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AND INDUSTRIAL WORLD  
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Vol. 38. TORONTO, FEBRUARY 3, 1899. No. 3.

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**ELECTRIC HYDRAULIC STEAM HAND-POWER**

All made of the best material and finest workmanship

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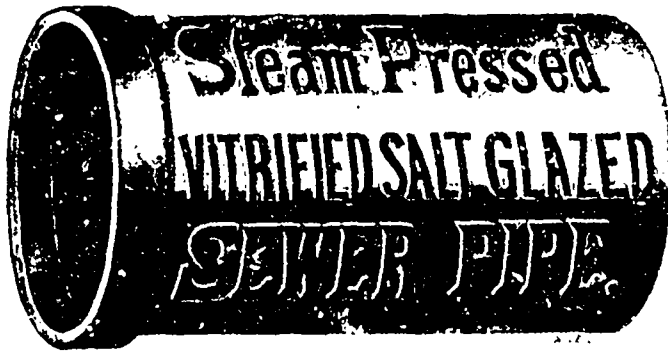
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**Malleable Castings**

ALSO LIGHT GRAY IRON CASTINGS.

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Is Equal to any Cement made in the WORLD.

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Suitable for Car Wheels, Cylinders and Fine Castings,  
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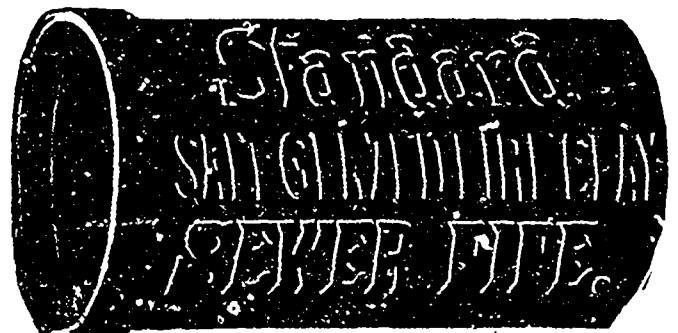
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For Electric Lighting Mills, Factories,  
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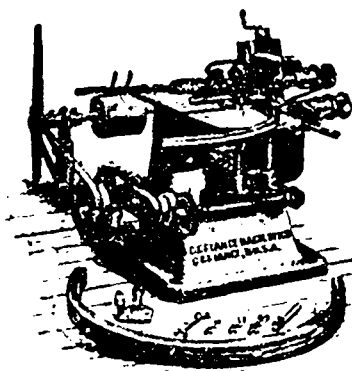
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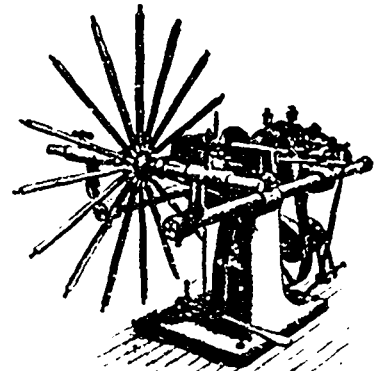
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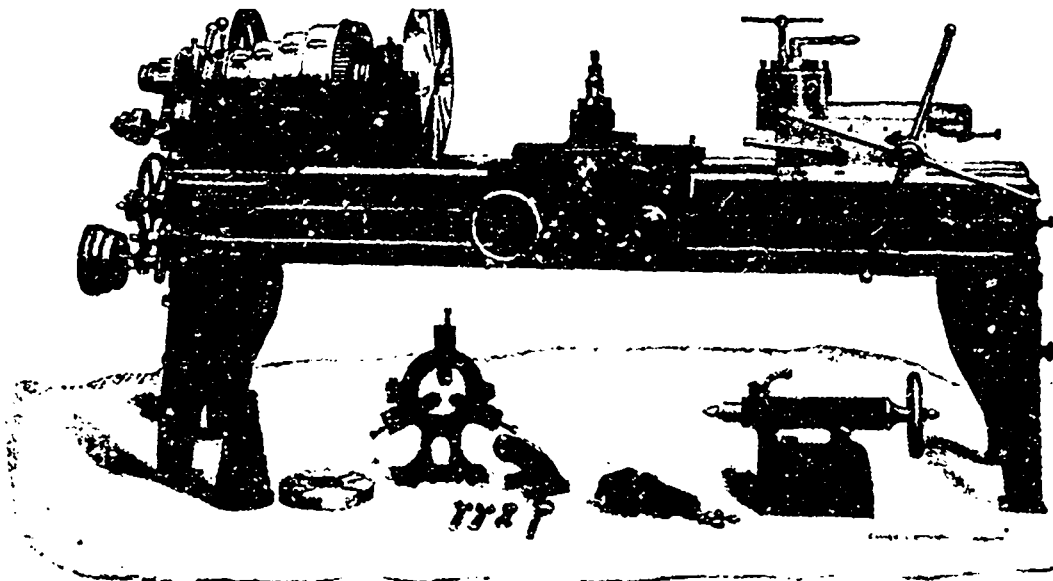
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To clear out  
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FROM 1/2 TO 6 INCHES IN DIAMETER. GUARANTEED STRAIGHT AND TRUE TO WITHIN 1/32 OF AN INCH.

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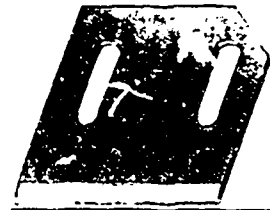
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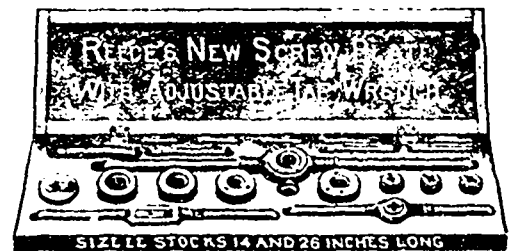
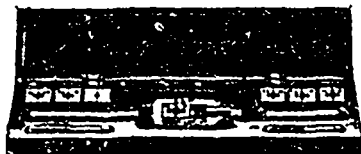
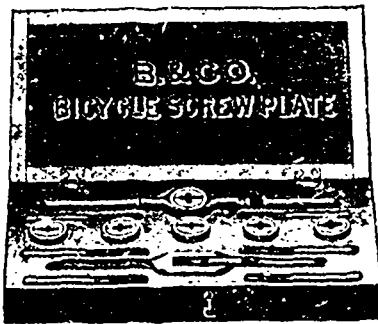
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We Manufacture— **STEEL BOILERS**

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STEEL STEAM VESSELS OF EVERY DESCRIPTION. STEAM YACHTS AND LAUNCHES.  
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### Patent Rock Wall Plaster

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In every variety and style. Moccasins.

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FINE BANK OFFICE, COURT HOUSE & LIVING STORE FITTINGS.

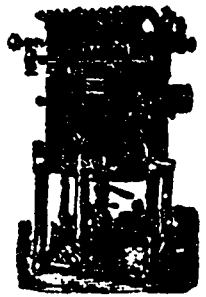
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## WEBSTER VACUUM Feed Water Heater

IN PROPORTION

<p>MAXIMUM EFFICIENCY ECONOMY DURABILITY CONVENIENCE SIMPLICITY</p>	<p>To the extent that Feed Water Heaters in general are investigated and understood the more the WEBSTER VACUUM FEED WATER HEATER and PURIFIER is appreciated.</p>	<p>MINIMUM ATTENTION SPACE WASTE REPAIRS COST</p>
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←—FOR THE REASON THAT IT REPRESENTS—→

BEFORE PURCHASING ELSEWHERE GET A BID FROM US.

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

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

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The **Packard Electric Co., Limited.**

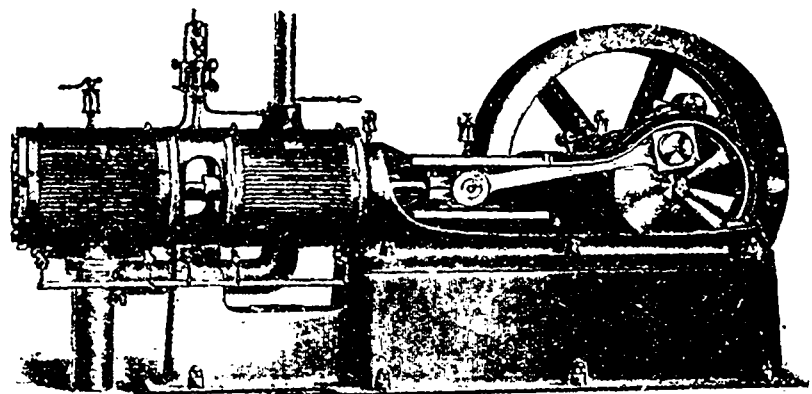
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Sole Agents for SCHEEFFER RECORDING WATT METERS  
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CENTRE OR SIDE CRANK



In the Tandem Compound the high pressure cylinder is placed next the frame, and both pistons and cylinder heads may be withdrawn through the low pressure cylinder without disturbing the cylinders, valves or other parts. Both valves are controlled by the governor, so arranged that an equal amount of work is done in each cylinder.

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**GENUINE EMERY**

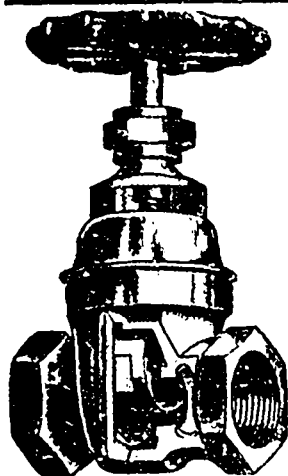
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**STRAITWAY VALVE**

For  
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**EVERY VALVE TESTED.**

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Solo Manufacturers for Canada. Send for Price List.

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

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

OF ANY DESCRIPTION.  
 AND  
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**MONTREAL, QUE.**

Western Office.... **TORONTO, ONT.**

**S.K.C. Two-Phase Alternators**

Incandescent Light, Arc Light and Power from same Dynamo and Circuit.

**Highest Efficiency**

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**Slow Speed**

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**No Collector**

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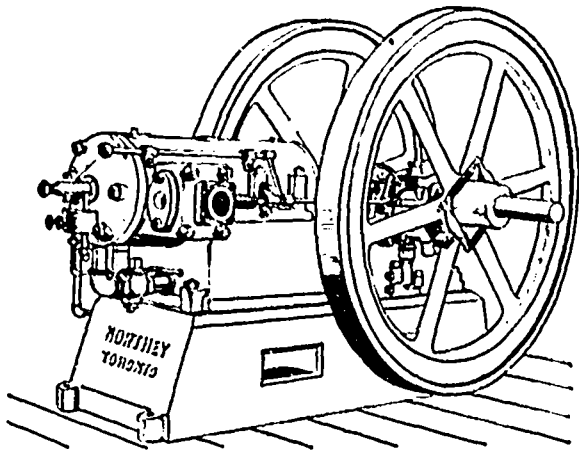
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4 TO 100 H. P.

It is CHEAPER than any other power, whether you want 4 h.p. or 200 h.p. It is replacing even Water Power. Let us hear from you as to your power needs. We furnish SMALL POWERS, geared to Electric Plants, for factory and house lighting.

**Northey Mnfg. Co., Limited,** 1000 King St. W.  
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Manufacturers of STEAM AND POWER PUMPS OF ALL KINDS.

## Exporters from Canada...

Desiring information regarding the best facilities for shipment abroad, with whom correspondence may be had, and to whom consignments may be made, should correspond with.....

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Toronto, Canada

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**IMPERIAL LAMPS  
ARE GOOD  
LAMPS.**

We Have a Catalogue.

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We have very close connections, and can sell ELECTRIC SUPPLIES, HOUSE GOODS, etc., at bottom prices.

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ESTABLISHED IN 1880.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

Official Organ of the Canadian Manufacturers' Association.

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CANADA AND UNITED STATES, - - - \$1.00 PER YEAR.  
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## USEFUL VS. USELESS INFORMATION.

Recently when Lord Strathcona and Mount Royal, who is Canada's High Commissioner in London, was in Canada he visited Ottawa and, according to a special telegram in The Globe, called upon the Deputy Minister of Trade and Commerce and discussed with him the subject of trade between Canada and Great Britain. His Lordship offered, we are told, a number of suggestions which, if acted upon by Canadian producers, might result in the establishment of new lines of commerce between the two countries, and several lines of products were named that it was thought might find profitable sale in Britain. Glucose manufacturing, we are told, had been tried in Canada with only fair success, but there was no reason why that industry should not be brought to a high state of development, as all the natural conditions are favorable, but at present the British demand is almost entirely supplied from the United States.

It is quite true that Indian corn is the raw material mostly used in making glucose, and it is also true that corn is admitted duty free into Canada, the production in this country being quite inconsequential, but it has long since been demonstrated that glucose cannot be made to advantage in Canada, and it is a fact that jam-makers and confectioners here find it to their advantage to use American glucose upon which they pay a duty, rather than Canadian glucose. Therefore the suggestion of Lord Strathcona that Canada might profitably engage in the manufacture of glucose for the British market is not likely to be acted upon.

The Globe, too, through its London correspondent, undertakes to point out some openings in Great Britain for Canadian products, one of its recent suggestions being that a large

firm of dealers there, are now negotiating concerning a quantity of honey which a Montreal house wishes to dispose of. Now there are many apiarists in Canada who would like to sell honey if they were informed the names of dealers in Great Britain with whom they might correspond, and The Globe's correspondent might have conferred a favor on these if he had mentioned the names of British dealers with whom correspondence might be had. As it is the information is quite useless.

The Globe correspondent says :—

The following are some of the inquiries relating to Canadian trade received by the High Commissioner during the past week, respecting which he invites correspondence from Canadian merchants and shippers. It will be noted that some of them are of great importance :—

A London paper agent wishes to get into communication with some Canadian pulp mills making paper, or some new mills starting in the business.

A firm of essence manufacturers are desirous of finding an opening in Canada for their goods.

An inquiry has been received from Dresden for the names of asbestos and woodpulp exporters.

A Liverpool house has asked for lists of the principal manufacturers of candles and soap ; rubber goods and sugar refiners.

Maplewood blocks for flooring purposes are inquired about by a firm in the trade. The blocks required must be tongued and grooved, according to patterns.

There is a demand for Canadian horses in several Italian cities, for omnibus, tram and van work, and inquiries have been made regarding this branch of trade.

We imagine that the duties of the High Commissioner lie more in the direction of pointing out openings for Canadian trade abroad than in finding Canadian customers for London paper agents, manufacturers of essences, supplies, etc. ; and these seekers after Canadian business should naturally have advertised their propositions in Canadian trade papers rather than asking Lord Strathcona to assist them. If British concerns are in want of maplewood blocks for flooring purposes, and if Italian traders are in want of Canadian horses, the names of the parties should have been given, so that those in Canada who can furnish such articles would know with whom to communicate. As it is such information is entirely useless.

## THE HELPING HAND.

The Shareholder, discussing the exports of manufactures from Canada, says :—

We are led to believe that foreign markets do not receive that attention from Canadian manufacturers that they ought to have, and that they do not watch them as closely as they ought to do. \* \* \* We trust our manufacturers will realize that the restrictions which the limits for the home markets impose upon their output may be greatly extended by the judicious exercises of that activity and push which characterizes their competitors in the United States.

Our contemporary's article was pointing out the possibilities of trade in South Africa and elsewhere, and the vigorous manner in which American manufacturers are struggling for such trade.

Under all the attending circumstances we think that Canadian manufacturers are showing remarkable energy in seeking foreign trade, but it should be remembered that they are handicapped by the supineness of the Canadian Government in not doing for them that which the United States Government, and the British Government, and the Govern-

ments of all the manufacturing countries of Europe find it absolutely important to do for their manufacturers. All these Governments require of their consuls and commercial agents in every country and in all portions of the world to make diligent enquiries and investigations into the conditions of trade in the places where they are located, and to report the same at frequent intervals to their home Governments; and these Governments in turn give publicity to these reports for the information of those who may be interested in them. In fact the United States Government issue publications on every lawful day of the year embodying the reports of American consuls in all parts of the world, sending them out broadcast and free to the manufacturers of that country. Not so with Canada. It is true we maintain commercial agents in a few countries, and these gentlemen transmit valuable information, but before the red-tapeism at Ottawa permits these reports to be published in Blue Books, the information loses much of its value by delay, and there appears to be no systematic distribution of it to those who are most interested. American, British, French, German, Russian and Italian consuls and commercial agents are numbered by hundreds for each country. Canada maintains just seven, to which number may be added three gentlemen in England, one in Scotland and one in South Africa who will answer inquiries relative to trade matters when applied to.

The Canadian Manufacturers' Association, appreciating the difficulties that our manufacturers who desire to engage in export trade, labor under in his direction, issue monthly Bulletins in which is given such information on the subject as may be available; and THE CANADIAN MANUFACTURER also gives several pages of similar character twice a month, all of which is a labor of love; but before our manufacturers can hope to be as successful in their efforts to capture foreign trade as their American and other competitors, they must have encouragement from the Canadian Government similar to that given by other countries.

#### NEWSPAPER POSTAGE.

We find a queer editorial in The Canadian Engineer in which the Postmaster-General is severely and, in our opinion, unjustly criticized because of the creation of zones of forty miles within which certain newspapers are allowed free transmission through the mails, while without those zones postage is exacted. In the affairs of this life equal justice to all is simply unattainable, particularly in the matter of postage. It seems anomalous that the same amount is exacted upon a letter posted for delivery in the next town as that required for delivery ten thousand miles away, but it is conceded that it is quite proper to do so. For many years all Canadian newspapers going to regular subscribers were carried free of postage, but we could never see why such commercial articles as newspapers should be transported at Government expense, any more than any other commercial articles. The Government has assumed the monopoly of transporting what is known as mail matter, and we can conceive of no good reason why those who are benefitted should not bear a fair share of the cost of transportation; and now when an effort is being made to equalize this cost and to impose a fair share of the burden upon those most benefitted, we find that the scales of equal and exact justice do not preserve a perfect

equilibrium. We should be slow to stigmatize the act of a high officer of the Government as being weak and shady, and to intimate that he was moved by a craven fear of anything or anyone. Under the present law The Engineer is carried through the mails free of charge to all post offices within a radius of twenty miles, within which radius must be the office of publication, but it is not necessary that that office should be the centre of the radius. The same rule applies to country newspapers, and we fail to see why our contemporary should make mouths at the Postmaster General, and say unkind things about him because The Engineer is not carried free beyond the radius.

#### AN EVER PRESENT DANGER.

The explosion of a steam boiler on the premises of the Knickerbocker Ice Company, Toronto, on January 20th, emphasizes the laxity of the law in not requiring that the use of steam boilers that had not been properly inspected and certified to, should not be allowed. The Dominion law does not allow of the use of a steam boiler in any vessel that has not been properly inspected, a violation of which subjects the offender to fine and imprisonment; and it is equally an offence for anyone not properly licensed to take charge of and operate the machinery of any passenger-carrying steam vessel be it large or small. But the authority of the Dominion does not extend to or cover the operation of steam plants on land, and the Provincial Legislature has never yet enacted such a law. Under the Dominion law a passenger cannot travel on a steamer over the intervening mile between Toronto and the Island that has not been duly inspected, but tens of thousands of men, women and children in going along our most crowded thoroughfares unconsciously pass over sidewalks and by buildings, beneath and within which are concealed steam boilers that are never inspected by competent examiners, and that are quite as liable to explode as the one here alluded to. The unseen danger is ever present, and when, through carelessness or bad management an explosion occurs, resulting in death, mourning, pain and suffering, and destruction of property, the event is usually denominated an "accident." It would be a just and humane law that would prohibit the use of a steam boiler anywhere that had not been thoroughly and frequently examined by an expert.

#### THE WORLD'S PRODUCTION OF PIG IRON.

In a paper which was prepared last year by Mr. James M. Swank, General Manager of the American Iron and Steel Association, for the United States Geological Survey on "The American and Foreign Iron Trades in 1897," the world's production of pig iron at three widely separated periods in the last half of the present century was discussed. Mr. Swank states that in 1856 Mr. A. S. Hewitt read a paper before the American Geographical and Statistical Society, at New York, "On the Statistics and Geography of the Production of Iron," in which, for the first time, an attempt was made to ascertain the world's production of pig iron. Mr. Hewitt was compelled to estimate the production of several countries, but the total production which he obtained for the world was substantially correct. He found that the total production in 1855, was, in round numbers, 7,000,000 gross tons. Great Britain's percentage of the total production approximated 50

per cent., while that of the United States was less than 15 per cent.

Twenty years ago, in a review of the iron and steel exhibits at the Universal Exposition at Paris in 1878, Mr. Swank made an attempt to ascertain the world's production of pig iron in that year, and the figures then collated from the best available sources was subsequently revised and printed in his Annual Report for 1883. The results then obtained are reproduced in The Bulletin as below, including the percentage of production by each country. Gross tons are used for Great Britain and the United States and metric tons for all other countries. The figures show that the world's production of pig iron just doubled from 1855 to 1878.

Countries.	Tons.	Percentage.
Great Britain.....	6,381,051	44.74
United States.....	2,301,215	16.13
Germany and Luxemburg.....	2,147,641	15.06
Franco.....	1,521,274	10.67
Belgium.....	518,646	3.64
Austria and Hungary.....	434,250	3.04
Russia.....	417,239	2.93
Sweden.....	340,858	2.39
Spain.....	60,000	0.42
Italy.....	20,000	0.14
Other countries.....	120,000	0.84
Total.....	14,262,174	100.00

It will be seen that Great Britain made 44.74 per cent. of the world's production of pig iron in 1878 and that the United States made 16.13 per cent., Great Britain retaining her leadership of 1855 and almost retaining her large percentage of production in that year, while the percentage of the United States in 1878 was almost the same as in 1855, and a very low percentage it was, Germany and Luxemburg making almost as much pig iron in 1878 as the United States.

Mr. Swank presents a table showing the world's production of pig iron in 1897, compiled in most instances from official data, the unofficial figures approaching absolute accuracy. Tons are used as in the preceding table. The figures show that the world's production of pig iron more than doubled from 1878 to 1897.

Countries.	Tons.	Percentage.
United States.....	9,652,680	29.30
Great Britain.....	8,789,455	26.69
Germany and Luxemburg.....	6,879,541	20.89
Franco.....	2,472,143	7.51
Belgium.....	1,034,732	3.14
Austria and Hungary.....	1,217,782	3.70
Russia.....	1,868,671	5.67
Sweden.....	538,197	1.63
Spain.....	297,100	0.90
Italy.....	8,393	0.03
Canada.....	53,796	0.16
Other countries.....	125,000	0.38
Total.....	32,937,490	100.00

The table shows that in 1897 the United States produced 29.30 per cent. of the world's production of pig iron, while Great Britain's share of the total production of pig iron was 26.69 per cent.—the United States having passed since 1878 to the front as a producer of pig iron, Great Britain taking second place in its production. The relative position of the United States in the production of pig iron will be fully maintained in 1898.

Recapitulating the world's production of pig iron at the three periods mentioned above, namely, 1855, 1878, and 1897, we have these results: 1855, 7,000,000 tons; 1878, 14,262,174 tons; 1897, 32,937,490 tons. Mr. Swank compares these re-

sults with some remarkable predictions made by Mr. Hewitt in his address above referred to.

Looking backward over the world's iron history during the century preceding his address Mr. Hewitt reached the conclusion that the future production of pig iron might be expected to double once in twenty years, except from 1895 to 1915, with the following results: 1875, 14,000,000 tons 1895, 28,000,000 tons; 1915, 48,000,000 tons; 1935, 96,000,000 tons; 1955, 192,000,000 tons.

Mr. Hewitt's prediction that the world would make 14,000,000 tons of pig iron in 1875 was practically verified, although Mr. Swank's statistics show that it was not until 1878 that the production reached 14,262,174 tons. But it will be remembered that the period from 1875 to 1878 was one of almost complete stagnation in the world's iron and steel industries, so that, if the statistics of the production of pig iron in all countries in 1875 were given it would be found that the production in that year was very little short of that of 1878. The statistics of the world's three great pig iron producers in 1875 and 1878 are given as follows to prove the accuracy of this statement: Great Britain, 1875, 6,365,462 tons; 1878, 6,381,051 tons; United States, 1875, 2,023,733 tons; 1878, 2,301,215 tons; Germany and Luxemburg; 1875, 2,029,389 tons; 1878, 2,147,641 tons. These figures show very little progress from 1875 to 1878, so that virtually 14,000,000 tons, Mr. Hewitt's estimate, may be said to have been produced in 1875.

"Going back to our Annual Statistical Report for 1896," says Mr. Swank, "we find that we then presented a table showing the world's production of pig iron in 1895, one of the years embraced in Mr. Hewitt's horoscope. The production in that year was given as 28,870,792 tons. Mr. Hewitt's prediction was 28,000,000 tons for that year."

It appears, therefore, that, 43 years ago, a statistical student of the world's iron industry—at a period, too, when industrial statistics were in their infancy, foretold with remarkable accuracy the world's future production of pig iron down to the present time. That Mr. Hewitt's estimate of pig iron production in the years that are before us is likely to be more than realized is rendered exceedingly probable by the rapid strides that have been made in its production in the last few years, and particularly in 1898.

### LESSONS IN ECONOMICS.

The Toronto Globe is an acrobat of exceeding agility as can be seen in the following which it publishes as "A Lesson in Economics":—

A majority of the calico printers in England and Scotland have entered into a combine with a capital of £50,000,000, and it is thought almost all the leading establishments will be absorbed. The result of this will tend to dispel the belief that combinations in ordinary trade and industry are in themselves injurious. It is not the combinations, but the conditions which give them undue authority, which are the real cause of the evil. This combine among the calico printers cannot raise the price to the consumer above the normal competitive level, for the simple reason that the consumer has the whole world to buy from. Were the consumer restrained by a protective tariff he would be at the mercy of the combine to the full extent of that tariff and would be forced to pay the real value of the goods plus the impost. Clearly it would not be the combine but the tariff which would be to blame, for the combine would be powerless to advance prices without the aid of the legal obstructions. In the other

line of combine operations, the cutting of wages, it is the surrounding conditions and not the combine which is to blame. While men find their labor in demand or while they are able to employ themselves, no combine can lower their wages beyond the level of the actual productiveness of their work. It is only when there are two men after one job and both are unable to otherwise employ themselves that the combine can effect a wage reduction, and under such conditions wages must fall, irrespective of the formation of combines. Current attacks on combines are attacks on an effect instead of on a cause of injustice.

The Globe has heretofore taught that combines were the peculiar products of protection tariffs, and that they are practically impossible under free trade. Now it tells us that were the consumer restrained by a protective tariff he would be at the mercy of the combine to the full extent of that tariff, and that it would not be the combine but the tariff which would be to blame for any increase in prices. Thus The Globe shifts ground when the combine occurs in free trade Britain, instead of in protective United States or Canada.

But now The Globe publishes a press telegram which states that all the important companies in the world which are engaged in the production of borax and boracic acid have joined in a trust. This combination includes the owners of the main deposits of borax and extends through the United States, England, France and South America. It will control the world's supply of the product. It is expected that announcement will soon be made in London of the details of the new company, which will be known as The Borax Consolidated, Limited. The leading constituent companies are the Pacific Borax and Redwood Chemical Company, the Borax Company, of England; the Societe Lyonnaise, of France; and the various South American companies which are chiefly engaged in supplying the raw material to European refiners. The capital stock will amount to \$7,000,000 and there will be an issue of \$5,000,000 of bonds.

Now if this combine had applied to the United States only, and the probable increase in the price of borax confined to that country The Globe would have declared that the increase would have been caused by the tariff.

Singularly enough the same issue of The Globe that contained the foregoing "Lesson in Economics," relating to calico printers in Great Britain, and the news about the world-wide borax combine, also contains another press telegram from London, as follows:—

Mr. Chamberlain, Secretary of State for the Colonies, has obtained the consent of the remainder of the Cabinet to the inauguration of a policy of trade retaliation against France, as that country continues to cripple the British sugar-growing colonies by the bounty system. This will be practically the first departure from the British free trade policy towards anything that savors of protection. Three other sugar bounty nations, Germany, Austria and Holland, have consented to reduce their bounties a certain amount yearly, until the system is wiped out. They make it a condition of this progressive reduction that France shall join in the plan. The French Government up to the present has refused to make a similar agreement, and if she persists Mr. Chamberlain will lay before Parliament a bill for levying countervailing duties on French sugar. Mr. Chamberlain has been impelled to this course by the desperate situation of some of Great Britain's tropical colonies. Barbadoes, Dominica, Mauritius and other possessions, once flourishing, have been reduced almost to ruin and bankruptcy of late years. Their sugar-cane growers have found it impossible to compete in the world's markets with the bounty-fed beet sugar industry of Europe.

And so Great Britain, according to this telegram, is to abandon free trade and adopt a policy of retaliatory or coun-

tervailing duties upon a certain foreign products imported into that country, as a protective measure in favor of a similar article produced in a British country, that would certainly die of strangulation without the protection.

#### PROVINCIAL RIGHTS.

The Ontario Government has been notified that the Michigan lumberman who are cutting timber on Crown lands this winter will make application in the spring to be allowed to float their logs across to the other side, and in the event of a refusal, will issue a writ against the Government for damages. The grounds for issuing the writ are that the manufacturing clause inserted in the timber licenses is a violation of vested rights, and that the timber legislation enacted by the Legislature is an interference with trade and commerce, and therefore unconstitutional. This will lead to the whole question being fought out in the courts, and being ultimately carried, perhaps, to the Privy Council, unless the Ontario Government recedes from its present position. The friends of the Ontario Government, however, say there is no likelihood of the latter backing down unless the Americans make a concession that will be acceptable to the lumbermen of this province. That concession is the free admission of Canadian lumber into the United States.—The Globe.

Our American friends seem to labor under a delusion regarding the rights of the Ontario Government in the matter of requiring that logs cut on Government lands shall be manufactured into lumber in Ontario. There is no doubt that the Government have the right to regulate this traffic to suit themselves. There is no interference with the vested rights of any man be he American or Canadian. The Government have the right, and exercise it at their discretion, to say upon which particular areas of land logs may be cut, this right going so far as to allow the Government to place areas upon the market and to withdraw them at their pleasure. They have the right to fix a minimum price upon the timber, and all these rights being conceded, they have the undoubted right, when selling areas, to stipulate that the logs cut upon them shall be sawn into lumber in the province, and not removed from the province until manufactured into lumber. The interdiction of the law complained of, does not extend to logs cut previous to the enactment of the law, neither is there any prohibition against the removal of logs cut upon other than Government lands.

If the Michigan lumbermen appeal to the Ontario courts to annul and set aside an act of the Ontario Legislature, the case would be hung up in the courts for a long, long time—probably long enough to allow saplings to become mighty trees. If the appeal is to the Dominion Government to disallow and veto the Act, we take it that Sir Wilfrid Laurier and his Cabinet would meditate a long while before issuing an order that he could not possibly enforce, and he does not want to go out of power just yet. If the matter is carried to the Privy Council it is not likely that the Queen's advisers would recommend a course of coercion that would certainly end disastrously. The events that led up to 1776 are still remembered. Then what are the Michigan lumbermen going to do about it? The Ontario Government have adopted the policy of "Free Lumber for Free Logs," and as long as it stands by this policy it will have the backing of the people.

This inherent right of the provinces to regulate their own affairs in any manner most agreeable to them is being put into active operation not only in Ontario, but also in Quebec

and British Columbia under a stress that makes such action absolutely imperative. The Government of Quebec will not consent to have its vast tracts of land denuded of spruce logs to the end that American pulp and paper mills may be supplied with free raw materials, while pulp and paper mills in that province are debarred from the American market by a prohibitory tariff; and the eternal equity of things certainly gives British Columbia as good a right to debar all but Canadians from acquiring mining rights in that province as it does the United States to debar all but citizens from acquiring mining rights in that country.

The Dominion Government do not deem it advisable to impose export duties on pine logs, pulpwood, etc., a thing that the provinces could not do, but the provinces certainly have the right to protect their interests by prohibiting the removal of logs and pulpwood grown upon their own lands from their territory until converted into lumber and pulp.

The proper exercise of these provincial rights at this time is the salvation of Canada.

#### EDITORIAL NOTES.

The Canadian Manufacturer Publishing Company, Limited, will, at an early date begin the publication of an Export Edition of THE CANADIAN MANUFACTURER.

The National Association of Manufacturers of the United States held their regular annual convention in Cincinnati, Ohio, on January 24th to 27th inclusive. The following officers were elected for the ensuing year: President, T. C. Search, Philadelphia; Secretary, E. P. Wilson, Cincinnati; Treasurer, C. A. Schieren, New York. A Vice-President for each State of the Union was also elected, and a strong Executive Committee. Fifty-three members signed a pledge to get two new members each, during the coming year. As the annual dues are \$50 this will add \$5,300 per year to the treasury of the Association.

Our esteemed contemporary, The Manufacturer, of Philadelphia, in enumerating the rates of postage from the United States to other countries, says: "To Canada, including Nova Scotia, New Brunswick, Manitoba, and Prince Edward Island; letters, two cents," etc. These provinces together with others from the Dominion of Canada. In enumerating the rate of postage from Canada it would be superfluous to say "To United States, including New York, Ohio and Texas."

Several Hamilton ladies went to Buffalo Thursday to attend a concert. Several of them wore sealskin garments. The Buffalo customs officials saw these seal garments, and ordered the wearers to appear before the collector of customs. The ladies had no other wraps, one of them was ill, and it was in the middle of winter, yet the officials insisted upon taking the sealskins away. After much annoying experience a well-known citizen of Buffalo came to the rescue of the ladies, and succeeded in arranging matters satisfactorily with the customs people. Of course the customs people are not to be blamed; they did what the law compelled them to do, and were not unduly officious or unnecessarily harsh. But what shall be said of a great, overgrown nation of seventy millions of people which has such picayune laws on its statute book, put there

expressly for the annoyance of Canadians, in "retaliation" for the perfectly proper and legal catching of seals by Canadians? The great American nation ought to feel proud that it has been able to annoy a party of Canadian ladies who went to the United States to attend a concert, and who know nothing of the miserable petty regulations of the United States custom house.—Hamilton Spectator.

A rather novel request has been preferred to the Dominion Commissioner of Agriculture. The McCready Manufacturing Syndicate, of London, England, has gone extensively into the business of desiccating eggs, and is now looking for an opening in Canada to establish a branch factory. A representative of the company, who was recently in Ottawa, wanted to find a locality where eggs could be purchased wholesale at eight cents per dozen, but Prof. Robertson could not give the information. The commissioner says that ten cents per dozen is the lowest figure at which eggs can be produced at a profit, and then only during the summer season. There is nothing small about the McCready company. As Prof. Robertson states, fresh Canadian eggs are worth at least ten cents per dozen for shipment to London, and we fail to see why the company should expect to purchase at twenty per cent from that price.

We clip the following from one of "The Growing Time" items of the Toronto Globe:

Messrs. Dufton & Sons, proprietors of the Stratford Woollen Mills, report that their trade during the past two years has been exceptionally good. "We were told," said Mr. E. T. Dufton, senior member of the firm, "that without the N.P. our business would go to ruin, but we have found it exactly the opposite, and, though as yet there is no great increase, we are all busy, something which was not always the case before." This firm has substituted the wide looms for the narrow, and is therefore enabled to turn out a larger amount of manufactured goods without increasing the payroll. Mr. Dufton stated that at present he is hampered for room, but as yet does not know whether he will build an addition to his already extensive mills or introduce new labor-saving machinery. As it is, the firm is continually installing the most approved modern machines, having spent several thousand dollars in the past two years for this alone. At present there are on the pay roll about forty-five hands.

Assuredly Mr. Dufton is not correctly reported, for he must know that the same protection that was afforded his industry before the present government came into power still remains, and if his business is in the prosperous condition represented by him, it cannot be credited to any abandonment of the National Policy. One reason for the improvement in the business of the concern lies in the fact that wide looms have been substituted for narrow, by which larger quantities of goods are produced without increase of payroll.

Although the capital of American trusts has reached the billion mark, the people are still afraid to allow themselves to buy anywhere else.—Toronto Globe.

Will the Globe kindly say why the people of the United States should desire to buy in any other country anything whatever that they can make better and cheaper at home? Timidity does not seem to afflict the American people, and they are not afraid of foreign competition, but they seem quite determined that foreign competitors shall not enjoy the freedom of the American market unless they pay for the privilege. And right they are.

Premier Marchand, in the Quebec Legislature, said on the pulp question :—

It is actually painful for me to see how our pulpwood is going out of the country to the advantage of the United States pulp-mill owners, and I am ready to take any proper steps to preserve this wealth for our own people, but I think it would be a mistake to come to any hasty decision. We know that the question is before the international commission. The question is being discussed of removing the duty on pulp going into the United States, and if the duty is removed no measure on our part will be necessary. If the duty is retained, the position of the pulpwood millers will be such that it will be necessary to consider whether it will be necessary to adopt more means of compensating our manufacturers for the advantages which their United States competitor will enjoy over them.

The London Iron and Coal Trades Review has "slipped a cog" in the following statement: "British manufacturers have no sort of protection in any market and ask for none." The Canadian tariff, now in force, gives British products sent to Canadian markets preferential rates of duty of 25 per cent. as compared with the rates levied on American products. That is protection for British manufacturers against American competition. And has The Review forgotten those famous commercial treaties that Great Britain has always insisted on negotiating with other countries, whereby her manufacturers of special products which could be cheaply produced were granted free entry, or entry at low rates of duty, into markets which they could easily capture because the competing industries of the countries thus invaded had not been built up? These commercial treaties have protected British manufacturers against foreign competition in foreign markets. And what are British steamship subsidies but protection for British manufacturers against countries which do not help their manufacturers to reach foreign markets by subsidizing steamship lines?—J. M. Swank in The Bulletin.

A Montreal trade journal makes the following criticism of a method of its neighbor in obtaining subscriptions:—

A local trade contemporary, which has hitherto professed to hold its head very high and to look down upon its more enterprising rivals from a pinnacle of satisfied self-sufficiency, has made the humiliating discovery that in order to secure new subscribers it must increase its attractiveness by offering them an inkstand and a supply of ink valued at the full amount of the subscription in the hope that the public will thus be good enough to accept the journal for nothing.

The business world has long since awakened to the fact that anything given to them for nothing is usually worth just that amount. Offers of inkstands and stationery to the value of their subscription may tempt a few of the more speculative to take the paper on the same principle that children buy "prize" packages of candy for the sake of the brass jewellery they contain. But such pitiful inducements will not attract the solid and substantial firms who can afford to buy their own stationery and do not need to have it given to them. When firms of this class buy a trade paper they do so for the sake of the information it contains; and not because a bottle of ink is thrown in. The only inducement to them is the scope and character of the journal. And the mere fact that the circulation canvasser offers them ink to the full value of their subscription in addition is sufficient to repel them at once. They know that no really valuable paper needs to resort to such means of securing customers. Either it is worth the subscription, or it is not. If it is not, they will not take it even if the agent offered them a barrel of ink and a ton of blotting paper.

An interesting decision was recently rendered by the Supreme Court of Illinois, which strikes at the practice, now becoming quite common, of public officials prescribing that

only union labor shall be employed by contractors doing work for them. In the particular case adjudicated, the Chicago Board of Education had adopted such a rule, and the right of that body to do so was made the subject of a legal contention. The Court said in its decision:

Upon what theory it could be claimed that this Board of Education, which exercised merely the functions of the State in maintaining public schools within a limited portion of the State, can possess either power or discretion which the State, in its sovereign capacity, could not confer upon it, we are unable to imagine. No argument is made which would justify such a conclusion. There can be no greater power of the board to act of its own motion than by virtue of positive law. The results, in either case, are equally in conflict with the organic law, and such legislation, contract, or action, whatever form it may take, is void. Nor can the fact, if it be a fact, that an individual might make such a bargain, authorize these public officers, exercising a public trust, to do so. The individual may, if he chooses, give away his money, but the public officer, acting as a trustee, has no such liberty and no right to surrender to a committee or any one else the right of those for whom he acts.

According to this decision, says The American Manufacturer, no discrimination can be made against one set of citizens in favor of another, merely because the former do not belong to certain organizations known as "unions." If this could be permitted it would be lawful for an official board to provide that no work should be given to a contractor unless he agreed to employ only those of a certain religious belief or only of a certain nativity.

Scribner's Magazine for February brings forward several more of its attractive features for 1899. It is not a war number, although it contains one of the most graphic things yet written about the war—the second instalment of Governor Roosevelt's serial on "The Rough Riders." Senator George F. Hoar, of Massachusetts, begins his reminiscences of the political events of the past fifty years. These are intensely personal. Each instalment will stand alone, and the first deals with "Four National Conventions," in which the senator was a conspicuous figure, and over one of which he presided. "Aunt Minerva Ann" is destined to take her place alongside Uncle Remus as one of Joel Chandler Harris's two most humorous characters. The first of her Chronicles, in this number, tells how she "ran away from home and then ran back again." A. B. Frost, the best illustrator that Harris has ever had, makes the pictures for the Aunt Minerva Ann stories.

Outing for February contains a delightful assortment of tales of sport, adventure and travel. The fiction is a tale entitled "Ma Blonde," a complete story by M. Gertrude Cundill. A wealth of beautiful illustrations and the usual poems embellish a most satisfying number. The editorial and record departments have received the customary careful attention by leading writers in their various fields.

The up-to-date character of The Methodist Magazine for February is shown in the current interest of many of its articles. "Among the Filipinos" is an account of the islands on which the world's attention is now focused, with numerous engravings. Rev. J. C. Seymour writes an illustrated character-study of the Emperor Francis Joseph of Austria. Rev. Dr. Johnson concludes his paper on "Anglo-American Brotherhood." A sketch of "Michael Faraday," "Moses and Mythology," "Italy in Transition," "The World's Progress," with splendid pictures of Newfoundland, Science Notes, etc., make up a volume of special interest.

The February Ladies' Home Journal opens with an article by Mrs. Ballington Booth, taking the reader through State prisons, pointing out the awfulness of prison life, and the hopelessness of a released prisoner's efforts to gain unaided a place where he can get a livelihood. Mrs. Low Wallace writes of "The Murder of the Modern Innocents," a powerful and convincing protest against the over-education of children. The three serials, "The Girls of Camp Arcady," Miss Wilkins' "The Jameson in the Country," and "The Minister of Carthage" continue with dash and a successful interest. Barton Cheyney tells boys why and where they should learn trades, and William Martin Johnson continues his "House Practical" series; "Good Furniture and Furnishings" are pictured, "Making a Home Aquarium" is explained, and "Gowns for Unusual Figures" are shown. By The Curtis Publishing Company, Philadelphia.

# CANADIAN MANUFACTURERS' ASSOCIATION.

<p>President: <b>J. F. ELLIS.</b></p> <p>First Vice-President: <b>JAMES KENDREY, M.P.</b></p> <p>Second Vice-President: <b>P. W. ELLIS.</b></p> <p>Treasurer: <b>GEORGE BOOTH.</b></p> <p>Chairman Executive Committee: <b>R. W. ELLIOT.</b></p> <p>Chairman Tariff Committee: <b>W. K. McNAUGHT.</b></p> <p><i>The Executive Committee meet on the Second Tuesday of each month.</i></p>	<p><b>OFFICES</b></p> <p><b>McKinnon Building,</b> <b>TORONTO.</b> <b>Tel. 1274.</b></p> <hr/> <p><b>J. J. CASSIDEY, - SECRETARY.</b></p> <hr/> <p><b>THE OBJECTS OF THIS ASSOCIATION ARE:</b></p> <p>To secure by all legitimate means the aid of both Public Opinion and Governmental Policy in favor of the development of home industry and the promotion of Canadian manufacturing enterprises.</p> <p>To enable those in all branches of manufacturing enterprises to act in concert, as a united body, whenever action in behalf of any particular industry, or of the whole body, is necessary.</p> <p>To maintain Canada for Canadians.</p> <p>Any person directly interested in any Canadian manufacturing industry is eligible for membership.</p>	<p><b>CANADIAN INDUSTRIAL LEAGUE.</b> <i>President, . . . . . JAB. KENDRY, M.P.</i></p> <hr/> <p><b>WOOLEN MANUFACTURERS' ASSOCIATION,</b> <i>President, . . . . . BENNETT ROSAMOND, M.P.</i></p> <hr/> <p><b>KNIT GOODS MANUFACTURERS' ASSOCIATION,</b> <i>President, . . . . . JOHN PENMAN.</i></p> <hr/> <p><b>CARPET MANUFACTURERS' ASSOCIATION,</b> <i>President, . . . . . J. P. MURRAY.</i></p> <hr/> <p><b>GLOVE MANUFACTURERS' ASSOCIATION,</b> <i>President, . . . . . A. R. CLARKE.</i></p> <hr/> <p><b>REPRESENTATIVES TO</b> <b>TORONTO INDUSTRIAL EXHIBITION ASSOCIATION.</b></p> <p><b>R. W. ELLIOT.</b>                      <b>GEORGE BOOTH.</b> <b>W. K. McNAUGHT.</b>              <b>A. E. KEMP.</b> <b>J. J. CASSIDEY.</b></p>
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## CANADA'S COMMERCIAL AGENTS.

Following is the correct official list of Canada's Commercial Agents in Great Britain, British Possessions and foreign countries.

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

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

- J. G. Colmor**, 17 Victoria Street, London, S.W., England.
- Thomas Moffat**, 16 Church Street; Cape Town, South Africa.
- G. H. Mitchell**, 15 Water Street, Liverpool, England.
- H. M. Murray**, 19 St. Enoch Square, Glasgow, Scotland.
- Harrison Watson**, Curaçao Imperial Institute, London, England.

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

## INSTRUCTIONS TO CUSTOMS APPRAISERS.

The work upon which Mr. Douglas, appraiser of Customs at Montreal, has, by direction of Hon. Mr. Paerson, been engaged is crystallized into a series of bulletins to be issued from time to time by the Customs Department for the information of collectors and appraisers in regard to true values for duty of goods entered at the Custom-house, and the proper duty to be levied on imported goods under the Customs laws of Canada.

Collectors and appraisers are requested to forward from time to time to the Department of Customs (addressed "For Board of Customs") such information as they deem to be of general importance with regard to the true value for duty of any special article or line of imported goods, together with the evidence substantiating the correctness of such value.

Every effort will be made to ensure that the information furnished at all times in the appraiser's bulletins shall be accurate and reliable in order to assist collectors and appraisers in securing a just, faithful, and impartial appraisal of goods imported at their respective ports, and just and proper entries of the fair market value thereof, and of the weights, measures, or other quantities thereof, and to promote uniformity of action with regard to all such matters throughout the Customs service.

The information in regard to values for duty will be divided into two classes, as follows, viz:—

**Class A, fixed values.**—Comprising articles, the value of which for duty have been determined under the authority of sections 60 to 65, or other provisions, of the Customs Act, and special lines of goods which usually are steady in value.

**Class B, current values.**—Comprising other goods subject to varying or fluctuating values.

The information is furnished as a guide to collectors and appraisers in the performance of their official duties.

The values given in class "A," or "fixed values," are to be strictly adhered to until changed or cancelled by instructions issued from this department.

The values given in class "B," or "current values," are submitted for acceptance at all ports in determining the values for duty of the goods to which they refer, provided, however, if the said "current values," be objected to by an importer making entry of goods affected by the values in question, and if the true value for duty of the goods as claimed by the importer is substantiated by affidavit or other written proof to the satisfaction of the collector or appraiser, the entry for such goods may be made conditionally "subject to amendment if so required by the Customs Department," and the goods may then be delivered if the collector is satisfied that the importer's undertaking to amend will be promptly performed when called for.

In all such cases of conditional entry the "proofs" of value for duty are to be attached with the invoices to the entry, and forwarded to the Customs Department for decision. Collectors are instructed to carry out the laws and regulations fairly and uniformly in the collection of Customs duties, and in order to avoid the necessity for amendment of entries after the goods have passed into the hands of the importer, it is of the first importance that the prime entries shall be as correct as possible in every particular. The proper Customs officer shall therefore carefully compare the invoices with the bills of entry and check the values and ratings for duty, so as to correct apparent errors as far as practicable before the warrant for the delivery of the goods is signed by the collector.

In cases of bona-fide invoices of goods sold to importers in Canada where the appraiser's estimate of value, based on his



information, may exceed the values stated in the bill of entry only by a small amount comparatively, and where the true value for duty is questionable, a reasonable discretion is to be observed in regard to "raising" the invoice or entered values by appraisement.

Collectors are specially directed to make themselves thoroughly familiar with the information furnished by the appraiser's bulletins as issued from time to time, and to see that all entry or "long room" clerks are also fully posted in respect thereto, and in regard to rules and regulations for Customs entry of goods, so as to check and correct imperfect entries when attempted to be passed at the Custom-house.

### COLLARS AND SHIRTS IN PARAGUAY.

Consul Ruffin, at Asuncion, writes:—

"Owing to the semitropical climate of this locality, the people of Paraguay use light weights of cotton and linen goods extensively; and, as there are no factories in the country, the entire supply of these goods comes from foreign parts.

"The kind of collar commonly known as the 'fat man's collar,' would be a very desirable article here. I have not seen one of this style in all Paraguay. I brought a few from New York with me, and many dealers here have become interested in them. Collars are sold here for between 25 and 30 cents (gold) each. The duty is 25 per cent. ad valorem.

"The business houses which would take interest in this trade and with which correspondence would be profitable are the Gran Casa Francesa (the Great French House), the Casa Blanca (the White House), and the Bazar Ingles. All are situated in Calle Palma. Communications might also be sent to the "Secretario del Comercio Central."

"Plain bosom shirts, open in the back, would be favorably received. This style is very scarce. Nearly all are made to open in front. Shirts of any material—cotton, linen, or otherwise—would have a sale. The poorer classes wear the cheapest qualities of plain white cotton. The richer classes purchase the very best qualities.

"Goods imported into Paraguay have to be transhipped thither from the ports of Uruguay or the Argentine Republic."

### FURNITURE AND LUMBER IN PARAGUAY.

Consul Ruffin, at Asuncion writes:—

"Although the forest of Paraguay abound in cabinet woods, the prices of furniture are very high. A duty upon furniture of 50 per cent. ad valorem, and 5 per cent. additional for educational and industrial expenses, serves to keep out imported articles so successfully that only \$4,572 worth was brought in during all of 1897; and transportation facilities within the country are meager, there being but one railroad in Paraguay, and the art of furniture making has not passed the stage in which everything is made by hand. There is no factory in the country, and every carpenter is a maker of furniture. There are only about five sawmills in Paraguay.

"Following is a price list of house furnishings given by Ramon Semente & Co., the largest furniture dealers in Asuncion:

12 Cane-bottom chairs.....	\$20.00
1 Sideboard.....	53.00
1 Side table, marble top.....	27.00
1 Dining table for eight persons.....	9.00
Parlor:	
1 Side table.....	15.00
1 Centre table.....	16.00
6 Chairs, 2 armchairs, 2 rocking chairs, 1 sofa...	100.00
Sleeping room:	
1 Towel rack.....	\$1.80
1 Large double bed, with springs and mattress...	39.00
1 Washstand, very large.....	50.00
2 Wardrobes with looking glasses.....	83.00
Total.....	423.80

"While the importation of furniture is very slight, owing to the high duties, yet some of the products of skilled labor, which would be complete innovations there, ought to find a market on account of their utility.

"I would express the opinion that the present conditions, as above set forth, do not favor the importation of furniture in general, but that there is need of machinery to prepare the lumber for the market, the machinery for sawmills and planing mills, and for the manufacture of furniture."

### FRENCH TRADE WITH CANADA.

The French Consulate-General at Montreal furnishes some comments, which show that if British trade methods with some countries leave something to be desired, when compared with methods of other nationalities, French traders are not beyond criticism. Having pointed out that improved means of communication have altered the methods of doing business, the report proceeds: "British, German, and American traders continually send commercial travellers and representatives to this market; they establish branches and agencies controlled by their compatriots, and whose duty it is to study the requirements of the market and keep their respective houses informed on details of all kinds, on qualities, colors, dimensions, packings, means of transport, etc., of the articles entering into consumption. These agents also obtain a quantity of information, apparently of secondary importance, but which enables them to realize profit from details that would escape any disinterested person. Success will not come from sending travellers from time to time; it is necessary that customers should be visited regularly. Travellers in the course of a short stay only acquire a very imperfect idea of the wants of the country, the habits and tastes of customers; an extended stay is necessary to acquire indispensable knowledge without which it is impossible to found a good establishment. Our (French) merchants ought to impress themselves with the fact that to come and advantageously struggle against our competitors, they must do as they do, and that there are some details and some information which can only be gathered on the spot."

### PORT RICO TARIFF.

By authority of President McKinley, the Secretary of War of the United States, has promulgated an amended Customs tariff, which went into effect in all ports and places in the Island of Porto Rico on February 1, 1899. The port of San Juan is designated as the chief Customs port, and Ponce and Mayaguez as sub-ports. Trade between ports of the United States and all ports or places in Port Rico, and trade between ports or places in Porto Rico, shall be carried on in registered vessels of the United States, and in no others.

Among the articles which are admitted free of duty upon compliance with certain specified considerations are manures, trees, plants, carriages, trained animals, stone unwrought, ploughs, hoes, hatchets, machetes, cane knives, etc., for agricultural purposes, and other agricultural implements, not machinery. Importations from the United States are dutiable like other commodities.

The aim has been in arranging the tariff to secure a revenue representing about fifteen per cent. ad valorem on all imports.

### FOOD PRODUCTS FOR GREAT BRITAIN.

Mr. J. G. Colmer, of the Canadian High Commissioner's Office in London, is in communication with the Department of Trade and Commerce, in respect to food products of various kinds which are required for the British army and navy, and which Canadian manufacturers might tender for. He says that these food products are obtained through the agency of brokers, who buy in the public market and by tender confined to manufacturers who have made application to tender and who are financially sound. It is in connection with this latter class of supplies that Canadian producers might have an opportunity of supplying the navy in the manner indicated, and therefore Mr. Colmer made inquiry as to the kind of goods that are purchased in this way from the

United States. He was informed that salt beef in casks, dried, evaporated vegetables in tins, preserved beef in tins, are bought in the United States. Mr. Colmer thinks it quite possible that Canadian firms might get a share of this trade. The Lords Commissioners of the Admiralty stated that they would be pleased to invite any Canadian firm of packers who might apply and who could show their ability to carry out their contracts to tender. There are other articles which are required in the army and navy which Canada could supply, although Mr. Colmer does not refer to them. Amongst these are preserved fruits and tobacco.

#### CANADIAN FURNITURE IN GREAT BRITAIN.

United States Consul Boyle, at Liverpool, England, pays a high tribute to Canadian furniture manufacturers who market their goods in that country. He writes:—

"There is an excellent opening in England for American furniture of modern price. Competition in high-class furniture is out of the question for the present, for several reasons, and what is here referred to is the opportunity to supply the demand of the better paid mechanics and persons in fair circumstances, known here as the 'middle classes.'

"The furniture used in England may be divided into, say, five grades, viz:

"(1) Second hand furniture, which was originally of the very commonest and cheapest make, bought by the very poor people.

"(2) Cheap, new furniture, bought by the poorer paid mechanics, farm laborers, etc.

"(3) Furniture of fairly good make and style, bought by the better paid mechanics and clerks and small tenant farmers.

"(4) Furniture of good make, with some pretension as to style, and yet of moderate price, bought by the higher grade clerks, shop-keepers, small business men, and well-to-do farmers.

"(5) High-grade furniture, bought by the wealthy varying in price, style, and sumptuousness according to means and taste.

"The class of American furniture for which there is an excellent opening in England is indicated by numbers 3 and 4. It is better made, of neater and cleaner finish than the same grade of English furniture and can compete with it in price.

"There is already quite an extensive trade here in furniture brought from North America. But, strange to say, most of this furniture is made in Canada. This trade is rapidly growing, and will undoubtedly soon be a very large one. The Canadian furniture manufacturers seem to be alive to its possibilities, while those of the United States are either indifferent or are not aware of its value. British official figures as to the extent of this trade are misleading, for the reason that Canadian exports made via New York and other ports of the United States are generally credited to the United States and not to Canada. The largest importer in Liverpool of Canadian-made furniture gets nearly all of his consignments via New York, through a permanent agent he has in that city. He does this because the ocean charges are cheaper than via Montreal or any other Canadian port. I notice that in the British Blue Book for 1897, just issued, special attention is for the first time drawn to these instances of misleading statistics.

"Two things are certain: First, Canadian furniture makers have a large and increasing market in England; second, that of American furniture manufacturers is comparatively small. The explanation is simple—the Canadian manufacturers meet the peculiarities of the English trade and adopt the English styles, while manufacturers of the United States do not.

"There is a difference in the style of American and English furniture. English buyers prefer the English style. Most Americans would undoubtedly say that American medium-class furniture is better made and more artistic than the same grade of English manufacture. But the fact remains that there is a prejudice in England against the American style. Even in the ordinary English furniture, the carving, though it be machine work, is cut out of the solid wood and is not scroll work 'stuck on' to the furniture, as is often the case

with American furniture sent to England. Much American furniture on sale here has become shopworn, the failure to sell arising principally from the fact that the carving was 'stuck on.'

"An exception must always be made in favor of the American roller-top office desk. That is much admired in England and is practically without a rival in the market. I find also that there is a fairly good trade in American art screens, they taking the place, to a large extent, of the Japanese and English articles.

"Canadian manufacturers invite English orders for furniture made in English style, according to working drawings furnished them by the dealers here. Most of this furniture comes across 'knock down, in the white,' without being colored or polished. It is put together and polished here. It arrives packed as solidly as possible in large boxes. Economy in space is an important item. Ocean freights are either by cubic measure or by weight. The Canadian manufacturers send over most of their goods by cubic measure, as it is found to be cheaper than by weight. Several American estimates have been recently brought to my attention as being too high, because the freight was calculated by weight instead of by measurement. The largest importer in Liverpool tells me that he has only been able to get one firm in the United States to make furniture of the English style, after working drawings furnished by himself. From letters shown to me I learn that several Canadian manufacturers make a specialty of this export trade, studying the styles and peculiarities of each market, and this has developed to such an extent that the capacities of some of the factories have had to be greatly increased during the past two years. It is probable that the British importation of Canadian-made furniture has doubled during the past six months.

"Both United States and Canadian manufacturers have by spurts, endeavored to secure a market in England for 'set-up' furniture. This enterprise has been fairly successful on the part of the Canadian manufacturers because of their adoption of the English style. There are several agencies in this neighborhood for the distribution of Canadian furniture. The trade has not been very encouraging, so far as the United States manufacturers are concerned, principally because they persist in sending furniture of a style against which the English people have a prejudice.

"There are other reasons, moreover, why American 'set up' furniture does not find a ready sale in England. The greatest objection, apart from the style, is to the polish. There is a great difference between the polish on American and English furniture. The English people speak of American furniture as being 'varnished,' and of their own as 'polished.' The polish on American furniture is much glossier than the polish on English furniture, but it scratches very easily, and the scratches show white, owing, it is said, to certain gummy component materials which give the glossy surface. The American polish is put on, so it is claimed here, with a brush, or, as is technically known, 'floatcd' on, while the English polish is rubbed in. The American polish is like a coating of glaze on the surface of the wood, while the English polish is partly absorbed by the wood.

"Another reason why American furniture does not have a large sale in England is because of careless packing. The other day I saw half a dozen packages of American 'set up' furniture opened. They had been ordered by the dealer as samples, in response to propositions by the manufacturer. Every one of these pieces of furniture was seriously injured in transportation, owing to carelessness in packing. The dealer remarked that he would suffer a dead loss on these samples, and that he would not give any more orders to this particular manufacturer.

"This brings up another difference in methods, between Canadian furniture manufacturers and those of the United States who are endeavoring to secure English trade. The Canadian manufacturers who send over samples of 'set-up' furniture state their regular price for orders, but say that if

the goods are not of the kind to warrant orders they are willing to sell the samples for the price that the dealer can get.—that is, the Canadian manufacturer in sending over samples guarantees the English dealer against actual loss, even in those cases where orders will not follow the sending over of the samples.

"It is a curious fact that the Canadians have built up their trade in furniture in England almost entirely by correspondence, in rivalry with manufacturers of the United States, who frequently send over commercial travellers, but who have made the mistake of trying to create a demand for the American style of furniture. I would suggest that the furniture manufacturers of the United States send representatives over here, not to get orders for the American style of furniture, but to study the English styles and the peculiarities of the English market; and I am sure that they could, by adopting the Canadian system of using English working drawings, secure a large trade in both 'knock-down' and 'set-up' furniture."

#### TRADE OPENINGS IN AUSTRALIA.

The final report for 1898 of Mr. J. S. Larke, the Canadian Commissioner in Australia, has been received at the Department of Trade and Commerce. Mr. Larke says that the Australian wheat yield will be below the expectation in July last, but it will exceed the anticipations in September. It is probable Australia will be able to supply her own requirements and have an exportable surplus of 10,000,000 bushels. Notwithstanding this fact and the lower prices of grain and flour, there is still a demand for Manitoba flour and wheat. The quotation for flour is £11 15s. being £3 15s. above the price of the locally produced article. Some wheat and flour are now on the way to Australia, via New York. Mr. Larke says that there is a big demand for potatoes at £10 10s. per ton. He says that the best potatoes from British Columbia could have been landed in Australia at less than £7 per ton, inclusive of all charges. The timidity of buyers here and sellers in British Columbia has prevented business being done, but buyers have announced their intention of visiting British Columbia to make arrangements for a general business in fruit and produce. Contrary to his expectations, no apples from British Columbia were sent out, the market being supplied by Californian apples, some of which sold for as much as 22s. per bushel. He says that the better class of British Columbia fruit would bring better prices if shipped to Australia than if sold in the Northwest Territories, and he advises this practice, leaving the territories to be supplied by Ontario.

Mr. Larke refers to a paragraph in some Canadian papers, quoting him as saying that on account of the high tariff of Victoria there was little possibility of Canada doing any trade with that colony. He says that this was not the tenor of his report. On the contrary, while the tariff limits trade in some lines and prohibits it in others, there are many articles in which Canada is now doing a fine business, and there are others in which she can do so. Victoria takes from Canada more agricultural implements, machinery, cotton goods and bicycles than any other colony. But of one of those articles is credited in the Victoria returns as coming from Canada. Besides these articles there is a trade in fish, timber, chairs, musical instruments, window shades, woodenware, varnish and paints. The market in these articles can be enlarged and other goods sold. In clover seeds, with reasonable steamship rates, fish and oils from the Maritime Provinces and plaster of Paris a profitable direct trade should be done.

A considerable portion of the report is devoted to cautioning Canadian manufacturers against sending unsaleable goods or goods that fall short of the specifications to Australia, and Mr. Larke gives an instance of this having been done which will impose a loss in money upon the exporter and injure his reputation and that of other Canadian producers in the Australian market. He says he had hoped that carbide of calcium would be an article of export from Canada to

Australia, but the price is too high for profitable business. Acetylene gas light is being introduced, but a firm has been formed which controls many patents, and this will place an obstacle in the way of Canadian generators. A company is now manufacturing carbide in New Zealand. An Ontario firm has shown a good deal of enterprise in introducing fanning mills into New Zealand. Trade in agricultural machinery is making good headway, and Mr. Larke expects soon that threshers, traction engines, wagons and trucks will be amongst the articles of export to this colony. These will have to be introduced by the manufacturers themselves instead of acting through agencies. He has had some inquiry for binder twine for next year. The Government of New South Wales did not succeed in securing the assent of the House of Assembly to its tariff proposals. The House will only agree to a penny a pound on tea, and the retention of the present duties on sugar, canned fruit, biscuits and some few articles into which sugar enters as a compound. The duty on canned fruit, which is the only article that is affected by the tariff in which Canadian exporters are likely to be interested, will probably remain at one cent per pound.

#### CANADIAN FRUIT.

United States Consul Graham at Winnipeg, Man., writes as follows regarding Canadian fruit:—

"The fruit growers of the United States (chiefly those of the Pacific slope) supply at least four-fifths of all the green fruit consumed in Manitoba and the Northwest Territory of Canada; but there is danger that this practical monopoly of the market may not be maintained in the future. Owing to the excellence of their produce and the great care they have exercised in its selection and packing for shipment, our fruit farmers have been able heretofore to defy the competition of Canadian producers, notwithstanding the fact that the latter have much the advantage in shorter lines of transportation. Now, Canadians seem to be waking up to the situation and are bringing urgent pressure to bear upon the Dominion and Provincial Boards of Agriculture to induce them to assist in providing better facilities for preserving, packing, and transporting Canadian fruits. These bodies have heretofore bent all their energies toward securing the English and other European markets, but are now making a vigorous effort to capture the home trade. Encouragement is being given to the erection of cold-storage plants and packing houses, and transportation lines are being worked. The United States system of packing fruits has been adopted, and, altogether, a much stronger bid will be made for these markets than heretofore."

#### COMMERCIAL CONDITIONS IN DUBLIN.

Consul Wilbour, at Dublin, Ireland, says:—

"The following articles are imported in large quantities into Dublin from Germany, Holland and Belgium: Wood ware, paper, starch, iron nails and other hardware, brushes, glassware, bottles, leather, oleomargarine and condensed milk. Over 1,000,000 tons of coal was imported in 1897. Bituminous coal is used exclusively, retailing from \$4.50 to \$5.50 per ton. Timber comes largely from Norway, with considerable shipments from Canada and the United States. The trade in American slates is growing, and could be largely increased with proper facilities for shipping."

#### DEMAND FOR AMERICAN MANTELS IN ENGLAND.

Consul Halstead writes from Birmingham, November 22, 1898:—

"A firm of merchants in Birmingham wishes to be put in communication with manufacturers making wooden mantels and over-mantels, which technical term means, I understand, looking-glass, shelves, and recesses combined in the mantel frame. The firm would prefer to buy these mantels through a London house, because they do not wish to stock them."

### POSSIBILITIES OF TRADE IN PALESTINE.

Consul Merrill, of Jerusalem, in his annual report, which is given in Commercial Relations, 1897-98, says, in regard to the possibilities of trade in Palestine:—

"A German merchant here imports American tools, but buys them in Hamburg, whence they are reshipped to Yafa (Jaffa). At present the amount is limited, but he assures me that they are favorably received and that there is an increasing demand for them. He mentions especially machinists', carpenters', and blacksmiths' tools. He also imports some carriage wheels ready made.

"Ten years ago, there were very few carriages in Jerusalem, but now that the Yafa road is in good condition and the road to Jerico, the Dead Sea, and the Jordan is opened up—also that to Bethlehem and Hebron—there are scores of carriages, and the number is constantly increasing. A carriage road has recently been constructed from Jerusalem to the top of the Mount of Olives (for the German Emperor, it is said), and in a few years one will be built between Jerusalem and Nablous; hence it is reasonable to suppose that the demand for carriages will increase.

"Such canned goods as corned beef, ham, tongue, salmon, lobsters, oysters, milk, sweet corn, lard, berries, and such other fruits as do not grow in Palestine; also furniture in pieces to be put together here, window frames, blinds, doors, etc., could be sold here to good advantage. Personal testimony is to the effect that English-prepared ham, tongue, fruits, and some other goods that come in cans are not so good as similar articles that are prepared in America. So much fruit is preserved in this country for winter use, that the introduction of glass jars would be a blessing. As soon as the people become accustomed to them, there would no doubt be a large demand. Fifty to sixty thousand bottles of beer are imported into Jerusalem every year.

"One merchant ventured to import a small invoice of American made ladies' shoes; they were taken at once, and there is a call for more. English ladies who tried them were highly pleased with them."

### CANADIAN LEATHER IN GREAT BRITAIN.

Efforts are being made through the Department of Trade and Commerce, as well as through other channels, to interest the Canadian tanning trade in the fifth International Shoe and Leather Fair, to be held in the Royal Agricultural Hall, Islington, London, from April 10th to 15th. A creditable exhibit of Canadian leather and leather products would not only be a convincing object lesson of industrial development in this part of the British Empire, but it might lead to the acquisition of a new market of practically unlimited proportions. The consumption of leather in the United Kingdom is enormous, and no country has been so well equipped by nature supply the demand as Canada. We send sole leather to Great Britain in large quantities, but we have no share in the market for the leathers out of which shoe uppers are made.

Until the imposition of an import duty on hides by the United States, Canada was unable to compete in the British leather market with that country. At present the Canadian tanners have the advantage over their American competitors of bringing hides into the country free of duty, and they have the raw materials of tanning ready to their hand in abundance. The United States tanner, though possessed of oak tanning bark, must come to Canada for his hemlock bark. The Canadian tanners enjoy a protection on their product of from 10 to 25 per cent., and, with the exception of some of the finer grades of French leathers, they have the home market pretty much to themselves. Canadian tanners have been invited, on behalf of the leather trade of Great Britain, to consider the possibility of opening up business relations on the other side of the Atlantic, and they have shown a commendable interest in the subject. A number of reports have been forwarded by them to London, and all of them, without exception, speak of the improvements that are being made in the manufacture of light leathers, such as splits, buff or satin hide, and grain of glove hide. They regard the future of the export leather trade as being full of promise.

### WINDMILLS IN SYRIA.

A Turkish official of high rank in the Aleppo province of Syria has informed Consul Washington at Alexandretta, that he had ordered, conditionally, a number of windmills, from the United States for irrigation purposes. He seems very confident that a large demand can be created for these machines, and the Consul suggests to manufacturers that it would be of advantage to investigate the subject.

The market for windmills can, he thinks, be enlarged considerably beyond the Aleppo province. The large plains of the Adana vilayet, which are devoted to agriculture, should furnish a fine opportunity.

Any concern desiring to build up this trade in Syria, would have to send an agent with practical knowledge of the working of the machines, and be prepared to furnish duplicate parts and render assistance in cases of small accidents, which, in the absence of such aid, would be regarded as fatal by the agriculturist and speedily ruin all hope of extension of the trade. This condition was regarded as so important that upon its acceptance depended a large order.

The following is a list of firms who, the Consul understands, would be pleased to enter into correspondence on the subject of the exportation of windmills; and who would also be pleased to act as general agents for manufacturers and exporters:

At Aleppo, T. N. M. Alteras, importers of hardware and ironmongery, with branches at Alexandretta, Antioch, Aincab, and Killis; Pochés Frères & Co., general export and import agents; Vincenzo Marcopoli & Co., agents for the Messagerie Maritime Steamship Company, and general export and import commission agents; Zollinger & Co., commission agents; H. de Picciotto & Co., general commission agents; D. Bigneau & Co., general import commission agents, bankers, and exchange brokers, trading in fancy goods, etc.

# Transfer Ornaments, AMERICAN MADE.

TRADE MARKS, DECORATIONS, NAME PLATES, ETC.

Guaranteed Quality.

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

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

# THE MEYERCORD CO., Inc., MAIN OFFICE—

CHAMBER OF COMMERCE, - CHICAGO.

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

Largest Makers in the World Guaranteed Decalcomania Transfers.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

## CAPTAINS OF INDUSTRY.

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

If a new manufacturing enterprise of any kind is being started, or an electric lighting plant instituted, or an electric railroad, or a 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, belt-ing, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamos, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, alkalies, etc. It is well worth the while of every reader of the Canadian Manufacturer to closely inspect all items under the head of Captains of Industry.

The Kentville, N.S. Wedge reports that work on the new carriage factory at that place is making rapid progress. The building is 100x85 feet, three stories high. It will contain many up-to-date appliances for saving labor. The number of permanent employes will average about fifty.

Ogilvie's large new oatmeal mill in Winnipeg is now in operation, and if Manitoba farmers will keep up the supply of oats, Manitoba oatmeal may become as widely known soon as Manitoba flour. Now that this company has taken hold of the oatmeal milling industry, it may be expected, that with their great capital and experience, they will make it an industry of the first importance for Manitoba. No trouble nor expense has been spared to make the new mill as modern and complete as money can make it.—Winnipeg Commercial.

The Metallic Roofing Co., Toronto, have been awarded the contract for the supply of the whole of the steel ceilings required for the Mansion House Buildings in course of erection for Messrs. J. D. Cartwright & Co. at Cape Town, South Africa.

A project is on foot to build an electric railroad between Trenton and Westville, Pictou Co., N.S., via New Glasgow and Stellarton.

Finlay Young and C. A. Young have completed the erection of three elevators at Minto, Dunnes and Elgin, on the line of the N. P. Belmont-Hartney extension in Manitoba.

The Winnipeg oatmeal mill, formerly operated by Mr. Nairn, and which was pur-

chased some months ago by the Ogilvie Milling Co., is again in operation. The mill has been completely remodelled. All the old machinery was taken out and everything is now and of the very latest make. The building has also been enlarged very materially.—Commercial.

Messrs. Price & Co., who have bought certain timber limits about five miles from East Broughton Station, Que., have built a fine sawmill on them, and are now sawing day and night. They employ 150 men.

Messrs. Paradis and Belly are about to start a new factory in Chicoutimi, Que., for the making of packages for butter, cheese and condensed milk.

The works of the Ossekeag Stamping Co., of St. John, N.B., are located at Hampton, on the line of the Intercolonial railway. They manufacture all kinds of stamped ware and give employment to about 150 hands.

Messrs. A. Cushing & Co., St. John, N.B., will erect a new pulp mill near that city.

Messrs. A. H. Hillyard and J. T. Knight, of St. John, N.B., have gone to England with a view to promoting a company to build a large pulp mill near that city.

The ratepayers of the town of Staynor, Ont., have passed a by-law appropriating the sum of \$24,000 for the construction of water works.

The Cannon Stove and Oven Company of London, Ont., has been incorporated with a capital stock of \$20,000 to manufacture stoves, etc., and do a general foundry business.

The Peterborough Underwear Company, Peterborough, Ont., has been incorporated with a capital stock of \$40,000 to manufacture underwear, etc. James Kendrey is one of the charter members.

The F. W. Fearnan Company, Hamilton, Ont., has been incorporated with a capital stock of \$50,000 to carry on a pork packing business.

The Montreal Water and Power Company of Montreal are installing in their pumping station a 400 h.p. S.K.C. two phase motor operating at 180 revolutions per minute. This motor is intended to operate the water works pumps, and will be driven by current generated at Chambly Rapids, a distance of sixteen miles away. This is one of the largest single motor installations in Canada.

The town of Souris, P.E.I., will probably be lighted by electricity. There is a good water power available.

The Lunenburg Gas Company, of Lunenburg, N. S., is changing its electric plant from steam to water power. It has a sixteen foot dam nearly completed on the Mush-Mush river at Mahone, eight miles from Lunenburg. The company will light the town of Mahone, in addition to supplying light and power to Lunenburg.

The Great Northern Transit Company have decided to build a new boat to replace the burned Pacific. The steamer will be up-to-date in every particular, 190 feet long, 32 feet beam, with 11 feet depth of hold, a slightly larger vessel than the Pacific. The estimated cost is \$60,000 and the Collingwood Dry Dock Company will have the contract.

The Dodds Company, Toronto, has been incorporated with a capital stock of \$50,000 to manufacture patent medicines.

The capital stock of the Diamond Glass Company of Montreal, has been increased to \$1,000,000.

The Calhoun Lumber Company, with headquarters at Calhoun, N.B., has been incorporated with a capital stock of \$40,000 to do a general sawmill and lumbering business.

The Union Shoe and Leather Company, whose factory and tannery are in Winnipeg Man., is claimed to be the pioneer shoe manufactory of the west. Their business has been so large that although their works were only built two years ago, it has been found necessary to double their accommodation. The value of the plant is about \$30,000, and the factory gives employment to about seventy-five hands.

## INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

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

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

**JAMES COOPER MANUFACTURING CO., Limited, - 299 St. James St., Montreal.**

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Vulcan Iron Company, Winnipeg, Man., is now in such a prosperous condition that new plant and buildings to the amount of nearly \$20,000 are being added to the already large premises. The staff of men employed by this company runs from sixty in the winter to 125 in the summer.

The Dundee Canvas and Buckram Finishing Co., Montreal, are applying for incorporation with a capital stock of \$20,000 to manufacture, dye, calender and finish jute and other fabrics.

The Royal Telegraph Co., Ottawa, are applying for incorporation with a capital stock of \$100,000 to establish telegraph and telephone lines in Canada.

The Winnipeg Elevator Co., Winnipeg, Man., are applying for incorporation with a capital stock of \$300,000 to build grain elevators, etc.

The E. T. Wright Company, of Hamilton, Ont., are having installed in their factory a fifty h.p. S.K.C. motor to drive their factories. The power by which this motor is driven is taken from the Cataract Power Company's wires. This is the tenth installation from their service into factories in Hamilton up to date.

Mr. T. D. Wardlaw, of the Safety Heat and Light Co., manufacturers of the Cliff-Wardlaw acetylene gas generators, Dundas, Ont., informs us that the demand for these machines is steadily on the increase, and that where calcium carbide more plentiful, or more easily obtained, the demand for the machines would be very great.

The Canadian Bank of Commerce will erect a fine new bank building in Winnipeg, Man.

Ex-Mayor Robertson, of St. John, N.B., was in Montreal recently in connection with the dry dock project at St. John. In the course of an interview Mr. Robertson expressed himself very optimistically concerning the prospects of the pulp industry in New Brunswick. After referring to the existing and projected mills of the province, he spoke of the chances of the export trade. Leaving Great Britain and France out of consideration, he regards the United States as a great future market. Its ever growing demand for paper he considers will furnish a mighty demand. As to a government policy for the fostering of the pulp industry, he said: "I should judge the Canadian pulp and paper industry to be of sufficient importance to bring influence to be felt at the proper time and place. I look upon the manufacture of pulp and paper in Canada as one of the most important industries that can be fostered in the Dominion, and the day will come when Canada will have almost a monopoly of the business." New Brunswick, he claims, has the largest area in Canada of spruce suitable for pulp.

The Finch Wood Preserving and Paint Co., are erecting a new paint factory on Atlantic avenue, Toronto.

The Canadian Rubber Co. have ordered a thirty h.p. Robb-Armstrong steam engine from the Robb Engineering Co., Amherst, N.S., for their works at Montreal.

St. Ann's Roman Catholic College, at Digby, N.S., was destroyed by fire Jan. 16th, loss about \$20,000.

Mr. V. L. Emerson, the well-known experimenter in the manufacture of products from sawdust, has recently perfected a process for the conversion of sawdust into

smelting gases. The acetylene gas manufactured from the product of sawdust has had great illuminating power, but it has not been useful for smelting purposes. Mr. Emerson undertook to perfect a process for the manufacture of smelting gas, and he is being backed by an Ottawa bank. The gas will be used to smelt iron. It is expected to revolutionize the iron-making industry.

Mr. Thomas Holliday, manager of the Stratford, Ont., Bridge Building Co., reports a very busy season. The concern give employment to nearly fifty hands.

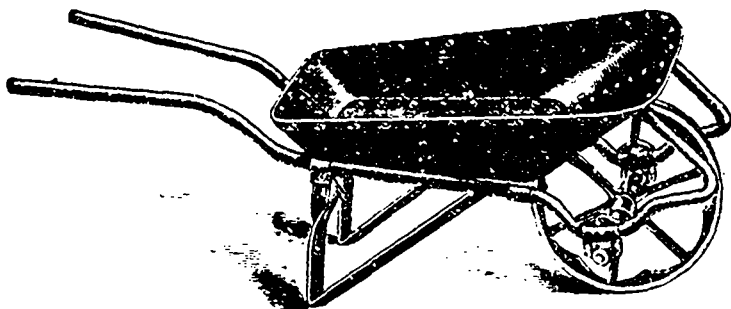
The Canadian General Electric Co., Toronto, have sent us a very beautiful office calendar, embodying a picture of a female figure crowned with a wreath of maple leaves, standing upon an oninence operating a powerful search light, the rays of which fall upon the Peterborough works of the company. Reference is made to the fact that the company are manufacturers of all kinds of electric railway and lighting apparatus and supplies, railway generators, direct current incandescent generators, alternating current single phase monocyclic and three-phase generators, induction motors, transformers, lightning arrestors, fan motors, lamps, sockets, wire cables, etc. The head offices of the company are at Toronto, with branch offices at Montreal, Halifax, Vancouver, Winnipeg and Rossland.

The Scotton Tobacco Co., of Windsor, Ont., has been incorporated with a capital stock of \$60,000 to manufacture tobacco.

The Mersea Natural Gas Company, with head office at Windsor, Ont., has been incorporated with a capital stock of \$1,500 to supply natural gas for heat, light and power.

# QUALITY AGAIN!

THERE WHERE WE WIN.



\*\*\*\*\*  
**The "National" Barrows** are all steel, thicker bottom than side, dump forward, with frame so constructed as to prevent running back on the operator. They are especially adapted for Coal, Coke and for Foundry use.

## A FEW OTHERS!

Fairbanks Standard Scales.

Nicholson and American Files.

Nova Scotia Shafting.

Fairbanks Trucks.

Fairbanks Asbestos Disk Valves.

Norton Emery Wheels.

Dodge Wood Split Pulleys.

Gas and Gasoline Engines.

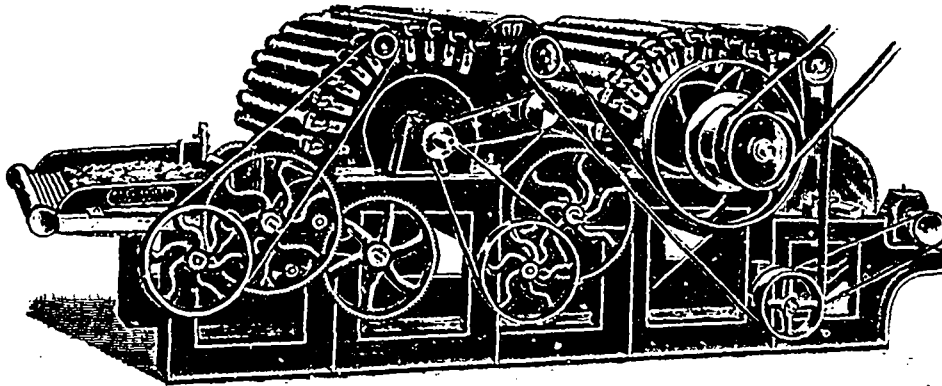
**THE FAIRBANKS COMPANY, 749 Craig St., MONTREAL.**

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# P. & C. GARNETT, Limited

CLECKHEATON, YORKS, ENG.

TELEGRAMS, - GARNETT, CLECKHEATON.



THESE Machines have a world-wide reputation. They are made in various widths up to 60 inches on the wire, and with one, two, or three swifts. They can be clothed as fine as 24 rows per inch so as effectually to open the finest threads.

Waste Opener or Garnett Machine, for Opening Hard Twisted Woolen and Worsted Waste.

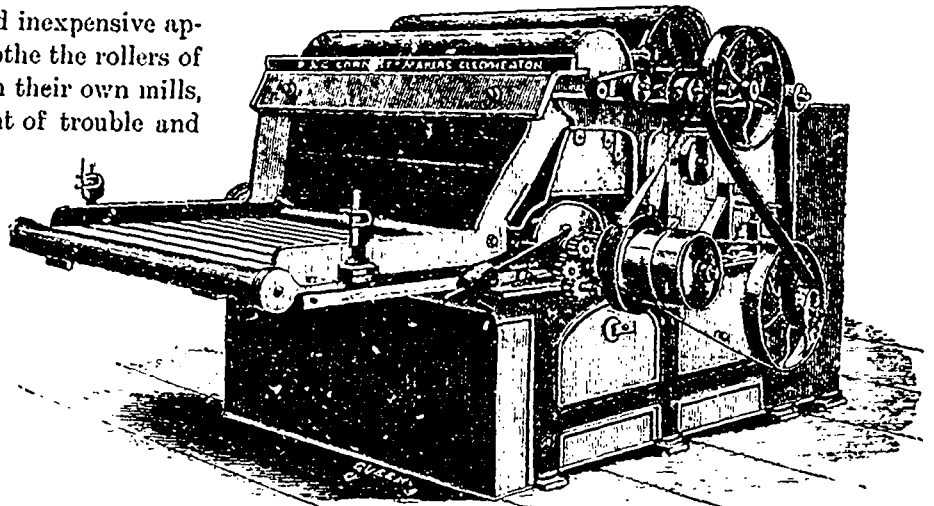


Garnett Wire.

Garnett Wire, or Metallic Card, made with any form of tooth, in Swedish Charcoal Iron or Cast Steel, with points hardened by electricity. This wire is used for covering iron rollers, breasts of woolen cards, liches in of cotton cards, comber doffers, etc.

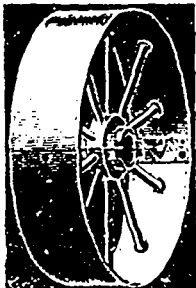
## Patent Garnett Clothing Apparatus

BY means of this simple and inexpensive apparatus parties can re-clothe the rollers of their waste-opening machines in their own mills, and so save an immense amount of trouble and expense in sending their rollers away to be done.



## WROUGHT IRON PULLEYS

Light, True and Unbreakable.



Cast Iron Pulleys.

Improved Wool Cleaning or Burring Machine.

Capable of cleaning 1,500 pounds of wool per day. The very best and most economical machine made for the purpose.

*Iron and Steel Shafting, Couplings,  
Flummer Blocks, W. I. Collars,  
Hangers, Wall Boxes, etc.*

The Polson Iron Works Co., Toronto, have been awarded a contract to build a new steamer for the Richelieu River Navigation Co. to accommodate the passenger traffic on the St. Lawrence river and Lake Champlain. The vessel is to be a screw steamer 112 feet long, 22 feet 6 inches beam, to draw six feet of water and to have a speed of fifteen miles per hour. The contract calls for the delivery of the boat ready for service about the middle of June next.

The Ashton Valve Co., Boston, Mass., have sent us a very beautiful office calendar, the pictorial portion of which is an appropriate steel engraving, illustrating the company's idea of "Chips off the old block." They are manufacturers of Ashton pop safety valves, Ashton pressure and vacuum gauges, etc.

Mr. H. J. Fuller, Montreal, manager of the Fairbanks Company, writes us that his company are having most gratifying results from their efforts in pushing the sale of their asbestos disc valves and steam specialties, and that the business is increasing very rapidly. The travellers of the company are now out on the road and would be pleased to call upon any who would like to see them. A post card to the Montreal office would bring them.

The new charcoal blast furnace at Deseronto, Ont., was blown in January 26th, and is now producing a fine article of charcoal iron. The furnace was constructed with capital subscribed by Mr. E. W. Rathbun, of Deseronto, and W. M. Gaylord and others of Detroit, Mich. Ores from northern Michigan are being used in this furnace with a large admixture of ores from Hastings and Addington counties, Ont. The fuel is charcoal made at the Rathbun chemical works at Deseronto.

The Swansea Forging Co., Swansea, near Toronto, have sent us their new illustrated catalogue and price list having reference to the goods manufactured by them, in which is included bolts, nuts, spikes, rivets, bridge and roof rods, drop forgings of all kinds, carriage hardware, etc. Some of the articles illustrated are carriage bolts, sleigh shoe bolts, machine bolts, tire bolts, lag or coach screws, blank bolts, bolt ends, elevator bolts, plow bolts, guard bolts, stove and sink bolts, stove rods and door pins, fancy bolts, whiffletree and spring bolts, bed screws, bridge and roof bolts, cap screws, set screws and tap bolts, nuts, iron rivets, coopers' rivets, riveting burrs, wrought iron washers, wire fence staples, screw hook and strap hinges, crow-bars, threshing machine teeth, cranks for

threshing machines, turnbuckles wrought iron carriage stop pads, carriage hardware of all descriptions, etc. The company make all kinds of forgings for bicycles, including sprockets, crown heads, crank hangers, cranks and other parts. Also agricultural forgings, such as pitman irons, threshers and harrow teeth and threshing machine cranks, also forgings for special purposes.

The Toronto Carpet Co., who secured favorable terms from the city in respect of stationary taxation for a term of years, and who have built a \$50,000 factory on King street, west of the subway, will soon vacate their present building at the foot of Jarvis street. The Esplanade factory is not more than half large enough for the needs of the firm. Last year the company manufactured 300,000 yards of carpet of all grades, but the product will be doubled in the new factory, and the number of employees will be largely increased.

The Nova Scotia Steel Co., New Glasgow, N.S., has been exceedingly busy of late supplying structural steel for building highway and other bridges in that province to replace wooden bridges.

The Catholic Church at Rockland, Ont., was destroyed by fire Jan. 19th.

## The KAY Electrical Manufacturing Co.

HAMILTON, ONT.

Begs to announce that in future it will conduct its business under the name of

## The T. & H. Electric Co.

HAMILTON, ONT.,  
255-257 James St. Phone 938.

TORONTO, ONT.,  
Phone 1214. 58 Adelaide St. W.

## To Lease.

Two Large Four-Story Factories. One

140 x 40 ft.

The other 90 x 60 ft.

RENT, \$1,500 EACH PER ANNUM.

Well Lighted. Shipping facilities the very best by both rail and boat, premises being situated on water front at corner of

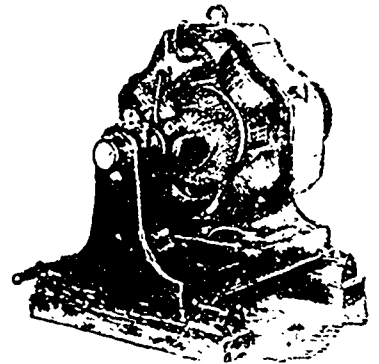
Esplanade and Jarvis Streets, TORONTO.

Possession 1st April, 1899.

Apply to.....

TORONTO CARPET MFG. CO.  
TORONTO.

## Electrical Construction Co. of London, Limited.



### MULTIPOLAR MOTORS & DYNAMOS

And Direct Connected Plants for Isolated Lighting.

Repair Work a Specialty.

HEAD OFFICE AND FACTORY:

No. 90 YORK STREET, London, Canada.

760 Main St., Winnipeg.

42 York St., Toronto. 131 Granville St., Halifax.

## REDDAWAY'S ORIGINAL

# CAMEL BRAND HAIR BELTING

STRONGEST BELT MADE. NO STRETCHING.

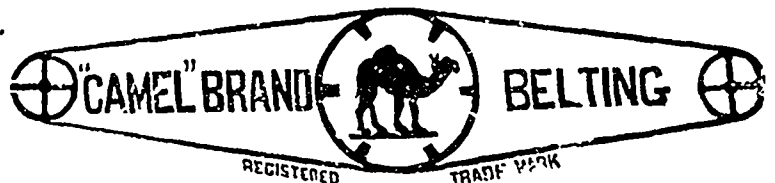
NOT AFFECTED BY DAMPNESS,  
HEAT OR STEAM.

WRITE FOR PARTICULARS. LARGE STOCK ON HAND.

Fire Hose, Steam Hose, General Mill Supplies.

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.





The Packard Electric Co., St. Catharines, Ont., have sent us a neat desk blotting pad upon the glazed face of which is a calendar for the current month and reference to the specialties manufactured by them, including Packard lamps, type "L" transformers, Scheeffer recording Watt-meters, etc. They say that they are prepared to make prompt shipment of anything required by central stations and isolated places except generators and motors.

At a meeting of the shareholders of the Harriston Pork Packing Co. at Harriston, Ont., last week plans were agreed upon for the buildings to be forthwith erected. The dimensions of the buildings as submitted are as follows. — Main building, containing the chill rooms, refrigerator rooms, curing cellars, shipping floor and offices, 96x80 feet, and three stories high above the basement, with annex to the north end, 80x48 feet, containing the killing department, lard tanks, fertilizer machinery, engine and boiler room and refrigerating machinery, in all making a building 144x80 feet, and three

stories high above the basement, except the boiler room, 48x36 feet, which is only one story. The work is to be all completed by September 15th next. The directors also reported having made arrangements with the firm of Heywood & Son, of Liverpool, to handle the company's exports in England. The capital stock of the company is \$100,000, and the capacity of the works will be to handle about 2,000 hogs per week.

Messrs. Geo. H. Hees, Son & Co., manufacturers of shades, blinds, etc., are erecting two handsome new buildings on Pears avenue, in the northern part of Toronto, which will be used respectively as factory and warehouse, and will measure 200x50 feet and 100x57 feet. The firm are pushing their export trade to South Africa, England and Australia.

The Toronto Type Founding Co., Limited, has established a branch establishment at Winnipeg, which includes a fully equipped "ready print" plant and complete stock of paper.

A statement prepared by the Assessment Department shows that, according to the last assessment roll, ninety-four per cent. of the total number of dwellings in Toronto are occupied and ninety-three per cent. of the stores. The number of vacant houses is placed at 2,209 and the number of vacant stores 320; while the number of occupied houses is 34,209 and the number of occupied stores 4,765. This makes the total number of stores and dwellings 41,503.

Mr. J. P. Mullarkey, managing director of the Montreal Island Belt Line Railway, signed a contract a few days ago with a Montreal ice dealer for the transportation of 35,000 large blocks of ice to be cut in Riviere des Prairies and hauled by electric power.

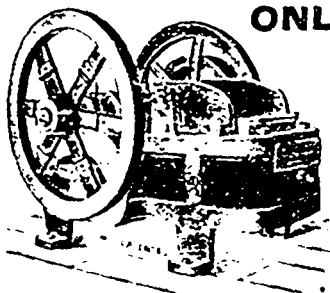
The new machine placed in the paper mill of the E. B. Eddy Company, at Hull, Que., was built by the Black and Clawson Company, of Hamilton, O. It has a daily capacity of twenty tons. It is driven by a 250 horse power Corliss engine.

**THE TORONTO PATENT AGENCY, (LIMITED).**  
TORONTO, CAN.  
Head Office, 79, 80, 81 Confederation Life Building.  
CAPITAL, \$25,000.00.

Patents obtained. Patents sold on commission. Provincial rights sold. Most actual sales. Best results. Quickest work. Honest Treatment. Oldest company. Reliable references. All patent business promptly attended to. Valuation and prospects of any patent furnished on application.

**Pipe and Boiler Coverings, Engine Packings,**  
LUBRICATING OILS, GREASES, AND BOILER COMPOUND, COTTON WASTE, ETC.

**EUREKA MINERAL WOOL and ASBESTOS CO., 136 Bay Street, - Toronto.**



ROLL JAW CRUSHER.

ONLY

# FINE CRUSHER

BREAKS LARGE, or when set close  
Reduces to GRAVEL and SAND.

FOR ORES.

STURTEVANT MILL CO., BOSTON, MASS.

## The Crocker Patent Turbine

WE MAKE A SPECIALTY OF SUPPLYING

**COMPLETE  
WATER POWER  
PLANTS**

Designed to meet the working conditions in each instance, and to yield the highest efficiency obtainable thereunder. Every detail constructed in a thorough and substantial manner, and the whole equipment installed on the site by our own workmen, especially skilled in this class of work.

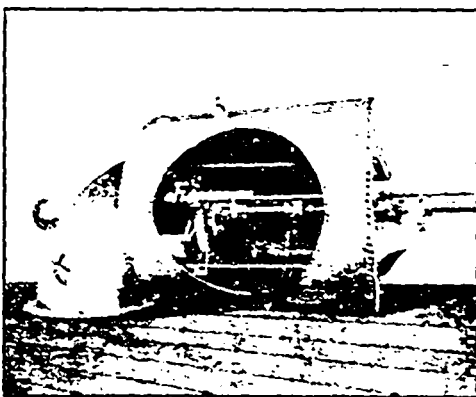
If you are interested in water power in any way we should take pleasure in supplying you with information regarding our work in the above line.

Catalogue Free on Request. Correspondence Invited.

**The JENCKES MACHINE CO.**

42 Lansdowne St., Sherbrooke Que.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



33 inch Crocker Wheel in Horizontal Setting, for  
Shipton Electric Light and Power Co.,  
Danville, Que.

Mr. John Philip of Grand Valley, Ont., is supplying that town and also the town of Arthur which is thirteen miles away with incandescent light from his incandescent lighting plant in Grand Valley. He has had such success with his transmission plant from Grand Valley to Arthur that he has purchased from the Royal Electric Company a seventy-five k.w. S. K. C. two-phase alternator, which he is installing in his power station. This will enable him to deliver at least 1,000 lights wired up in Arthur and also to serve everything in sight in Grand Valley. As heretofore noted this is a new departure in lighting and we are glad to hear of Mr. Philip's success, and it also shows what pluck and enterprise will do.

The total sales of lumber in Manitoba and the Northwest during 1898, exceeds those of the previous year by about 30,000,000 feet, the quantity of spruce cut in Manitoba mills is estimated at 15,000,000 in excess of last year. The growth of the trade in imported lumber from the United States has been very great. In 1892, before the duty was taken off, the importation of rough lumber was only a little over a million feet, while that of dressed lumber was very much smaller. In 1897 the importation from the States amounted to 16,000,000 feet, and in 1898 35,000,000 feet. This is, of course,

chiefly undressed lumber. The quantity of pine from the Rat Portage mills is put at 50,000,000 feet.

The Dominion Oilcloth Co., Montreal, manufacturers of floor, table and enameled oilcloths, etc., have sent in a very neat and useful souvenir, well calculated to remind the recipient of the sender. It is a black colluloid letter opener with the name of the company in gilt letters on the handle.

Mr. Albert Bell, of the Albert Bell Engine Works Dunnville, Ont., manufacturers of yacht engines, safety water tube boilers, propeller wheels, etc., informs us that all during the year 1898, their works were operated to their utmost capacity, there being no time during the year when there were not lots of unfilled orders on file. The promise for 1899, Mr. Bell says, is even more encouraging, there being at this time orders on file sufficient to keep the works busy for the next three months. Among the orders now on hand is one for a beautiful steam pleasure launch now being built for a gentleman residing in East Aurora, New York.

Messrs. Leitch & Turnbull, Hamilton, Ont., have been awarded the contract for placing three hydraulic elevators in the new municipal building in Toronto, at a cost of about \$21,311.

Hon. Senator Cox, Messrs. Warron Y. Soper of Ottawa, and Edward Gurney, Richard Garland and Edmund B. Ryckman of Toronto, seek incorporation under the name of "The Dunlop Tire Company of Canada," to control in Canada the manufacture and sale of Dunlop pneumatic tires. The capitalization is to be half a million, and the chief place of business is Toronto.

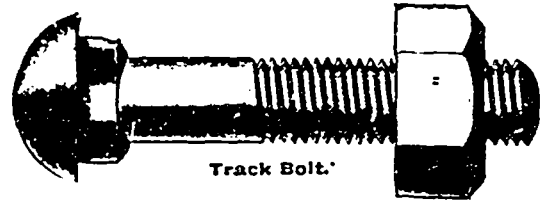
The Royal Electric Company have received an additional order from the Hamilton Electric Light and Power Company for a 500 h.p. S. K. C. two-phase synchronous motor which is to operate a shaft driving their arc circuits and street railway power circuits. This is an addition to the two 350 h.p. motors noted in those columns in our last issue. The first of the two mentioned has been in operation a number of days now with perfect success.

At the recent annual meeting in Toronto of the Hammond Reef Mining Company, a report by the Board of Directors was so favorable that it was decided to immediately erect thirty additional stamps, another ore crusher, air compressor, aerial wire rope tramway, and electric motors to run them. The Board expressed confidence that with forty stamps and with electric power generated by water available the ore can be mined and milled at a considerable reduction in cost.

WE

MANUFACTURE

*Track Bolts and Nuts,  
Bridge and Roof Rods,  
Wrot and Cast Washers,  
Railroad and Contractors' Supplies,  
Carriage, Machine, Plow and Special Bolts,  
Bridge and Boiler Rivets,  
Drop Forgings of all Kinds.*



Track Bolt.

SEND FOR ILLUSTRATED CATALOGUE.



Coach Screw.

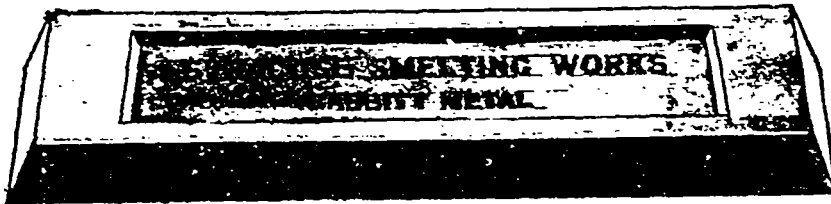
The SWANSEA FORGING CO., Limited,

SWANSEA (NEAR TORONTO).

# Use Syracuse Babbitt Metal

IT IS THE BEST AND CHEAPEST FOR

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



Paper and Pulp Mills, Saw and Wood Working Machinery, Cotton and Silk Dynamos, Marine Engines and all kinds of Machinery Bearings.

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

## SYRACUSE SMELTING WORKS.

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

The Miller Bros. Co. are applying for incorporation to take over the paper mill of the Miller Bros., at Glen Miller, Ont., and to carry on business in the manufacture of pulp paper, etc., with a capital of \$200,000.

The Mispeec Pulp Mill, near St. John, N.B., is to be ready in March. The mill is just at the point where the water power for working it meets the tide. Large vessels can go up the Mispeec at high water to this point. The mill is to be of 100 tons capacity.

The International Paper Company has secured the control and sale of the output of news paper made by the Laurentide Pulp Company, of Grand Mere, Que., which owns the largest mills in the Dominion. This business will be handled by the English division of the International Paper Co., recently established in London to handle the export trade of the company and its various connections. The product is to be sold abroad exclusively.

While at the sawmills of the Rat Portage Lumber Co. this is the season of inactivity, everything is brisk at their sash and door factory at Rat Portage. Their new factory, built to replace the one burned some time ago, is supplied with the most modern plant, and a large number of men are employed in the factory during the winter, while the sawmills are closed. This, with the getting out of logs in the woods, gives employment all the year around to a large number of men. — Winnipeg Commercial.

The William Davies Co., Toronto, are making additions to their premises at the corner of Front and Beachall streets. It is understood that the company is experimenting with various lines of canned goods so as to determine whether or not it would be wise to erect a new factory and go into the business on an extensive scale.

The first gold brick produced by a British Columbia coast mine, valued at about \$7,000, was received at Vancouver, B.C. a few days ago.

Within the last year or year and a-half, the Massey-Harris Co. have made two important additions to their works at Brantford, Ont. These include a fifty-foot brick addition to the main foundry, and an extension to the main building of a wing three stories high and sixty feet long. The cost of the buildings in these two cases exceeds \$10,000. The company have put into the main factory a fire protection sprinkler system plant at an additional cost of \$10,000.

Within the past twelve months the Verity Plow Co., of Brantford, Ont., commenced the building of a new factory at a cost of \$75,000. This factory is about completed and ready for occupation. The new factory is one of the best equipped in Ontario. The departments and dimensions are:—Dipping room 59x43 feet; polishing room 154x59 feet; machine shop 154x59 feet; wet grinding room 98x59 feet, and blacksmith shop 310x59 feet. The length over all of this building is 700 feet. The third building is the foundry. It consists of the following departments:—Foundry 156x64 feet; mill room 59x43 feet; engine room 59x37 feet; boiler room 59x37 feet; shaving, block bins, etc., 142x59 feet; woodshop 142x59 feet. The length over all is 560 feet.

The Dominion Oilcloth Co., Montreal, which is one of the largest consumers of linseed Oil in Canada, will erect a linseed crushing plant to supply oil for their own use. The works will soon be in operation.

Mr. Albert Ernest Bremner, managing director of the Sturgeon Falls, Ont., Pulp Co., was in town en route for London, Eng., via Teutonic on Wednesday. Talking to The Mail and Empire representative, Mr. Bremner said that the recently organized company of British capitalists who had begun the manufacture of paper pulp at Sturgeon Falls, already had one mill in operation making twenty tons a day; another was being built, and more would follow, until the capacity reached 120 tons a day.

The company have water-power estimated at 6,000 h.p. under development. They would for the present confine themselves to the manufacture of news paper, and already had orders ahead for more than their output from England. They were, he declared, confident that they could supply the British market with paper laid down there cheaper than the commodity was at present being supplied to the Canadian trade. He said the pulp industry of Canada was only in its infancy, and promised to attract millions of British capital. The company employs 150 men.

The Canadian Canoe Co., Peterborough, Ont., have sent us their new illustrated catalogue having reference to their different styles of canoes, skiffs, pleasure boats, etc., manufactured by them. The catalogue cannot but prove interesting to any into whose hands it may come, for in it is described canoes of many different sizes, built of different kinds of woods, finished in different ways, and at prices to suit all manner of people in all circumstances. And this company assure us that if the catalogue does not describe just what one may desire, all that is to be done is to mention this fact, in other words, to call for what you want and the bill will be filled. If you want a pleasure boat of any sort, send the company a post card to that effect.

The contract for supplying the Ontario Government with printing paper has been awarded to the Riordan Paper Co. of Merriton, Ont.

The E. B. Eddy Co. Hull, Que., will build another pulp mill.

The capital stock of the Stanley Piano Co., Toronto, has been increased to \$30,000. The company intend removing their factory to Peterborough, Ont., where inducements have been offered to locate in the form of exemption from taxation and free water for a term of years, together with a site. The company will continue to maintain warehouses in Toronto.



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



Wire Screens for Every Class of Material.

Perforated Metal of Steel Copper, Brass, Zinc for all purposes.

Special Attention given to Minor's Requirements.

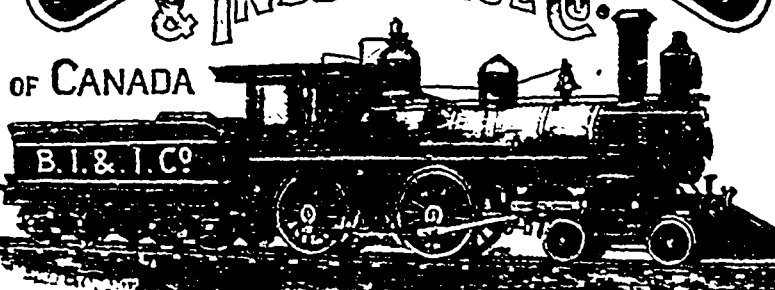
When Were Your **BOILERS** Last Inspected?

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

JOHN L. BLAIKIE ESQ. PRES.      E. W. RATHBUN ESQ. VICE-PRES.

**THE BOILER INSPECTION & INSURANCE CO.**

OF CANADA



Head Office, TORONTO.

ARE YOU SURE they are **SAFE** and in Good Condition?

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The B. F. Sturtevant Co., Boston, Mass., have sent us an illustrated circular descriptive of the Sturtevant 8-pole motor and generator built by them. These machines are for direct current, and can be used either as motors or generators for independent operation or for direct connection to fan or engine.

The ratepayers of Oshawa, Ont., have voted favorably on a by-law to raise \$110,000 to institute a waterworks and sewerage system for that town.

Messrs. James Dobson and C. J. Webb, of Philadelphia, T. C. Casgrain and others, have been incorporated as the Beaver Portland Cement Co., with head office at Montreal, to manufacture cement, lime, plaster, etc.

The Marlatt & Armstrong Co., Oakville, Ont., has been incorporated with a capital stock of \$150,000 to take over the tannery business of the firm of Marlatt & Armstrong.

The Ontario Packing and Provision Co., of Morrisburg, Ont., has been incorporated with a capital stock of \$100,000 to do a meat packing business.

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

The Oxford Creamery Co., Woodstock, Ont., has been incorporated with a capital stock of \$20,000 to manufacture butter.

The Canada Featherbone Co., of London, Ont., have sold out their business to Brush & Co., of Toronto.

The name of the Canadian Cone Coupler Carriage Co., of Palmerston, Ont., has been changed to the Palmerston Carriage Co.

The woolen factory of W. D. McKay, at Charlottetown, P.E.I., was destroyed by fire Jan. 19th, loss about \$35,000.

The works of the Pictou Charcoal Iron Co., at Bridgville, N.S., were damaged by fire on Jan. 19th to the extent of about \$10,000.

The Major Candy Co., Halifax, N.S., manufacturers of candy, confectionery, etc., have removed their works to Fredericton, N.B.

A company is being organized with \$1,000,000 capital by parties in Montreal, Boston, and Paris, France, for the purpose of manufacturing calcium carbide at Shawinigan Falls, Que., utilizing part of the power being developed at that point by the Shawinigan Water & Power Co.

Messrs. Abbot & Cunliffe will establish a new foundry and machine shop at Victoria, B.C.

The S. F. McKinnon Co., Toronto, manufacturers of cloaks, etc., have been incorporated with a capital stock of \$500,000.

The Bishoprick Co., Toronto, has been incorporated with a capital stock of \$10,000 to manufacture paper boxes, etc.

It is probable that a new town hall will be built at Woodstock, Ont., at a cost of about \$25,000.

**AN ELECTRIC HOISTING PLANT.**

The British Columbia Mining Record gives photographic reproductions showing the large electrically driven hoist built for the War Eagle Consolidated Mining and Development Co., of Rossland, which were taken at the shops of the designers and manufacturers, the James Cooper Manufacturing Co., Limited, Montreal, during the erection of the machine, regarding which it says:— "The hoist is remarkable in that it is the largest hoist ever built to be operated by electricity. It supplies the first link in a new era of power developed in the Kootenay district. The hoist is designed for a double compartment shaft 3,000 feet in depth, to lift a load of eight tons on a single line at an average speed of 750 feet per minute. One photograph shows the hoist from a front view, and the other the back view taking in the operating platform. The drums are seventy-two inches in diameter, by five feet face, and are of the 'Copper patent friction

# To MANUFACTURERS

Do not be misled on the Wood Pulley question! The construction of the Dodge Split Pulley is unique. The complete and extensive plant of Dodge Manufacturing Company, of Toronto, makes it possible for them to make an all-wood pulley nearer perfection than any of its competitors. No other wood pulley is made just like the Dodge Pulley, because a lot of special and expensive machinery was necessary before the Dodge Pulley could be produced in its present state of perfection.

Our output exceeds that of all other wood pulleys combined. There are no drawbacks with us, we have the best wood split pulley made, and we want to send you our new 260-page Catalogue, also our revised Discount Sheet and to tell you all about all kind of pulleys.

We carry a complete stock of pulleys in sizes from 4 in. diam. to 60 in. diam. any face, and can ship most any order on day received. A post card or a phone will bring us to you at any time.

**DODGE MANUFACTURING CO. of Toronto, Limited,**  
Office, 74 York St., Toronto, Ontario. Works, Toronto Junction. 'Phone 2080

## TO MANUFACTURERS...

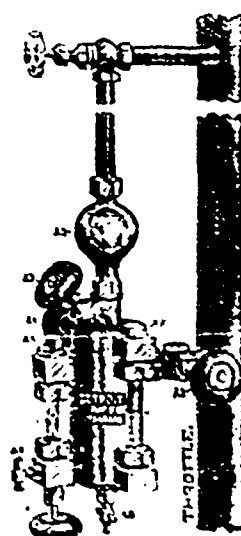
Bar Iron, Steel, Boiler Plate,  
Rivets, Tube Expanders,  
Hammers, Metallic Letters  
and  
Figures for Patterns.

**RICE LEWIS & SON**  
(LIMITED)

COR. KING AND VICTORIA STREETS, TORONTO.

ADVERTISE IN THE CANADIAN MANUFACTURER.

SEND FOR RATES.



### THE BEST JUDGES OF ENGINES

THOSE WHO BUILD HIGH-GRADE ENGINES  
ALL USE

## The Detroit Sight-Feed Lubricators

This is equally true of Canadian as of American engine builders. They know that the valve friction must be overcome if their engines are to work at their best. They know from experience that the Detroit Lubricators do this, and where so much is at stake they want only the best. It should be the same with all engine owners. The saving our Lubricators effect will pay for themselves very soon.

Send for Catalogue and Prices.

**Detroit Lubricator Co.,**  
DETROIT, MICH.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

drum type.' As shown in the photograph they are provided with enormous band brakes of the differential clutch type, which are operated from the platform by hand levers with latches working in a yoke with serrated teeth.

"The motor is furnished by the Canadian General Electric Co., and is designed for alternating currents of 2,080 volts. The motor runs at a speed of 300 feet per minute, which is geared down to 160 revolutions per minute on the main driving shaft of the hoist proper, by means of cut steel gears and pinion. From the main driving shaft the gears are operated by pinions. The motor is reversible and acts in the same way as the link motion hoisting engine, a further provision being made for stopping the momentum by providing the motor shaft with a hand friction wheel, which is operated from the platform by means of both a hand and foot lever.

"As clearly shown in the illustration, the drums and motor rest on a heavy box girder bed frame, which underlays the whole machine and carries the side frames for the drums and shaft. As partially shown in the photograph, the operating platform consists of a system of girders which carry the segments for operating levers. The platform is

raised considerably higher than the base to give the operator a clear view of the whole machine. This platform also supports the controller for the motor, and directly in front of the operator is placed two indicators for locating the exact position of the cage in the shaft.

"The whole arrangement is well studied out and arranged to be easily operated by the system of hand levers.

"Both drums are loose on the drum shaft and are entirely independent of each other in operation; they may be thrown in and out of gear while the hoist is in operation, either separately or together; or one drum may be lowering while the other is hoisting, or both drums may be thrown into gear and the hoist used as a regular reversible engine; one lead being hoisted while the empty cage is being lowered; this arrangement becomes absolutely necessary in mining where work is progressing at a number of different levels.

It is perhaps difficult to get a clear idea of the magnitude of the hoist from a photograph; some idea, however, may be formed of the size, when it is known that the drum shafts are seven inches in diameter, the main driving shaft six inches in diameter, and the motor shaft eight inches in diameter. The whole machine is of a very massive character

and calculated to stand the heaviest work. The hoist weighs, finished, including the electrical apparatus, about 120,000 pounds, or sixty net tons."

#### STEAMSHIP ARRIVALS.

Following is a list of steamship arrivals thus far this month:—

Name.	At.	From.	Date.
Asyria.....	Hamburg.....	Portland.....	Feb. 1.
Georgian.....	Portland.....	Liverpool.....	" 1.
Californian.....	Liverpool.....	Hullfax.....	" 1.
Damara.....	.....	.....	" 1.
Strathavan.....	Manchester.....	St. John's.....	" 1.
Cephalonia.....	Liverpool.....	Boston.....	" 1.
Manitou.....	New York.....	London.....	" 1.
Italia.....	Philadelphia.....	Antwerp.....	" 1.
Arabia.....	.....	Hamburg.....	" 1.
Keemun.....	Glasgow.....	Liverpool.....	" 2.
H. H. Meier.....	New York.....	St. John's.....	" 2.
Paris.....	Southampton.....	New York.....	" 2.

Hon. Senator Cox, Warren Y. Soper, of Ottawa, and Edward Gurnoy, Richard Garland and Edmund B. Ryckman, of Toronto, seek incorporation under the name of "the Dunlop Tire Company of Canada," to control in Canada the manufacture and sale of Dunlop pneumatic tires. The capitalization is to be \$500,000 and the chief place of business in Toronto.

### Engine Paeking,

### Magnesia Pipe Covering

### Lubricating Oils

### and Grease.

The

## William C. Wilson Co.

Limited

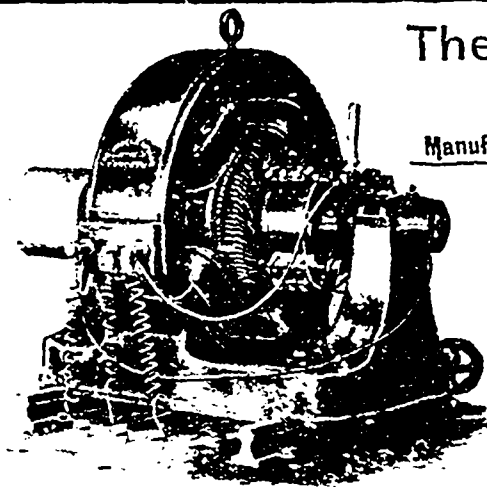
24 FRONT STREET EAST  
TORONTO, ONT.

## JNO. R. CASSIN CO'Y.

Spokane, Washington.

## MINE PROMOTERS and ASSAYERS.

Reports made on Mining Properties,  
and advice given on the merits of  
Mining Stocks and Properties.



## The Jones & Moore Electric Co.,

Manufacturers and Contractors

All Work Fully Guaranteed

ELECTRIC LIGHT and  
POWER PLANTS a Specialty

A Few Second-Hand A 1 Machines  
For Sale Cheap

20 and 22 ADELAIDE STREET WEST  
TORONTO

ESTABLISHED 1823.

Telegrams:—"WILSONS, CORNHOLME."—A.B.C. Code Used.

# WILSON BROS. BOBBIN CO.

(LIMITED)

CORNHOLME MILLS, TODMORDEN, ENGLAND.

## BOBBIN AND SHUTTLE MANUFACTURERS.

THIRTY PRIZE MEDALS AWARDED.

HIGH-CLASS WORKMANSHIP. SEVENTY YEARS' REPUTATION.

LARGEST BOBBIN MAKERS IN THE WORLD—(Over 1,200 Workmen).

ADDRESS—

**CORNHOLME MILLS, TODMORDEN, ENG.**

BRANCH ESTABLISHMENT:

**ATLAS BOBBIN WORKS, GARSTON, LIVERPOOL.**

OFFICE AND SHOWROOMS

**14 MARKET PLACE, MANCHESTER**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**THE WM. HAMILTON MNFG. CO., LIMITED,**  
Engineers and Builders

**MODERN MINING and MILLING MACHINERY**

**“Gyrating Vanner”**

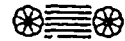
SHAKES LIKE A PAN—SEND FOR SPECIAL CIRCULAR



Department “E”



Contractors for the Design and Construction of Complete Stamp Mills, Concentration, Chlorination, Cyanide, and Smelter Equipments....



PETERBOROUGH, ONT., or VANCOUVER, B.C.

**BELTING**

**E L L I N G**

Leather Belting,  
Lancashire Hair,  
English  
Card Clothing,

**D. K. McLAREN**

Head Office and Factory—  
VICTORIA SQUARE, - MONTREAL  
Stock Depots - Ottawa, Galt.

**O A K**

**E N I N E**

WESTERN TRADE:—

Our Mr. R. M. W. McLaren, in charge of Galt Branch, will be pleased to give quotations as well as receive orders.

**STORAGE BATTERIES**

THE LIGHTEST. THE STRONGEST. THE BEST.

If you use Electricity we can save you Money. Batteries Repaired and Recharged at Reasonable Rates.

**The Croftan Storage Battery Co.**

W. M. H. NELLES. CANADIAN BRANCH. REIN WADSWORTH.

22 Sheppard Street, Toronto, Ont.

DO YOU USE

**CORRUGATED SHUTTLES**

FOR WEAVING FROM COP?

WE MAKE THEM.

Write for Prices and Samples.

**JOHN HOPE & CO.,** LACHUTE SHUTTLE and BOBBIN WORKS, LACHUTE, QUE.

**THOMPSON & CO.,** Manufacturers of **BOBBINS and SPOOLS**

FROM SELECTED STOCK.

Correspondence Solicited  
Orders Promptly Filled

• SHERBROOKE, P. Q.

# SADLER & HAWORTH

Manufacturers of

## OAK-TANNED LEATHER BELTING

MONTREAL AND TORONTO.

Orders addressed to our Toronto or Montreal Factory will have prompt care.  
Goods will be forwarded same day that order is received.

## ..THE.. NEW PRINCIPLE IDEAL ACETYLENE GAS GENERATOR

Acknowledged by Experts and Insurance Inspectors as the only perfect and safe system for Generating Acetylene Gas.

Separate Ideal Generators supplied for attachment to present Gas Holders where Sprinkling Generators are now in use.

### ADVANTAGES

Of New Style . . .  
Carbide Submerging  
Machine . . . . .

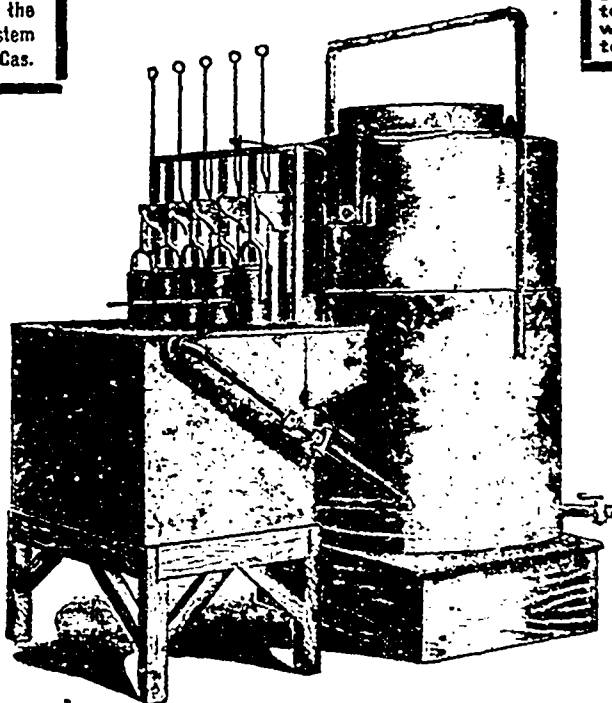
No Generator to Open to Recharge.

Gas is Generated under Water and is Cool and Pure.

200 Degrees less Heat in Generator than in Old Style.

Absolutely no Over-Generation or Loss of Gas.

Can tell at a Glance exactly how much Carbide is Used, and how much Unused.



### DEFECTS

In Old Style . . . . .  
Sprinkling Machines.

Generator must be Opened to Recharge, with Loss of Gas and Bad Odour.

Gas Generated by Sprinkling is Hot and Impure.

More or Less Over-Generation and Waste of Gas.

Cannot tell how much Carbide is or is not used without opening Generator.

**J. WALLAGE & SON,** Manufacturers of **Acetylene Gas Apparatus,** 156 King Street East **HAMILTON, ONT.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

# Hamburg-American Packet Company.

## HANSA LINE.

The only direct line between Hamburg and Canada, affording regular sailings.

**WINTER SAILINGS.**  
HAMBURG AND PORTLAND, ME.

	From Hamburg	From Portland
SS. Helene Rickmers	Jan. 21th.	Feb. 13th.
SS. Alesia	" 26th.	" 20th.
SS. Strathay	" 26th.	" 27th.
SS. Assyria	Feb. 6th.	Mar. 11th.

And fortnightly thereafter.

Through Bills of Lading issued to and from all points in Canada and Western States by the Grand Trunk Railway or their Agencies.

For further particulars apply to

**JAMES THOM, Manager,**  
13 St. John Street,  
MONTREAL.

### NOTICE

#### To Importers and Exporters.

We beg to call your special attention to the improved service we intend to offer shippers and consignees next season. We have decided to increase the sailings of the **HANSA-ST. LAWRENCE LINE** between Hamburg, Antwerp and Canada, to a 10 days' service, beginning in the month of April next. The sailings have hitherto taken place fortnightly, with extra opportunities when required, but we shall in future have a sailing from Hamburg, Antwerp and Montreal every ten days.

We are quite prepared to meet the requirements of the trade by arranging for extra boats, so that shippers and consignees can depend on a first-class service, with every facility for the prompt shipment and careful handling of their goods.

We would further point out that our line offers to shippers at Antwerp and consignees in Canada, special facilities in view of splendid accommodation at our loading and discharging berths. In Antwerp and Montreal we have extensive quay accommodation, protected by large sheds and connected with the different Railroads, thus ensuring the prompt transshipment of cargo.

In view of our efforts to provide a first-class regular service, in both directions (for our steamers also load back direct to Antwerp and Hamburg), we rely on your favoring us with your undivided support.

**JAMES THOM, Manager,**  
13 St. John Street,  
MONTREAL.

The Hawthorn Woolen Mill Co., of Carleton Place, Ont., are increasing their lighting plant and have placed their order with the Royal Electric Company for a 25 k.w. Bipolar generator, which is to be installed at once.

Mr. F. H. Silk, Shelburne, Ont., is asking for plans and specifications for an eight room brick schoolhouse, two stories and basement, to cost not more than \$8,000 complete with equipment. Tenders must be in by February 9th.

.. ORDER ..

# "Capitol"

THIS IS THE  
STANDARD GRADE

## "Renown" "Atlantic"

ENGINE



## CYLINDER

RED OIL

NO BETTER OILS MADE

**THE QUEEN CITY OIL CO., LIMITED**

SAMUEL ROGERS, PRESIDENT
TORONTO, Canada

CHEMICAL  
COMPOUND  
COMPANY

CORRECTLY  
COMPILED  
CHEMICAL  
COMPOUNDS

CIVILITY  
CAREFULNESS  
COMPLETENESS  
CONTINUITY

## DO YOU KNOW

That you are paying for Boiler Compound all the time whether you use it or not?

IF YOU DO NOT BUY

You will pay your coal dealer more than its cost in the extra Coal you burn.

## Zinkolene Saves Money

THE CHEMICAL COMPOUND CO., 311 Temple Building, Toronto.

### ONTARIO GOLD MINING DISTRICT :

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

### A Few Mines



WHO USE

### BRITISH COLUMBIA :

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

# CANADIAN RAND DRILL COMPANY, Montreal

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



CHARLES F. CLARK, Pres. JARED CHITTENDEN, Treas.  
ESTABLISHED 1840.

**THE BRADSTREET  
MERCANTILE AGENCY**

THE BRADSTREET COMPANY, Proprietors

346 & 348 Broadway, NEW YORK.

Offices in the principal cities of the United States, Canada, the European Continent, Australia, and in London, England.

The Bradstreet Company is the oldest, and financially, the strongest organization of its kind—working in one interest and under one management—with wider ramifications, with more capital invested in the business, and it expends more money every year for the collection and dissemination of information than any similar institution in the world

TORONTO OFFICES:

McKinnon Bldg., Cor. Jordan & Melinda Sts.

THOS. C. IRVING, Superintendent.

**NEW FACTORIES IN TORONTO.**

The total value of the new factories for which the Toronto City Commissioner issued permits during August, September and October last, is as follows.—

Reid & Co. wooden factory, foot of Bay street .....	\$500
Warren-Scharf Company, wooden factory, Eastern avenue .....	800
Geo. H. Hees, Son & Co., four story brick factory, Pears avenue, near Avenue Road ....	15,000
Geo. H. Hees, Son & Co., five-story brick warehouse, Pears avenue .....	10,000
Paterson Manufacturing Company, one-story brick factory, Esplanade street .....	2,500
Massey-Harris Company, three-story brick and stone factory, King street west .....	8,000

Toronto Glass Company, two-story brick factory, Blair street, between Abel street and Dovercourt road .....	1,000
Toronto Glass Company, one-story wooden factory, Blair street. ....	2,700
Massey-Harris Company, one-story brick moulding shop and two-story brick core shop, King street west .....	9,000
J. B. Kay & Co., four-story brick warehouse and factory, King street west .....	30,000
Massey-Harris Company, three-story brick machine shop, Strachan avenue .....	8,000
Toronto Carpet Manufacturing Company, factory, Fraser avenue and King street west .....	50,000
Gale Manufacturing Company, four-story brick factory, Mincing lane .....	8,000
Total .....	\$146,100

A new summer hotel to cost \$40,000 is in contemplation at Danville, Que., the land around the hotel is to be laid out as a park.



**WATER WHEELS**

For Heads of 3 Feet to 2000 Feet.

ADAPTED TO MILLING AND ALL POWER PURPOSES.

Recent tests at Holyoke enable us to guarantee:  
The Largest Power ever obtained from a wheel of the same diameter. The highest speed ever obtained for the same power. The highest mean efficiency ever obtained when running from half to full gate. We guarantee also: A runner of the greatest possible strength. A gate unequalled in quickness and ease of opening and closing.  
Write for pamphlet, sending your Head.

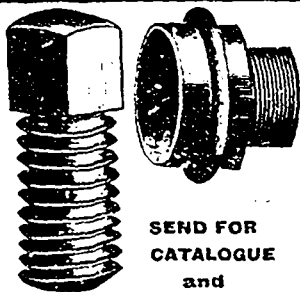
JAMES LEFFEL & CO., Springfield, Ohio, U.S.A.

**Felts for Pulp Mills**

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

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

HAMELIN & AYERS, Lachute Mills, P.Q.



The **Diamond  
Machine & Tool Co.**

TORONTO, ONT.

Manufacturers of....

**Machine Screws**

OF EVERY DESCRIPTION.

SEND FOR  
CATALOGUE  
and  
PRICE LIST.

**ECO MAGNETO  
WATCHMANS'  
ELECTRIC CLOCK.**

Without Batteries.

Write for descriptive circular to

**Eco Magneto Clock Co.,**

Room 71, 620 Atlantic Avenue,  
BOSTON, MASS.

**MONTREAL ELECTRIC CO.,**

1898 Notre Dame Street,  
(Balmoral Hotel Block).

Agents for Province of Quebec.

**John Starr, Son & Co. (Limited),**  
HALIFAX, N.S.,

Agents for the Maritime Province.

**Reduce Your Fuel Bills  
Increase Your Output...**

BY USING

**The IMPROVED JONES UNDERFEED STOKER**

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

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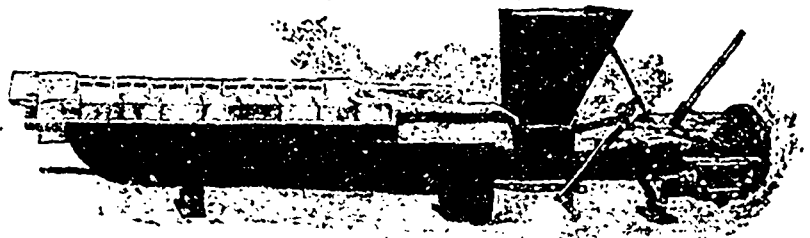
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**BRISTOL'S PATENT STEEL BELT LACING.**

It is now nearly ten years since The Bristol Company, of Waterbury, Conn., began manufacturing their Patent Steel Belt Lacing which has become, within that time, familiarly known and very generally used at home and abroad. There are over one hun-



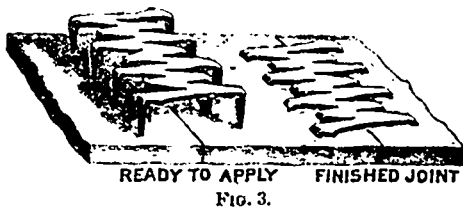
dred different sizes and lengths adapted to different styles and widths of bolting. The illustrations, Figs. 1, 2, and 3 show the three different types that are made, of which Fig. 1 represents that originally placed upon the market and designed particularly for leather belts.

The type illustrated in Fig. 2 was brought out later to meet the demand for a fastener for woven belts such as are made of cotton and rubber. In this style the distance between the rows of spurs is greater than in



the original form shown in Fig. 1 and thus affords a better hold on ends of a belt of a woven or fibrous nature. Both types of lacing shown in Figs. 1 and 2, have the patented feature that they are formed from blanks of a zigzag shape, said shape being such that the blanks may be successfully cut from a ribbon of steel without the waste of material.

The latest design, shown in Fig. 3, which is now being introduced, combines the special



features of both of the previously described types, the essential difference being that there are two rows of spurs on each side of the centre, instead of one. The patented features of this latest design are that the blanks used are of a zigzag form and that they may be successfully cut from a ribbon of steel without waste of material, each blank as it is cut off, simultaneously forming one side of the blank for the next lacing.

The advantages of this new form of lacing are that it is equally applicable to leather, cotton or rubber belts, and that the double rows of spurs on each side of the joint insure great strength, especially when applied to old and partially worn belts. All the above types have been carefully designed to give maximum strength with minimum amount of material. All three types are easily applied without use of special tools, making smooth and elastic joints.

Samples will be mailed free on application to the makers.

Mr. William Preston, manager of the Stratford Mill Building Co., Stratford, Ont., is organizing a new company to be known as the Preston Manufacturing Co., of which he will also be manager. The company have completed arrangements for the construction of two large factory buildings, one 100x36 feet and one 200x22 feet, where they will

build traction engines, seed separators and other sorts of farm machinery. These buildings will cost more than \$10,000 and fifty men will be employed on the start, the number to be increased as the business increases. An electric light plant will be installed in the new factory, with eighteen arc lights.



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Have in successful operation Machines from 5 to 200 Lights.

**SIMPLICITY AND SAFETY** are the leading features.

Being deeply water sealed **IT CANNOT LEAK.**  
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 thus makes only **PURE GAS.**  
**NEVER CLOGS THE BURNERS.**

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Sole Proprietors and Manufacturers of the **SEND FOR CELEBRATED CLIFF-WARDLAW GENERATORS.** **BOOKLET.**

**The London Machine Tool Co., LONDON, ONT.**  
 MANUFACTURERS OF **GENERAL MACHINERY...**

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

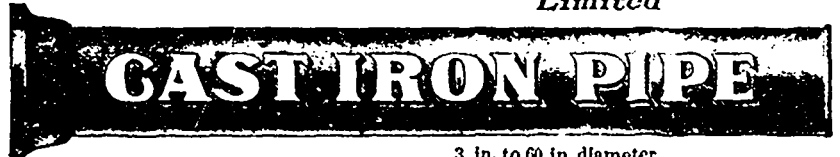
As we shall not be able to personally visit each manufacturer, it is for this purpose that we publish this advertisement. This is our agent who is going about to solicit a share of your patronage. We are thankful for the patronage extended to us in the past, and hope that we may secure an extension of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

- All correspondence relating to the following Tools will be promptly answered, viz:
- LATHES**—Engine, Gap, Break, Turret, Fox, Spinning, Etc.
  - PLANERS**—Standard, Crank, Plato, Etc.
  - DRILLS**—Standard, Sensitive, Multiple, Radial, Etc.
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  - BULL-DOZERS** for all purposes.
  - PUNCHES AND SHEARS** for Plate, Angles, Channels, Gauges, Etc.
  - PRESSES** for Cutting, Stamping, Drawing Wiring, Riveting, Etc. We shall also esteem it a pleasure to give quotations on Special and General Machinery in our line.

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

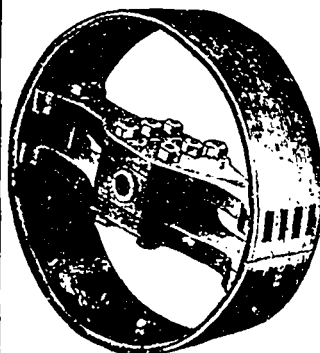
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**EVERY PULLEY GUARANTEED.**

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 257 King St. West, Toronto.

**NEW DISCHARGE EFFECTS IN CALICO PRINTING.**

Of late some new applications of old methods and some modifications in the production of discharges have been adopted in many calico print works which have resulted in the production of many new and interesting effects that, when placed on the market, have been received with some favor. A brief account of these may not be uninteresting.

Unlike most basic dyes the Tannin Orange R and New Phosphine G of Messrs. Cassella & Co. (Wm. J. Matheson & Co., Ltd., Sole agents for United States and Canada), are easily dischargeable with a tin salts discharge to a good white. Now by taking advantage of the fact that the Diamino Dyes are also dischargeable, whereas basic dyes

such as Thioflavine T, Phosphine II, Solid Green Crystyl, Safranine, Rhodamine, Tannin Holiotropo, etc., are not dischargeable and Naphtindone BB is turned red, it is astonishing what a variety of effects may be obtained. Thus by first dyeing with a Diamine Color, then printing on Tannin Orange R mixed with Safranine and next a discharge, white, red and scarlet designs can be produced on a colored ground. Where a white discharge is wanted then the following recipe may be followed: Four pounds acetate of tin, twenty eight degrees Tw., nine ounces wheat starch, 1 1/2 pounds white dextrine, four ounces citric acid and 1 1/2 pounds ferrocyanide of tin paste. This latter article is made by precipitating tin crystals with yellow prussiate of potash, washing and draining the precipitate of ferrocyanide of tin which is got until it is about

a fifty per cent. paste. On both Diamino Colors and Tannin Orange R and New Phosphine G, this recipe gives good whites. A short steaming after printing only is needed. When Tannin Orange R or New Phosphine G is used in combination with other tannin dyes, it will be found best to use an acetate of tin discharge, which can be made from four pounds acetate of tin, twenty-eight degrees Tw., 3/4 pound wheat starch, 1 1/2 pounds white dextrine and 1/2 pound citric acid, mixing this with the other ingredients as may be required. Now let us speak more particularly of some of the effects which can be produced.

For yellow, red and dark blue on blue, a bottom is dyed with Diaminogone Blue BB, diazotized and developed with betanaphthol, then there is printed on a mixture of Tannin Orange R and Naphtindone BB, finally a

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**Aniline Colors,  
Dyewood Extracts,  
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**FAST COLORS for Wool Dyeing,  
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**THE CANADIAN MANUFACTURER,  
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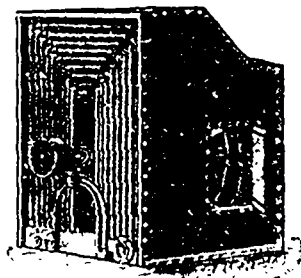
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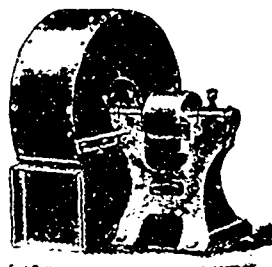
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**Dyewood Extracts,  
One Dip Alizarin DS,  
Aniline Colors,  
Dyestuffs and  
Chemicals.**

cover of a discharge containing Thioflavine T and Rhodamine. A red and yellow on green effect is obtained by first dyeing with Diamine Sky Blue FF and Thioflavine S, printing on a mixture of New Phosphine G and Safranino and then a white discharge. Wherever the white discharge covers the green ground a yellow is obtained, while, where it covers the red, a paler effect is the result. A pale red, white, dark grey on grey, is got by dyeing with Diamine Grey G, printing on a mixture of New Phosphine G and Naphtindone and then a white discharge. The grey is discharged to a white, while the dark grey printed on is discharged to red. Similarly a variety of other effects may be produced.—The Dyer and Calico Printer.

**A MONSTER WEIGHING MACHINE.**

The Fairbanks Co. have just installed a monster weighing machine at the United States Navy Yard, at Washington, D.C., as will be seen by the following, clipped from the Washington Post:—

"The study of weighing machines, or 'scales,' as they are commonly called, is one that engages the attention of few persons in this city of thought and research, other than that of the district sealer of weights and measures. To him it is both a pleasure and a business to study the counterpoise and the sensitive natures of all balances, great and small, public and private, and he is probably the only person who can tell just where the largest and the smallest scales of the National Capital are to be found.

"Everybody is, perhaps, aware that the large scales upon which entire freight cars with their loads of many tons are weighed, are considered immense, but with all their

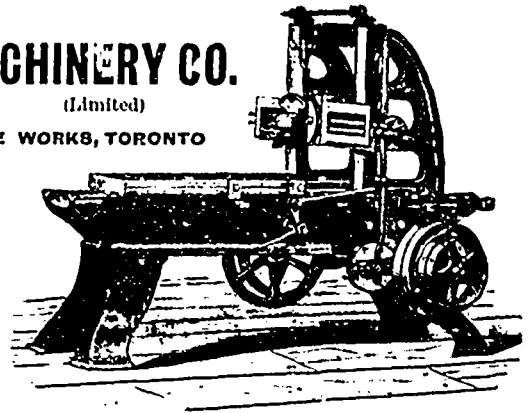
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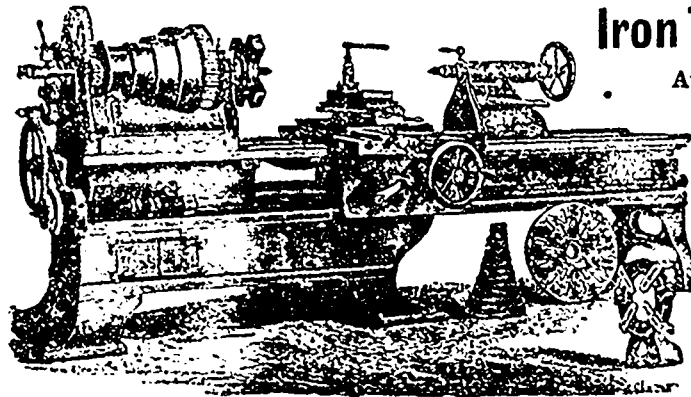
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APPLICABLE TO ALL CLASSES OF BUILDINGS

Has had a THOROUGH TEST in the Dominion  
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Send for Catalogue No. 84, Describing this System  
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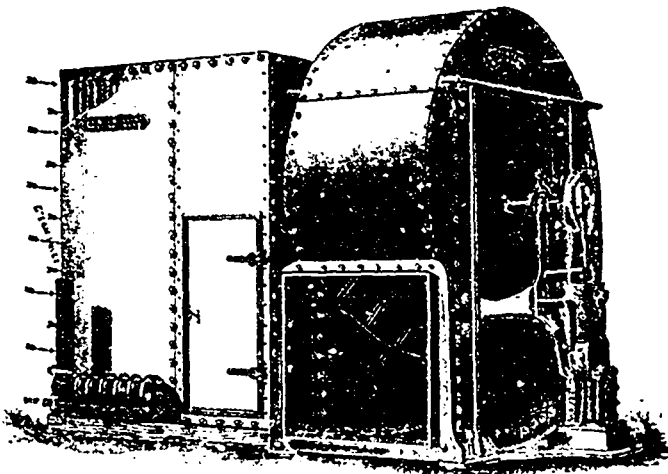
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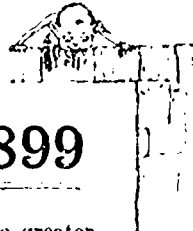
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Engineers' and Plumbers' Brass Work.

GENERAL SUPPLIES and SPECIALTIES.

TRADE MARK  
**J. M. T.**

The **James Morrison Brass Mfg. Co., LIMITED.**  
Toronto

When we

immensity, it seems that they are morge in the eyes of Uncle Sam, who has gone all the railroad magnates in the country one point better by installing at the Navy Yard in this city, one of the largest pair of Fairbank's scales in the country.

"This machine can outweigh the largest railroad weighing machines by fifty tons, and when it is considered that its results must be accurate to the weight of a pound, while railroad scales are considered good if they approach anywhere near fifty pounds of being correct, it is to be marvelled at the advances that have been made in scale manufacture in recent years.

"The new scales are located on the track going south from the great gun shops and just opposite the forge shop, being about ten feet to the eastward from its entrance. Work has been progressing on them for a considerable length of time, but they were only completed last week, and turned over to the authorities of the yard last Monday. At a hurried glance they are not unlike the ordinary platform of hay scales.

"Closer investigation reveals the fact that they are forty-eight feet long and twelve feet wide, and that they rest upon a cement base built upon long piles. The ground is somewhat low, and it was necessary to utilize the services of pile-drivers to secure a stable foundation, which is one of the requisites of an accurate weighing machine.

"Much of its fine and sensitive balancing apparatus was manufactured for special use in the new machine, and the completed structure is considered a model and marvel of mechanism and American ingenuity.

"In order to illustrate the accuracy of the counterpoise of the machine to a reporter for the 'Times' yesterday afternoon, the superintendent of yards and docks picked up a half brick which was lying on the ground near by, and tossed it on the nuge platform of the machine. He then consulted the long brass lever in the reading box along the side of the scales, and found that the record of the brickbat was just a pound.

"Turning to the reporter, he said that the machine is so sensitive that it can weigh anything from a pound of sugar to a trio of 13-inch naval guns, and weigh them accu-

ately, though it will probably oke out a long existence at the famous gun shop without having the chance to weigh an ounce of the former. The capacity of the new scales is 150 tons, or double the capacity of the old scales, which have just been replaced by the new ones. A 13-inch gun weighs about 55 tons, and it may be readily seen that the new scales can weigh two of the monsters, reclining on a 48-foot car truck, and not tax its capacity to any great extent. All the big guns of the new navy will be weighed upon these colossal scales."

### A NEW SMELTER AT TRAIL, B.C.

According to the Cascade, B.C., Record, the Trail Smelter Company will shortly erect a smelter in that place. Negotiations have been going on for some time between Manager Stocker, of the Town Site Company, and the land department of the C.P.R., and Mr. W. H. Aldridge, manager of the Trail Smelter Company, has recently visited Cascade with a view to completing the arrangements. As a result, with the exception of a few minor details, everything is now definitely settled.

Mr. Aldridge, says The Record, when questioned regarding the probable size of the proposed plant, said:—"We will probably make it a 1,000-ton smelter, so as to be able to handle all ores that are likely to be offered. We do not believe in erecting a 200 or even a 400-ton plant here, as we could find it more economical to haul the ores to Trail for treatment if no more daily tonnage than that could be obtained in this district."

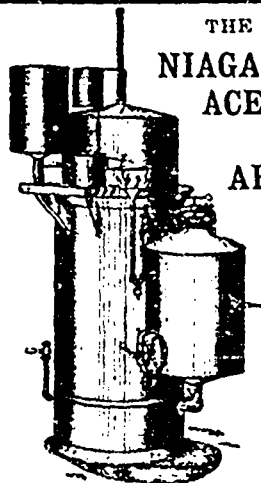
The cost of building a smelter of 1,000 tons daily capacity will exceed \$500,000 and will give steady employment to upwards of 500 men when completed. The stack alone will require 800,000 brick, and the buildings in connection in proportion.

Send for Catalogue and Price List to



THE JOHN MORROW MACHINE SCREW CO.  
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Mfrs. of Set, Cap and Sm Screws, Studs, Finished Nuts, &c.

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Patented in Canada, United States and Great Britain.

This is the only machine perfectly automatic in its action, requiring little or no attention. Machines made in 10 Sizes costing \$15 and upwards.

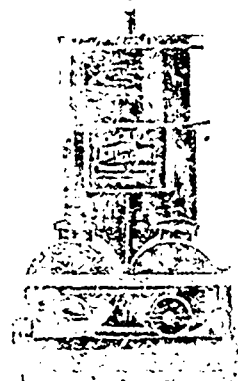
Acetylene Gas the Coming Light.  
CHEAPER THAN ELECTRIC LIGHT  
COAL GAS OR COAL OIL

For Private Dwellings, Business Houses Churches, Public Halls and Offices.

For particulars write to the  
**NIAGARA FALLS ACETYLENE GAS MACHINE CO.**  
NIAGARA FALLS, ONT. LIMITED.

### Sun Lighting Machine.

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The Acme of Perfection in Lighting.

At the Minimum of Cost.

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

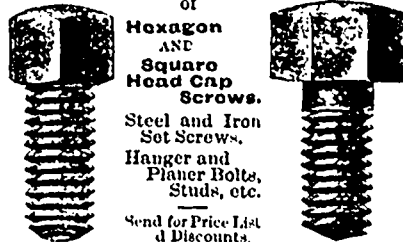
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 NEWCASTLE-ON-TYNE, ENGLAND.  
 Is made by a NEW PROCESS, and is highly spoken  
 of by sporting paper and sportsmen.  
 Kills at greater distance than soft shot.  
 Send to your Gunmaker for Samples.

**WOOD ENGRAVING**  
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 OR ANY CLASS OF ENGRAVING FOR ADVERTISING  
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 Adelaide St. W. **TORONTO.**

**SHIPPING NOTES.**

The different steamship companies operating steamers between Canadian and European ports are completing arrangements for the opening of navigation next spring. The first Allan steamship for the St. Lawrence will probably be the Californian, which will leave Liverpool April 20th, and Montreal and Quebec on May 7th. On May 14th the Castilian will sail from Montreal and Quebec. About June 15th, the magnificent new steamer of 10,000 tons, the Bavarian, will sail from Liverpool for the St. Lawrence. The regular sailing order thenceforth will be the Bavarian, the Castilian, the Parisian and the Californian. About the third week of August, the new steamer Tunisian will be completed, and will replace the Californian. The Dominion line service will be very similar to that of last year. The first steamer will be the Labrador, leaving Liverpool on April 13th, and Montreal on the 30th. It will be followed by the Dominion from Liverpool on April 20th, and from Montreal on May 7th; by the Scotman from Liverpool on April 27th, and from Montreal on May 14th; and later by the Vancouver and the Ottawa. The first steamer of the Beaver Line for the St. Lawrence this year will leave Liverpool on April 15th and Montreal on May 14th.

Messrs. F. Loyland & Co., of Liverpool, announce through Steinmann & Co., their Antwerp agents, that on the re-opening of navigation a direct line of steamers will be put on between Antwerp and Montreal. The steamers employed will be the Albanian, Assyrian and Almerian. Sailings will be every fortnight.

Following is a list of names of steamers, ports of departure, destination and proposed dates of sailing, in which Canadian exporters and importers are interested:—

Names of Steamers	Sailing From	Destination	Proposed Dates of Sailing
Helena Rickmers	Portland	Hamburg	Feb. 13.
Alesia	"	"	" 20.
Strathlay	"	"	" 27.
Iona	"	London	" 30.
Corona	"	"	" 17.
Hurona	"	"	" 24.
Buenos Ayrean	"	Liverpool	" 18.
Sardinian	"	"	" 25.
Sarmatian	"	Glasgow	" 11.
Scandinavian	"	"	" 25.
Sheika	"	Liverpool	" 1.
Georgian	"	"	" 8.
Assyrian	"	"	" 15.
Virginian	"	"	" 22.
Lycia	"	Bristol	" 4.
Merrimac	"	"	" 11.
Lake Huron	"	"	" 23.
Concordia	St. John	Glasgow	" 7.
Keemun	"	"	" 21.
Vancouver	"	Liverpool	" 5.
Labrador	"	"	" 19.
Scotsman	"	"	Mar. 5.
Dunmore Head	"	Belfast	Feb. 2.
Teelin Head	"	Dublin	" 6.
Bengore Head	"	Belfast	" 9.
Vancouver	Hullfax	Liverpool	" 6.
Labrador	"	"	" 20.
Scotsman	"	"	Mar. 6.
Baltimore	Boston	London	Feb. 8.
Barrowmore	"	"	" 15.
Oakmore	"	"	" 23.
Sedgemore	"	"	Mar. 3.
Norwegian	New York	Glasgow	Feb. 2.
Ormiston	"	"	" 9.
Pomeranian	"	"	" 23.

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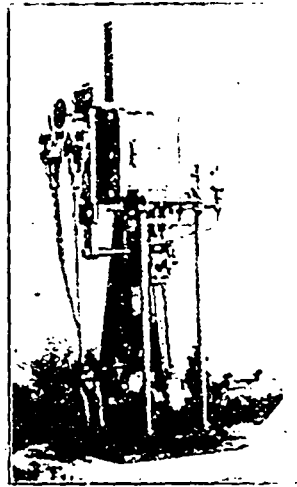
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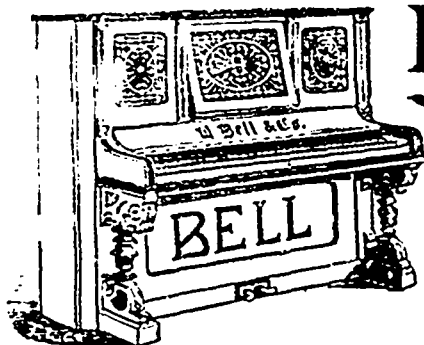
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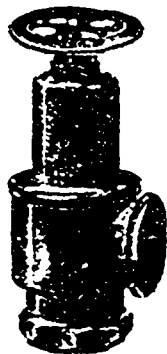
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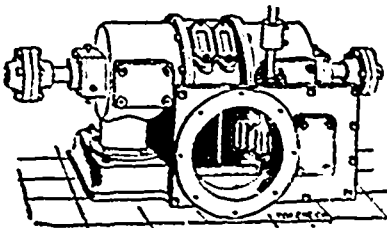
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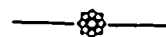
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