of day or the crack of doom.

A bill has been introduced in the Australian House of Representatives to provide bounties for the encouragement of the iron and steel industries in Australia. It provides a bounty of \$2.48 per ton on iron and 10 per cent. on value of manufactures of iron and steel.

It has been practically settled that the letter rate between Canada and Mexico shall be reduced from five cents to two cents, and the draft convention to assent to this is now in course of preparation. As to the matter of a steamship service between the two countries, matters are proceeding very satisfactorily, and it is expected that tenders for a steamship service on both the Atlantic and Pacific Oceans will be invited at an early date.

Representatives of several of the electric light companies of Canada had a conference with the Minister of Inland Revenue

at Ottawa a few days ago in regard to the operations of the electric light act. There are two things which were urged upon the Minister. One was the establishment of an electrical standardizing bureau at Ottawa as a separate institution for the adjustment and standardizing of commercial electrical meters, etc. The other was the adoption of some means to prevent the theft of electrical energy from companies by customers, which is said to be prevalent. Hon. Mr. Brodeur listened to all that was said, and seemed to be very favorably impressed. Mr. Ormond Hyman, electrical expert of the Department of Inland Revenue, was present during the interview. The delegation consisted of Mr. J. J. Wright, Toronto Electrical Light Co.; Mr. E. A. Evans, Quebec Railway & Light & Power Co.; Mr. A. A. Wright, M.P., Renfrew Electric Light Co.; and Mr. C. W. Henderson, of the Westinghouse Co., Hamilton.

Mr. H. B. Ames, of Montreal, has done a service to Anglo-Canadian Trade by his straight talk to the recent meeting of the London Chamber of Commerce. Mr. Ames admitted the comparative failure of the preferential tariff to increase the imports of British manufacturers. In 1872, he said, Great Britain had 58 per cent. of Canada's import trade, and in 1902 only 25 per cent., while in the same period the United States trade with Canada increased from 33 per cent. to 60 per cent. Mr. Ames pointed out that the reasons of the United States gaining exactly what Great Britain lost, is due to the Americans studying the requirements of Canadian markets. British manufacturers persist in offering their own make of goods without regard to local requirements, they quote f.o.b. in English money, they do not send out travellers to study Canadian markets, and they do not back their agents by advertising; and when they do get orders they do not fill them promptly. The lack of sufficient advertising in Canadian papers is perhaps responsible for most of the falling off in British trade, for with the prohibitive rates of postage, British papers do not go among Canadian readers, who on the other hand are made familiar through the Canadian press with the names of the leading manufacturers of the United States.

The advance figures of the annual report of the chief of the United States Department of Mines for 1903, relating to the anthracite coal trade of Pennsylvania, show a total production for the year of 67,000,000 tons. This output is valued at \$135,000,000 at the mines and \$300,000,000 at the points of distribution.

A manufacturing plant is in operation at Wilmington, Del., equipped with special machinery for making bricks of concrete, such as specified by engineers, to go under high buildings, in railroad construction, sidewalks, etc., and it has many orders for the brick, which are impervious to water and made of any color. Wet common concrete is used. One barrel of Portland cement and 1½ yards of sand is required to make 1,000 common cement concrete brick, standard size, and they cost less than \$3.50 per 1,000; face brick about \$5.

Importers of consigned goods imported into Canada will in future be required to produce, in addition to the true invoices, contracts of sales, installation and delivery. Such invoices must include the actual price paid for the goods, cartons, coverings, cases, and all expenses incident to placing the goods in condition ready for shipment. No discount other than such as has been actually allowed must be shown. All

such goods consigned to a person other than the owner must have the invoice from the exporter to the owner filed with the invoice to the consignee when the entry is made. If machinery or other articles imported include work to be done in Canada, similar to installing a plant or the assembling of machinery parts, a reduction may be made for the cost of the work done in Canada, provided such reduction will not reduce the value below that at which such goods are sold in the markets of the country whence and at the time they are exported direct to Canada. Branch houses doing a wholesale business in Canada, receiving goods from the parent house, must be careful that the invoices show the value to be the fair market value of similar transactions to the trader in the country of export, the customs department, in special cases, reserving the right to fix the value for duty purposes. Petroleum for use in concentration of ores or metals, when brought in by miners or mining companies for their own concentrating establishment, may be imported free of duty. Malleable sprocket or link belting chain, when imported by manufacturers of agricultural implements (except binders), is reduced from 30 per cent. to 20 per cent., and this also includes the preferential rate when the conditions are complied with. Paper tubes and cones, all sizes, for use in winding yarn, may be brought in free of duty by manufacturers of cotton yarns or fabrics for use in their own factories.

Mr. W. R. Holloway, United States Consul General at Halifax, N.S., writing to his Government, says:

The Dominion of Canada Exhibition, otherwise known as the Winnipeg Fair, will be opened on July 24 and continue till August 6 next. The Dominion Government has granted the sum of \$50,000 to assist in making the fair a success. All applications or requests for information must be directed to Exhibition Department of the Canadian Manufacturers' Association, Toronto, Ont. Foreign exhibits are invited, and foreign exhibitors will be accorded the same benefits, power for processes of manufacturing, exhibiting, etc., as are granted to Canadian manufacturers.

In its main assertions Mr. Holloway's information is correct, but it is incorrect to say that all applications for space or requests for information can only be obtained through the Canadian Manufacturers' Association at Toronto. Proposing exhibitors who wish to exhibit under the auspices of the Association should apply to it for information, but otherwise to Mr. F. W. Heubach, the general manager of the exhibition, at Winnipeg.

The Canadian Post Office Department has inaugurated a system of letter insurance. Under the regulations a letter may be insured for sums ranging from \$10 to \$25, the amount of insurance being governed by the price paid by the sender. For instance, to send a \$10 insured letter, the cost would be 2 cents for the regular postage, if it was not "overweight," 5 cents for registration and 3 cents for the insurance, making 10 cents in all. For a \$15 letter the insurance charge would be 4 cents; for \$20, 5 cents; and for \$25, 6 cents. Upon paying the amount required the person sending the letter receives a special receipt from the postmaster, and the letter itself receives a red seal which is affixed to the envelope. A letter tendered for insurance must be inclosed in a strong envelope and properly fastened with gum or wax.

The Turbinia, the new turbine steamer for the Toronto-Hamilton route, is now on her way across the ocean, and will be in Toronto in a few days.

### BRISTOL'S THERMOMETER-THERMOSTAT.

The Bristol Company, Waterbury, Conn., are placing a new instrument upon the market which has been given the compound name as above, since it is a combination thermometer and thermostat. There is a demand for an instrument of this character which will give correct indications of the temperature of



Fig. 1.

the atmosphere, gasses or liquids at all times, and also serve as a thermostat to make electric connection at any predetermined limits of temperature for the purpose of operating controlling apparatus, alarms and the like.

Fig. 1 shows external view of the instrument which is provided with a six inch scale graduated in degrees Fahrenheit.

The construction and capabilities of this instrument will be best understood by referring to the interior view, Fig. 2, in which A is an arm pivoted at lower portion of the case, terminating in a point

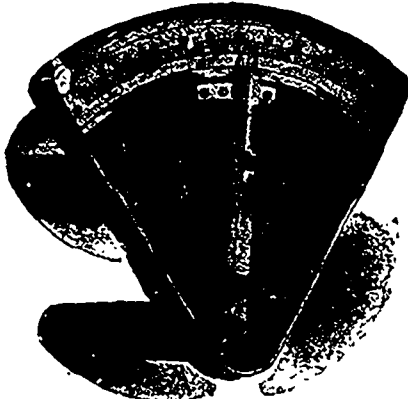


Fig. 2.

resting on the arc of the graduated scale and is held by friction at whatever point it may happen to be set. Two adjustable contact pieces, B and C, are carried by this arm. These contact pieces are capable of adjustment by means of a screw D, which is threaded so as to cause the contact pieces B and C to approach or recede at equal rates and distances from the centre line of the arm A, upon which they are supported.

They are also connected to binding posts as shown, which are used for making outside connections. These binding posts are located within the case to avoid any possibility of the wires or connections

being disturbed without detection. Three holes with insulating eyelets are provided in the lower portion of case, as shown, for the insertion of connecting wires. The high and low contacts can be placed on a single or on independent circuits. The arm E, moving over the graduated scale, indicates the changes of temperature where the instrument is located. This arm is operated by one of Bristol's Recording Thermometer tubes placed in the perforated protecting projection extending from the back of the case as shown in the illustration. On the back of the indicating pointer E there is a raised portion which makes electric connection with the contact pieces.

A novel feature of the instrument is that the temperature indicating arm E is not restrained by the thermometer-thermostatic contacts. Thus it will be seen that the controlling effect of the thermostat is perfectly adjustable as to position on the scale of the thermometer, and also as to high and low limits of operation, without in any way interfering with the correct indications of the thermometer in case the temperature does not remain, or is not controlled, within the limits for which contact pieces may be set.

The instrument may be readily applied to liquids, as for instance, to indicate the temperature, and set into operation controlling apparatus for the brine in a refrigerating system or tank.

For temperatures above the atmosphere as that occurring in ovens, kilns, closed spaces, or of liquids in pipes under pressure, a small bulb is located within the closed space or pipe. This bulb is connected with the thermometer-thermostat by a capillary tube filled with alcohol. The temperature at the bulb is communicated to the instrument which may be located at any convenient point for observation.

The electric wires connecting with the adjustable thermostatic contacts may be carried to any point where the controlling apparatus may be located or where it is desired that an alarm shall be given.

From the foregoing description it will be seen that the instrument is very flexible in its application and it is not improbable that other applications may suggest themselves to the reader which have not been thought of in the preparation of this description.

### THE STURTEVANT IMPROVED HAND BLOWERS.

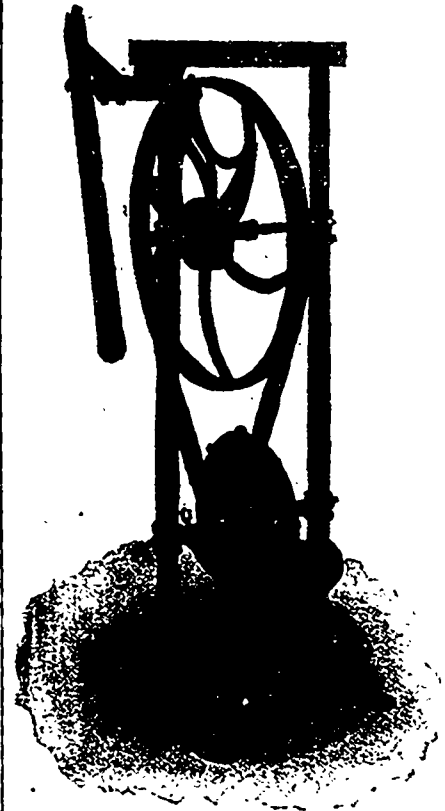
In these modern times men are always seeking devices by which they may accomplish the greatest results with the least exertion. To this fact, doubtless more than any other, was due the rapid introduction of the hand blower as a substitute for the old time bellows. During the years which have elapsed since this change, the B. F. Sturtevant Co. of Boston, Mass., pioneers in the manufacture of blowers, have been perfecting their design and construction until their hand blower, known as Style A, has shaped itself into a new design known as Style B, as herewith illustrated.

These hand blowers have been extensively introduced in connection with new forges of all kinds, and have likewise

been applied to old style brick and iron forges as simple, efficient and economical substitutes for the bellows. Not only are they adapted to forge blowing but can readily be applied as portable ventilating apparatus.

They are simple in design, strong, rigid and compact, easy and economical in operation and readily portable. The running gear is simple, effective and strong.

The blower is adjustable on the shaft, and its outlet may thus be set to discharge in any direction, and readily connected to the forge tuyere by means of galvanized iron piping. The blower is of cast iron, strongly constructed in every particular, has a steel shaft running in babbitted boxes, and a fan wheel of galvanized steel solidly riveted to a composition hub with extending arms.



Style B.—Sturtevant Improved Hand Blower.

The frame is carefully designed, well braced, and is so arranged that the slackness of the belt driving the blower may be taken up by lowering the blower shaft, which is supported by collars sliding on the frame. The feet are provided with holes so that the hand blower may be readily screwed to the floor.

These hand blowers are made in two sizes. The total length on the floor of Style B-1 is 18 inches, while the total height of the frame, not including the handle, is 48 inches. The driving wheel is 24 inches in diameter, the blower outlet is 3½ inches in diameter, and the complete outfit weighs but 135 pounds.

Style B-2 is of slightly larger dimensions and has proportionately greater capacity for delivering air. The driving outlet is 4½ inches in diameter, and the wheel is 24 inches in diameter, the blower complete outfit weighs 155 pounds.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

## CAPTAINS OF INDUSTRY.

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

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

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

The Raven Lake Portland Cement Co., Raven Lake, Ont., recently started their dredges and have just discovered underneath their marl bed a deposit of clay of the exact composition required in the manufacture of Portland cement. The plant will be put in full operation early in June. A post office is being established at the plant.

The ratepayers of Galt, Ont., have voted favorably on a by-law granting \$50,000 for the installation of trunk sewers and the erection of a disposal works; and have also voted favorably for an appropriation of \$35,000 for the erection of a new Collegiate Institute building.

The freight sheds and station of the Welland Division of the Grand Trunk Railway at St. Catharines, Ont., were destroyed by fire May 20. Loss about \$5,000.

The ratepayers of Barrie, Ont., have voted favorably on the following by-laws: extending cement pavements \$10,000, waterworks system \$3,000, enlarging fire hall \$3,500, and purchase of hose \$1,500.

The Galt Blast Furnace Co., Galt, Ont., will erect a large foundry there.

The improvements to the Central Methodist Church, Toronto, will cost about \$30,000. Messrs. G. M. Miller & Co., are the architects.

The Department of Public Works at Ottawa, Ont., are inviting tenders for the construction of a wharf and approach at Thessalon, Ont.

The National Cash Register Co., Dayton, Ohio, have been licensed to manufacture cash registers, calculating machines, etc., in Ontario, with a capital of \$40,000. Canadian office in Toronto.

Messrs. Puddy Bros., Limited, Toronto, have been incorporated with a capital of \$100,000, to carry on a meat packing and curing business. The provisional directors include E. Puddy, J. Puddy and H. Puddy, Toronto.

The ratepayers of St. Catharines, Ont., will grant a bonus to Messrs. J. M. Ross & Co., Brampton, Ont., manufacturers of traction engines, harvesting machines, etc., for the establishment of their works in that town at a cost of \$50,000.

The St. Anthony Gold Mining Co., Ignace, Ont., have been incorporated

with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include B. Hanchett, A. Hill and G. W. Weadock, Saginaw, Mich.

The South Essex Oil & Gas Co., Leamington, Ont., have been incorporated with a capital of \$500,000, to carry on a mining, reduction and development business. The provisional directors include J. A. Auld, Amherstburg, Ont., Geo. Jasperson and D. Wible, Kingsville, Ont.

The Armada Weighing Machine Co., Toronto, have been incorporated with a capital of \$100,000, to manufacture automatic weighing machines and to acquire the business and patents of Alex. H. Canning. The provisional directors include A. H. Canning, W. T. Worthy and T. A. Gibson, Toronto.

The Empire College of Ophthalmology, Toronto, have been incorporated with a capital of \$40,000, to establish a college for teaching chemistry, anatomy and physiology of the eye, etc. The provisional directors include W. J. Harvey and J. H. Forbes, Toronto, and J. G. Evans, Kingston, Ont.

The Ursa Major Co., Toronto, have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include J. G. Harris and J. A. Keyes, Duluth, Minn., and C. B. Jackes, Toronto.

The Stratford Carriage Co., Stratford, Ont., have been incorporated with a capital of \$75,000, to manufacture carriages and vehicles. The provisional directors include J. C. Makins, J. H. Esplen and D. H. Farrow, Stratford.

The British American Brewing Co., Windsor, Ont., have increased their capital from \$48,000 to \$90,000.

The Merchants' Mantle Mfg. Co., Toronto, have increased their capital from \$20,000 to \$50,000.

The Carlyle Construction Co., Toronto, have been incorporated with a capital of \$100,000, to erect buildings, etc., and to acquire the business of D. Carlyle. The provisional directors include D. Carlyle, R. C. Donald and R. C. Gavin, Toronto.

The Berlin Gasoline Engine & Thresher Co., Berlin, Ont., have been incorporated with a capital of \$100,000, to acquire the

business of the Tuerk Iron Works Co., and to manufacture gasoline engines, threshers, etc. The provisional directors include F. W. Tuerk, Berlin, C. H. M. Ziun, North Dumfries, Ont., and J. M. Scully, Waterloo, Ont.

Messrs. John B. Smith & Sons, Limited, Toronto, have been incorporated with a capital of \$400,000, to acquire the business of John B. Smith & Sons, and to manufacture lumber, etc. The provisional directors include J. McA. Smith, R. Smith and W. J. Smith, Toronto.

The Sudbury Brick Co., Sudbury, Ont., have been incorporated with a capital of \$20,000, to manufacture brick, tile, etc. The provisional directors include F. C. Busby, M. E. Lawson and W. A. Evans, Sudbury.

The Detroit & Parry Sound Mining Co., a United States incorporation have been licensed to manufacture machinery, implements, tools, etc., in Ontario with a capital of \$50,000. F. H. Macpherson, Windsor, Ont., is their attorney.

The Dyas Publishing Co., Toronto, have changed their name to The Hugh C. McLean Co., Limited.

Chief Engineer Russell states that the tenders that the Temiskaming & Northern Ontario Railway Commission have decided to call for are for the construction of the whole extension north of New Liskeard, as provided for by the Act passed at the last session of the Legislature. The road to be tendered on will begin at New Liskeard and will end on the Abitibi River, a distance of 90 or 100 miles. Mr. Russell stated that the extension has been located for 40 miles, and surveying parties who are to go out immediately will carry on the location, so that in two or three months 30 miles more will probably be decided upon. The doubt about the northern terminus is caused by the uncertainty as to whether the Grand Trunk Pacific will run north or south of Lake Abitibi. About the 55th mile north of New Liskeard the height of land will be crossed, and after that the James Bay slope will be explored. The steel will be laid as far as New Liskeard on the North Bay New Liskeard section by the middle of September; 30 miles were graded during the winter.

The Peterborough Canoe Co., Peterborough, Ont., report a large increase in business for the season, the demand for their well-known boats, skiffs, canoes, etc., coming from all parts of the Dominion. Many shipments have been made to the United States and among the orders now on hand is one from Durban, South Africa. A number of improvements have lately been made in the plant of the company, including the installation of a 75-h.p. Goldie-McCulloch gas engine.

The Hamilton, Ohio, Machine Tool Co. are extending their business in Canada, and have appointed Mr. Alfred J. Stevens, 18 Toronto Street, Toronto, as their local representative. They manufacture high grade engine lathes, radial drills, upright drills and shapers.

Mr. R. B. Hamilton, managing director of the Packard Electric Co., St. Cath-

arines, Ont., reports business as particularly brisk in all lines, and that the entire plant has just been under the remodelling process to provide enlargements for their lamp, transformer and meter departments. Additional equipment is being placed in all departments. Orders are coming in with great rapidity, and one order recently received by the company was for 1,500 type G recording Watt meters. This order is probably the largest single order ever received by any Canadian Electric Co. at one time. Delivery on this order does not extend over any long period, but all of the 1,500 meters must be delivered before November 1 of this year.

The Cornell Brewing & Malting Co., Lindsay, Ont., have been incorporated with a capital of \$40,000, to manufacture malt, and to carry on a general brewing business. The provisional directors include W. H. Meldrum, Peterborough, Ont., J. F. Cornell, and J. M. Knowlson, Lindsay.

The Reid Featherbone Mfg. Co., London, Ont., have been incorporated with a capital of \$20,000, to manufacture featherbone, featherbone belts, girdles, etc. The provisional directors include Thos. Reid and S. C. Wood, jr., Toronto, E. J. Parke, London.

Messrs. Rolph & Clark, Limited, Toronto, have been incorporated with a capital of \$500,000, to acquire the business of Rolph, Smith & Co., and the Clark Lithographing Co., and to carry on a lithographing and engraving business, etc. The provisional directors include J. T. Rolph, F. A. Rolph and T. J. Clark, Toronto.

The Niagara Falls Milling Co., Niagara Falls, Ont., have been incorporated with a capital of \$50,000 to manufacture flour, etc. The provisional directors include Wm. Wanless, St. Catharines, Ont., J. F. McLaughlin, Toronto, and E. R. Lundy, Niagara Falls.

The W. B. Reid Co., Limited, Toronto, have been incorporated with a capital of \$40,000, to acquire the business of W. B. Reid & Co., and to manufacture cigars, pipes, tobaccos, etc. The provisional directors include Wm. B. Reid, A. Lang and W. Scott, Toronto.

Messrs. S. H. Knox & Co., a United States incorporation have been licensed to manufacture dry goods, smallwares, etc., in Ontario, with a capital of \$100,000. C. H. Ivey, London, Ont., is their attorney.

The Peterborough Canoe Co., Peterborough, Ont., have received an order from the Hudson Bay Co., for 150 large canoes to be distributed throughout the North-West.

The Walker Steel Range Co., Windsor, Ont., have been incorporated with a capital of \$75,000, to manufacture steel ranges, etc. The provisional directors include H. D. Walker, J. A. Straith and A. Stoll, Windsor.

The Canadian Pacific Railway elevator "E" at Fort William, Ont., will be enlarged which will make it a receiving as well as discharging elevator, and its capacity for rapid handling will be in-

creased and will give additional storage for half a million bushels.

The Canadian Westinghouse Co., Hamilton, Ont., have sold to the Northern Electric & Mfg. Co., Montreal, who are large manufacturers of telephone apparatus, a 300 k.w. steam turbine unit, consisting of a Westinghouse-Parsons turbine and a Westinghouse Turbo-Alternator. They report numerous inquiries for these units and anticipate a brisk demand for them in Canadian territory.

The Rat-Portage Saw Mill No. 1, Rat-Portage, Ont., which has been improved and enlarged, has commenced operations and will now turn out 200,000 feet per day.

The Canadian Tin Plate Co., London, Ont., will enlarge and improve their works.

The Sawyer-Massey Co., Hamilton, Ont., are erecting a large new warehouse in that city.

A. M. Piper, architect, Chatham, Ont., is inviting tenders for the erection of the new Merchants' Bank building at that place at a cost of about \$45,000.

The Russell House at Ottawa, Ont., was damaged by fire May 19. Loss about \$3,500.

The Department of Public Works, Ottawa, are inviting tenders for the construction of a breakwater at Meaford, Ont.

The town of Niagara Falls, Ont., are offering debentures for sale to raise money for improvements as follows:—\$13,960 for sidewalks; \$15,000 for sewers; and \$12,000 for waterworks.

P. E. Ryan, secretary-treasurer of the Temiskaming & Northern Ontario Railway Commission, Toronto, is inviting tenders for the delivery of 75,000 ties.

The London, Ont., Street Railway Co. have increased their capital to \$500,000.

The Department of Public Works, Ottawa, are inviting tenders for the construction of a wharf at Chambord, Que.

The Ottawa post office which was recently damaged by fire, will be repaired at a cost of \$10,000.

The Ontario Government will construct a canal for the passage of logs between the upper waters of the Sturgeon River and Wahnapiatae Lake. They propose to operate the canal and charge the lumbermen toll for the passage of logs, sufficient to pay for the construction and maintenance.

The Standard Paint & Varnish Co., Windsor, Ont., have about completed their new plant, which will be one of the most complete in Canada. Mr. J. A. Straith is manager.

The Globe Furniture Co., Walkerville, Ont., are inviting tenders for the erection of their new plant at East Toronto.

At a meeting held at Garden Hill, near Port Hope, Ont., on May 30, at which Mr. J. A. Culverwell, managing director of the Central Ontario Power Co., of Peterborough, Ont., gave an illustrated address on the Trent Canal, a resolution was carried unanimously, requesting the Dominion Government to so construct

the southern outlet of that canal that it would be at Port Hope, opening into Lake Ontario. A resolution was also passed extending the thanks of the meeting to Mr. Culverwell for his efforts in behalf of the Trent Valley Canal.

The Lake Erie Coal Co., Walkerville, Ont., have completed their new coal storage plants at Rondout and Port Burwell, Ont. Facilities for handling 500,000 tons annually have been provided. The latest machinery for unloading from the boats and loading from the storage plants to the cars have been installed.

The resolution of the Dominion House of Commons authorizing the payment of bounty upon all lead-bearing ores mined in Canada and delivered at a smelter in Canada on and after July 1, 1903, was reported, and a bill founded upon it given first reading. Sir Richard Cartwright explained that it had been intended that the bounty should go into effect for the whole fiscal year, but, owing to the late date of prorogation, it only became effective in October last. Already a considerable sum had been paid out—some \$30,000—and the bounty had produced a considerable effect upon the output of low-grade ores.

C. W. Wheeler, architect, Port Arthur, Ont., has prepared plans for a new General Hospital building 96x45 feet, at a cost of \$12,000.

The Marconi Wireless Telegraph Co. have signed a contract with the Dominion Government for the erection of seven wireless telegraph stations along the St. Lawrence River route.

The Canadian Oil Co., Toronto, have been incorporated with a capital of \$1,500,000, and have acquired the business of the Gall-Schneider Co., of Montreal, and the Grant-Hamilton Co., Toronto. Mr. T. H. Hamilton, Toronto, will be general manager.

Messrs. Reiner Bros. & Co., Wellesley, Ont., have purchased a boiler weighing six tons, from the Goldie & McCulloch Co., Galt, Ont., to be installed in their knit goods factory.

The Canadian Pacific Railway Co. will lay a new track on their line between Toronto and Smith's Falls, Ont., this summer, at an estimated cost of \$50,000.

Tenders are being invited for the construction of a new Y.M.C.A. hall, and for a new building for the Bank of Montreal at Paris, Ont.

The Lake View hotel, the Fraser Planing mill, the Electric Light & Power Co.'s plant and the town hall at Amherstburg, Ont., were damaged by a cyclone which struck that town May 26. Loss about \$40,000.

The steamer White Star, the upper works of which were destroyed by fire at Toronto last summer, has been purchased by the Montreal & Cornwall Navigation Co., and she will be re-built.

The Ontario Government have granted a pulp concession to the Dryden Board Bill Co., who will erect and equip a plant at Dryden, Ont., at a cost of about \$100,000.

Messrs. Schultz Bros., Brantford, Ont., have been awarded the contract for alterations to the Brantford Drill Hall at a cost of \$30,000.

The Salvation Army at Ottawa, Ont., are erecting a citadel at a cost of \$10,000.

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

The Grand Trunk Railway have taken out a permit for the erection of an additional freight shed at Toronto, to be of brick and steel, at an estimated cost of \$10,000.

Engineers are at work for the Toronto & Niagara Power Co., seeking suitable sites in Toronto and Niagara, Ont., for sub-stations to be used in connection with the distribution of electric power. It is intended to have these stations constructed before winter. A large stretch of the right-of-way for the power line has been fenced in, and work on the erection of steel towers will shortly commence.

The Imperial Steel & Wire Co., Collingwood, Ont., have let contracts for the completion of their works. The buildings are of brick, consisting of boiler house, 40 feet by 35 feet; engine room, 50 feet by 35 feet; wire cleaning and acid mill, 100 feet by 70 feet; wire drawing mill, 200 feet by 60 feet; wire nail mill, 200 feet by 60 feet; galvanizing mill, 225 feet by 50 feet. The buildings are served by two railway switches, and cover an area of about five acres. Ample room is provided also for a wire rod mill, which will be built this year. The plant is being installed and the engineering work done by Messrs. Turner, Vaughn & Taylor, the well-known firm of wire mill engineers, of Cuyahoga Falls, Ohio.

Messrs. Chadwick Bros., brass goods factory at Hamilton, Ont., was damaged by fire May 10. Loss about \$8,000.

Mr. M. Snider's flour mills and warehouse at Conestogo, Ont., were destroyed by fire May 19. Loss about \$12,000.

Messrs. Brown & Love, Toronto, have been awarded the contract for the construction of an addition to the express department of the examining warehouse of the Custom House at Toronto, to cost about \$40,000.

Messrs. Sullivan & Langdon, Hamilton, Ont., have been awarded the contract for the erection of the St. Catharines drill hall, to cost about \$80,000.

The following firms whose premises were destroyed in the recent Toronto fire will rebuild: C. H. Westwood & Co. have perfected arrangements for the erection of a building 110 feet by 30 feet. The Toronto Pharmacal Co. will build a three-story warehouse, 120 feet by 35 feet, at a cost of \$15,000. In addition to their new warehouse, Gordon, Mackay & Co. will erect a factory, 105 feet by 90 feet, at a cost of about \$25,000. The Dignum & Monypenny Co. will erect a new building five stories high.

At the Polson Iron Works shipyard, Toronto, a new 70-foot steam yacht is being constructed for President Wm. Mackenzie, of the Toronto Street Railway Co. The new Government fisheries pro-

tection cruiser, now under construction at Polson's, will be ready for launching about the end of June. The lightship, which was launched from Polson's yards a few months ago, is receiving her finishing touches and will leave for the Atlantic coast about the end of the month.

The A. McGillis Co., recently organized for the purpose of manufacturing the Vizier hood and muffler, will establish a factory at Port Arthur, Ont.

Messrs. Wells & Emerson, Port Arthur, Ont., will erect at Fort Francis, Ont., a new block 80x50 feet, three stories high.

E. A. Morton, Fort William, Ont., is inviting tenders for the erection of a new school house.

The congregation of All Saints' Church at Peterborough, Ont., will have a new edifice erected at a cost of \$20,000.

Messrs. Stewart & Taylor, Brantford, Ont., are inviting tenders for the erection of a new school building.

The Keller Heater Co., of Canada, Montreal, have increased their capital from \$100,000 to \$200,000.

The Grand Valley Co., Quebec City, have increased their capital from \$200,000 to \$300,000.

The Cascapedia Mfg. & Trading Co., recently incorporated with a capital of \$2,500,000, to manufacture pulp and paper, have purchased 400 miles of pulp and timber limits in Bonaventure County, Que. They will erect their mills on the Cascapedia River. Construction work will be begun at once. The directors of the company include A. J. H. Eckhardt, Toronto, Hon. W. C. Edwards and G. C. Edwards, Ottawa, Ont.

The carriage factory of B. Ledoux & Co. at Montreal, was destroyed by fire May 20. Loss about \$300,000.

A fair estimate is that 1,500 people at Hull, Que., are now working in the saw-mills, of which fully one-half are employed at J. R. Booth's at the Chaudiere. These mills are running day and night. Gilmour & Hughson and the E. B. Eddy Co. employ the rest of this class of laborers in Hull. The new Fraser mills at Deschenes, Que., give work to some 200 hands. Ritchie Bros., Aylmer, Que.; B. is, at Buckingham, Que.; McLaren, at Templeton, Que.; Owen, at Montebello, Que.; and scores of smaller hardwood and shingle mills, scattered all over the district, are said to employ another thousand men.—The Labor Gazette.

The Canada Smelting Co., Limited, Montreal, have been incorporated with a capital of \$16,000, to acquire the business of the Canada Smelting Co., and to carry on a smelting business and to manufacture metals, etc. The provisional directors include J. Merson, S. J. Silverman and Jas. Lipsky, Montreal.

Cameras, Limited, Montreal, have been incorporated with a capital of \$20,000, to manufacture photographic dry plates, cameras, etc. The provisional directors include R. J. Lecky, Wm. Brisbane and A. R. Hall, Montreal.

Messrs. Chas. M. Thackray & Co., have been awarded the contract for the

construction of a new ten-story building to be erected at Montreal for the Sovereign Bank.

The Locomotive & Machine Co., Montreal, will enlarge their works at a cost of \$25,000. One hundred feet will be added to the structural plant, so that it will be 200 by 300 feet; 160 feet will be added to the foundry, making it a third larger than at present, and 60 feet will be added to the erecting shop, and 60 feet to the blacksmith shop. In addition, new and improved machinery is being installed.

Messrs. P. Lyall & Sons, Montreal, have been awarded the contract for the erection of the new hotel and station of the Canadian Pacific Railway at Winnipeg, Man., at a cost of about \$1,000,000. The hotel proper will cover an area of 240 feet by 200 feet. It will be eight stories high and contain 350 bedrooms. It will be constructed of Calgary stone and re-pressed brick, and will be fireproof throughout. The railway station proper will occupy an area of 170 feet by 135 feet and will be eight stories high.

La Compagnie Industrielle de St. Bonaventure, St. Bonaventure d'Upton, Que., have been incorporated with a capital of \$14,000, to manufacture doors, windows, etc. The provisional directors include M. Lemaire, E. Laroche and C. Tessier, St. Bonaventure d'Upton.

The Montreal Fire Extinguisher Co., Montreal, have been incorporated with a capital of \$10,000, to acquire the business of Chas. Patton, and to manufacture fire extinguishers, etc. The provisional directors include C. Patton, C. Piche and J. B. Pauze, Montreal.

La Compagnie d'Aqueduc du Cap St. Ignace, St. Ignace, Que., have been incorporated with a capital of \$9,000, to construct waterworks, etc. The provisional directors include A. Belanger, St. Ignace, J. J. Guimont and S. Gamache, Cap St. Ignace, Que.

The Dominion Government is in the market for an ice crusher for use in the St. Lawrence River. Previously the sum of \$300,000 had been placed in the estimates for building an ice crusher. The general plan is for a steamer 200 feet long, 48 feet beam and 18 feet deep, having specially constructed machinery for working during the winter and engaging in the lighthouse and buoy work in the summer.

A new Roman Catholic Church will be erected at Maisonneuve, Que., at a cost of \$125,000.

Orders have been given at the general offices of the Dominion Coal Co. to proceed at once with the work of opening Glace Bay harbor. \$25,000 was voted by the Dominion Government, and the Dominion Coal Co. will spend at least \$65,000 this season in rebuilding shipping piers, dredging, etc. Orders were also received to rush construction work on the new colliery, Dominion No. 5. It is expected that within seven months No. 5 slopes will be both driven 1,500 feet and two landings driven off each. No. 5 will produce over two-thirds the amount of coal now produced by Reserve, which should give it an output of over 200 tons per day when fully equipped.



James Bishop, Goldenville, N.S., has commenced the erection of a forty stamp mill for the Nova Scotia & Mexican Gold Mining Co.

George Hirschfeld is placing a steam pump and hoisting gear on the Shamrock Gold Mine, Goldenville, N.S.

Messrs. Reid & Archibald, Halifax, N.S., have been awarded the contract for the construction of the pier of the western terminus of the Middleton & Victoria Beach Railway at a cost of \$90,000.

The Canso Cold Storage Co., Canso, N.S., recently incorporated with a capital of \$100,000, will erect a freezing plant at that place.

Messrs. H. M. Whitney, Boston, Mass., and B. F. Pearson, Halifax, N.S., are organizing a new coal company. They have secured control of coal properties at Inverness Mines, Port Hood and Chimney Corner, N.S., also the railroads now being operated in connection with these mines.

The Department of Marine of the Dominion Government expects to expend about \$1,000,000 this year in the improvement of lighthouses, providing new light and signals, and in other ways securing aids to navigation. This money will not be expended on the St. Lawrence route alone. There are old lighthouses on the great lakes which have been neglected for years. These will be put in repair. New fog horns and signals will be added to those already established on the Atlantic coast. At the last meeting of the lighthouse board an expenditure of over \$200,000 was recommended, and the department has made provision for the amount.

The Maritime Contracting & Mining Co. have been awarded the contract for constructing the Springhill, N.S. water works at a cost of \$100,000.

The British government have decided to erect a strong battery on Partridge Island at the entrance to the harbor of St. John, N.B., with guns of sufficient caliber and range to cope with hostile war vessels. The work will be carried out this season.

The Gilt Edge Gold Mining Co., West New Aunan, N.S., are making favorable progress with their plant. Most of the buildings are erected, and some of their machinery is in place.

The Dominion Coal Co., Glace Bay, N.S., are enlarging their shipping office at International Pier.

The Martin Cultivator Co., an English corporation, will secure factory premises at St. Mary's, N.B., and will manufacture cultivators extensively.

It is announced that Signor Marconi will return to Cape Breton, N.S., early in June to conduct his trans-Atlantic wireless service. He is now in communication with the Dominion Government regarding the use of land wires. The station at Table Head has been overhauled and new machinery and instruments placed in position, and communication is being held almost daily with passing steamers and with Wellfleet. Much experimental work is also being conducted. Hereafter messages will be received and sent on the same principle

When writing to

as is employed in telegraph offices. Table Head will be largely a repeating station between Wellfleet and Cornwall.

Messrs. W. T. Harris & Son, Halifax, N.S., have been awarded the contract for the erection of a new public school building in that city at a cost of \$17,600.

The Anderson Furniture Co., Newcastle, N.B., have been incorporated with a capital of \$150,000, to manufacture furniture, upholstery goods, etc. The provisional directors include O. G. Anderson and M. St. G. Anderson, Newcastle, and F. W. Gale, London, England.

The Department of Public Works, Fredericton, N.B., are inviting tenders for rebuilding the Bailey Creek Bridge at Fredericton.

The Dauphin Furniture Co., Dauphin, Man., have been incorporated with a capital of \$20,000, to manufacture furniture, etc. The provisional directors include W. C. Edgar, J. A. Campbell and H. P. Nicholson, Dauphin.

The Gurney Stove & Range Co., Winnipeg, Man., have changed their name to Messrs. Tilden, Gurney & Co., Limited.

The Manitoba Club building, now in course of erection at Winnipeg, Man., will cost \$100,000.

W. P. Alsip, Grand Forks, N.D., who now owns a large brickyard at Winnipeg, Man., will build and equip a new yard in that city in order to fill a contract for seven million brick to be delivered to a Canadian corporation this year. Mr. Alsip's present yard at Winnipeg has about that capacity, but an entire new yard will be necessary to supply the demands that are being made by the builders and dealers in building material in Manitoba.

The Kemp Mfg. & Metal Co., Winnipeg, Man., have been incorporated with a capital of \$300,000, to manufacture metalwares, etc. The provisional directors include A. E. Kemp and Wm. A. Kemp, Toronto, and J. E. A. Wildman, Winnipeg.

The Weir Wardrobe Co., Winnipeg, Man., have been incorporated with a capital of \$50,000, to acquire the business of R. Weir, and to manufacture fixtures for wardrobes and stores, etc. The provisional directors include R. Weir, F. J. C. Cox and G. E. Dixon, Winnipeg.

The Western Electric Light & Power Co., Brandon, Man., have been incorporated with a capital of \$300,000, to develop water power, and manufacture electricity and gas. The provisional directors include J. M. Robinson and Wm. M. Alexander, Brandon, and J. Russell, Winnipeg, Man.

The Canadian Petrified Brick & Stone Co., Winnipeg, Man., have been incorporated with a capital of \$100,000, to manufacture petrified brick, cement building blocks, tiles, etc. The provisional directors include A. R. Bredin, W. J. Cummings and L. C. Hazlett, Winnipeg.

The Building Committee of the School Board at Winnipeg, Man., are inviting tenders for the erection of a new school-house in that city.

The Massey-Harris Co., Winnipeg, Man., will erect a five-story warehouse building in that city and will add two

stories to their office building. Wm. Eddie is manager of the company in Winnipeg.

Messrs. Alsip Bros., Winnipeg, Man., are installing two new brick machines, and expect to turn out 15,000,000 bricks this season.

The Great West Implement Co. will erect a new block at Edmonton, N.W.T.

Mr. Chas. Earley will install a brick making plant in Calgary, N.W.T.

The town of Gladstone, Man., will install an acetylene gas plant for civic lighting.

Mr. J. D. McArthur has received the contract for constructing 517 miles of grading, from the Canadian Northern Railway.

The McDonald-McMillan Co., railroad contractors, Winnipeg, Man., have been awarded a contract from the Canadian Northern Railway for fifty-five miles of the Grand View extension and forty-five miles of the Rossburn extension.

The Robinson-Levinson Fur Co., Winnipeg, Man., have been incorporated with a capital of \$40,000, to manufacture furs, etc. The provisional directors include R. S. Robinson, B. Z. Levinson and S. A. Robinson, Winnipeg.

The Dominion Steam Heating Co., Winnipeg, Man., have changed their name to The John Plaxton Co., Limited, and have increased their capital from \$24,500 to \$50,000.

The Winnipeg Paint & Glass Co., Winnipeg, Man., have increased their capital from \$75,000 to \$250,000.

The Great Northern Mfg. Co., Brandon, Man., have been incorporated with a capital of \$90,000, to manufacture agricultural and electrical machinery, engines and appliances. The provisional directors include W. A. Cameron and H. J. McNeil, Brandon, and M. Cameron, Portage la Prairie, Man.

The Home Builders, Limited, Winnipeg, Man., have been incorporated with a capital of \$40,000, to manufacture builders' and contractors' supplies, etc. The provisional directors include A. B. Anderson, M. J. Dalton and J. W. Lord, Winnipeg.

The Winnipeg Ceiling & Roofing Co., Fort Rouge, Man., have completed their new factory and will commence the manufacture of metal ceilings, corrugated iron roofings, fire-proof windows, etc. W. J. McMartin is manager of the company.

The Hooper-Houkes Co., Winnipeg, Man., have been incorporated with a capital of \$20,000, to acquire the business of Hooper, Houkes & Co., and to manufacture marble, cement, etc. The provisional directors include S. Hooper, A. L. Houkes and S. Wilkes, Winnipeg.

The Strauss Piano Co. are purchasing supplies and material for the equipment of their new factory at Edmonton, N.W.T.

The Canadian Northern Railway Co. will erect a new station at Portage la Prairie, Man.

The Town of Deloraine, Man., are considering the installation of an acetylene gas plant for civic lighting.

Advertisers kindly mention THE CANADIAN MANUFACTURER.

Schools are to be built at Brown Hill, Ont.; Brandon, Man.; Carman, Man.; Carnduff, N.W.T.; Poplar Ridge, Pilot Mound, Kimball, near Cardston, N.W.T.; Wetaskiwin, N.W.T.; Elva, Man.; and an addition to the Cardston school.

The Canadian Otis Elevator Co., who have their works at Hamilton, Ont., for the manufacturing of elevators for the Canadian trade, have already closed a large number of contracts in Winnipeg, Man., and are shipping three car-loads of machinery for the equipment of elevators in the new Union Bank building, now being erected in that city. They installed forty elevators in that country last season, which included 90 per cent. of the elevator business in Winnipeg, besides a number for Calgary and Edmonton. They are considering the establishment of a branch factory in Winnipeg.

The Vulcan Iron Works Co., Winnipeg, Man., will enlarge their works by an addition 165x64 feet, to be used for a blacksmith and machine shop.

Messrs. A. & W. Melville, Winnipeg, Man., are inviting tenders for the erection of a six-story brick and stone warehouse in that city to cost \$60,000.

A company is being organized at Manitou, Man., to erect and operate a pork packing factory there at a cost of about \$30,000. For further information apply to the mayor of Manitou.

Mr. C. Rehm, Estevan, N.W.T., will erect a large steam laundry building there.

Operations have been commenced on the new hotel building at Neepawa, Man., which will be 100x60 feet, three stories high. Those interested are J. H. Howden, M.P.P., and W. Wiloly, Neepawa.

A new collegiate building will be erected at Portage la Prairie, Man., at a cost of \$20,000.

The waterworks and sewerage system of Portage la Prairie, Man., will be improved at a cost of about \$200,000.

Messrs. W. H. Clark & Co., Edmonton, N.W.T., will erect new planing mill buildings and warehouse and install new machinery.

The rural municipality of Shell River are about to submit a debenture by-law for the sum of \$20,000, for the purpose of building bridges in the municipality.

The Elsie Lake Power Co. have been incorporated at Victoria, B.C., with a capital of \$10,000, to operate water powers and produce electricity.

The Royal Smelting & Refining Co. have been incorporated at Victoria, B.C., with a capital of \$1,100,000, to carry on a mining, smelting and refining business.

The South-East Kootenay Coal & Coke Co. have been incorporated at Victoria, B.C., with a capital of \$100,000, to manufacture lumber, coke, etc., and to carry on a coal mining business.

The Atlin Dredging Co. have been incorporated with a capital of \$25,000, to carry on a dredging, smelting and refining business.

The Minnie Mining Co. have been incorporated at Victoria, B.C., with a capi-

tal of \$125,000, to manufacture lumber, pulp, paper, etc.

A company has been organized to erect a sawmill with a capacity of 50,000 feet daily, and a pulp mill with a capacity of 125 tons daily, on Quatsino Sound, B.C. J. A. Moore, Seattle, Wash., is interested.

The Pacific Coast Pipe Co., Vancouver, B.C., have been incorporated with a capital of \$25,000, to acquire the business of The Wood Pipe Factory, and to manufacture wooden pipe, etc.

The Pacific Oil & Guano Co. have been incorporated at Victoria, B.C., with a capital of \$250,000, to manufacture oil fertilizers, fish glues, etc.

The Berry Creek Mining Co. have been incorporated at Victoria, B.C., with a capital of \$150,000, to carry on a mining, milling and reduction business.

A number of Ontario financiers have secured the contract for supplying millions of ties to be used in connection with the Panama Canal, and are making arrangements to erect the largest lumber mill on the Pacific coast in Vancouver, B.C. The cost, when completed, will be over a million dollars. For further information apply to the mayor of Vancouver.

At the present time it is reported that the Butte Smelters are taking 300 tons a day of coke from the Crow's Nest Coal Co., and that the latter company are seeking a market for an additional 600 tons per day, which they claim are available. It is well known that the output of the Crow's Nest Pass Coal Co.'s coke ovens is now far beyond any possible demand of the Kootenay smelters.

J. Moore, Vancouver, B.C., will erect a saw-mill in New Westminster, B.C., at a cost of about \$50,000.

The E. K. Wood Lumber Co., Vancouver, B. C. have been incorporated with a capital of \$500,000, to manufacture lumber, wooden materials, etc., D. G. Marshall, Vancouver, is their attorney.

The Ontario Slecan Lumber Co., Orillia, Ont., have been licensed to manufacture lumber, etc., in British Columbia, with a capital of \$100,000. D. St. Dennis, Slocan, B.C., is their attorney.

The Hawkeye Gold Dredging Co. have been incorporated at Victoria, B.C., with a capital of \$500,000, to manufacture oils, and to carry on a refining business, etc.

The Eden Bank Creamery Co. have been incorporated at Victoria, B.C., with a capital of \$10,000, to manufacture butter, cheese, etc.

The pithead, fanhouse, engine room, car shop, blacksmith shop and a large number of cars of the Western Fuel Co., at Nanaimo, B.C., were destroyed by fire May 29. Loss about \$75,000.

The Earlington, Ky., Bee, for the encouragement of the planting of black walnuts on vacant lands, recites the fact that during the ten or twelve years before the fall of 1903, Mr. John B. Atkinson planted between 3,000,000 and 4,000,000 black walnuts on the waste places and unoccupied acres of the company. These walnuts have sprung from the seed and grown with great success, and now are fine, thrifty young trees. The roadside

fences are lined with them, and the public roads will before long be handsome shaded avenues. But last year the record was broken. In the fall of 1903 Mr. Atkinson planted fully 250,000 walnuts on sixty acres of land. This makes the aggregate planting enormous and sets one to wondering at the future value of the timber that is growing in these fine trees.

## INDUSTRIAL PUBLICATIONS.

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

The Geo. B. Meadows Wire, Iron & Brass Works Co., Toronto, have mailed catalogue No. 5, which gives numerous illustrations of the line of iron and ornamental wire fences manufactured by them. Price lists are also given. Catalogue No. 4 on office and bank railings and ornamental iron work will be issued soon.

The Siche Gas Co., 81 York St., Toronto, have issued a new catalogue, giving a complete description of their machine which is now in successful use all over Canada. A number of fine illustrations of the different types of generators, burners, stoves, etc., are given.

The Deming Co., Salem, Ohio, manufacturers of power pumps, have sent us a new special catalogue of the pumping machinery made by them for various services, including triplex power pumps, deep well pumping engines, etc., for operations by steam, gas, gasoline, or oil engine, electric motor, or water power. The book contains full explanations and illustrations of the different specialties made by the company, and a number of pages are occupied with valuable engineering information. Messrs. Darling Bros., Montréal, are Canadian agents.

The Publishing Department of the Westinghouse Electrical & Mfg. Co., Pittsburg, Pa., have sent us a copy of a very beautiful publication, having reference to the different industrial works of that company. The name "Westinghouse" has for many years been closely identified with the production of apparatus for the generation, distribution, application and control of power, factors which have so much contributed to the advancement and progress of mankind. The purpose of the book, however, is not to describe the inventions which the company are now putting on the market, but to tell in few words and many pictures something about the plants of the company, not only at East Pittsburg, Pa., but also with the many plants in different parts of the world associated with the name Westinghouse. In addition to the work turned out at the various Westinghouse works in the United States, Mr. Westinghouse has established many immense plants abroad, notably at Manchester, England; Havre, France; and Hamilton, Canada. The book which has been sent to us embodies all that is beautiful in the printer's art—it is simply a

brochure of elegance which anyone interested in such matters could no doubt obtain upon request.

Messrs. Sheldon & Sheldon, Galt, Ont., have sent in their sectional catalogue, No. 16, having reference to lumber dry kilns (blower system) lumber trucks, transfer cars, etc., manufactured by them. A most interesting portion of the book is that relating to lumber drying, and the best methods of effecting the same, which involves, of course, the blower or hot blast system, full description of which is given. The book contains a large amount of useful information regarding lumber drying, and will be sent on request. The firm also manufacture medium and cupola blowers and exhausters, steel plate fans, planning mill exhausters, portable forges and equipments for blacksmith and carriage shops, steam separators, exhaust heads, hot blast heating and ventilating apparatus, etc.

The Goldie & McCulloch Co., Galt, Ont., have sent us a brochure which constitutes a description of the two engines recently built by them for the Cataract Power, Light & Traction Co., Hamilton, Ont., and placed in the Victoria Avenue Sub-Station of that company in Hamilton. The various illustrations in the book give general views of the two cross compound non-condensing engines, each of which are direct connected to Westinghouse engine type alternate current generators. These generators are of 1,000 k.w. capacity, and 8,000 alternations at 100 revolutions per minute. The plant is of special interest from the high frequency of the generators, and the fact that they are run in parallel with each other, and also with water turbine driven alternators at the company's main power station 30 miles distant. Electrical and steam engineers can obtain a copy of this book for the asking.

The Jenckes Machine Co., Sherbrooke, Que., have favored us with their series F. Bulletin No. 616, having reference to Standard Crushing Rolls. Mention is made of crushing rolls as originally introduced into Canada from England, and contrast is made with such as are now made by this company in Canada: proper speed at which rolls should be run for different purposes; general construction, details, etc. Illustrations are given of sampling and laboratory rolls; different styles of crushing rolls; automatic ore feeders, etc.

The Canadian General Electric Co., Toronto, have sent us their Bulletin No. 829, having reference to their belt driven direct current generators, of both slow and moderate speed, in which diagrams are given of different parts of the machine; and Bulletin No. 833, having reference to ceiling fan motors for both direct and alternating currents. The company carry a complete stock of both these types for standard voltages.

"Coal Statistics," by Alder & Ruloy, Girard Building, Philadelphia, Pa., gives the name and address of every coal mine in the United States, together with other valuable statistics of interest to Canadian fuel users.

#### ELECTRICAL DEVELOPMENT AT NIAGARA FALLS, ONT.

There are three companies constructing electrical power works at Niagara Falls, and a brief account of their operations during 1903 is given in the eighteenth annual report of the commissioners for the Queen Victoria Niagara Falls Park. A great deal of construction work was accomplished by these companies during the year. The one furthest advanced is the Canadian Niagara Power Co., the charter of which provides that it should have 20,000 electrical h.p. for sale by July 1 of the present year. The company, however, decided to complete the whole of their works at the same time, providing water connections for the authorized capacity of 100,000 h.p., and to install sufficient machinery for an initial output of 50,000 h.p. Owing to the increased work involved in this change of plan, the company decided to apply for a six months' extension of the time limit and the park commissioners supported their application. The Ontario Power Co. made good progress. The cofferdam, which was built in 1902, having proved insufficient, a second one was constructed further up stream. Other work accomplished consisted in excavations for the pipe line and the power house, and the placing in position of 500 feet of a steel pipe eighteen feet in diameter, capable of carrying water to produce 50,000 electrical h.p. The Electrical Development Co. of Ontario constructed two coffer dams, prepared the river bed for the sinking of the wheel-pit and commenced operations on the main tunnel.

The report of the park commissioners contains an account of many changes that were made in the surroundings of the Niagara Falls Park, and also a text of their agreement with the Ontario Power Co., dated February 28, 1903.

#### LORD'S BOILER COMPOUNDS.

The Geo. W. Lord Co., analytical and manufacturing chemists, Philadelphia, are in receipt of a letter from Mr. C. Marker, superintendent of the Dairying Division of the Department of Agriculture at Calgary, N.W.T., as follows:

"We have procured through your agent at Montreal, Mr. D. Sleeth, two casks of your Lord's Boiler Compound to be used in the boilers and creameries operated by the Dominion Department of Agriculture in the North-West Territories. Somehow I have mislaid the directions for using the compound for the different waters, as to quantity, etc., and shall be glad to receive any printed matter you may have on this subject, at your early convenience. We have used your compounds for several years with best of satisfaction."

Mr. Sleeth, writing us in this matter,

"Our system has always been to ascertain from steam users the quality of their boiler feed water. Before producing a boiler compound or water purifier, we always have sent to us a sample of boiler scale or a gallon of boiler feed water from the district in which these steam plants

are working, an analysis is made which shows the composition of foreign matter from the hardened scale, and from the analysis made from the boiler feed water, the number of grains is taken from each gallon of feed water. In each case chemicals are formulated to neutralize all the foreign matter which is precipitated and blown off from the boilers. By this means we can remove the hardest scales which form in boilers, and also prevent it from forming."

#### PERSONALS.

The Deming Co., Salem, Ohio, manufacturers of pumping machinery, well supplies and tools, etc., announce that Messrs. Darling Bros., Reliance Works, Montreal, have accepted the Canadian agency for their deep well and triplex power pumps. Canadian enquiries will be referred to Messrs. Darling Bros., who are in a position to execute promptly, at American prices, all orders for the lines of machinery mentioned.

The Chicago Pneumatic Tool Co. will enlarge their Boyer plant at Detroit, Mich., and will concentrate much of their business at that point.

Dr. W. A. Parks, lecturer in mineralogy at the University of Toronto, has been engaged by the Dominion Geological Department to report on the mineral deposits, particularly of silver, in the district north and west of Lake Temiskaming. Mr. H. L. Kerr will be his chief assistant.

The Mosaic Tile & Cement Co., Detroit, Mich., have disposed of their Canadian patents to Messrs. Scott & Scott, Toronto.

The names of nine of the twelve directors who will constitute the new board of the Lake Superior Corporation have been made public. Geo. Philadelphia and two Canadian directors are yet to be named, but the New York quota of four is complete. The directors chosen are as follows: J. Tatnall Lea, president of the First National Bank, Philadelphia; Chas. S. Hinchman, Philadelphia; Francis B. Reeves, president of the Girard National Bank, Philadelphia; John T. Terry, vice-president of the Mercantile Trust Co., New York; Charles E. Orvis, of Orvis Bros. & Co., bankers, New York; Dumont Clarke, president of the American Exchange Bank, New York; George B. Turrell, president of the Mutual Trust Co., Orange, N.J.; C. D. Warren, president of the Traders' Bank, Toronto, Canada; and Thomas J. Drummond, of Drummond, McCall & Co., iron merchants, Montreal, Canada. It is expected that the remaining two Canadian directors and the Philadelphia director will be named shortly. The main office of the company will be in Toronto, with a branch office in New York. A charter will be obtained under the New Jersey laws, after which the other directors will be elected and officers will be formally selected.

Mr. Goulet, formerly employed as draftsman of the Northrop Iron Works, at Valleyfield, Que., has been appointed head draftsman of the Canadian General Electric Co. at Peterboro, Ont.

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## NEWFOUNDLAND.

The question of confederation with Canada has for the past few months been prominently before the people of Newfoundland, and great interest has been created; but doubly so has this question been brought into prominence the past few weeks, by the announcement that a new party under the joint leadership of Sir William Whiteway, ex-leader of the Liberal party, and ex-Judge Morrison, will, the coming autumn, says Mr. H. W. Thompson, appeal to the electors of that country upon that all-important question of "Confederation with Canada," and it is not at all improbable that Newfoundland may in the near future form an important province of this great Dominion.

Canadians, and the world in general, have been apt to think of Newfoundland as a bleak and barren island, the home of fogs and icebergs. They are, however, only beginning to realize that it is a land of summer charm, and the sportsman's paradise. Its lakes and rivers abound with trout and salmon, its interior with caribou and wild fowl, and its scenery is some of the best that can be seen on the continent of America. It is only since the advent of the now complete system of railway and steamship service, owned by the Reid Newfoundland Co., that these facts have become known to the outside world, and now every year hundreds of Canadian and American sportsmen spend the summer months on its coasts. The Newfoundland Railway runs through some of the prettiest scenery in the colony, and the steamers which make connection with the railway run to some of the most important points of interest.

Newfoundland has been a fishing country since the year 1583, when it was taken possession of by the British, and it stands to-day as Britain's oldest colony. From that date thousands of fishermen from the western counties of England were wont to cross annually to Newfoundland to fish in its waters. Many of them remained there, and from them the descendants of the colony sprang. At the present day Newfoundland supplies Europe with over seven million dollars worth of fish annually.

While ten years ago the industries of Newfoundland could be summed up by the one word "fishing," at the present time many new industries are springing up which are providing labor for hundreds of people and circulating thousands of dollars through the colony. The chief of these new industries is mining, which is being carried on on an extensive scale. A few years ago, Bell Island, a small island on the south coast, about nine miles long, was thought to be of no service except as a shelter for a few families of fishermen who eked out an existence by fishing along its coast. But six years ago experts visited the island and found it a veritable bed of iron ore, and to-day about 500,000 tons of iron ore are being exported to leading centres, where it is manufactured into pig iron and other various forms; in fact, this little island is the nursery of the so well-known North Sydney steel works. Going farther north we find several gold claims, which are being worked more and more

every year, and which promise to yield splendid results. It is believed the day is not far distant when Newfoundland will form one of the leading centres of America; as it is, it is the sixth copper producing country in the world.

Another industry is lumbering, which is being carried on extensively. Where several years ago in the interior of the colony, which abounds in forest products, the foot of man had seldom trodden, to-day resounds the echo of the woodman's axe. New industries are springing up, the interior is being opened up, and where two years ago Newfoundland was importing thousands of feet of lumber, at the present time it is exporting 50,000,000 feet annually.

Many other industries are opening up every year, and hundreds of Newfoundlanders who were forced to leave their homes to seek employment in other countries are returning to their native homes, where they can earn a livelihood.

Newfoundland is a country which is only just entering upon an era of prosperity. It is a country which in the past has been held back by the reins of monopoly, but these reins are being gradually shaken off, and its people are beginning to see that on the coming in of outside capitalists depends the future of their island home. Politically, Newfoundland is a self-governing colony; at the present time the Liberal party hold the reins of government.

The question of confederation has been a live issue since 1869, when it was put to a vote of the electorate and lost. There is no question, however, that if it is again put to the vote of the people the coming autumn, it will not be long before the national song, The Maple Leaf Forever, will be heard resounding on the far-off shores of Newfoundland.

On this question depends the future of Newfoundland, and the opening up of the colony, which can only be done by joining with Canada, and letting her capitalists come in. They have the minerals, the timber, the soil: what they want is the capital, and if that is accomplished, Newfoundland will bid fair to become one of the richest of British possessions.

## LAKE SUPERIOR CO. REORGANIZATION.

The reorganization committee of the Consolidated Lake Superior Co. has given notice that the plan of reorganization dated October 20, 1903, has been declared operative. The time for depositing stock of the old company and participating in the new organization by paying in \$3 a share, was extended to May 17. The new organization will be known as the Lake Superior Co. Upon the carrying out of the plan this company will become the owner of all the securities now held by Spoyer & Co. These securities carry the title to all the properties of the subsidiary companies which the old Consolidated Lake Superior Co. held. All the different interests have consented to the reorganization plan, and it is expected that in a short time the industries which have been idle at the "Soo" and in the neighboring country, will be put in operation.

Provision is made for a capitalization of \$40,000,000 in stock of one class only. This will be disposed of as follows: \$14,000,000, exchangeable for the \$28,000,000 of preferred stock of the old company at the rate of two shares for one; \$18,000,000, exchangeable for the \$72,000,000 of the common stock of the old company at the rate of three shares of old for one of the new; \$2,142,900 as a bonus with the first mortgage bonds, and \$5,857,100 to the underwriters who have undertaken the reorganization.

The assets of the new company will consist of all the property of the old company and its subsidiary companies, a cash working capital of \$1,000,000 and a large quantity of raw material and partially worked material on hand. In regard to this the committee says:

The Canadian Improvement Co. (the underwriters) also undertakes that after all expenses, fees and commissions of the reorganization have been paid the new company to be formed shall have a clear working capital of \$1,000,000 in cash over and above and exclusive of raw material and partially worked up material on hand; and it has been agreed with the Canadian Improvement Co. that if in order to provide such cash working capital it becomes necessary for the Canadian Improvement Co. to raise money in addition to the maximum amount of its underwriting obligations it shall be entitled to receive for such additional sum first mortgage bonds of the new company at the price of 70 per cent. of their par value. An extension time for three years has been secured on \$600,000 of secured claims.

## CANADIAN FISHERIES.

The total value of fish and of fish products of the Dominion of Canada for the fiscal year ended June 30, 1903, aggregated \$21,959,433, divided among the seven provinces as follows: Nova Scotia, \$7,351,753; British Columbia, \$5,254,824; Quebec, \$2,059,175; New Brunswick, \$3,912,514; Ontario, \$1,265,706; Manitoba and North-West Territories, \$1,198,437; and Prince Edward Island, \$337,024. For the season of 1901-2 the yield was \$25,737,153, exceeding the present season by \$3,777,720.

The fisheries of Canada are among the most extensive in the world. There were engaged in the various branches of the industry during the season 77,801 men, using fishing gear and fixtures representing a capital of \$11,305,959. The value of the lobster plant alone, comprising 723 canneries, is estimated at \$1,287,656. A total of 13,563 persons were employed in this industry. The salmon-canning industry of British Columbia, comprising 75 establishments, valued at \$1,500,000, gave employment to 17,093 persons and preserved over 30,103,776 cans of salmon. The quantity of fish used as bait was valued at \$352,696 and the output of fish oil at \$230,439. The fur skins of British Columbia realized \$337,660.

During the fiscal year the value of fish and fish products, as well as of marine animals, exported from Canada to foreign countries was \$11,826,646.

**FERRO-CONCRETE PILES.**

Ferro-concrete piles have just been used in the construction of the new law courts at Berlin-Wedding. They have been largely employed in getting in the foundations, which are placed in poor and treacherous ground, with a very unstable coefficient of resistance. After many trials it was determined to adopt piles of triangular section, with the corner cut off. They are composed of clean, hard, river ballast and Portland cement of the best quality, in the proportion of one part of the latter to three of the former. Their length varies from 17 to 26 feet. The armature consists of three iron rods tied together at regular vertical distances by eye rods, spaced every 10 inches, having a diameter of a quarter of an inch, and set into the concrete, with a blunt point at their lower end.

According to the Centralblatt der Bauverwaltang the concrete, slightly wet, is carefully prepared in a pug mill and deposited in vertical wooden moulds in layers eight inches in thickness, subsequently reduced by pressure to about half that size. Before fixing the tie-rods and adding fresh doses of beton, the surface of each preceding layer is roughened, so as to insure a thorough mixture and incorporation of the whole mass. Thus manufactured, the pile is left for a period varying from 12 to 24 hours. During the next seven or eight days it is watered constantly and abundantly. It is then taken out of the mould and again watered for the next eight or ten days and becomes sufficiently hardened and consolidated to be safely transported to the site of the works. The piles are allowed to remain in this condition for about a month, when they are fit to be driven, which operation is effected by means of a steam pile driver, with a ram weighing 2.5 tons. To prevent the heads being damaged by the fall, which is five feet

six inches, they are protected by a buffer, built up of sheets of lead, plates of iron, and timber packing, all held together by an iron ring. Special arrangements are made for guiding the piles in their descent.

**GOLD MINING IN NOVA SCOTIA.**

A large plate-glass model of the Canadian geological survey, to illustrate the 49 gold-mining districts of Nova Scotia, has been prepared for exhibition at the St. Louis Exposition. The model was prepared by E. R. Fairbault, of the Canadian geological survey, and is an improvement on the one exhibited at the Paris Exposition, which won high praise. The section represented, one mile long by 2,000 feet wide and 2,000 feet deep, shows by lines of different colors the veins at the surface and in the working to a depth of 475 feet, the probable succession of deeper veins, their richest portions on the north and south dips, and the direction that should be followed in deep mining.

On the model are given the following explanatory notes:—The gold-bearing rocks of Nova Scotia cover an area of some 5,000 square miles along the Atlantic coast. Their total thickness is about 27,000 feet, and they are probably of the Lower Cambrian age. Since their deposition on a sea floor they have been folded into a series of anticlines and synclines, roughly parallel with the coast line, the folds having an average distance of three miles apart. This folding was accompanied by a fissuring of the strata along the planes of sedimentation at the summits of the anticlines and gave rise to a succession of superposed saddle-shaped auriferous veins.

Mining operations have so far been confined to the veins out-cropping at the surface, and have not reached a greater depth than 600 feet, and although often conducted in a very unskillful manner they have been remunerative. The recent study of this region by the geological

survey has proved conclusively, however, that the auriferous saddle veins recur one below the other on the anticlinal domes, like the "saddle reefs" of Bendigo, Australia, which are mined so extensively to depths reaching 4,000 feet. This succession of saddle veins presents a most important field of operation for deep and permanent mining.

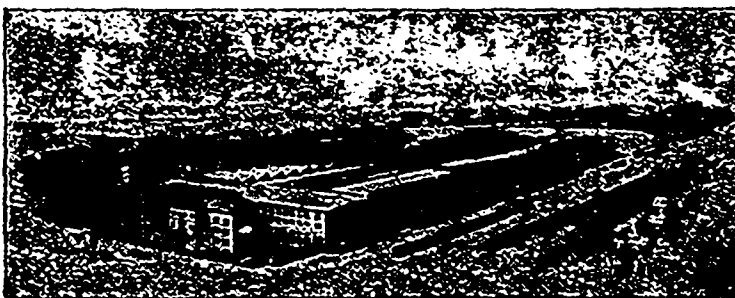
**A REMARKABLE DISPLAY.**

Canada's wonderful exhibit in the Palace of Agriculture at the World's Fair is a revelation, says a St. Louis correspondent, to anyone who may have had an idea that the great north country was one of cold and ice always. No sections in Uncle Sam's galaxy of States displays fairer specimens of the result of the husbandman's industry and no land shows a greater variety of products than does the great country that adjoins the United States on the north. Canada has a space of 10,000 square feet in the Exposition's mammoth Palace of Agriculture—a structure that covers an area of 23 acres and contains all that is edible from all lauds. A replica of a historic structure forms the centrepiece of this notable exhibit. One of the handsomest of the public buildings in the Dominion is the Library of Parliament at Ottawa. The dome of this building, reproduced on a smaller scale, is one of the most commanding objects in the big building. It is an octagon, 34 feet across, and its top extends 60 feet upward and brushes the rafters of the Agricultural Palace. Its frame is of pine, and the surface that shows is covered with glowing red burlap. Artistically fastened to this background are the grains and grasses of Canada, more than 3,000 specimens being shown in charming array. Great buttresses are built up of millet, a forage plant; bromo grass, a fodder crop grown extensively in Western Canada and which appears shortly after the snow leaves the ground ;

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The entire plant  
from Jamaica Plain

To Hyde Park, Mass.

Capacity:

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wheat, oats, clover, blue grass and hundreds of other choice specimens. Corn, used so much in the embellishment of the exhibits of the States, finds no place in this display. The eight arches in the octagon afford a conspicuous place for oil paintings, typifying the live stock industry of the great country to the north. The pictures are works of art, and their great size makes the scenes very life-like. The windows under the pointed arches are filled with bottles of thrashed grain.

**ROSSLAND, B.C.**

We are indebted to Mr. A. B. MacKenzie, secretary-treasurer for the annual report of President A. H. MacNeill, of the Rossland Board of Trade read before the Board on March 7. The statistics regarding the mining industry of Rossland are exceedingly interesting, showing it to be in a very flourishing condition. Mr. MacNeill, referring to some of the more important events in the district during the previous year, says: Very shortly after the month of March (1903) the news of the establishing of a concentrating plant by the Elmore Oil

Co. in the City of Rossland, came as the first news of what has actually developed into a great revival of interest in the mining industry of the City of Rossland. The construction of the mill of the Elmore company was shortly afterwards undertaken at the Le Roi No. 2 mine, and was followed speedily by the announcement that the War Eagle and Centre Star companies had finally determined to erect a concentrating plant, and later by the commencement of actual construction of such a concentrator near the Canadian Smelting Works at Trail. This, added to the announcement of the granting of a bounty upon lead produced, the rapid advance in the price of silver, the encountering of large bodies of high-grade ore in the lower levels of the Le Roi mine, all helped to restore public confidence in the City of Rossland. As the year rolled on, confidence has very largely increased, and it must be very gratifying to every one of you to contrast the general present healthy tone of the mining industry, when compared with that of even a few months ago.

Inasmuch as the inauguration of con-

centration methods for the treatment of Rossland ores is the feature of the year in review, it would seem proper to insert in this report a description of the plant of the Rossland Power Co., the company organized for the purpose of concentrating the ores from the War Eagle and Centre Star mines.

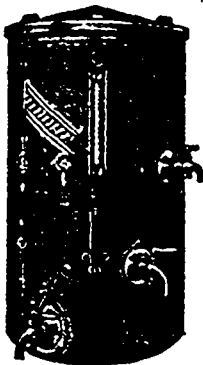
The plant of this company is now in course of construction at a point about three-quarters of a mile north of Smelter Junction, on the line of the Canadian Pacific Railway from Rossland to Nelson. It is being built primarily for treating the lower grades of ore from the War Eagle and Centre Star mines, but will probably handle more or less custom ore as well when the capacity has been raised to such a tonnage to allow of it without interfering with the output of the two mines mentioned. The initial capacity of the mill will be about 200 tons per twenty-four hours, but it is being so arranged that by duplicating certain machines the capacity can be greatly increased—possibly doubled—without adding to the buildings now under construction.

The essential feature of the process

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was placed upon the market. To-day it is the adopted oil filter of nine governments. It is used the globe over and is the world's standard method of filtering and purifying lubricating oils.

The Cross Oil Filter will save half the cost of oil.

To prove all we claim for the filter, we send it on thirty days approval.

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HARRISBURG FOUNDRY & MACHINE WORKS, Harrisburg, Pa.

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LARGEST MFRS. OF OIL FILTERS IN THE WORLD.

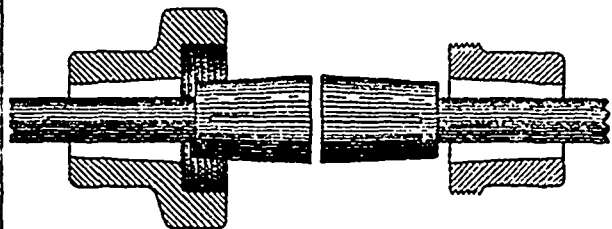
212 Main Street, AKRON, OHIO, U.S.A.

A complete stock carried by the

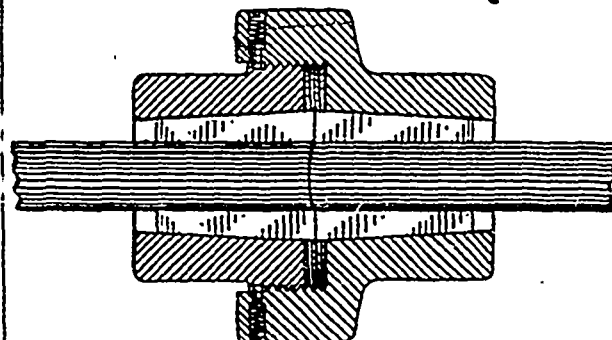
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IRON FOUNDERS

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used is a thorough water concentration, with gradual reduction to prevent the formation of rich slimes, thus removing the sulphide contents as a smelting product. The tailings will then be ground and separated into sands and slimes, and each given a special treatment for the recovery of the remaining values.

The location of the works and the arrangement of the plant are such as afford an almost automatic handling of the material from the time it enters as crude ore from the railway cars until it is discharged as concentrates into railway cars, and as tailings to the waste dump.

The plant is of the "level site" type, as distinguished from the usual "side hill" type found through the North-West. It is believed that this is the first mill of this type of construction to be built in British Columbia.

The water supply, which is necessarily a large one, is from Stony, Rock and Murphy Creeks, where it will be conveyed by a flume to a point on the north side of Stony Creek, and thence to the mill by a steel pipe line. The waste water and tailings water will be discharged on the large sandy flat opposite the mill.

The motive power will be electricity from the system of the West Kootenay Power & Light Co., Limited. The equipment of motors will be a little less than 500 h.p. It is expected that the plant will be ready for starting sometime during the spring.

The White Bear Mining Co. have also

under consideration the erection of a 100-ton mill, with 30 stamps.

#### WHY FORESTS ARE USEFUL.

Let us take two hillsides of identical slope and exposure, one being forested the other cleared. The rain falls on the canopy of trees in the one instance and drips softly from leaves and branches and trickles down the trunks. The soil beneath is soft and loose (even in winter it does not freeze hard), a composition of disintegrated rock, decaying leaves and twigs and even logs, and all tied together by a dense mass of roots and rootlets. The rain comes upon this forest soil so softly through the trees that the ground is not compacted and hardened or gullied as it would be if the rain fell directly on the soil.

The loose and spongy earth takes up the water as fast as it falls, and that which is not seized by the roots for the nourishment of the trees is carried away into underground basins, from which it slowly percolates and eventually comes out upon the surface again as springs. So slowly does this filtering go on, the spongy soil holding the water back, that the springs are given a constant and almost steady supply. Even a drought will actually dry up but few such. Snows also melt more slowly in the forest, thereby preventing disastrous spring freshets.

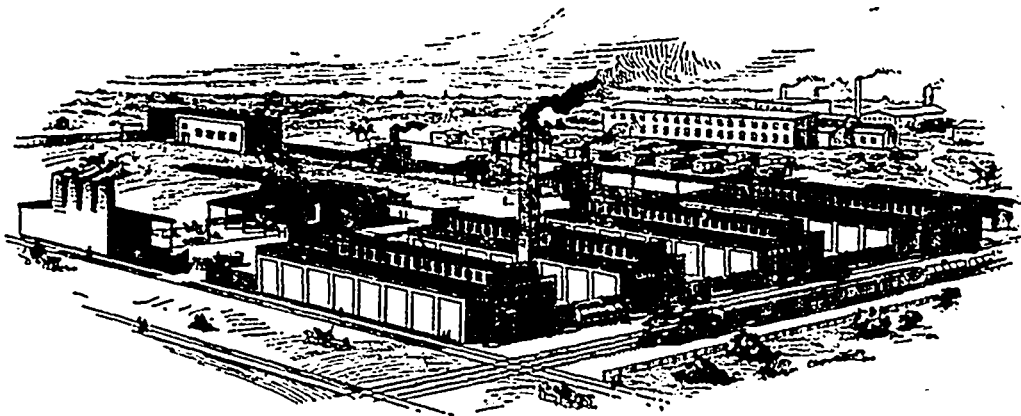
In the other case, that of the treeless slope, the rain falls directly on the bare ground and pounds it hard and imper-

vicious. The water for the most part runs off superficially as from a roof. Not enough water sinks into the ground to help feed constant springs. The surface run-off of a hard rain on a bare hillside is moreover conducive to gullying and washing of a most destructive nature, and the waters being poured immediately into the stream beds cause freshets. The freshet waters quickly rush by, wreaking havoc with fields, bridges and mills, and the next week the streams are nearly run dry.

#### \$30.00 TO COLORADO AND RETURN

Via Chicago, Union Pacific & North-Western Line. Chicago to Denver, Colorado Springs and Pueblo, daily throughout the summer. Correspondingly low rates from all points east. Only one night to Denver from Chicago. Two fast trains daily. Tourist sleeping cars to Denver daily. B. H. Bennett, 2 East King St. Toronto, Ont.

Within thirty-five miles of Vancouver, B.C., there is 20,000 h.p.; which is about to be harnessed. A number of men are engaged on work at the Stave River Falls, under the direction of Mr. C. A. Stoess, the Slave Lake Power Co's. engineer. The cutting of the canal is the first part of an extensive scheme, whereby this valuable water power will be made use of for the steadily increasing requirements of Vancouver and surrounding district.



## It is nearly Half a Century

since we commenced to make Varnish. During this period we have acquired a knowledge not only of Varnish, but of the varied needs of varnish consumers that nothing but time can impart, and have also learned how to cater successfully to every varnish want.

Our experience belongs to those who use and sell Berry Brothers' Varnishes. Safest goods to handle, surest and most reliable goods to use.

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**BERRY BROTHERS, Limited, - Walkerville, Ont.**



# Two Rules for Engineers

One is of finely finished wood, one foot long, inch and metric; and is given free to every engineer who will send us a sample of scale from his boiler. We will analyze this scale and send you a certificate of analysis also free of charge. With this certificate we will send a rule which, if followed, will free your boiler from scale and keep it free. This second rule explains the use of Lord's Water Purifying Chemicals. They are compounded especially to meet the conditions shown to exist by the analysis. If you don't use the same feedwater that your neighbor engineer uses, you require different chemicals. We take this fact into account. That's why our chemicals always work.

Send in the coupon to-day. We will send the foot rule by return mail and the second rule as soon as the analysis is completed.

**THE GEO. W. LORD CO.,** .....1904  
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GENTLEMEN: I am sending you a sample of scale from our boiler. You are to analyze it, and send me a certificate of analysis and the rule, free of charge.

*Number of boilers in use*.....  
*Capacity of each boiler*.....  
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*Name*.....  
*Street and No*.....  
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*Firm's Name*.....

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### IRON ORE EXPLORATION IN WESTERN ONTARIO.

Interest is now taken in the possible iron ore fields of Western Ontario, where considerable exploration has been carried on for the past year. Those that have explored the Atikokan and other parts of the Algoma country, are of the opinion that rich ores exist there, but as yet they have been unable to find anything of value, unless it is possible that the recent finds of the International Iron Co. may be so classed.

In this Canadian portion of the Lake Superior region ore has been found by drilling in the Amimikee series, which is really an easterly extension of the Mesabi ore-bearing rocks, even as far east as Loon Lake, and at other points east of Thunder Bay, Lake Superior. Between Loon Lake and North-Eastern Minnesota various explorations have, in the past winter and previously, met more or less encouraging results, though but few of them have actually found ore, and possibly none ore in commercial quantities. The iron formation eastward to Loon Lake, and probably beyond, is similar to that of the Mesabi, though it is thin, and intruded by igneous rocks that have frequently changed and altered the character of the ores. This change is first noticed on the eastern Mesabi, in the central part of T 59 R 14, where there is a decided change in the character of the rocks. If the ore deposit at Loon Lake is of value it will be the first good ore in quantity found between the point referred to on the Mesabi, and the north shore of

Lake Superior, a stretch of apparently ore bearing formation more than 150 miles.

The work of the International Iron Co., on Hunters island, and quite near the Minnesota line, has been under way all winter, and with very encouraging indications. A drift has been driven through the jasper and lean ore of a great ridge, and is now in ore of excellent appearance, though as to its quantity there is no knowledge. It is the opinion of the prospectors, certain Duluth, Minn., men, that they have hit upon a discovery of the utmost importance.

In the Atikokan and Mattawan regions, west from Thunder Bay, no large amount of explorations has been under way the past winter, and these districts, generally speaking, are now idle. Two or three diamond drills were operated there last summer, and the finds were not as satisfactory as expected. On the Atikokan range there is a vast outcrop of magnetite rich in iron, very low in phosphorus, and with not as much sulphur as has been generally reported, that should prove of great moment. There are at least 1,000,000 tons shown by some work that has been carried on, above the level of the surrounding country, and holes have shown the formation to extend downward. The owners of this property are now at work on a furnace project. They may decide to calcine their ores at the mine, fuel being at hand, or they may find the intermediate process unnecessary, given a suitable mixture. They hope to erect blast furnaces on Lake Superior, and in Canada in order to take

advantage of the bounties there offered for the production of pig iron.

Most of the exploratory work that has been going on recently in North-Western Ontario has been by American companies, usually steel makers, who are looking to the future for additional supplies, and signifies, to a greater or less extent, the gradual increase of unproductive explorations on the American side, where the area suitable for exploration and at the disposal of the public is growing more and more restricted.

There has been nothing in the nature of exploratory work in progress for nearly a year by the Consolidated Lake Superior Co., whose financial crisis occurred last year. Prior to that time it had been very active throughout Western Ontario, including the region west of Thunder Bay, the east side of Lake Nipigon and the Michipicoten region. In the latter section there is no doubt the company discovered a new ore bearing formation, similar in many respects to the Vermilion range of Minnesota. But its search for mineral in economically important quantities, though skillfully conducted, was not successful, except for what it found in the Helen mine, and for the prospects of a better find at the Josephine. Its diamond drilling at the latter was suspended at the time of its lamentable financial difficulty. It is true, however, that in the Josephine the company has what may prove an important mine. It is stated that one of the first undertakings of this company, upon its reorganization, will be the reopening of its mines and the renewal of its explorations.

# Canadian National Exhibition

— OF —

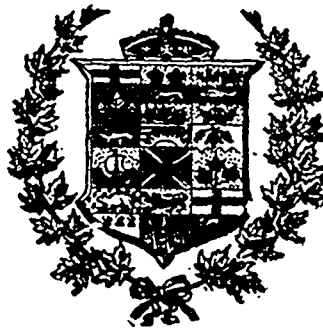
## 1904 TORONTO 1904

**Aug. 27th**

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

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

Correspondence solicited.



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Advancement and Improvement in Every Department.

42nd ROYAL HIGHLANDERS' BAND  
"THE BLACK WATCH"

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The Relief of Lucknow.

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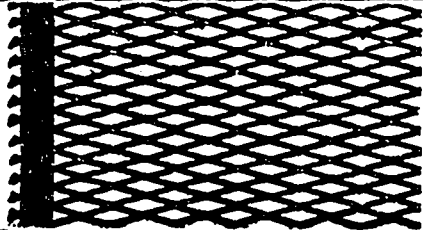
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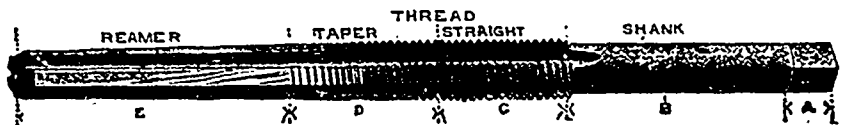
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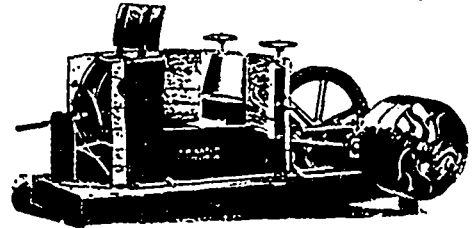
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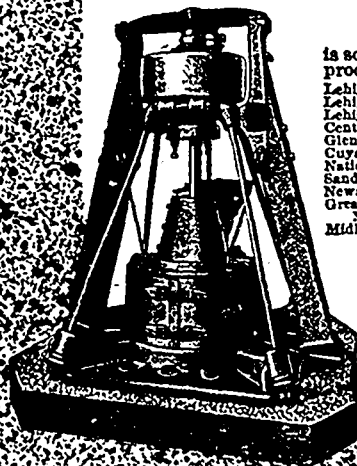
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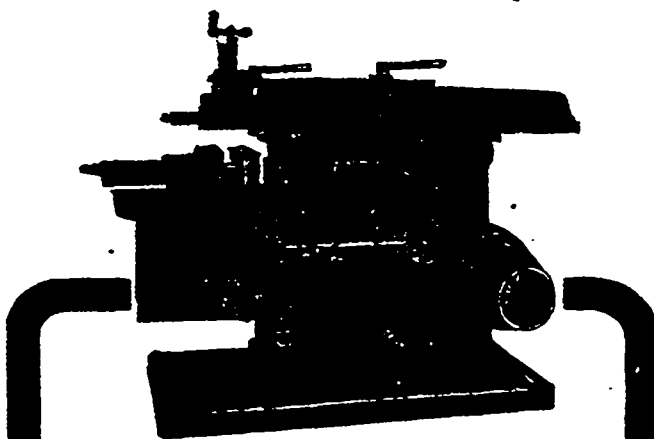
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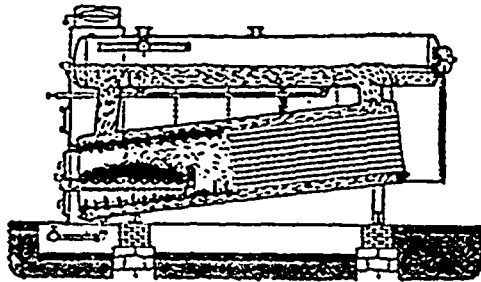
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Full particulars and permission to inspect the properties may be had from George Davidson, Liquidator of the said Company, 108 Wellington Street West, Toronto, or from Messrs. Cassels, Cassels & Brock, 19 Wellington Street West, Toronto, his solicitors.

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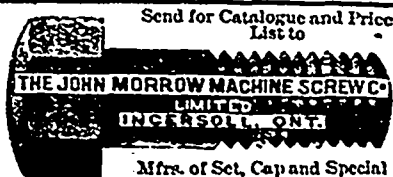
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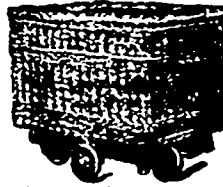
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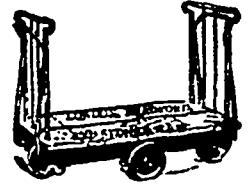
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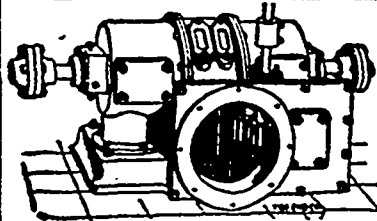
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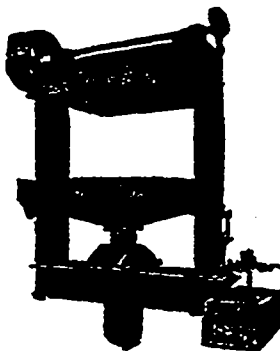
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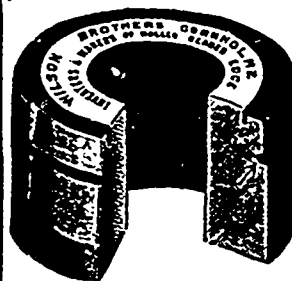


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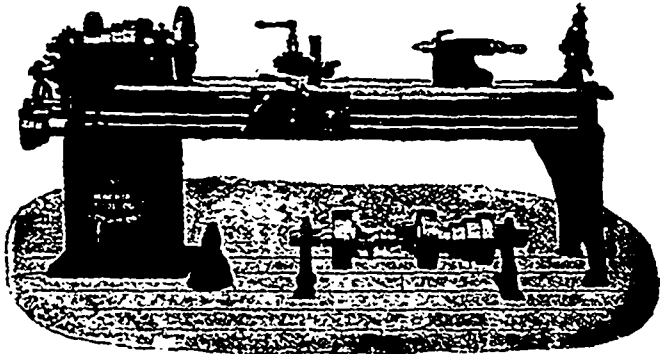
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**Name Plates,**

**Trade Marks and Ornaments,**

**Opalescent Transfer  
Window Signs.**

Chamber of Commerce Building,  
**CHICAGO.**

**CLASSIFIED INDEX.**

**Abrasives.**

Canadian Corundum Wheel Co., Hamilton, Ont.  
Hart Corundum Wheel Co., Hamilton, Ont.  
Rice Lewis & Son, Toronto.  
Williams, A. R., Machinery Co., Toronto.

**Air Compressors**

American Steam Pump Co., Battle Creek, Mich.  
Canada Foundry Co., Toronto.  
Canadian Hand Drill Co., Sherbrooke, Que.  
Chicago Pneumatic Tool Co., Chicago, Ill.  
Corbett, H. B., Brooklyn, N.Y.  
Darling Bros., Montreal.  
Shaw, Willis, Chicago, Ill.

**Aluminum**

Northern Aluminum Co., Pittsburgh, Pa.  
Syracuse Smelting Works, Montreal.

**Angles, Beams and Girders**

Bourne-Fuller Co., Cleveland, Ohio.  
Canada Foundry Co., Toronto.  
Cooper, Estate late James, Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Slingaby, H. C., Montreal.

**Aniline Colors and Dyewood Extracts**

Bellhouse, Dillon & Co., Montreal.  
Benson, W. T. & Co., Montreal.  
Brunner, Mond & Co., Northwich, England.  
Cassella Color Co., New York City.  
Gelgy Aniline & Extract Co., New York City.  
Kilpstein, A. & Co., New York City.  
McArthur, Cornelle & Co., Montreal.  
Winn & Holland, Montreal.

**Annealing Muffles and Furnaces  
(Wire)**

Morgan Construction Co., Worcester, Mass.  
Loalo, A. C. & Co., Montreal.  
Turner, Vaughn & Taylor Co., Cuyahoga Falls,  
Ohio.

**Antimony**

Syracuse Smelting Works, Montreal.

**Anvils and Vises**

Cooper, Estate late James, Montreal.  
Leslie, A. C. & Co., Montreal.  
Rice Lewis & Son, Toronto.

**Architects**

Edwards, R. J., Toronto.  
Parke, R. J., Toronto.  
Vogel, C. H., Ottawa.

**Assayers.**

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

**Axles**

Cooper, Estate late James, Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

**Babbitt Metal**

Petrie, H. W., Toronto.  
Pittsburgh Shafting Co., Detroit, Mich.  
Syracuse Smelting Works, Montreal.

**Banks**

Bank of Hamilton, Hamilton, Ont.

**Bar Iron and Steel**

Bourne-Fuller Co., Cleveland, Ohio.  
Cooper, Estate late James, Montreal.  
Leslie, A. C. & Co., Montreal.  
Rice Lewis & Son, Toronto.

**Belt Dressing.**

McLaren, J. C. Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Rossendale Belting Co., Toronto.  
Williams, A. R., Machinery Co., Toronto.

**Belt Fasteners.**

Bristol Co., Waterbury, Conn.  
McLaren, D. K., Montreal and Toronto.  
McLaren, J. C. Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Rossendale Belting Co., Toronto.  
Williams, A. R., Machinery Co., Toronto.

**Belting (Cotton)**

Dominion Belting Co., Hamilton, Ont.  
Fleming, W. A. & Co., Montreal.  
McLaren, D. K., Montreal and Toronto.  
McLaren, J. C. Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Pittsburgh Shafting Co., Detroit, Mich.  
Rossendale Belting Co., Toronto.  
Wilby, P. H., Toronto, Ont.

**Belting (Leather)**

Canadian Oak Belting Co., Brockville, Ont.  
Fleming, W. A. & Co., Montreal.  
McLaren, D. K., Montreal and Toronto.  
McLaren, J. C. Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Pittsburgh Shafting Co., Detroit, Mich.  
Rice, Lewis & Son, Toronto.  
Wilby, P. H., Toronto, Ont.  
Williams, A. R., Machinery Co., Toronto.

**Belting (Rubber)**

Gutta Percha & Rubber Mfg. Co., Toronto.  
McLaren, D. K., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Pittsburgh Shafting Co., Detroit, Mich.

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# CLASSIFIED INDEX.

(CONTINUED).

**Belting and Supplies**  
 Bristol Co., Waterbury, Conn.  
 Canadian Oak Belting Co., Brockville, Ont.  
 Dominion Belting Co., Hamilton, Ont.  
 Fleming, W. A. & Co., Montreal.  
 Gutta Percha & Rubber Mfg. Co., Toronto.  
 Jeffrey Mfg. Co., Columbus, Ohio.  
 McLaren, D. K., Montreal and Toronto.  
 McLaren, J. C. Belting Co., Montreal and Toronto.  
 Petrie, H. W., Toronto.  
 Pittsburgh Shafting Co., Detroit, Mich.  
 Rice Lewis & Son, Toronto.  
 Rossendale Belting Co., Toronto.  
 Wilby, P. H., Toronto.  
 Williams, A. R. Machinery Co., Toronto.

**Billet Heating Furnaces**  
 Morgan Construction Co., Worcester, Mass.

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

**Bobbins**  
 Wilson Bros. Bobbin Co., Liverpool, England.

**Boiler Compounds**  
 Lord, Geo. W. Co., Philadelphia, Pa.  
 Sleeth, D., Montreal.

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

**BOILERS (See Engines and Boilers)**

**Brass Founders**  
 Hamilton Brass Mfg. Co., Hamilton, Ont.  
 Meadows, Geo. B. Wire, Iron & Brass Works Co., Toronto.  
 McKinnon Dash & Metal Works Co., St. Catharines, Ont.  
 Penderby Injector Co., Windsor, Ont.

**Building Iron and Steel**  
 Bourne-Fuller Co., Cleveland, Ohio.  
 Canada Foundry Co., Toronto.  
 Expanded Metal & Fireproofing Co., Toronto.

**Builders' Materials**  
 Albert Mfg. Co., Hillsboro, Ont.  
 Canada Foundry Co., Toronto.  
 Canadian Otis Elevator Co., Toronto.  
 Canadian Portland Cement Co., Deseronto, Ont.  
 Cooper, Estate late James, Montreal.  
 Expanded Metal & Fireproofing Co., Toronto.  
 Gartshore, John J., Toronto.  
 Meadows, Geo. B., Wire, Iron & Brass Works, Toronto.  
 Metallic Roofing Co., Toronto.  
 Owen Sound Portland Cement Co., Owen Sound, Ont.  
 Pittsburgh Shafting Co., Detroit, Mich.  
 Rice Lewis & Son, Toronto.  
 Sheldon & Sheldon, Galt, Ont.

**Cables**  
 Dominion Wire Rope Co., Montreal.  
 Wire & Cable Co., Montreal.

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

**Canoes**  
 Peterborough Canoe Co., Peterborough, Ont.

**Caps**  
 McCullough-Dalzell Crucible Co., Pittsburg, Pa.

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

**Cast Iron Pipe**  
 Canada Foundry Co., Toronto.  
 Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.  
 Rice Lewis & Son, Toronto.  
 Montreal Pipe Foundry Co., Montreal.  
 McDougall, John, Caledonian Iron Works Co., Montreal.

**Castings (Iron and Brass)**  
 Buhl Malleable Co., Detroit, Mich.  
 Kerr Engine Co., Walkerville, Ont.  
 McDougall, John, Caledonian Iron Works Co., Montreal.  
 Slingaby, H. C., Montreal.  
 Toronto Iron & Brass Bodstead Co., Toronto.

**Cement Machinery**  
 McDougall, John, Caledonian Iron Works Co., Montreal.  
 Wentz, R. F. Engineering Co., Toronto.

**Chain Making Machinery (Welded Coil Chain)**  
 Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

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

**Charcoal Pig Iron**  
 Canada Iron Furnace Co., Montreal.  
 McDougall, John, Caledonian Iron Works Co., Montreal.

**Chemists**  
 Archbold, Dr. Geo., Prescott, Ont.  
 Heys, Thos. & Son, Toronto.  
 Wentz, R. F. Engineering Co., Toronto.

**Clay Working Machinery**  
 Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

**Coal and Coke**  
 Bourne-Fuller Co., Cleveland, Ohio.  
 Brownlee, J., Galt, Ont.  
 Ferguson, J. D., Hamilton, Ont.  
 Hoffman, James G., Detroit, Mich.  
 Milnes, James H. & Co., Toronto.  
 Pittsburgh Coal Co., Pittsburg, Pa.  
 Shawmut Coal & Coke Co., St. Marys, Pa.  
 Shepard, Charles G., Buffalo, N.Y.  
 Shipman, O. W. Co., Detroit, Mich.  
 Wick, H. K. & Co., Buffalo, N.Y.

**Coal Cutting Machines**  
 Canadian Rand Drill Co., Sherbrooke, Que.  
 Jeffrey Mfg. Co., Columbus, Ohio.

**Coal Tipples**  
 Jeffrey Mfg. Co., Columbus, Ohio.

**Coil Chains**  
 Greening, B. Wire Co., Hamilton, Ont.  
 Leallo, A. C. & Co., Montreal.

**Coke Oven Brick**  
 Dunbar Fire Brick Co., Pittsburg, Pa.

**Collection Agency**  
 Petrie, H. D., Hamilton, Ont.

**Concrete Construction**  
 Stevens, A. J., Toronto.

**Concrete Mixers**  
 Cooper, Estate late James, Montreal.

**Continuous Rolling Mills**  
 Morgan Construction Co., Worcester, Mass.

**Contractors' Machinery**  
 Carlin's, Thomas Sons Co., Allegheny, Pa.  
 Cooper, Estate late James, Montreal.  
 Gartshore, John J., Toronto.  
 McDougall, John, Caledonian Iron Works Co., Montreal.  
 Shaw, Willie, Chicago, Ill.  
 Sinclair, G. S. & Sons, Warton, Ont.

**Contractor's Plants**  
 Cooper, Estate late James, Montreal.  
 Petrie, H. W., Toronto.  
 Shaw, Willie, Chicago, Ill.  
 Von der Osten, E. & Co., Toronto.  
 Williams, A. R., Machinery Co., Toronto.

**Conveying Machinery**  
 Babcock & Wilcox, Limited, Montreal.  
 Buhl Malleable Co., Detroit, Mich.  
 Canada Foundry Co., Toronto.  
 Dodge Mfg. Co., Toronto.  
 Jeffrey Mfg. Co., Columbus, Ohio.  
 McDougall, John, Caledonian Iron Works Co., Montreal.  
 Perrin, William R. & Company, Limited, Toronto.  
 Pittsburgh Shafting Co., Detroit, Mich.  
 Rossendale Belting Co., Toronto.  
 Stevens, Alfred J., Toronto.

**Copper Materials**  
 Greening, B. Wire Company, Hamilton, Ont.  
 Syracuse Smelting Works, Montreal.  
 Wire & Cable Co., Montreal.

**Corundum**  
 Canada Corundum Co., Toronto.

**Corundum Wheels**  
 Canadian Corundum Wheel Co., Hamilton, Ont.  
 Hart Corundum Wheel Co., Hamilton, Ont.  
 Rice Lewis & Son, Toronto.

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

**Crayons**  
 Lowell Crayon Co., Lowell, Mass.

**Crucibles**  
 Dixon, Joseph, Crucible Co., Jersey City, N.J.  
 McCullough-Dalzell Crucible Co., Pittsburg, Pa.  
 Pittsburg Crucible Works, Pittsburg, Pa.  
 Syracuse Smelting Works, Montreal.

**Crucible Caps and Nozzles**  
 McCullough-Dalzell Crucible Co., Pittsburg, Pa.  
 Pittsburg Crucible Works, Pittsburg, Pa.

**Crucible Covers and Stoppers**  
 McCullough-Dalzell Crucible Co., Pittsburg, Pa.  
 Pittsburg Crucible Works, Pittsburg, Pa.

**Dies (Socket, Sewer Pipe and Tile)**  
 Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

**Directories**  
 Kelly's Directories, Limited, Toronto.

**Draw Benches (Wire)**  
 Morgan Construction Co., Worcester, Mass.  
 Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

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Refined Tar.

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Cyanides (Prussiates of Potash  
and Soda) and Ammonia  
Salts.

## CLASSIFIED INDEX.

(CONTINUED).

### Drills

Borlman, John, & Sons Co., Dundas, Ont.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
London Machine Tool Co., London, Ont.  
Petrie, H. W., Toronto  
Pittsburgh Shafting Co., Detroit, Mich.  
Shaw, Willis, Chicago, Ill.

**Drills (Pneumatic and Rock)**  
Canadian Rand Drill Co., Sherbrooke, Que.  
Chicago Pneumatic Tool Co., Chicago, Ill.  
Jeffrey Mfg. Co., Columbus, Ohio.

### Drills (Twist)

Cleveland Twist Drill Co., Cleveland, Ohio.  
Pittsburg Shafting Co., Detroit, Mich.

### Drop Forgings

Globe Machine & Stamping Co., Cleveland, Ohio.

### Drop Forging Dies

Globe Machine & Stamping Co., Cleveland, Ohio.

### Dry Kiln Apparatus

Sheldon & Sheldon, Galt, Ont.  
Stevens, Alfred J., Toronto.  
Sturtevant, B. F. Co., Boston, Mass.

### Dust and Shavings Separators

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

### Dye Stuffs and Chemicals

Bellhouse, Dillon & Co., Montreal.  
Benson, W. T. & Co., Montreal.  
Brunner, Mond & Co., Northwich, England.  
Cassella Color Co., New York City.  
Geigy Aniline & Extract Co., New York City.  
Klinstein, A. & Co., New York City.  
McArthur, Cornille & Co., Montreal.  
Winn & Holland, Montreal.

### DYNAMOS (See Motors and Dynamos)

#### Electric Motors and Transformers

Packard Electric Co., St. Catharines, Ont.

#### Electric Mine Locomotives

Canadian General Electric Co., Toronto.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Shaw, Willis, Chicago, Ill.

### Electrical Repairs

Volta Electric Repair Works, Toronto.

### Electrical Supplies

Bristol Co., Waterbury, Conn.  
Canadian General Electric Co., Toronto.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
Electrical Construction Co., London, Ont.  
Forman, John, Montreal.  
Jones & Moore Electric Co., Toronto.  
Packard Electric Co., St. Catharines, Ont.  
Phillips, Eugene F., Electrical Works, Montreal.  
Toronto & Hamilton Electric Co., Hamilton, Ont.  
United Electric Co., Toronto.  
Worth & Martin, Toronto.

### Elevators and Conveyors

Buhl Malleable Co., Detroit, Mich.  
Canadian Otis Elevator Co., Toronto.  
Darling Bros., Montreal.  
Jeffrey Mfg. Co., Columbus, Ohio.

### Elevator Insurance

Canadian Casualty & Boiler Insurance Co.,  
Toronto.

### Emery and Emery Wheels

Canadian Corundum Wheel Co., Hamilton, Ont.  
Forman, John, Montreal.  
Hart Corundum Wheel Co., Hamilton, Ont.  
Petrie, H. W., Toronto.

### Engineers (Cement)

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

### Engineers (Chemical)

Hoys, Thos. & Son, Toronto.  
Hunt, Robert W. & Co., Chicago, Ill.

### Engineers (Civil)

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

### Engineers (Consulting)

DeLano-Osborn Engineering Co., Toronto.  
Electrical Construction Co., London, Ont.  
Hunt, Robert W. & Co., Chicago, Ill.  
Kelsch, R. S., Montreal.  
Marion & Marion, Montreal.  
Morgan Construction Co., Worcester, Mass.  
Parke, R. J., Toronto.  
Perrin, William R. & Company, Limited, Toronto.  
Simpson, T. T., Deschamps, Que.  
Vogel, C. H., Ottawa.  
Volta Electric Repair Works, Toronto.  
Von der Osten, E. & Co., Toronto.  
Wentz, R. F. Engineering Co., Toronto.

### Engineers (Contracting)

Babcock & Wilcox, Limited, Montreal.  
Canada Foundry Co., Toronto.  
Darling Bros., Montreal.  
Electrical Construction Co., London, Ont.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.

### Engineers (Electrical)

Canadian General Electric Co., Toronto.  
Canadian Westinghouse Co., Ltd., Hamilton, Ont.  
DeLano-Osborn Engineering Co., Toronto.  
Electrical Construction Co., London, Ont.  
Electric Engineering & Supply Co., Montreal.  
Kelsch, R. S., Montreal.  
Jones & Moore Electric Co., Toronto.  
Marion & Marion, Montreal.  
Toronto & Hamilton Electric Co., Hamilton, Ont.  
United Electric Co., Toronto.  
Volta Electric Repair Works, Toronto.  
Worth & Martin, Toronto.

### Engineers (Mechanical)

Babcock & Wilcox, Limited, Montreal.  
Buhl Malleable Co., Detroit, Mich.  
Darling Bros., Montreal.  
DeLano-Osborn Engineering Co., Toronto.  
Electrical Construction Co., London, Ont.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.  
Hunt, Robert W. & Co., Chicago, Ill.  
Kelsch, R. S., Montreal.  
Kerr Engine Co., Walkerville, Ont.  
Marion & Marion, Montreal.  
Morgan Construction Co., Worcester, Mass.  
Robb Engineering Co., Amherst, N.S.  
Sheldon & Sheldon, Galt, Ont.  
Wentz, R. F. Engineering Co., Toronto.

### Engineers (Mill and Hydraulic)

Buhl Malleable Co., Detroit, Mich.  
DeLano-Osborn Engineering Co., Toronto.  
Vogel, C. H., Ottawa.

### Engineers (Mining)

Buhl Malleable Co., Detroit, Mich.  
Hoys, Thos. & Son, Toronto.  
Mills, S. D., Toronto.

### Engineers (Municipal)

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

### Engineers and Contractors

Buhl Malleable Co., Detroit, Mich.  
Jeffrey Mfg. Co., Columbus, Ohio.

### Engines and Boilers

Babcock & Wilcox, Limited, Montreal.  
Bertram Engine Works Co., Toronto.  
Canada Foundry Co., Toronto.  
Canadian Hoine Safety Boiler Co., Toronto.  
Cooper, Estato lato James, Montreal.  
Corbett, R. B., Brooklyn, N.Y.  
Goldie & McCulloch Co., Galt, Ont.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Hyde Bros. & Co., Pittsburg, Pa.  
Leonard, E. & Sons, London, Ont.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.  
Petrie, H. W., Toronto.  
Petroleum Iron Works Co., Washington, Pa.  
Pittsburgh Shafting Co., Detroit, Mich.  
Robb Engineering Co., Amherst, N.S.  
Shaw, Willis, Chicago, Ill.  
Sheldon & Sheldon, Galt, Ont.  
Sturtevant, B. F. Co., Boston, Mass.  
Williams, A. R., Machinery Co., Toronto.

### Engravers

Canadian Manufacturer, Toronto.  
Jones, J. L., Engraving Co., Toronto.

### Exhaust Fans

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

### Exhaust Heads

Burt Mfg. Co., Akron, Ohio.  
Darling Bros., Montreal.

### Factory Sites

Central Ontario Power Co., Peterboro, Ont.

### Feed Water Heaters

Babcock & Wilcox, Limited, Montreal.  
Darling Bros., Montreal.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.  
Petroleum Iron Works Co., Washington, Pa.

### Fires

Sponcer, R. & Co., Hamilton, Ont.

### Financial

Brdstreet's, New York City.  
Dun, R. G. & Co., Toronto.  
Neff & Postlethwaite, Toronto.  
Petrie, H. D., Hamilton, Ont.

### Filters (Oil)

Babcock & Wilcox, Limited, Montreal.  
Burt Mfg. Co., Akron, Ohio.  
Darling Bros., Montreal.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.  
Perrin, William R. & Company, Limited, Toronto.  
**Filters and Filtering Systems (Water)**  
Babcock & Wilcox, Limited, Montreal.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.

# CLASSIFIED INDEX.

(CONTINUED).

## Fire Brick and Clay

Dunbar Fire Brick Co., Pittsburgh, Pa.  
Hamilton Facing Mill Co., Hamilton, Ont.  
Pennsylvania Fire Brick Co., Lock Haven.  
Scioto Fire Brick Co., Sciotoville, Ohio.  
Wynn, W. H. & Co., West Decatur, Pa.

## Fire Escapes

Darling Bros., Montreal.  
Meadows, Geo. B., Wire, Iron & Brass Works,  
Toronto.

## Forges and Blowers

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

## Founders

Canada Foundry Co., Toronto.  
Cowan & Co., Galt, Ont.  
Garthshore-Thomson Pipe & Foundry Co., Ham-  
ilton, Ont.  
Goldie & McCulloch Co., Galt, Ont.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Karch, H. W., Hespeler, Ont.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.  
Sinclair, G. S. & Sons, Warton, 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.

## 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.  
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.  
Volta Electric Repair Works, Toronto.

## Gloves, Mittens and Moccasins

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

## Government Notices

Factory Inspectors.  
Minister of Agriculture.

## Graphite

Dixon, Jos., Crucible Co., Jersey City, N.J.  
McCullough-Dalzell Crucible Co., Pittsburgh, Pa.  
Pittsburg Crucible Works, Pittsburgh, Pa.

## 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.  
Garthshore, John J., Toronto.  
Globe Machine & Stamping Co., Cleveland, Ohio.  
Morrow, John, Machine Screw Co., Ingersoll, Ont.  
Rico Lewis & Son, Toronto.  
Ryall Machine Screw Co., Montreal.  
Stanyon Metallic Furniture Co., Toronto.

## 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. Bolting Co., Montreal and Toronto.  
Slingsby, H. C., Montreal.

## Hydrants

Kerr Engine Co., Walkerville, Ont.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.

## Hydraulic Accumulators

Morgan Construction Co., Worcester, Mass.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.

## 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.  
McDougall, John, Caledonian Iron Works Co.,  
Montreal.  
Perrin, William R. & 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.  
Huhl Malleable Co., Detroit, Mich.  
Canada Foundry Co., Toronto.  
Cleveland Twist Drill Co., Cleveland, Ohio.  
Karch, H. W., Hespeler, Ont.  
Leslie, A. C. & Co., Montreal.  
Lysaght, John, Limited, Bristol, England and  
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 Shattling Co., Detroit, Mich.  
Rice Lewis & Son, Toronto.  
Ryall Machine Screw Co., Montreal.  
Sinclair, G. S. & Sons, Warton, Ont.

## 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.  
Cowdroy, C. H., Machine Works, Fitchburg, Mass.  
London Machine Tool Co., London, Ont.  
Petrie, H. W., Toronto.  
Williams, A. R. & Co., Toronto.

## Lathes (Wood-Working)

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

## Lubricators

Penberthy Injector Co., Windsor, Ont.



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## CLASSIFIED INDEX.

(CONTINUED).

### Machinists.

Bertram Engine Works Co., Toronto.  
Buhl Malleable Co., Detroit, Mich.  
Goldie & McCulloch Co., Galt, Ont.  
London Machine Tool Co., London, 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.  
Goldie & McCulloch Co., Galt, Ont.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Jeffrey Mfg. Co., Columbus, Ohio.  
London Machine Tool Co., London, Ont.  
Morrow, John, Machine Screw Co., Ingersoll, Ont.  
Petrie, H. W., Toronto.  
Pittsburgh Shafting Co., Detroit, Mich.  
Ryall Machine Screw Co., Montreal.  
Sinclair, G. S. & Sons, Warton, Ont.  
Worth & Martin, Toronto.

### Machine Tools

Abbott, William, Montreal.  
Bertram, John, & Sons Co., Dundas, Ont.  
Cleveland Twist Drill Co., Cleveland, Ohio.  
Cowdry, C. H., Machine Works, Fitchburg, Mass.  
Darling Bros., Montreal.  
London Machine Tool Co., London, Ont.  
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.

### Mill Machinery and Supplies

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.  
Fleming, W. A. & Co., Montreal.  
Gartshore, John J., Toronto.  
Goldie & McCulloch Co., Galt, Ont.  
Grooy, Wm. & J. G., Toronto.  
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., Hespeler, Ont.  
Leonard, E. & Sons, London, Ont.  
London Machine Tool Co., London, Ont.  
Morrow, John, Machine Screw Co., Ingersoll, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
McLaren, D. K., Montreal and Toronto.  
"Oliver" Machinery Co., Grand Rapids, Mich.  
Ponberthy 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.  
Sinclair, G. S. & Sons, Warton, Ont.  
Spence, R. & 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.  
Corbett, R. B., Brooklyn, N.Y.  
Gartshore, John J., Toronto.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
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.  
Corbett, R. B., Brooklyn, N.Y.  
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.  
Volta Electric Repair Works, 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

Ponberthy Injector Co., Windsor, Ont.

### Paints and Colors

Bollhouse, Dillon & Co., Montreal.  
Fleming, W. A. & Co., Montreal.  
Gelgy Aullins & Extract Co., New York City.  
Klipstein, A. & Co., New York City.  
McArthur, Cornelle & 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

"Oliver" Machinery Co., Grand Rapids, Mich.

### Pattern Shop Equipments

"Oliver" Machinery Co., Grand Rapids, Mich.

### Perforated Metals

Globe Machine & Stamping Co., Cleveland, Ohio.  
Greening, B. Wire Co., Hamilton, Ont.  
Stanyon Metallic Furniture Co., Toronto.

### 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.  
Shepard, Charles G., Buffalo, N.Y.  
Syracuse Smelting Works, Montreal.

### Pipe (Riveted, Iron and Steel)

Babcock & Wilcox, Limited, Montreal.  
McDougall, John, Caledonian Iron Works Co.,  
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.  
Corbett, R. B., Brooklyn, N.Y.  
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.

# CLASSIFIED INDEX.

(CONTINUED).

## Plumbago

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

## Pneumatic Tools

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

## Painter 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.  
Corbett, R. B., Brooklyn, N.Y.  
Darling Bros., Montreal.  
DeLano-Osborn Engineering Co., Toronto.  
Electrical Construction Co., London, Ont.  
Goldie & McCulloch, Galt, Ont.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Jones & Moore Electric Co., Toronto.  
Kelsch, R. S., Montreal.  
Leonard, E. & Sons, London, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
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.  
Sinclair, G. S. & Sons, Wlarton, Ont.  
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 Sieves.)

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

## Pulleys

Darling Bros., Montreal.  
Goldie & McCulloch Co., Galt, Ont.  
Greer, Wm. & J. G., Toronto.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Jeffrey Mfg. Co., Columbus, Ohio.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
McLaron, J. C. Belting Co., Montreal and Toronto.  
Petrie, H. W., Toronto.  
Pittsburgh Shafting Co., Detroit, Mich.  
Wilson, J. C. & Co., Glenora, Ont.

## Pumps and Pumping Machinery

Canada Foundry Co., Toronto.  
Corbett, R. B., Brooklyn, N.Y.  
Darling Bros., Montreal.  
Downie Pump Co., Downsville, Pa.  
Goldie & McCulloch Co., Galt, Ont.  
Kerr Engine Co., Walkerville, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
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.  
McDougall, John, Caledonian Iron Works Co., Montreal.

## Purifying and Softening Systems (Water)

Babcock & Wilcox, Limited, Montreal.  
Darling Bros., Montreal.  
McDougall, John, Caledonian Iron Works Co., Montreal.

## Railroads

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

## Railway Supplies

Aigoma Steel Co., Sault Ste. Marie, Ont.  
Cooper, Estate late James, Montreal.  
Gardner, 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.  
Slingsby, H. C., 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)

"Oliver" Machinery Co., Grand Rapids, Mich.

## Screws

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

## Screw Plates

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

## Shafting

Bourne-Fuller Co., Cleveland, Ohio.  
Goldie & McCulloch Co., Galt, Ont.  
Greer, Wm. & J. G., Toronto.  
Jeffrey Mfg. Co., Columbus, Ohio.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
Petrie, H. W., Toronto.  
Pittsburgh Shafting Co., Detroit, Mich.

## Shafting Coupler

Sinclair, G. S. & Sons, Wlarton, Ont.

## Shear Knives

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

## Sheets (Iron and Steel.)

Abbott, William, Montreal.  
Bourne-Fuller Co., Cleveland, Ohio.  
Leslie, A. C. & Co., Montreal.  
Lysaght, John, Limited, Bristol, England and Montreal.

## Sheet Metal Goods

Globe Machine & Stamping Co., Cleveland, Ohio.  
Metallic Roofing Co., Toronto.  
Stanyon Metallic Furniture Co., Toronto.

## Sheet Metal Stamping

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

## Ship Builders

Bortram Engine Works Co., Toronto.  
Clyde Steel Works, Toronto.

## Smoke Stacks.

Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Petroleum Iron Works Co., Washington, Pa.

## Solder

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

## Special Machinery

Globe Machine & Stamping Co., Cleveland, Ohio  
Stanyon Metallic Furniture Co., Toronto.

## Speed Recorders

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

## Sprinkler Insurance

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**CLASSIFIED INDEX.**

(CONTINUED).

**Stamps & Stencils**

Globe Machine & Stamping Co., Cleveland, Ohio.  
Hamilton Stamp & Stencil Works, Hamilton, Ont.  
Stanyon Metallic Furniture Co., Toronto.

**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.  
McDougall, John, Caledonian Iron Works Co., Montreal.

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.  
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.  
Druntonid, McCall & Co., Montreal and Toronto.  
Garishore, John J., Toronto.

**Steel Shafting**

Darling Bros., Montreal.  
Goldie & McCulloch Co., Galt, Ont.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
Leslie, A. C. & Co., Montreal.  
McDougall, John, Caledonian Iron Works Co., Montreal.  
Nova Scotia Steel & Coal Co., New Glasgow, N.S.  
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.

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

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Continental Iron Works Co., New York City.

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Canada Foundry Co., Toronto.  
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McDougall, John, Caledonian Iron Works Co., Montreal.  
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Butterfield & Co., Rock Island, Que.  
Cleveland Twist Drill Co., Cleveland, Ohio.  
Globe Machine & Stamping Co., Cleveland, Ohio.  
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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.  
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Corbett, H. B., Brooklyn, N.Y.  
Milner-Petrolia Wagon Co., Petrolia, Ont.  
Morgan Construction Co., Worcester, Mass.  
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Sheldon & Sheldon, Galt, Ont.  
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Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

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Canada Foundry Co., Toronto.  
Hamilton, Wm. Mfg. Co., Peterborough, Ont.  
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United Typewriter Co., Toronto

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American Steam Pump Co., Battle Creek, Mich.  
Babcock & Wilcox, Limited, Montreal.  
Canada Foundry Co., Toronto.  
Hamilton Brass Mfg. Co., Hamilton, Ont.  
Kerr Engine Co., Walkerville, Ont.  
Petrie, H. W., Toronto.  
Williams, A. R., Machinery Co., Toronto.

**Valves (Rubber)**

Chicago Pneumatic Tool Co., Chicago, Ill.  
Gutta Percha & Rubber Mfg. Co., Toronto.

**Varnishes**

Berry Bros., Walkerville, Ont.

**Ventilators**

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

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

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Dominion Wire Rope Co., Montreal.  
Greening, B. Wire Co., Hamilton, Ont.  
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Morgan Construction Co., Worcester, Mass.  
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Cowdrey, C. H., Machine Works, Fitchburg, Mass.  
Goldie & McCulloch Co., Galt, Ont.  
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# INDEX TO ADVERTISEMENTS.

Where the follo is not given the Advertisement appears at intervals.

See Classified Index Beginning on Page 39

ofc ..... outside front cover.		obc.....outside back cover.	
<b>A</b>	<b>PAGE</b>	<b>PAGE</b>	<b>PAGE</b>
Abbott, William, Montreal .....	42	Canadian Manufacturer Pub. Co., Toronto. .	37
Agriculture, Ontario Minister of, Toronto.....	38	Canadian National Exhibition, Toronto. ....	32
Albert Mfg. Co., Hillsborough, N.B.....	8	Canadian Oak Bolting Co., Brockville, Ont... 38	38
Algoma Steel Co., Sault Ste. Marie, Ont.....	4	Canadian Office & School Furniture Co.,	
American Machinery Co. (See "Oliver" Ma-		Preston, Ont .....	47
chinery Co.), Grand Rapids, Mich.....	10	Canadian Otis Elevator Co., Hamilton, Ont....	ofc
American Steam Pump Co., Battle Creek, Mich		Canadian Portland Cement Co., Deseronto	
Archbold, Dr. Geo., Prescott, Ont .....	9	Ont.....	8
Armstrong Mfg. Co., Bridgeport, Conn .....	35	Canadian Rand Drill Co., Sherbrooke, Que... 50	
		Canadian Westinghouse Co., Ltd., Hamilton	
		Ont.....	51
<b>B</b>		Cantilo, James A., Montreal .....	42
Babcock & Wilcox, Limited, Montreal.....	ofc	Carlin's, Thomas Sons Co., Allegheny, Pa.....	7
Bank of Hamilton, Hamilton, Ont.....	43	Case, Egerton R., Toronto.....	ofc
Barber, Wm. & Bro., Georgetown, Ont.....	46	Cassella Color Co., New York and Montreal.. 36	
Bellhouse, Dillon & Co., Montreal .....	36	Central Ontario Power Co., Peterborough, Ont. 33	
Benson, W. T. & Co., Montreal .....	36	Chicago & North-Western Railway, B. H.	
Berry Bros., Walkerville, Ont.....	30	Bennett, General Agent, Toronto.....	
Bertram Engine Works Co., Toronto.....	3	Chicago Pneumatic Tool Co., Toronto and	
Bertram, John & Sons Co., Dundas, Ont.....	3	Chicago, Ill.....	5
Blagdon, Waugh & Co., London, E.C., England 44		Cleveland Twist Drill Co., Cleveland, Ohio... obc	
Bourne-Kuller Co., Cleveland, Ohio.....	4	Clyde Steel Works, Toronto.....	8
Bradley Pulverizer Co., Boston, Mass.....	37	Continental Iron Works, New York, N.Y. ... 3	
Bradstreets, Toronto and New York.....	47	Cooper, Estate Late James, Montreal .....	5
Bronier Machine Tool Co., Kalumazoo, Mich.. 12		Corbett, H. B., Brooklyn, N.Y.....	40
Bristol Co., Waterbury Conn.....	obc	Cowan & Co., Galt, Ont.....	11
Brown & Co., Paris, Ont.....	14	Cowdroy, C. H., Machine Works, Fitchburg,	
Brownlee, J., Galt, Ont.....	35	Mass.....	11
Brunner, Mond & Co., Northwich, England... 11			
Budden, Hanbury A., Montreal.....	9	<b>D</b>	
Buhl Malleable Co., Detroit, Mich.....	obc	Darling Bros., Montreal.....	
Burt Mfg. Co., Akron, Ohio.....	29	Dolano-Osborn Engineering Co., Toronto.....	9
Butterfield & Co., Rock Island, Que.....	35	Dixon, Jos., Crucible Co., Jersey City, N.J. ... 42	
		Dominion Bolting Co., Hamilton, Ont.....	33
<b>C</b>		Dominion Oil Cloth Co., Montreal.....	41
Canada Corundum Co., Toronto.....	2	Dominion Wire Rope Co., Montreal.....	
Canada Foundry Co., Toronto.....		Downlo Pump Co., Downsville, Pa.....	42
Canada Iron Furnace Co., Montreal .....	4	Drummond, McCall & Co., Montreal, Que... 4	
Canada Woolen Mills, Toronto.....	40	Dun R. G. & Co., Toronto.....	43
Canadian Casualty & Boiler Insurance Co.,		Dunbar Fire Brick Co., Pittsburg, Pa.....	8
Toronto.....	28		
Canadian Colored Cotton Mills Co., Montreal.			
Canadian Corundum Wheel Co., Hamilton,		<b>E</b>	
Ont.....	28	Edwards, R. J., Toronto.....	
Canadian General Electric Co., Toronto... 13		Electrical Construction Co., London, Ont ... 13	
Canadian Helvo Safety Boiler Co., Toronto..			
		Electric Engineering & Supply Co., Montreal. 41	
		Empire Machine and Metal Stamping Co.,	
		Toronto (See Stanyon).....	14
		Engineering Review, London, England.....	48
		Expanded Metal & Fireproofing Co., Toronto.. 35	
		<b>F</b>	
		Ferguson, J. D., Hamilton, Ont.....	34
		Fetherstonhaugh & Co., Toronto.....	ofc
		Firstbrook Box Co., Toronto.....	41
		Fleming, W. A. & Co., Montreal.....	39
		Forman John, Montreal.....	14-46
		<b>G</b>	
		Gurtshore, John J., Toronto.....	9
		Gurtshore-Thomson Pipe & Foundry Co.,	
		Hamilton, Ont.....	2
		Golgy Anilino & Extract Co., New York, N.Y. 36	
		Globe Machine & Stamping Co., Cleveland,	
		Ohio.....	38
		Goldie & McCulloch Co., Galt, Ont.....	3
		Greenitz B. Wire Co., Hamilton, Ont.....	6
		Greey, Wm. & J. G., Toronto.....	obc
		Gutta Percha & Rubber Mfg. Co., Toronto... ofc	
		<b>H</b>	
		Hamilton Brass Mfg. Co., Hamilton Ont.....	
		Hamilton Facing Mills Co., Hamilton, Ont.... obc	
		Hamilton, Wm. Mfg. Co., Peterborough, Ont. 7	
		Hamilton Stamp & Stonel Works, Hamilton,	
		Ont.....	41
		Hart & Co., Chicago, Ill.....	43
		Hart Corundum Wheel Co., Hamilton, Ont... 14	
		Hay, Peter Knif Co., Galt, Ont.....	39
		Hays, Thomas & Son, Toronto.....	9
		Hoffmann, Jules G., Detroit, Mich.....	34
		Holden, Arthur P., Toronto.....	9
		Hore, F. W. & Son, Hamilton, Ont.....	44
		Hunt, Robert W. & Co., Chicago, Ill.....	9
		Hutcheson, S. M. Palsley, Ont.....	40
		Hyde Bros. & Co., Pittsburg, Pa.....	40

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## INDEX TO ADVERTISEMENTS (Continued).

I	PAGE		PAGE	S	PAGE
Imperial Oil Co., Petrolia, Ont.	49	McKinnon Dash & Metal Works Co., St. Catharines, Ont.	ofc	Shaw, Willis, Chicago, Ill	7
Industrial Publication Co., New York, N.Y.	47	McLaren, D. K., Montreal and Toronto	38	Shawmut Coal & Coke Co., St. Marys, Pa., and Hamilton, Ont	34
Industries, Youngstown, Ohio	47	McLaren, J. C., Belting Co., Montreal and Toronto	ofc	Sheldon & Sheldon, Galt, Ont	12
<b>J</b>					
Jeffrey Mfg. Co., Columbus, Ohio	5	<b>N</b>			
Jones & Moore Electric Co., Toronto	13	Neff & Postlethwaite, Toronto	9	Shepard, Charles G., Buffalo, N Y	8
Jones, J. L., Engraving Co., Toronto	47	Northern Aluminum Co., Shawinigan Falls, Que., and Pittsburgh, Pa	5	Shipman, O. W. Co., Detroit, Mich	35
<b>K</b>					
Karch, H. W., Hospeler, Ont	37	Nova Scotia Steel & Coal Co., New Glasgow, N.S.	4	Simpson, T. T., Descheneux, Que	9
Kelly's Directories, Toronto and London, England		<b>O</b>			
Kelsch, R. S., Montreal	9	Oakey, John & Sons, London, England	46	Sinclair, G. S. & Sons, Warton, Ont	29
Kerr Engine Co., Walkerville, Ont.	45	"Oliver" Machinery Co., Grand Rapids, Mich.	10	Sleeth, D., Montreal, Que	31
Klipstein, A. & Co., New York, N.Y.	36	Ontario Wind Engine & Pump Co., Toronto.	43	Slingsby, H. C. for Canada, Montreal	41
<b>L</b>					
Leonard, E. & Sons, London, Ont	3	Owen Sound Portland Cement Co., Owen Sound Ont	8	Smith Mfg. Co., Toronto	45
Leslie, A. C. & Co., Montreal.	ofc	<b>P</b>			
Lewis, Rice & Son, Toronto.	44	Packard Electric Co., St. Catharines, Ont.	12	Smiths Falls Malleable Castings Co., Smiths Falls, Ont	ofc
London Machine Tool Co., London, Ont.	42	Parke, Roderick J., Toronto	9	Spence, R. & Co., Hamilton, Ont.	41
Lord, The Geo. W. Co., Philadelphia, Pa., and Montreal, Que.	31	Patent Exchange & Investment Co., Toronto	9	Steel Age, Pittsburg, Pa	48
Lowell Crayon Co., Lowell, Mass.	43	Penberthy Injector Co., Windsor, Ont.	2	Stano on Metallic Furniture Co., Toronto	14
Lysaght, John, Limited, Bristol, England, and Montreal		Pennsylvania Fire Brick Co., Lock Haven, Pa.	8	Steeple, John Shaper Co., Cincinnati, Ohio.	38
<b>M</b>					
Marion & Marion, Montreal.	43	Perrin, William A. & Company, Limited, Toronto and Chicago, Ill	41	Stevens, Alfred J., Toronto	9
Meadows, Geo. B. Wire, Iron & Brass Works Co., Toronto	37	Peterborough Canoe Co., Peterborough, Ont.	41	Storey, W. H. & Son, Acton Ont	47
Metallie Roofing Co., Toronto	45	Petrie, H. D., Hamilton, Ont	9	Sturtevant, B. F. Co., Boston, Mass.	28
Meyercord Co., Chicago, Ill.	42	Petrie, H. W., Toronto	11-12-35	Syracuse Smelting Co., Montreal and New York	6-13
Mills, S. D., Toronto	9	Petroleum Iron Works, Washington, Pa	7	<b>T</b>	
Milner Petrolia Wagon Co., Petrolia, Ont	40	Phillips, Eugene F., Electrical Works, Montreal.	13	Toronto & Hamilton Electric Co., Hamilton, Ont	13
M'Innes, J. H. & Co., Toronto	35	Pittsburgh Coal Co., Pittsburg, Pa.	31	Toronto Paper Mfg. Co., Cornwall, Ont	46
Montreal Pipe Foundry Co., Montreal	4	Pittsburg Crucible Works, Pittsburg, Pa	31	Turner, Vaughan & Taylor, Cuyahoga Falls, Ohio	9
Morgan Construction Co., Worcester, Mass.	9	Pittsburgh Shafting Co., Detroit, Mich	ofc	<b>U</b>	
Morrison, T. A. & Co., Montreal	9	<b>Q</b>			
Morrow, John, Machine Screw Co., Ingersoll, Ont	41	Quebec Central Railway, Sherbrooke, Que.	6	United Electric Co., Toronto	ofc
<b>Mc</b>					
McArthur, Cornello & Co., Montreal.	ofc	Queen City Oil Co., Toronto	ofc	United Typewriter Co., Toronto	34
McCullough-Dalzell Crucible Co., Pittsburg, Pa.	31	<b>R</b>			
McDougall, John, Caledonian Iron Works Co., Montreal	51	Reicho & Co., Bradford, England	42	Vogel, C. H., Ottawa	9
<b>N</b>					
<b>O</b>					
<b>P</b>					
<b>Q</b>					
<b>R</b>					
<b>S</b>					
<b>T</b>					
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<b>V</b>					
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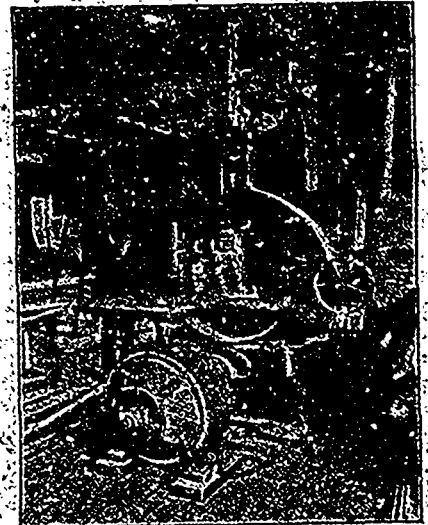
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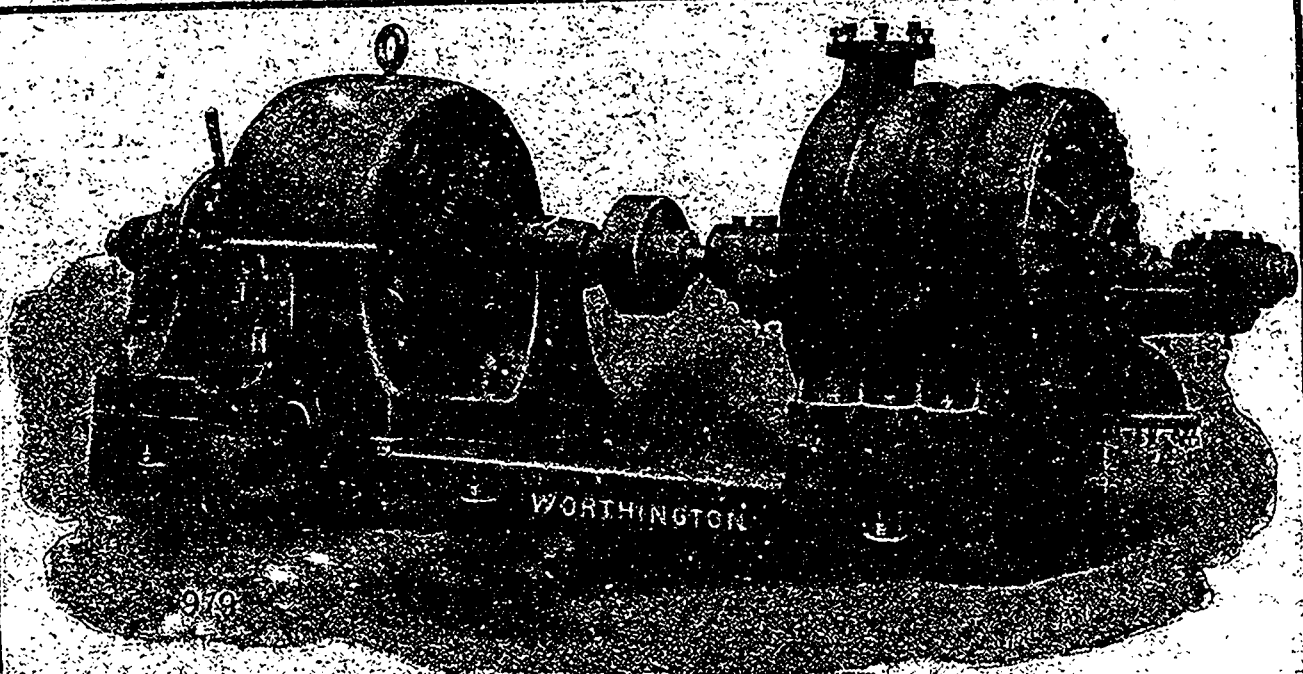
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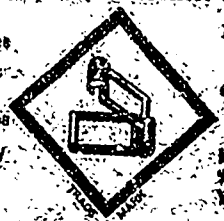
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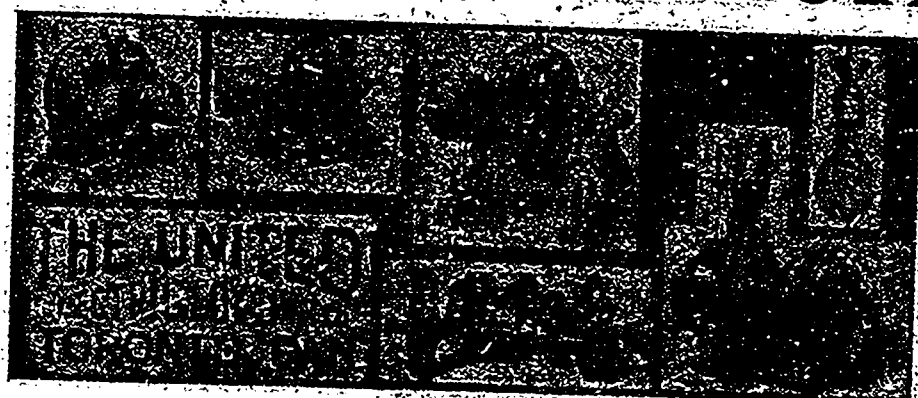
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