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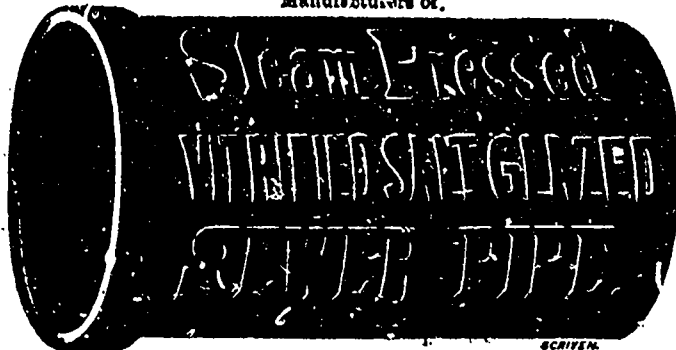
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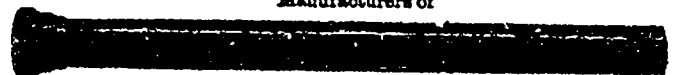
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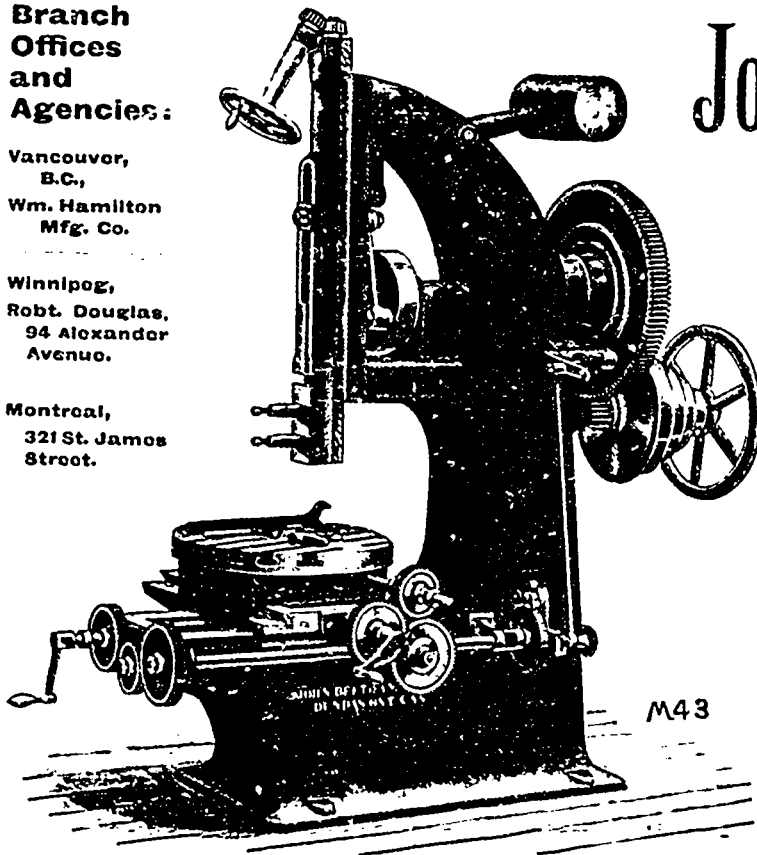
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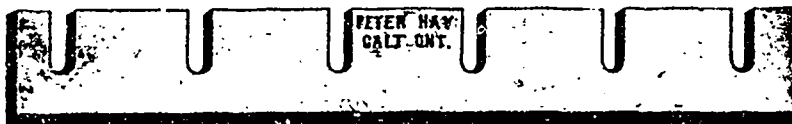
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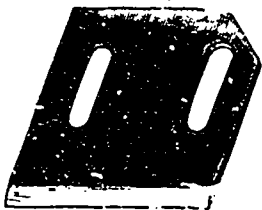


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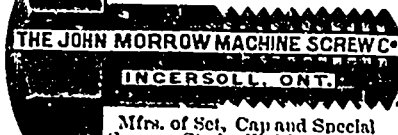
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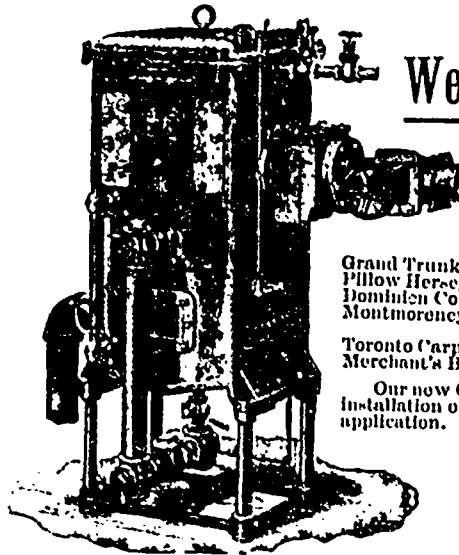
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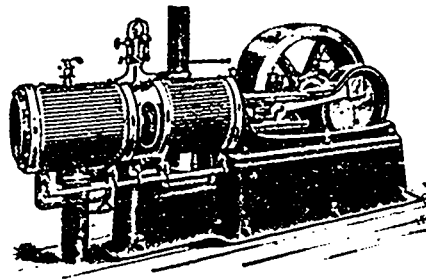
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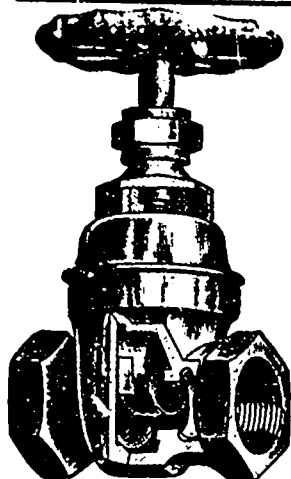
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FRANK B. WHITE COMPANY.

The Fisher Building, CHICAGO. 150 Nassau St., NEW YORK.
Represent the Advertising Department of THE CANADIAN
MANUFACTURER in the United States.

STATISTICS OF THE CANADIAN IRON TRADE.

Mr. James M. Swank, statistician of the American Iron and Steel Association, has favored THE CANADIAN MANUFACTURER with advance pages of his Annual Statistical Report, having reference to the iron and steel industry in Canada for 1899, which gives us much pleasure to reproduce. Mr Swank's Report, which covers the iron and steel industry of the United States, Canada and Mexico, will be given to the public in a very few days.

Having reference to the industry in Canada the Report says:—

We are glad to record a marked improvement in the iron and steel industries of Canada in 1899. Relatively these industries made as much progress in that year as those of the United States and European countries. New iron and steel enterprises were undertaken, chiefly in the Province of Ontario, and the production of works that had already been established was increased. Canada now bids fair to become in a few years an important contributor to the world's supply of iron and steel, and possibly it may contribute in a still larger degree to its supply of iron ore and coal.

The progress of the Canadian iron and steel industries in 1899, as in the two preceding years, has been greatly promoted by the action of the Dominion Parliament in enacting the bounty act of June 29, 1897, which provided for the payment of liberal bounties by the Dominion Government to the manufacturers of "steel ingots, puddled iron bars, and pig iron," \$3 per ton to be paid "on steel ingots manufactured from ingredients of which not less than fifty per cent. of the weight thereof consists of pig iron made in Canada;" \$3 per ton "on puddled iron bars manufactured from pig iron made in Canada;" \$3 per ton "on pig iron on the proportion produced from Canadian ore," and \$2 per ton "on pig iron on the proportion produced from foreign ore." By the terms of the act referred to these bounties were to terminate on April 23, 1902, but an act of the Dominion Parliament dated August 11, 1899, extended the bounty provisions to June 30, 1907, provided, however, that they should be annually reduced after April 23, 1902, as follows: from that date to

June 30, 1903, ninety per cent. shall be paid; from July 1, 1903, to June 30, 1904, seventy-five per cent.; from July 1, 1904, to June 30, 1905, fifty-five per cent.; from July 1, 1905, to June 30, 1906, thirty-five per cent.; from July 1, 1906, to June 30, 1907, twenty per cent. The act of August 11, 1899 also provided that, "notwithstanding anything in the statutes of 1897, or in this act, no bounty shall be paid under this act on steel ingots made from puddled iron bars manufactured in Canada." The bounty provisions of the act of June 29, 1897, were held to have come into force on April 23, 1897. We have quoted from the official copy of the acts of the Dominion Parliament.

The production of pig iron in the Dominion of Canada was first ascertained from the manufacturers by the American Iron and Steel Association for the year 1894, when it amounted to 44,791 gross tons. In 1895 the production amounted to 37,829 tons, in 1896 to 60,030 tons, in 1897 to 1,796 tons, and in 1898 to 68,755 tons. In 1899 the production of all kinds of pig iron, including spiegeleisen and ferro-manganese, was 94,077 tons, of which 17,796 tons were charcoal and 76,281 tons were charcoal and coke mixed and coke pig iron. The production of Bessemer pig iron in 1899, included in the figures given above, was 5,120 tons, and the production of basic pig iron was 22,666 tons—all made by one company. The total production of pig iron in 1899, as compared with that of 1898, shows an increase of 25,322 tons. The consumption of limestone by the Canadian furnaces in 1899 amounted to 50,726 tons, against 30,302 tons in 1898.

Canada produced spiegeleisen and ferro-manganese for the first time in the spring of 1899, the Mineral Products Co., of Hillsboro, N.B., having blown in its leased furnace at Bridgeville, N.S., on May 11, of that year. A mixture of charcoal and coke is used for fuel. The furnace did not run continuously on spiegeleisen and ferro-manganese in 1899, about one-fourth of its production during the year being ordinary pig iron.

On December 31, 1899, the unsold stocks of pig iron in Canada which were in the hands of the manufacturers or their agents, amounted to 9,932 tons, as compared with 9,979 tons on December 31, 1898, 20,265 tons on December 31, 1897, 29,320 tons on December 31, 1896, and 17,800 tons on December 31, 1895. Of the unsold pig iron on hand on December 31, 1899, a little less than one-half was charcoal pig iron, the remainder being coke.

On December 31, 1899, there were nine completed blast furnaces in the Dominion, and of this number four were in blast and five were out of blast. On December 31, 1898, there were also nine completed furnaces, of which three were in blast and six out of blast.

The production of Bessemer and of basic and acid open-hearth steel ingots and castings in 1899, was 22,000 gross tons, against 21,540 tons in 1898. Of the total production of open-hearth steel in 1899, about one-third was made by the acid process. The production of iron rails and open-hearth steel rails in 1899 amounted to 835 gross tons, against 600 tons in 1898; structural shapes, 2,899 tons, against 1,565 tons in 1899, cut nails made by rolling mills and steel works having cut-nail factories connected with their plants, 235,981 kegs of 100 pounds, against 152,688 kegs in 1898; plates and sheets, 2,220 tons, against about 1,000 tons in 1898; all

other rolled products, excluding muck and scrap bars, blooms billets, sheet bars, etc., 94,153 tons, against 80,322 tons, in 1898. Changing the cut nail production from kegs to gross tons, the total quantity of all kinds of iron and steel rolled into finished products in the Dominion in 1899, excluding muck and scrap bars, billets, and other intermediate products, amounted to 110,642 tons, against 90,303 tons in 1898, 77,021 tons in 1887, 75,043 tons in 1896, and 66,402 tons in 1895.

The total number of completed rolling mills and steel works in Canada on December 31, 1899, was sixteen. Of this number at least three were idle during the whole of 1899.

During 1899, the Abbott-Mitchell Iron and Steel Co., was organized for the purpose of erecting a rolling mill at Belleville, Ont., and during the same year the work of erecting the necessary buildings was commenced. Parts of the plants of the Metropolitan Rolling Mills, of Montreal, Canada, the Thames Iron Works, of Norwich, Conn., and the Nashua Iron and Steel Co., of Nashua, New Hampshire, were acquired, the two works first named being entirely dismantled. The new plant at Belleville was not completed and put in operation until 1900. It is equipped with one 9, one 12, and one 18-inch train of rolls and will manufacture bars and other shapes.

On January 1, 1900, the Hamilton Steel and Iron Co., Limited, of Hamilton, Ont., acquired the business of the Hamilton Blast Furnace Co., which formerly operated a coke furnace at Hamilton, and the Ontario Rolling Mill Co., which formerly operated two rolling mills at Hamilton, all in the Province of Ontario. In addition to manufacturing all the products formerly made by the blast furnace company and the rolling mill company, the new company will also make basic and acid steel, two open-hearth furnaces having been recently completed. The first steel was made on May 9 of the present year.

In 1899 the Canada Iron Furnace Co., commenced the erection of a charcoal furnace at Midland, Ont., which it expects to have completed and ready to blow in in June. It will be sixty-five feet high and its bosh diameter will be twelve feet. It will have an annual capacity of about 30,000 gross tons of pig iron.

The Dominion Iron & Steel Co., Limited, of Sydney, C.B., commenced in the fall of 1899 the erection of four blast furnaces at Sydney, two of which it expects to have completed and ready for operation in the fall of 1900, and two in the spring of 1901. The furnaces will be eighty-five feet high and seventeen feet in diameter at the bosh. Coke will be used for fuel, obtained from the company's own ovens, of which 400 of the Otto-Hoffman type are now being built. Hematite iron ore will be brought from the company's mines on Belle Island, Newfoundland. The four furnaces will have an annual capacity of about 400,000 gross tons of pig iron suitable for the manufacture of open-hearth steel. The same company is also erecting at Sydney ten 50 gross ton open hearth furnaces of the Campbell tilting type. Both acid and basic steel will be made. These furnaces will have an annual capacity of about 350,000 gross tons.

Early in 1900 Messrs. William Kennedy & Sons, Limited, of Owen Sound, Ont., erected at that place one 2-ton Troppens converter for the manufacture of steel castings. Steel was first produced in April, 1900.

The Canadian Steel Co. was recently granted a charter by the Dominion Parliament. It advises us that its capital stock will be \$18,000,000 and that it will shortly commence to erect works at Welland and Ottawa, in the Province of Ontario, for the manufacture of pig iron, Bessemer and open-hearth steel, steel rails, plates, structural shapes, etc., etc. The first plant will be built at Welland and will have a capacity of about 1,000 tons per day of finished products. The organization of the company will be completed as soon as the royal assent is obtained for the charter. The company expects to have its plant at Welland in operation in May, 1901. Contracts for the erection of the blast furnaces and steel works have been placed with Pittsburgh companies.

The Nickel & Steel Co., advises us that it is about to commence the erection of a large blast furnace, a steel plant, and a rolling mill at Sault Ste. Marie, Ont., with \$10,000,000 capital. The company hopes to have its works completed and in operation in the spring of 1901. Nickel ore from the Sudbury district and iron ore from the Michipicoton district will be used in the blast furnace. The rolling mill will have a daily capacity of about 1,000 tons of steel rails, bars, and plates. Still other furnaces and steel plants in Canada are projected.

CANADIAN COMMERCIAL AGENTS.

Mr. G. F. Parker, who was for some years United States Consul at Birmingham, England, has written several articles which have appeared in an American magazine having reference to the Consular Service of his country. Mr. Parker seems to have kept his eyes open, and to have discovered both the favorable and the objectionable features as existing in the service in which we were employed. Some of his observations are of much interest to Canada. He says in effect that consuls are, many of them, appointed in the wrong way and removed in the wrong way; that a fixed salary is preferable to the fee system, and that in many instances the the compensation is inadequate. "We know, too," he says, "that Americans rather than foreigners should represent our Government in other countries"—that the existing system is "created and maintained in general for furnishing the largest possible number of places with the least regard to practical results;" and that "all positions except those of porter and office boy ought to be filled by Americans sent from home." He points out that a very large proportion of consular officers are useless, and that a reduction of them would be well—that there would be fewer plums to shake down, but that the Government could well afford to pay better salaries to those who remained. He asserts that a hundred consulars properly distributed and manned throughout by Americans would be worth ten times their number filled with foreigners in subordinate places.

These observations are of quite as much interest to Canadians as to those for whom they were specially directed. It is true Canada maintains no consulates abroad, as such, but we do maintain a few commercial agents, and the strictures of Mr. Parker apply to some of these as well as to some in the American service. The fact is, with the honorable exception of Mr. J. S. Larke, at Sydney, Australia, Canada is sadly deficient in such servants. Some of those we now maintain may be British subjects—some of them are not, but as far as is known to the public, whatever services they may render in

their official capacity are of a very perfunctory character, from which the country derives very little benefit; and it is quite certain that Canadian manufacturers derive no benefit whatever. Mr. Larke is a native Canadian, a man of wide and varied experience both as a manufacturer fully competent to judge of mechanical appliances and their adaptability to the wants of the country where he sojourns, and as a business man quick to observe the trend and requirements of trade. But what other Canadian commercial agent is there who does as much for this country?

Our Government should not view it as desirable to select commercial agents from among residents of the place where it is thought desirable to have them because their services (?) can be had for less money than what it would cost to employ competent Canadians. We are told that Canada is now a nation. If this is really so we should assume some of the obligations of a nation, at least to the extent of appropriating enough money to maintain commercial agents in all countries with which we desire to trade, who should be both Canadians and thoroughly competent business men.

IMPERIAL RECIPROCITY.

A large number of trade journals published in Great Britain are discussing the probability and desirability of the adoption by the Imperial Government of preferential trade with the different parts of the Empire. One of these is the British and South African Gazette, published in London, and devoted to the interests of British trade with South Africa. Discussing the question our contemporary says:—

Our observations anent the inauguration of an Imperial preferential tariff have, we are gratified to see, awakened an echo in many quarters. Some journals have bodily gone in for advocating an impost of thirty per cent. right away, while others have given expression to aspirations tantamount to the sum of those we ventured to express. The Times, in the course of a leader on the latest reciprocity movement in Canada, in which the increase of the Canadian preference rate accorded to British goods to 33 1-3 per cent. is mentioned, alludes in a qualified way to an Imperial preferential tariff in the following terms:—

"Perhaps in a concrete way the next best form (in the absence of all fiscal barriers) might be that of a common fiscal tariff for all parts of the Empire. But the time for that is evidently not yet."

This academic non-committal kind of attitude of the leading journal is, however, far other than that which our commercial classes, and even the Colonies themselves, from whom the initiative, to be effective, must come, are disposed to take up. Even while we were penning our own remarks on the subject, the Maritzburg Municipality had deliberated upon and voted unanimously for Imperial preferential trading. The issue arose on the question whether the tenders for the piping for its supplementary water scheme, which is to cost £100,000, should be thrown open to all the world, or limited to British manufacturers only, and it was finally decided in the latter sense. The grounds for their decision were not the political considerations connected with the hostile attitude of certain powers, but those which enforced the need of seizing the passing opportunity of showing sympathy for the Mother Country which has stood by them in the present troubles, and to whom they are indebted for so many favors during the past fifty years.

It will be observed that the Gazette thinks that if reciprocity is to be had the initiative movement for it should come from the Colonies which desire it; and it will also be

observed that a thirty per cent. import duty upon foreign merchandise would be about the right thing.

The Gazette thinks that in the Maritzburg incident Natal is preparing the way for reciprocity. It says:—

The moral indebtedness to the Motherland in extending to Natal the weight of its credit when financial assistance was required was also among the grounds which led to the decision of the Maritzburg Town Council, while contempt was poured upon that cheap patriotism which is at issue with practice. Sentimental as some of these grounds may have been, they are of the live coal kind which moulds worlds anew, and will serve for much in bringing about the desired Imperial preferential tariff in spite of the cold water platitudes of this or that doctrinaire school. The initiative in this movement must come from the Colonies themselves, for no compulsion can be used towards self-governing communities. When this is universally shown the Mother Country will not be behindhand in responding, and the capital of Natal does itself honor in leading the way for South Africa in this matter. For the rest, our foes are working in our behalf, not the sense of common interests and common dangers, which recent events have brought home to all the members of the Empire, should and will bring about the desired result. It remains for those in sympathy with it to unremittently agitate for it until the end is gained.

MEETING OF THE SHAREHOLDERS

OF THE

CANADIAN MANUFACTURER PUBLISHING CO., Limited.

The Shareholders of the Canadian Manufacturer Publishing Co., Limited, are hereby notified that a General Meeting of the Company will be held on Monday, the 4th day of June, 1900, at the hour of 11 o'clock in the forenoon, at the Head Office of the Company, Room 408 McKinnon Building, corner Jordan and Melinda Streets Toronto, for the purpose of receiving and considering a report from the Directors upon the affairs of the Company, to elect a Board of Directors for the ensuing year, and generally to consider other business of importance to the Company.

ARTA CASSIDY,
Secretary

Dated at Toronto, this 18th day of May, A.D. 1900.

EDITORIAL NOTES.

A complaint is being made by railroads against the quality of steel rails received from the manufacturers. They are said to be deficient in wearing qualities—haste in production being given as a reason. There may be more or less ground for this complaint, and if sustained by actual facts, it will be well for the reputation of the American rail manufacturer to probe this matter to the bottom. A careful investigation of the whole subject is necessary. It may be that the high speed of heavy trains has more to do with shortening the wearing life of the modern rail than is generally supposed. Be this as it may, the quality of the American-made rail ought not to be disputed without sound reasons for doing so, and if defects, as alleged, are in actual evidence, the causes and the remedy should be promptly dealt with.—The Age of Steel.

For rails that will possess the most enduring wearing qualities—nickel steel—satisfaction guaranteed. Apply to the Lake Superior Power Co., Sault Ste. Marie, Ont., F. H. Clergue, manager.

In 1899 the United States made 13,620,703 gross tons of pig iron, 7,586,354 tons of Bessemer steel ingots, 2,947,316

tons of open-hearth steel, and 10,639,857 tons of steel of all kinds, and rolled in all 10,357,397 tons of finished iron and steel, including rails; there were also shipped in the same year 18,151,804 gross tons of Lake Superior iron ore and 10,129,764 net tons of Connellsville coke.

This journal a few weeks ago alluded to the situation surrounding the contract for building the St. Lawrence Market in Toronto, showing the incompetence of some of those who have the matter in hand. The affair seems to be getting worse and worse, blunder being piled upon blunder, certainly to the discredit of some of the architects. The Evening News alludes to it in this manner:—

If Mr. Beaumont Jarvis, associate architect for St. Lawrence market, is correct in his estimate of the work necessary to be done to complete the market in a proper manner, the cost of the whole building will amount to \$260,000, more than \$100,000 in excess of the sum fixed by Council and by a vote of the citizens as the limit of the expenditure. That is to say, plans were submitted by Mr. Siddall for a building to cost \$150,000, which were only applicable to one the cost of which would be \$100,000 additional. These plans, moreover, were examined and approved of by two competent architects and the City Engineer, all of whom were aware that the cost had to be kept within the \$150,000. It seems singular that these four gentlemen, three of them trained architects, should have been out such an amount in their calculations, and it raises the question whether it would not be wise to appoint a board of the best men to be found in the profession to examine and report on the requirements of the building. Mr. Siddall, we have no doubt, will reply to Mr. Jarvis' report, and his reply will hardly be a concurrence in a statement which goes far to impugn his professional ability. The usual long drawn-out dispute will follow, and in the meantime the market remains at a standstill. Better have the matter settled at once even if it does cost a little more money; it will be cheaper than heaping blunder on top of blunder and paying heavily for them all in the end.

In answer to a conundrum propounded by a correspondent as to why there should be several Toronto members appointed by the Canadian Manufacturers' Association as delegates to the forthcoming Congress of Chambers of Commerce of the British Empire to be held in London, in addition to Mr. Harrison Watson, of England, who is not a manufacturer, we confess our inability to say. We know that the number of delegates is not limited, and we also know that a large number of most enterprising manufacturers from many different parts of Canada will be in London this summer, but we do not understand why none of them, except the four from Toronto, have been invited to represent the Association. We know also that about every important manufacturing centre in Canada from Winnipeg to Halifax is represented in the Association, but we do not know why not one of them from outside Toronto has been appointed a delegate to the London Congress.

We are in receipt of the initial number of Farm Machinery, a monthly trade journal published at Sarnia, Ont. The salutory is not long, flowery or tiresome; the reason for its being is not to fill a long-felt want, but, in the opinion of the publishers, there is a necessity existing for a farm machinery trade journal such as they propose to make theirs. It is to be run in the interest of those who make, sell, and use farm machinery. We accord the younger a hearty welcome. There is plenty of room at the top for all such.

No doubt every manufacturer in Canada will be delighted to learn that Mr. Harrison Watson, Curator of the Canadian Section of the Imperial Institute, of London, England, has been chosen by the Canadian Manufacturers' Association to represent them at the Fourth Congress of Chambers of Commerce of the British Empire to assemble in London this month. The incident indicates the high and deserved esteem in which Mr. Watson is held as Curator. He is not a Canadian, nor a Canadian manufacturer, nor in any manner connected with any Canadian manufacturing industry. He is an Englishman, employed in an English institution, lives in England, and for many years imbibed and assimilated the ideas of free trade as they have it in England. Of course Mr. Watson is just the man our manufacturers desire to represent them at the forthcoming free trade Congress.

The Ontario Mining Protective Association, of which Mr. Eugene Coste, Toronto, is president, has sent us "The Ontario Mines Act," which contains excerpts from an Act to amend the Mines Act recently passed by the Ontario Legislature. Besides the excerpts alluded to, the pamphlet contains a number of articles criticising the Act and the acts of those who were the advocates of it; an attempt to show the unconstitutionality of it, and that it confiscates vested rights without compensation; that it is a menace to the investment of capital, and that its effect upon the nickel industry is or will be unfavorable. There is also several exceedingly undignified and unnecessary attacks upon a gentleman who happens to differ from the writers on the nickel question, but who is showing his faith in his own opinions by the investment of millions of dollars in a vast Canadian nickel refining industry.

American Trade, the official organ of the National Association of Manufacturers of the United States, speaking of the forthcoming changes in the preferential feature of the Canadian tariff, sizes up the situation as follows:—

The Liberal party now in power in Canada is theoretically in favor of free trade, and the preference in the tariff given to British goods is made partly in line with this policy, partly as a further step in the closer unity of the British Empire, and also with an eye to its possible effect in causing Americans to look more favorably upon the policy of reciprocity with Canada, or lower duties on Canadian products. The Canadian Government does not expect that its generous policy towards British trade will have an immediate effect in causing the Imperial Government to look favorably towards the placing of duties on foreign goods in order to further stimulate trade with the Colonies, but claims that the action of Canada will have an excellent effect in advertising that country in the British market, as well as incline the British purchaser to take Canadian articles in preference to the same class of goods from other countries. The Conservative, or Opposition, party in Canada while not opposing the policy of granting a preference to Great Britain, is committed to the protective idea, and would only give Britain the preference in return for some substantial favor granted directly to Canadian trade.

It is matter for regret that so instructive an event as the Applied Art Exhibition in the rooms of the Ontario Society of Artists in this city, closed last week, was so sparsely attended. Possibly, if the managing committee had made a "Society" event of it, or had even arranged, through the Board of Trade or otherwise, to attract the attention of business men to it, spectators by hundreds instead of by the

THE CANADIAN MANUFACTURER

ESTABLISHED IN 1880.

Devoted to the Development of Canadian Trade,
Foreign and Domestic.

THE INTERNATIONAL BUREAU OF COMMERCE

... OF CANADA ...

In connection with The Canadian Manufacturer, works to attain this end.

Any inquiry addressed to THE CANADIAN MANUFACTURER will result in placing the writer, if he so desires, in communication with Manufacturers, Buyers or Sellers of any sort of merchandise in Canada or any other country.

Merchants, Importers, Exporters, Boards of Trade, Chambers of Commerce and Commercial Organizations in any part of the world are invited to make full use of the facilities afforded by THE CANADIAN MANUFACTURER whenever they may desire information about any article produced in Canada, Tariff Law, Customs Regulations, Routes of Transportation, etc.

We especially request Canadian manufacturers to send us lists of the different lines of goods produced by them so that we may address to them special letters of inquiry as soon as information is received by us.

We have information, principally from buyers, that is valuable to manufacturers who desire to increase their trade in the British and foreign markets, that will be furnished on application. If you find any item in this list (which is changed every issue), that you are interested in, write to us. If you see an item that does not interest you but would be of value to some friend, kindly inform him or us.

ARGENTINA.

Agricultural Implements.
Pianos, Organs.

Musical Instruments.

AUSTRALIA.

Portable Boilers and Engines.
Portable Boilers without Engines.
Locomotive Boilers on Skids.
Vertical Engines.
Steam and Traction Engines.
Deep Well Pumps and Apparatus.

Deep Well Cylinders and Valves.
Deep Well Boring Tools and Machinery.
Brass Tubing for Deep Well Cylinders.

BELGIUM.

Agency for any Good Lines of Canadian Manufactures.

BRAZIL.

Cotton Goods.
Salt Cured Meats.

Paper (all kinds).
Canned Meats.

CUBA.

Muslins.
Drills (colored).
Calico.
Underware.
Pork, Lard, Butter.
Canned and Bottled Goods.
Malt Liquors.
Harness (all kinds).
Horse Blankets.
Carriage Material.
Trunks and Travellers' Requisites.
Solo Leather.
Belting Leathers.
Hides and Skins.
Carriage Trimmings.
Rubber Goods.

Varnishes.
Paints and Oils.
Electrical Apparatus.
Telephones.
Shoes, full lines.
Blasting Powder.
Harness for Mules and Horses.
Quarrying Machinery.
Carts and Wagons for Mules or Oxen.
Picks and Shovels.
Building Materials.
Whisky, Lager Beer.
Flour (2).
Bacon, Hams (2).
Cheese (2).

GERMANY.

Dried Brewer's Grains.
Evaporated Fruits.
Preserved Fruits.
Fresh Apples (4).
Evaporated Apples (2).
Dried Apples.
Flour (2).
Pork, Bacon and Lard (3).
Butter (2).
Cheese.

Canned and Bottled Goods (2).
Agricultural Machinery (2).
Dried Fruits.
Wagons.
Buggies.
Windmills.
Carriages and Horse Goods.
House Hardware.
Bairy Appliances.
House Furnishings.

GERMANY—Continued.

Corned Beef.
Salmon.
Lumber.
Bran.
Linseed Oil.
Linsced Cake.
Perforated Laminated Wood.
Chair Seats.
Sole Leather Splits (2).
Upper Leathers (2).

Bicycles.
Cutlery and Hardware.
Mechanics' Tools.
Stationery.
Chemicals.
Oak, Walnut Stock, Whitewood Boards.
Staves and all Manufactures of Wood.

GREAT BRITAIN.

Picture Moulding (Polished Oak particularly).
Wood Backing for Pictures.

GUATEMALA.

Hardware.
Electrical Goods.
Groceries.
Wines and Liquors.

Building Materials.
House Furnishings.
Furniture.
Stationery.

HOLLAND.

Spruce Lumber.
Leather Belting.
Hand and Machine Tools.

Hardware.
Agricultural Implements.

HUNGARY.

Hollow Ware.
Small Hardware Specialties.

Kitchen Utensils.

JAPAN.

Bicycles.

Bicycle Accessories.

MEXICO.

Motor Carriages.
Sewing Machines.
Photographic Material.

Phonographs.
Musical Instruments.
Watches.

NEW ZEALAND.

Bicycles.
Pianos and Organs.
Writing Paper.

Stationery.
Photographic Goods.
Printing Papers.

URUGUAY.

Builders' Hardware.
Blacksmiths' Tools.
Carriage Hardware.
Pumping Materials.
Pumping Machinery.
Wood-working Machinery.
Shafting, Hangers and Pulleys.
General Factory Supplies.
Valves, Pipe Fitting.
Contractors' Tools.
Fine Carriages.
Heavy Wagons and Carts.
Barb and Fence Wire.
Machinery Tools.
Wagon and Carriage Parts.
Axles and Springs.
Engines and Boilers.
Metal-working Machinery.
Mining and Hoisting Machinery.
Plows.
Canvas and Cotton Duck, all qualities.
Household Utensils.

Bicycles.
Bicycle Sundries.
Rope and Twine.
Carpets.
Oilcloth.
Building Lumber.
Plated Ware.
Musical Instruments.
Printing Paper.
Wrapping Paper.
Writing Paper and Envelopes.
Toys and Games.
Everything for Printers' and Lithographers' Use.
Arms and Ammunition.
Cutlery (all kinds).
Hardware.
Belting.
Portable Forges.
Light Business Wagons.
Carriage Material.
Windmills and Tanks.
Corrugated Iron.

VENEZUELA.

Electrical Specialties.
Magic Lanterns.

Plaster Ornaments.

Preserve this Bulletin for Reference—it will not be Duplicated.

If You want Information, Ask for It.

Address,

THE CANADIAN MANUFACTURER, Toronto, Canada.

score might have been secured. We can only express regret that so worthy and educative a display of what has been done and is doing by artists and handicraftmen (and women) amongst us should have been so little heeded.—The Monetary Times.

The trouble with the managing committee was that, knowing they had a meritorious affair on hand, they thought that all the rest of the world possessed the same knowledge, and therefore there was no necessity to advertise it. There was no necessity of making a society event of it, but no doubt if the Board of Trade had been requested to lend its influence, it would have been properly brought to the attention of manufacturers and others interested in industrial pursuits, for whom it was specially intended. The managing committee was very much like the man who possessed a golden talent which he carefully wrapped in a napkin and hid in the ground for fear some one should see it.

OPPORTUNITIES FOR CANADIAN TRADE.

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

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

240. A well-known firm of safe manufacturers make enquiry respecting the appointment of representatives in Canada.

241. A Bradford firm who contemplates opening a branch in Vancouver ask for information respecting the trade of that city and district.

242. A firm of agents in Loudon desire to represent Canadian iron and steel works, paper and pulp mills, etc.

243. A manufacturer of homespun tweeds in Ireland desires to communicate with Canadian houses doing business in that line.

244. A Canadian lumber firm contemplate engaging in the manufacture of turned wood of all kinds and desire to be placed in communication with English houses importing such goods.

245. The owner of several good mica deposits in Canada desires to get into communication with interested parties who would be open to negotiate for the purchase.

246. An agent who travels through all the provinces of Canada, as well as in Newfoundland desires to take up the representation of a few additional English houses in dry goods, hardware, etc.

247. A prominent merchant in Cork, Ireland, desires to secure the agency of a first-class Canadian miller not already represented in that city.

248. A firm of Colonial merchants in London desire to get into communication with a good firm of merchants with a connection in metal and hardware trades to whom they could ship.

249. An egg merchant in South Wales desires to have addresses of Canadian exporters of eggs.

250. Enquiry comes from a Coblenz, Germany firm for addresses of large steel, nickel and other firms in Canada who would likely be interested in magnesite and magnesite bricks for the lining of open hearth furnaces and similar purposes.

251. A firm of exporters of hatters' furs desiring to extend their connection with the Dominion ask to be placed in communication with felt hat manufacturers in Canada.

252. A Scotch house desire to have the names of Canadian firms manufacturing wood dowels for export.

253. The representative of a Canadian house manufacturing churns, washing-machines, pumps, spade and disc harrows, pulpers and cutting machines, etc., desires to hear from likely importers.

254. A commission merchant in Hamilton, Ont., will be happy to answer enquiries regarding goods saleable in that neighborhood.

255. A request has been received from a Montreal house who desire to act as buyers in Canada for British firms in the provision trade.

256. Enquiry has been received from Copenhagen, Denmark, for names of likely parties in Canada to take up a new process of making cement pipes for sewers, etc., to supersede glazed earthenware pipes.

257. A Glasgow firm ask for names of Canadian firms manufacturing wood dowels.

258. Enquiry is made for a list of the principal pulp making firms by a gentleman who contemplates starting an agency for the sale of Canadian wood pulp.

259. A Canadian correspondent enquires whether there is a market in the United Kingdom for potato starch, and desires to be placed in communication with houses likely to do business in that commodity.

260. A manufacturers' agent at St. John, N.B., who claims to have a good connection in the Maritime Provinces of Canada, desires to represent British manufacturers of biscuits, pickles, jams and other lines of food supplies.

261. A Welsh firm would like to hear from Canadian shippers of fir pitwood with the bark adhering as used in collieries.

262. A French firm desires an opening for chopped apples and would be pleased to correspond with producers of the article.

263. A west of England firm would like to hear from Canadian manufacturers of biscuits who wish to take up the question of export.

264. A Scotch firm representing distilleries and exporting groceries and oilmen's supplies desires to be placed in touch with Canadian importers.

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When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

CAPTAINS OF INDUSTRY.

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

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

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

The Canadian asbestos factory, which was lately burned at Danville, Que., is being rebuilt, and will be equipped with new machinery. The company has considerable orders on hand, among them one for five carloads of asbestos and roofing paper to Dawson City.

The North River Lumber & Pulp Co. will erect a mill at St. Adele, Que.

Gravenhurst, Ont., ratepayers, have voted in favor of a by-law to issue debentures for \$10,000 to erect a town hall.

The ratepayers of Hintonburg, Ont., will vote on a by-law to issue debentures for \$25,000 for waterworks extension and \$3,500 to provide fire hose.

The council of Penetanguishene, Ont., has been asked by M. Shannon for \$5,000 to extend his carriage factory.

A building 97 feet square is being erected to replace the factory of the Ottawa Saw Works, which was recently destroyed by fire.

The Maritime Milling Co., New Glasgow, N.S., will rebuild their mills, which were recently destroyed by fire.

The Sun Oil Refining Co., Hamilton, Ont., has increased its capital stock from \$15,000 to \$50,000.

The Riverside Canning Co., Wallaceburg, Ont., has been incorporated with a capital stock of \$20,000, to manufacture canned goods. The provisional directors include W. Bromner, F. Crowe and D. A. Gordon, all of Wallaceburg.

J. Munro, Penbrooke, Ont., will erect a sawmill at that place.

The Nut Oil Refining Co., Toronto, has been incorporated with a capital stock of \$40,000. The provisional directors include F. L. Fowke, Oshawa, Ont., R. Moore and E. S. Reade, of Toronto.

The York Laundry Machinery Supply Co., Toronto, has been incorporated with a capital stock of \$40,000. The provisional directors include A. C. Peterson, Toronto, James Smale, North Toronto, and H. E. Bydwell, Montreal.

The Toronto Foundry Co., Toronto, has been incorporated with a capital stock of \$60,000, to manufacture iron and iron goods, etc. The provisional directors include E. W. B. Snider and W. W. Snider, of St. Jacobs, Ont., and L. L. Anthes, of Toronto.

The Canadian Steam Carriage Co., Toronto, has been incorporated with a capital stock of \$250,000, to manufacture automobile or locomobile carriages, etc. The provisional directors include Jas. Curry, Wm. McGuire and E. H. Hillborn, all of Toronto.

The Canadian Rubber Co., Toronto, has received the following letter from Messrs. W. C. Edwards & Co., Rockland, Ont.:—
With reference to the rubber belting manufactured by your company, we beg to say, that to the extent to which we use rubber belting in our mills we have used yours exclusively for some years past, and we are glad to say that it has given us uniformly such good satisfaction that we can desire for nothing better, and we hope to use it for many years to come.

The Clergue Company have given a contract to Mr. D. McGillivray, Vancouver,

B.C., for building extensive docks at Michipicoton, with a water depth of twenty-four feet, and costing \$200,000. Extensive ore bins with a capacity of 60,000 tons are likewise included in this contract.

Mr. E. A. Wills, Secretary of the Toronto Board of Trade, is in receipt of the following letter from Mr. J. Enoch Thompson, Spanish Consul in Toronto:—Referring to my conversation with you, I would like to emphasize the fact that since the loss of her colonies Spain has commenced an extraordinary development of her internal resources, and the opportunities for extending Canadian trade in that country were never better. Since I was appointed Spanish Consul eleven years ago I have met many prominent Spaniards, both in political and business circles, and have been frequently invited to visit Madrid. I propose to do so this summer, when I am sure every facility will be afforded me, both officially and socially, to promote any business enterprises I may have in hand, especially as the Government is anxious to encourage international commerce. With these advantages, and speaking that language I am prepared to undertake a few commissions to secure, if possible, suitable representatives in Spain to introduce and exploit in that country any Canadian manufactures which can be profitably exported.

Mr. Aubrey White, Deputy Commissioner of Ontario Crown Lands, who is recovering from a severe attack of illness, has been granted leave of absence in order to proceed to Europe to recuperate. When he has recovered sufficiently Mr. White will undertake some important work for the department. He will inspect the Ontario exhibit at the Imperial Institute, London, and ascertain in what respects it can be supplemented and improved. He will also investigate the working of the colonization branch maintained by the Province at Liverpool. Ontario has a fine display of minerals at the Paris Exposition, but there is no one from the Department of Crown Lands connected with it. Mr. White will visit Paris and give some oversight to the mineral exhibit there. He expects to start on his trip about June 14.

The Noxon Co., Ingersoll, Ont., have purchased from the Electrical Construction Co., London, Ont., one 15 h.p. multipolar motor, and report being well pleased with the machine.

The Wetaskiwin Milling Co., Wetaskiwin, N.W.T., have recently completed a 65-barrel flour mill and a grain warehouse of 5,000 bushels capacity.

INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

PISTON INLET Air Compressors

STRAIGHT LINE
DUPLIX and
COMPOUND.

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

JAMES COOPER MANUF'G 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 Canadian Portland Cement Co. has been incorporated with a capital stock of \$1,500,000 to take over the works of certain cement manufacturing concerns in Canada, and carry on the same. The president is Mr. E. W. Rathburn, of Deseronto, Ont., and the managing director is Mr. F. G. B. Allan, of Napanee Mills, Ont., the head office of the Company to be in Toronto. The Company was formed to acquire the cement business of the Rathburn Co., of Napanee Mills, at Marlbank, Ont.; the business of the Beaver Portland Cement Co., at Marlbank, and of the St. Lawrence Portland Cement Co., of Montreal. The factory of the Rathburn Co. at Napanee Mills includes clay lands and all necessary buildings, and has capacity to manufacture 325 barrels of cement per day. The Beaver Portland Cement works at Marlbank have capacity to produce 500 barrels of cement per day, the Montreal concern possesses a leasehold factory used in the manufacture of silica cement.

Work has been commenced on the clearing for the Spanish River Pulp & Paper Co.'s mill. It has been decided by the company to erect the mill at the falls on the Spanish River, about four miles from Webbwood, Ont. A road is being opened up and a spur line from the C.P.R. of one mile will be built shortly.

The Electrical Construction Co., London, Ont., report the following sales which they have recently made: Geo. May & Sons, Ottawa, one 5 h.p. motor; C. D. Burdick & Co., London, Ont., one 10 h.p. motor; The London, Ont., Pant & Overall Co., one 6 h.p. motor; E. Parnell, London, Ont., one 8 h.p. motor; J. P. Archibald, Ingersoll, Ont., one 15 h.p. motor; Timbell & Co., London, Ont., one 3 h.p. motor; C. Kennedy, London, Ont., one 3 h.p. motor; H. W. Petrie, Toronto, one 12 h.p. motor; F. Raney, Kingston, Ont., one 8 h.p. motor; W. Carson, Kingston, Ont., one 3 h.p. motor; N. H. Good, of Berlin, Ont., one 3 h.p. motor.

The Bain Wagon Co., Woodstock, Ont., have sent us a very handsome illustration of an army wagon from a photo of one of a large number made by them for service with the Second Canadian Contingent and the Strathcona Horse in South Africa. These wagons were ordered by the Canadian Government and is an instance of Canada sending her "best" to Britain's aid.

The Electrical Construction Co., London, Ont., have completed a contract with

the Chatham Navigation Co. for the wiring in and complete installation of a 100 light electric equipment for their steam boat at Chatham.

The Ontario Wind Engine & Pump Co., Toronto, have sent us a copy of their fourteenth edition catalogue and price list, having reference to the Canadian air-motor and appliances connected therewith, manufactured by them. The pamphlet, which is really a beautiful letter book, telling why the company adopted this particular style of power generator, says:—Perceiving that the fast growing demand for cheap power could within certain limits be more conveniently met by a steel windmill than a wooden one, the company at once introduced what was then considered the best steel mill available. In the meantime, thorough investigation and careful experiments were made as to the merits of several different styles, and it was decided that the air-motor, which was already taking the lead, could, with a few improvements, be made the best windmill in the world. This style was, therefore, adopted. With the improvements since added, it was put upon the market under the name of the "Canadian Airmotor," and has surpassed even our own most sanguine expectations. The company make every conceivable variety of wind engines adapted to every conceivable variety of uses, descriptions of which fill the book, and to those who are interested we suggest that they ask for it. It will be sent on application.

A company with a capital of \$20,000,000 for steel shipbuilding to locate in Dartmouth, N.S. One would think that this is too good to be true. However, a representative of this journal has learned that Dartmouth has been selected. That a company with the object of steel shipbuilding in view, capitalized at \$20,000,000, is an enterprise now taking form, cannot be doubted. From a Quebec paper we learn "the latest development of the iron industry is the project, which is now taking shape, for the establishment in Nova Scotia of a shipbuilding concern with a capital of \$20,000,000." Our representative further learned that the works of the company will be at North End—negotiations for the purchase of the Cunard water front property, it is understood, are now being made. Dartmouth is unquestionably admirably adapted for the location of shipbuilding works. Situated as she is on one of the finest harbors in the world—open all the year round, having

every facility for transportation, whether by rail or water, with a low rate of taxation and public spirited citizens, no more suitable place could be selected by the capitalists.—Dartmouth (N.S.) Atlantic Weekly.

The erection of a thirty million dollar steel plant in Canada, to turn out 2,400 tons of rails, bars, billets and sheets of nickel steel per day, is an enterprise more threatening to the United States than the future determination of the boundary of Alaska or the question of whether or not we shall fortify the Nicaragua canal if ever we shall succeed in digging it. The Canadians have the nickel and iron ore beds in convenient contiguity, and they can get coal supplies from the United States at no greater comparative operative disadvantage than that imposed upon our manufacturers, who have to transport their ores to their coal. The Canadians will also have the advantage of reaching foreign markets by all water routes during the period of open navigation.—The Philadelphia Record.

One of the most important of the many developments of electricity now going on in Canada is that for the production of calcium carbide on the Saguenay River, near Chicoutimi, Que. Mr. Thos. L. Wilson, the inventor of the process of producing calcium carbide, recently bought from the Quebec Government the Saguenay power at tide water, which is capable of a development of sixty-nine feet head, and would give over 200,000 h.p. At this point the Ship-Shaw River falls into the Saguenay, and has quite a flow of water, giving at its minimum about 15,000 h.p. under a development of 138 feet over the water wheels, the total fall being over 150 feet. Here Mr. Wilson proposes first to develop 10,000 electrical h.p. on the Ship-Shaw, and a second development of 100,000 h.p. on the Saguenay, leaving a further possible power development on the Saguenay of over 100,000 h.p. When the Saguenay power is developed, this will be an excellent location for wood pulp manufacture and paper mills. There would be also power to spare for renting to other industries, and being on tide water, and having a railway running to the works, the location would afford a most advantageous situation for manufacturing industries.

The Paris Electric Light Co., Paris, Ont., has been incorporated with a capital stock of \$20,000. The provisional directors include W. H. Meldrum, J. H. Fisher and R. L. Murray, all of Paris.

JOHN HANCOCK BLDG., BOSTON, November 6, 1899.

N. ENG. BRANCH CLING-SURFACE MFG. CO.

We have been using Cling-Surface for seven months and are now running our dynmo and other belts slack. We take pleasure in saying that Cling-Surface is giving the best satisfaction. JAMES STACKHOUSE, Supt.

Cling-Surface Does These Four Things :

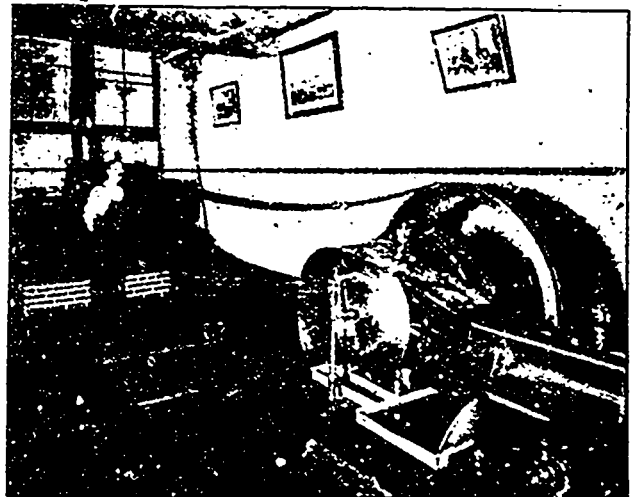
- 1.—STOPS SLIPPING.
- 2.—INCREASES POWER.
- 3.—RELIEVES INITIAL TENSION.
- 4.—PRESERVES THE BELT.

If it fails to do these you Pay Us Nothing.

CLING-SURFACE MFG. CO.

N. Eng. and E. Can. Branch: 120-126 Virginia Street,
170 Summer St., Boston. BUFFALO, N.Y.
New York Branch: Chicago Branch:
253 Broadway. 225 Dearborn St.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



The Electrical Construction Co., London, Ont., have recently received orders for four motors of different sizes from their Toronto agent.

The Canada Atlantic Transportation Co., operating a line of steamers between Chicago and Parry Sound, and whose offices in this country are on Sherman street, Chicago, has asked for bids for four steamers of 6,000-ton package freight kind, and as this company has very strong Canadian backing and has been pressed for ships for some time past, it will not be at all surprising if the order is placed very shortly. The Ann Arbor Railway Co. and the Pere Marquette Co. are both figuring for steel car ferries. It is not probable, however, that either company will contract for more than one boat, and there is nothing definite as to when orders will be given. It is said that the Pere Marquette Co.'s new steamer, which will be built for the Muskegon-Milwaukee run on Lake Michigan, which will be larger than any car ferry in operation on the great lakes. The car ferry Muskegon has a capacity of twenty-six cars, the Pere Marquette thirty-eight cars, and the new car ferry will be able to take on conveniently forty cars. This number is sufficient to make up two good-sized freight trains.—Marine Review.

According to the report of the Dominion Auditor-General, there was paid out last year in bounties on pig iron, steel ingots and puddled bars, \$280,109.65. This was distributed as follows: To the Canada Iron Furnace Co., \$20,480.93; to the Hamilton Blast Furnace Co., \$96,069.98; to the Nova Scotia Steel Co., \$138,755.69; to John McDougall & Co., \$812.03; to the Deseronto Iron Co., \$6,480; to the Ontario Rolling Mills Co., \$17,511.02. Besides what they received from the Dominion treasury the

Hamilton company received \$8,647.19 in bounties from the Ontario Government. Of the 82,330 tons of pig iron and puddled bars produced, 36,145 tons were made from Canadian ore and 46,185 tons from foreign ore. The Hamilton company made 12,825 tons from Canadian ore and 28,792 tons from imported ore.

Mr. Robert McCallum, Engineer of the Ontario Public Works Department, is engaged in the preparation of plans for the reclamation of about 14,000 acres of drowned lands in Frontenac and Lennox counties. The lands in question are flooded, owing to the construction of a dam by the Napawee River Improvement Co., at Pepworth, for the supply of power for the use of various mills on the Napawee River. The farmers who own the land thus flooded, petitioned the Legislature at the recent session for the removal of the dam. The matter was, however, referred to an engineer of the Public Works Department to devise some method of safeguarding the rights of the farmers without confiscating the property of the company. In virtue of this arrangement Mr. McCallum is now preparing his plans and will visit the locality to arrange for the commencement of the reclamation works.

The Electrical Construction Co., London, Ont., have recently received orders for nine motors of various sizes from their agents in Montreal.

The Frost & Wood Co., Smith's Falls, Ont., manufacturers of agricultural implements, farming machinery, etc., have written to the B. F. Sturtevant Co., Boston, Mass., a letter which explains itself as follows—Allow us to say that we have never paid with greater satisfaction an account for an article of this description, than we pay for

your Exhaust Steam Head. It has given us every satisfaction, and we would not be without it for several times what it cost. It should prove invaluable to steam users in a cold climate. Previous to using this we were very greatly bothered with an accumulation of ice from the exhaust spray. This has now been entirely overcome.

Messrs. Darling Bros., Montreal, have placed an order with the Electrical Construction Co., London, Ont., for two 5 h.p. bipolar motors.

The Paper Mill, of New York, giving a resume of the work accomplished by the Ontario Government during the last session in the way of promoting pulp and paper manufacturing enterprises in the Province, says—It will be seen that the Province has been fairly liberal in its concessions to groups of capitalists, who stand ready to invest their money in the paper industry, but they have not been more liberal than the occasion justifies. Canada's resources in the way of raw materials and natural facilities are enormous; in fact their extent is not even known at present, and all that Canada, or, to be specific, Ontario, has bartered away thus far, is a mere atom in comparison therewith. With a half a dozen big, strong corporations fully established in the field, it will be easy for Canada to induce many more to undertake the work of building up the industry to large proportions; but capitalists will not begin operations of that sort without some degree of encouragement, and thus far Ontario has not overstepped a reasonable limit.

The Times Printing Co., St. Thomas, Ont., have purchased from the Electrical Construction Co., London, Ont., one 8 h.p. multipolar motor for operation on printing presses.

W. A. FLEMING & CO.

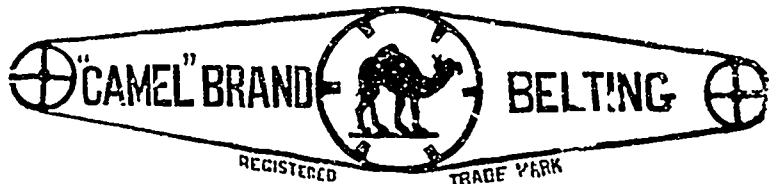
MILL SUPPLIES

CAMEL BRAND BELTING

HOSE of all kinds

DRIVING ROPE

BELTING of all kinds



771 CRAIG STREET, MONTREAL.

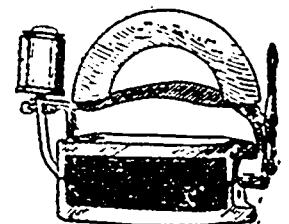
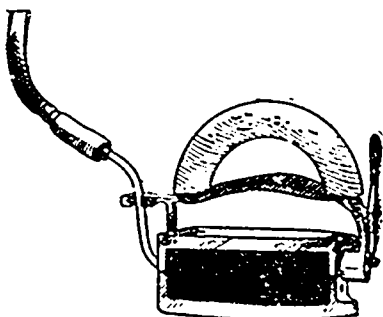
ONE AGENT ONLY IN EACH TOWN WANTED

WRITE US FOR PARTICULARS ABOUT

“PERFECTION”

Self-Heating Sad Iron

Something New. Sells Well.



The EDWARDS SAD IRON CO., Confederation Life Building, Toronto, Canada.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

In one of the United States health reports published in Washington, a few simple remedies for emergency uses are suggested. Witch hazel is one and is recommended as one of the quickest soothing and restorers of a tired brain. Bathe the eyes and forehead freely with the liquid, and apply a cloth wet with it at the back of the neck. Cloths wet in a strong solution of borax water are very cool and healing in case of a burn, care should be taken, however, to exclude the air in putting them on. A tiny pinch of powdered borax placed on the tongue and allowed to dissolve slowly will almost instantly stop a hacking, irritating cough that may be disturbing one at night. The same treatment relieves an ulcer in the throat, and at the slightest irritation or soreness of the throat a gargle of salt water and borax will be found efficient.

The Cramp Ontario Steel Co. has been incorporated with a capital stock of \$5,000,000 to engage in the manufacture of iron and steel, shipbuilding, etc. The company will erect a first-class, up-to-date plant at Collingwood, Ont., which will include a 250 ton blast furnace, three open-hearth steel furnaces of thirty ton capacity each, a bloom mill, a rolling mill, a steel mill for rolling structural shapes, rails, etc., a sheet mill for rolling plates for shipbuilding and boiler purposes, etc. The town of Collingwood has granted to the company a bonus of \$115,000 and a free site of fifty acres of land bordering upon the deep waters of the harbor, and other terminal facilities. Among the parties

most largely interested in the enterprise are Messrs. C. D. Cramp and W. M. Cramp, of Philadelphia. It is understood that work upon the construction of this immense plant will be begun at an early day.

The electrical equipment of the biscuit factory of the D. S. Perrin Co., London, Ont., has gone through a great many radical changes since they decided to operate their own plant. Originally a 125 light dynamo was thought to be sufficient for their requirements, this they found would be too small but they retained it as a power generator to operate a 12 h.p. motor for running their box factory, and installed a 250 light dynamo to operate the lights throughout their entire factory. In the fall of 1899 they realized that they should have a larger lighting dynamo, but after receiving figures and making sundry tests they decided to retain the 250 light machine for another season, which they operated to over 300 lights regularly. They have now placed an order with the Electrical Construction Co., of that city for a fifty k.w. generator, sixty-seven h.p., which is to be a generator for both power and lights, and they are retaining the 250 light dynamo to use as a motor for operating their recently enlarged box factory. This makes four different machines which this concern has purchased from the Electrical Construction Co., Mr. Perrin expressing himself as excellently pleased with their operation.

The Canada Radiator Co., Toronto, has been incorporated with a capital stock of

\$50,000, to manufacture radiators, etc. The provisional directors include F. J. Travers, A. C. Thompson and R. J. Hodge, all of Toronto.

The Rockwell Engineering Co., 26 Cortlandt street, New York, have sent us an illustrated circular having reference to the new Rockwell portable oil rivet forge, for which a patent is now pending. Regarding it they say that after months of experimenting, they are prepared to offer a practical, safe, economical and effective portable oil rivet heating forge, which will meet the requirements of the most exacting. This forge is described as carrying a high, soft, uniform heat, always under control of the operator. The rivets are always in plain sight, quickly heated, and easily reached. The forge can also be used for light forging, hardening, tempering and annealing, and either fuel oil, kerosene or gasoline can be used. For further information apply as above.

Amongst the generous donations to the Ottawa Fire Fund, is that of Dr. Ludwig Mond, of Brunner, Mond & Co., Limited, Northwich, England, the extensive soda and alkali manufacturers, who subscribed £100 through the Bank of Montreal.

The Electrical Construction Co., London, Ont., recently received the following order from their agents in Winnipeg, Man., One 1 h.p. bipolar motor, two 2 h.p. bipolar motors, one 5 h.p. bipolar motor, two 8 h.p. bipolar motors, two 15 h.p. multipolar motors.

FINE CRUSHING and GRINDING MACHINERY

STURTEVANT MILL CO.,

Send for Circular. 104 Clayton St., Boston, Mass.

IF YOU NEED ANY ELECTRICAL WORK,

Either a new plant or simply an extension to your present one, write us for figures. Our work is done to last.

R. A. L. GRAY, ELECTRICAL CONTRACTOR, 83 YORK STREET, TORONTO

Shafting—Hangers—Pulleys

FRICION CLUTCH PULLEYS AND COUPLINGS

Rope Transmission of Power.

HANDSOME ILLUSTRATED CATALOGUE ON APPLICATION.

DODGE MANUFACTURING CO. OF TORONTO, Limited, - - TORONTO.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Menzie-Turner, Toronto, has been incorporated with a capital stock of \$30,000, to acquire the business of Menzie, Turner & Co., and to manufacture window shades, curtain poles, etc. The provisional directors include R. E. Menzie and E. W. Turner, both of Toronto, and Harrison Corey, of Petrolia, Ont.

The Imperial Cocoa & Spice Co., Hamilton, Ont., has been incorporated with a capital stock of \$30,000. The provisional directors include J. I. Davidson, Toronto, and G. E. Bristol and H. C. Beckett, both of Hamilton, Ont.

One result of the war has been the determination of our Colonies to take a more active share in South African commerce than has hitherto been the case. Especially is this so as regards Canada, some of the leading manufacturers of which now recognize that they are as well able to compete for the trade as their neighbors in the States, who, so far as the American Continent is concerned, have for some inexplicable reason hitherto been left to enjoy what has virtually been a monopoly of the South African market. As an instance of the awakened interest of Dominion manufacturers to the potentialities of that magnificent trading field, it is pleasurable to observe that the Pillow & Hersey Mfg. Co., of Montreal, are now making a bid for the oversea

business of the sub continent, and when the war is at an end they will doubtless reap the reward of their enterprise. They are the makers of the well-known "P.H." brand of piping, for steam, gas, or water purpose, plain or galvanized, with English or American thread; bolts, nuts, washers, rivets, spikes, brads, tacks, and nails of every description, the quality of which it is claimed is equal to anything produced in the United Kingdom. Being of British manufacture, this fact will doubtless not be overlooked by South African buyers and others who have the placing of orders, and whose patriotism will doubtless lead them to give preference to the goods of their own kinsmen where possible. Messrs. R. D. Galbraith & Co., 11 Billiter Square, E.C., are the London agents for the Pillow & Hersey Mfg. Co., and they are prepared to quote c.i.f. at any port on receipt of particulars.—British and South African Export Gazette.

Canadian manufacturers make as good well-boring machinery as can be produced in the world, specimens of which can be found in many countries. An opening for the extension of this business exists in Persia as is seen from a letter written by Major Sykos, British Consul at Korman, that country, he says:—As all cultivation depends on irrigation, and water is absurdly dear, I feel assured that any one proving successful in

introducing artesian wells would make a substantial fortune, for once success is assured every one will be ready to pay for wells. One of the khans states that he is willing to expend a large sum on experiments, but before doing so he wishes to obtain more detailed information on the subject.

Mr. W. C. Edwards, one of the lumber kings of Ottawa, states that he intends to go into the pulp manufacturing business. On the pine limits he holds there are very considerable tracts of pulp wood. Probably no other lumberman, not even J. R. Booth, has such large limits of spruce extending through his pine borings, and these limits are as much Mr. Edwards' as his pine limits, having been acquired before spruce was reserved.

The municipality of Port Dalhousie, Ont., has granted a bonus of \$6,500 to the Toronto Rubber Shoe Co., whose extensive works are at that place.

A new theatre building is projected at the city of Quebec, which will have seating accommodation for 2,000 people. Steel will enter largely into the construction of the building, which will be made fireproof as nearly as possible. A feature of it will be a roof garden reached by a passenger elevator. Mr. J. Z. Reether, of Montreal, is the architect.

THE CUMMER DRYERS.

FOR Mechanically Drying Everything

THE F. D. CUMMER & SON CO.,
HUNDREDS IN OPERATION. CLEVELAND, OHIO.

John R. Barber, President.

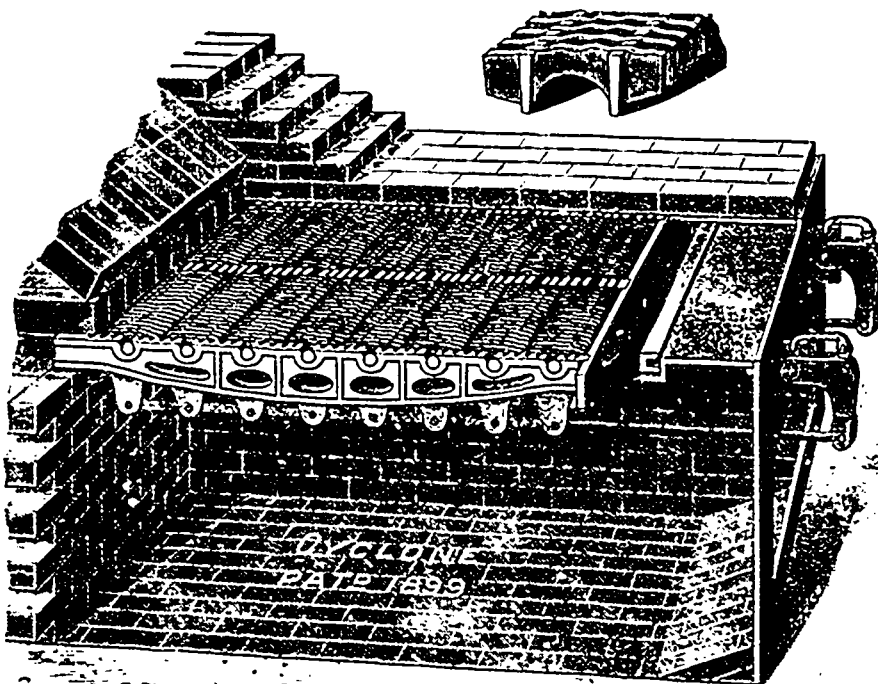
Geo. E. Challice, Sec.-Treas.

Henry Truesdell, Bus. Man.

THE CYCLONE GRATE BAR

Economy of Fuel and Increased Boiler Efficiency Guaranteed.

Cut shows construction of the Grate. No alteration of Plant necessary.



Simplicity, Durability, Economy.

Burns the Cheapest Fuel with the Best Results.

A BOY CAN OPERATE IT.

Send for Descriptive Circulars and Testimonials.

COPY OF TESTIMONIALS.

TORONTO, Jan. 19, 1900.

THE CYCLONE GRATE BAR CO., (Limited), Toronto.

DEAR SIRS.—We deem it only fair to you to express the appreciation and satisfaction which we have in using your Grate Bar.

As a fuel savor we think it is the only Grate with any merits in this respect, and for operating it is perfect.

Wishing your Company every success,

We are, yours truly,

"SEAMAN, KENT & CO.

W. G. BLACKGROVE,

Gen'l Agent for Ontario, Office, 10 KING ST. WEST, TORONTO, CAN.

Manufactured by...

Cyclone Grate Bar Co. Limited,

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Messrs. John Ballantine & Co., manufacturers of wood-working machinery, etc., inform us that they have recently made an important shipment of such machinery to the Bennett Co., of St. John's, Newfoundland.

Angus Plewe's flour mill, Markdale, Ont., was destroyed by fire May 24, loss about \$10,000.

The Gananoque Harness Works, Gananoque, Ont., was damaged by fire May 29, to the extent of about \$5,000.

Canada, as well as Ireland, might advantageously take example from what is about to be done in North Germany, where it is proposed to utilize the immense peat beds for the production of electricity and industries on a large scale. It is estimated that an acre of turf ten feet thick gives 1,000 tons of dry turf equivalent to 480 tons of coke. The mosses of the Eunis valley, in Ireland, which covers 1,000 square miles, should furnish the equivalent of 300,000,000 tons of pit coal, and enormous power for all sorts of manufacturing purposes could be obtained. Ireland and Canada, with their great expanses of bog land, should follow suit in utilizing

their peat, and now when coal is within a measurable distance of being worked out, the despised peat may come in very useful. — Quebec Telegraph.

The Anglo American Power Co., Port Arthur, Ont., has been incorporated with a capital stock of \$5,000,000, to acquire from E. S. Jenison, the property, rights, privileges and franchises granted to him by the Ontario Legislature, and to develop and improve the water power privilege on the Kaministiquia River. The provisional directors include D. S. Wege, G. K. Clutton and W. H. Dayton, all of Chicago, Ill.

The Listowel Furniture Co., Listowel, Ont., has been incorporated with a capital stock of \$25,000, to manufacture furniture, etc. The provisional directors include S. T. Rutherford and J. S. Gee, both of Listowel, Ont., and W. H. Wiles, of Walkerton, Ont.

The T. Eaton Co., Toronto, are making extensive changes in their electric plant and have ordered two 350 h.p. engines for direct connection to dynamos from the Robb Engineering Co. Amherst, N.S.

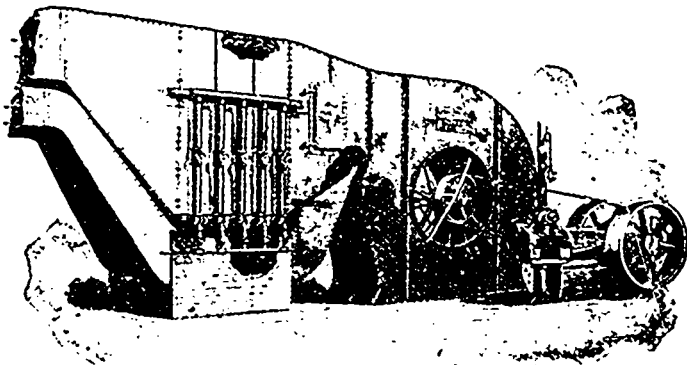
THE SOUTH AFRICAN MARKET— CANADA'S GREAT OPPORTUNITY.

Despite the not inconsiderable quantities of grain and farming produce which is annually and increasingly raised in South Africa, the yield is still very far below the consumptive requirements. The same remark applies to dairy products, such as butter, cheese and eggs, as well as to live and dead meat, etc., and in view of the importance which the trade in all these staple commodities is likely to assume on the termination of the war, the British and South African Export Gazette sets before its readers a few details of its present volume and extent, as being of considerable interest and value to those who are concerned in the several branches referred to. The chief exporting countries for grainstuffs are the United States, Australia, Argentina, and in smaller quantities, Russia, Roumania, etc. The countries furnishing the oversea supplies of dairy products are Denmark and Great Britain, the latter chiefly re-exports; Holland, Germany, Madeira, Australia and the United States, the last in limited quantity.

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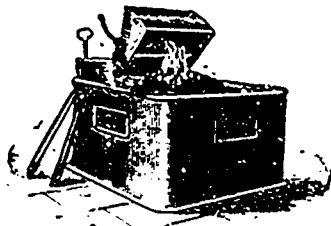


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Live and dead meat is shipped from Australia and New Zealand, Argentina, the United States, Europe and Madagascar. We condense from the Gazette as follows:—

Grain Foodstuffs. The imports of wheat, corn and grain, and flour into all the ports of South Africa, inclusive of seven months' returns only from Delagoa Bay, were in 1899.—Wheat, £510,790, flour, meal and bran, £305,254, and corn and grain £287,082, or a total of £1,103,126, of which the United States contributed supplies of wheat worth £214,240; flour, meal and bran, £194,800; corn and grain, £247,367, or a grand total of £656,407. The chief contributor, as these figures show, is the last named country; but the imports from Australia are steadily growing, while those from Argentina and other South American States are not inconsiderable. It is to be presumed that Canada may at some not distant period also bestir herself to secure a share in this trade. A large portion of the wheat imported is ground into flour in South African mills, of which there are about fifty, with an approximate yield of fifty barrels per day. Imports into the Cape Colony of flour (including bran), of which that from the United Kingdom is ground from foreign (principally American) wheat, and meal, totalled in 1899 £64,070, a decrease of about £10,000 on the shipments of 1898. The aggregate imports of flour, meal and bran into all the ports of South Africa (the returns for Delagoa Bay being only for seven months of the year in consequence of the war) reached £305,254. The consumption per head of wheaten flour of the white population is about equal to that in other European communities; but the natives are but small consumers, their wants being met by Kafir corn or mealies, mealie meal, etc. Wheaten flour is imported

in 200-lb. bags, or 196-lb. barrels, the former being preferred. The millers give preference to Nos. 1 and 2 hard wheat, and their practice does not include mixing. The amount of South African grown wheat is considerable, but far below possibilities, owing to the general ignorance of the conditions governing successful farming. The exact quantity is unknown.

Butter and substitutes.—The imports of butter, including margarine, into Cape ports in 1899 totalled £137,236. The aggregate imports of butter, margarine and ghee, the last consumed by the coolie population and imported from India, into all the ports of South Africa (including seven months' returns for Delagoa Bay) totalled £235,160. The larger part, as has already been said, came from Denmark and Great Britain, the latter chiefly re exports. The United States contributed only an infinitesimal proportion of the total imports. Australia's present contribution is unknown, but it is an increasing one, and owing to color and purity the product finds a ready market. The ordinary kinds are packed in fifty-six pound wooden boxes, and the best in one to two-lb. square glass receptacles, which are bedded in a layer of asbestos mixed with plaster, rendering the contents impervious to heat or damp. The wooden boxes are lined with cheese cloth and then with oiled paper, the box being tightly fastened with wire at each end. Danish butter, which has hitherto commanded the bulk of the trade, is forwarded in tin boxes, and the careful attention bestowed on packing, etc., is such that it always arrives sweet and without loss of flavor. American exports, owing to defective preparation and other matters, have failed to secure the public approval to any extent. The duty imposed on butter im-

ports is 3d. per lb. The current wholesale prices of Colonial butter in ten of the principal towns of Cape Colony are: Capetown, per lb., 1s. 9d., Port Elizabeth, 1s. 5d., East London, 1s. 3d., Cradock, 2s.; Queenstown, 1s. 3d., Tarkastad, 1s. 3d.; Kingwilliamstown, 1s. 9d., Graaff-Reinet, 2s., Grahamstown, 2s. 4d., and Port Alfred, 2s. The best classes of Australian and Danish butter command advances on these prices, the rate at Capetown for the ordinary being from 1s. 3d. to 1s. 8d., and 2s. 1d. to 2s. 6d. for the best.

Cheese. The imports in 1899 of cheese into all ports of South Africa, including seven months' returns for Delagoa Bay, were of a value of £93,531. Of this total, £67,181 worth was forwarded to the ports of the Cape Colony. No information is, however, extant of the exact respective contributions of oversea countries to these figures. Holland probably enjoys the largest share of the trade, the Edam, Gouda, and other cheeses finding most favor on account of their keeping qualities. Great Britain ships Cheddars, Gloucesters, and Cheshires in considerable quantities, whilst a large trade is done in Stiltons, Gorgonzolas, and other fancy cheeses put up in hermetically sealed jars. Canada also sends a fair volume of Cheddars. In 1896 the Colony of Victoria sent shipments to the value of £760, since when this trade has probably greatly increased. The average wholesale quotations for ordinary cheeses at Cape ports is about 11d. to 1s. 2d., the duty being 3d. per lb. The great loss of cattle in South Africa in recent years through the rinderpest, and quite recently as a result of the war, will undoubtedly make the South African market more than ever dependent on oversea countries for these and other dairy products.

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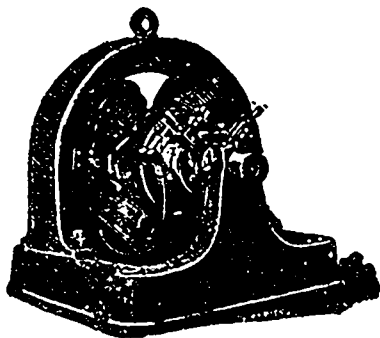
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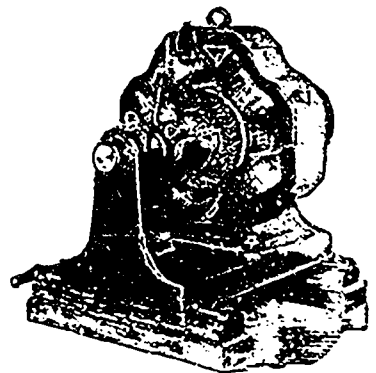
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Condensed Milk.—Strange to say, South Africa's production of milk is wholly insufficient for its daily consumptive needs, and consequently it is not surprising to learn that condensed milk to the value of £263,216 was imported into all ports of South Africa in 1899 (returns for seven months only for Delagoa Bay), of which £160,290 were landed at Cape Colony ports. In 1896 the contributors of the Cape Colony imports were:—The United Kingdom, £97,181; Germany, £19,431; Holland, £3,024; other countries, £514—total, £120,080. It is noteworthy that in recent times a portion

of these imports is being furnished by Australia. The duty levied on condensed milk by the South African Customs' tariff is 4s. 2d. per 100 lbs., despite which the trade is a steadily increasing one.

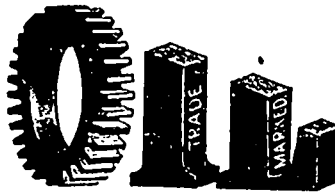
Fresh and Preserved Vegetables.—There is a further series of articles of agricultural production of which considerable imports are made, whereof, however, no trustworthy data are forthcoming. These include potatoes, onions, and other fresh and dried vegetables, etc. The wholesale quotations of Colonial-grown potatoes in eleven of the principal towns of the Cape Colony in February last were:—Capetown, 12s. per bag of 100 lbs.; Port Elizabeth, 11s. to 15s.; East London, 12s. 6d.; Cradock, 18s.; Queenstown, 17s.; Tarkastad, 16s.; Kingwilliamstown, 22s.; Malmesbury, 13s.; Graaff-Reinet, 18s.; Grahamstown, 14s. 9d.; and Port Alfred, 9s. The duty exacted on imported potatoes, when neither preserved or for sowing, is £7 10s. per cent. ad valorem. Seed potatoes are admitted free. The duty levied on imported onions is 1d. per lb. Other fresh and green vegetables are allowed free entry. A considerable trade is done in preserved vegetables, which are mainly put up in Germany. Imported preserved, pickled or otherwise prepared vegetables are mulcted in a duty of 2d. per lb.

Preserved Meats.—The returns of preserved meat imports are fuller, and were for 1899 of tinned meat imported into the Cape Colony, 8,816,435 lbs.; preserved, pickled and curried meat imported into Natal, 3,716,257 lbs. Of canned meat the total imports into all the ports of South Africa, including seven months returns only from Delagoa Bay, were in 1899 of the value of £353,614. The United States have hitherto enjoyed a monopoly in this trade, but Australia and New Zealand are now making rapid encroachments on their preserves. In 1896, the latest date of the particularized reports, the United States imports into the Cape Colony amounted to £40,338; the United Kingdom, £29,678; British possession, £4,939; other countries, £1,312; total, £79,961. South African imports of tinned, salted or cured meats from the United Kingdom are also of considerable magnitude. Such belated returns as are available are only partial, and refer to the Cape Colony and Natal alone. In 1896 the imports from the United Kingdom of salted or cured meats to the Cape Colony were valued at £61,877, and other countries, £3,477, or a total of £65,354. In 1897, the imports from the United Kingdom to Natal were £42,168; the United States, £30,724; British possessions, £4,427; other countries, £5,774, or a total of £83,091. The chief of the imports from Great Britain are bacon and hams, and it is gratifying to note that the English cured products are most in favor with the public. Tinned specialties to which our Antipodean possessions are now devoting

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themselves are sheep and beef tongues, boiled and roast mutton, and rabbits, and these find a ready and steadily increasing market throughout South Africa. Of tinned, preserved or pressed fish the imports into the Cape Colony in 1896 were.—From the United Kingdom, £71,625; United States, £6,312; Germany, £2,092; other countries, £2,375; total, £82,404; The imports to Natal are included in those above given of salted and cured meats.

Lard.—The imports of lard into the various ports of South Africa totalled upwards of £23,000 in 1899, of which all but about £3,000 worth were forwarded through the Cape Colony and Natal. The bulk of the shipments was furnished by the United States to the extent of two-thirds, and the remainder by Great Britain. The article is usually imported in from 2 to 20-pound weight boxes, and retailed at about 10d. per pound. The South African Customs Union tariff imposes a duty of 2d. per pound. It has been suggested that American manufacturers of "cottolene," a substitute product manufactured from cotton-seed, should endeavor to compete with the animal product on the South African market.

Eggs.—The imports in 1899 of the three leading items of dairy produce—butter, cheese, and eggs—into all the ports of South Africa, including Delagoa Bay (returns for seven months only), were:—Butter, including margarine, £235,160; cheese, £93,531; and eggs, of a value not stated, but in number upwards of 4,000,000. This represents, exclusive of the value of egg imports, a sum equal to £204,417. Madeira forwarded the larger proportion of the eggs imported, Australia coming next, and Great Britain and Europe next. The United States furnished about 260,000. The import trade from Great Britain and Europe has been greatly stimulated by the installation of refrigerating chambers aboard ship and on shore in South Africa. But those imported from Madeira, loaded up by the fast mail steamers on their voyage out, are merely packed in a basket filled with salt and stored on the upper deck of the vessel under a tarpaulin. They arrive perfectly fresh. Eggs have been successfully imported from the United States without cooling chambers. They are candle-tested, packed in clean boxes, with cardboard fillers that have not come in contact with bad eggs or sawdust. A layer of clean straw between each filler is

also added. Eggs are also imported varnished, and this method is very effective, but is found occasionally to fail owing to the damp of the vessel prejudicially affecting the varnish. South African buyers frequently require the preliminary forwarding of sample cases, without which no orders are given. It is said that single orders in some instances have amounted to several millions at a time. Crystallized eggs for pastry are also imported, mostly from the United States, one pound's worth being equal to about fifty eggs. The ad valorem duty levied by the South African Customs' Union tariff on imported eggs is £7 10s. per cent., and this burden, combined with the insufficient local production, enhances the retail price to the consumer, and greatly limits general consumption. The wholesale prices of the Colonial product in eleven of the principal Cape Colony towns are:—Capetown, per dozen, 2s. 3d.; Port Elizabeth, 2s. 3d.; East London, 2s. 6d.; Cradock, 2s.; Queenstown, 2s. 3d.; Tarkastad, 1s. 6d.; Kingwilliamstown, 1s. 9d.; Malmesbury, 1s. 3d.; Graaff-Reinet, 1s. 6d.; Grahamstown, 2s. 6d.; and Port Alfred, 1s. 6d.

A Chance for Canada.—From the above notes it will be seen that the South African market for foodstuffs is a most important one, and as there is reasonable ground for assuming that many years must elapse before the country is self-supporting in several of the items which it is now compelled to import owing to the indolence of the Boer farmers, an opportunity is thus afforded to Canadian and Australasian enterprise to wrest some of the trade from their competitors. The war will doubtless materially assist to this end, in that the possibilities of the South African market are doubtless being keenly noted by the thousands of the "Sons of the Empire" who are now fighting for the Motherland.

CANADIAN TRADE.

The New York Financial News, commenting on the trade of Canada with Great Britain and with the United States, says:

When the British preferential tariff of twenty-five per cent. was put into effect by the Canadian Government in 1898 apprehension existed in this country that the trade of

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the United States with the Dominion would be irreparably injured thereby, but the facts brought to light during the past two years show that this fear was not well founded, and instead of the preferential tariff reducing the imports from the United States, the trade with Canada has never developed so rapidly.

Consul Harlan W. Brush, in his report to the State Department, gives the following interesting figures: In 1897, the importations from Great Britain into Canada amounted to \$29,412,188; in 1898, to \$32,500,917; in 1899, to \$37,647,000—a gain over the total of 1897 of \$8,324,812. The imports into Canada from the United States in 1897 were \$61,649,041, in 1898, \$78,705,590; and in 1899, \$93,007,000—a gain over the total of 1897 of \$31,357,959.

The only two years that are worthy of comparison with 1898 and 1899 are 1873 and 1874, when there was a growth of imports from the United States over the year 1872 of \$30,685,608, the total in 1874 being \$283,072. As the total in 1897 was \$61,604,1, the growth in twenty-three years was less than \$7,500,000. That a jump from \$61,000,000 to \$93,000,000 should follow the enactment of a preferential tariff, when just the opposite effect was looked for, is one of the anomalies of trade. There is no attempt

to conceal the facts that the results of the preferential tariff with England have not met with expectations, and an increase from twenty-five to thirty-three and one-third per cent. is to be put into effect in July. The additional eight and one-third per cent. will probably add to the imports from England, but the same reasons that led to a disappointment in the twenty-five per cent. tariff still exist. These are that there are only three or four leading lines of imports in which England could compete with the United States. For the great majority of importations Canada would still be obliged to look to the United States as the cheapest market, notwithstanding the reduction in duties in favor of England. A feature, too, that is commented on rather freely in Canadian papers is the fact that, while the imports from Great Britain have increased \$8,234,812 in two years, the loss in tariff last year alone on British imports was nearly \$2,000,000.

A BRITISH COMPLIMENT TO
CANADIAN ENGINEERING.

The Municipal Technical School, Manchester, England, has ordered from the Robb Engineering Co., of Amherst, N.S.

a 150 h.p. tandem compound engine, to be directly coupled to a dynamo built by Dick, Kerr & Co., of London, for electric lighting. The order was given on the recommendation of Dr. J. T. Nicolson, Professor of Engineering, who was formerly of the Institute of Science, McGill University, Montreal. The purchasers, state that this engine is to be placed with other engines supplied by the leading British makers as an example of the best English and foreign practice in engineering.

The Automatic Steam Cooker Co., Toronto, inform us that they are meeting with a large demand for their article. They have recently made shipments to Australia and the Klondike.

First class up-to-date typewriting machines are built in several different factories in Canada, the proprietors of which should notice the fact that the Spanish Government has authorized the use of typewriting machines in all Government office work, which will create an extensive demand there for the article. This step on the part of the Government, it is expected, will also tend to increase the private demand for typewriters in Spain.

THE BEST IS NONE TOO GOOD

The largest machinery builders in Canada and United States use our Babbitt Metal.
Is this not sufficient proof of its superiority over other anti-friction metals?
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We can furnish you with numbers of testimonials.

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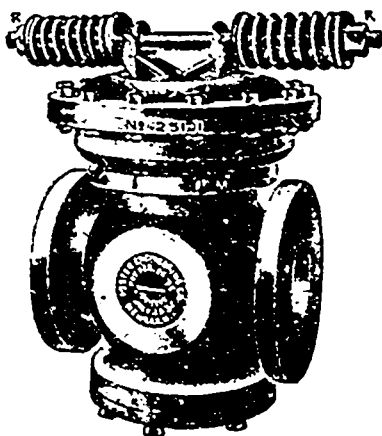
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OPENINGS FOR FOREIGN TRADE.

Paper in New South Wales. A German official report from Sydney says:—

The use of paper and allied products is very considerable. The imports last year amounted to a value of £500,000 in round numbers, as against £410,000 in the previous year. British mills are the chief sources of supply for good printings, note paper, and account book paper. Paper for account books must bear the well-known water marks of the best British mills. The price for this paper runs from 6d. to 1s. per pound. Inferior quality imitations of such marks have obtained no permanent footing. The value of the better kinds of printings is 2½d. per pound and 3½d. per pound for second and first-class paper respectively. Papers upon which illustrations are to be struck off fetch up to 6d. per pound. These prices are for sale from stock; if purchased in bales they are ½d. cheaper. The printings most in demand are as follows:—Imperial, 30 by 22 inches; royal, 25 by 20 inches; double imperial, 44 by 30 inches; double royal, 25 by 40 inches; medium, 24 by 19 inches; post, 19½ by 15½ inches; demy, 22½ by 17½ inches; double demy, 35 by 22½ inches; double crown, 30 by 20 inches; second crown, 30 by 40 inches; foolscap, 17 by 13½ inches; double foolscap, 27 by 17 inches. Paper for newspapers, both in rolls and in sheets, comes chiefly from America, as—in spite of the inferior quality of the material—it has a very good, matt, glossy surface. Its present price is about 1½d. per pound, and there is a considerable demand for it. The daily issue of one single newspaper, The Sydney Morning Herald, requires, for instance, four tons of paper, and the Saturday edition eight tons. America also supplies the most manila paper and a portion of the envelopes used, which are to be had at 1s. 9d. per thousand. Strawboard comes from Germany, Holland, and Victoria, the latter supplying a line almost equal to the foreign board, but often cheaper. Japanese strawboard is only good for common use; it is very rough and not stiff enough.

RECORDING INSTRUMENTS.

The Bristol Co., Waterbury, Conn., have sent us their new illustrated catalogue and price list, having reference to the recording instruments manufactured by them. These instruments are made for recording pressure,

temperature, and electricity, in sizes and styles adapted to any requirement.

The recording vacuum gauges are for full vacuum, with 24-hour charts, graduated from one-half pound per square inch, with range from zero to 14.7 pounds to one-inch head of mercury, with range from zero to thirty-inch vacuum. For gas or air six 24-hour charts, graduated from one-tenth-inch to one-inch head of water, with range from zero to four to twelve-inch vacuum.

Recording combination vacuums and pressure gauges for gas or air, 24-hour charts, graduated to from one-tenth-inch to one-inch head of water, with range from two-inch vacuum to four-inch pressure to thirty-six-inch vacuum to ten-inch pressure.

Others of these gauges are made for vacuum, graded in inches in mercury, 24-hour charts, with total range from full vacuum to from six pounds to 100 pounds pressure.

Other instruments alluded to, and there are 208 of such alluded to, include recording pressure gauges for ammonia, for recording water levels, or tide gauges; recording thermometers, recording thermometers for open and closed spaces, pyrometers, recording voltmeters for direct and alternating currents, recording ampere meters for direct and alternating currents, recording Watt meters for alternating current, and special large recording instruments, with dial one foot in diameter, extra open scale, with chart, making one revolution in seven

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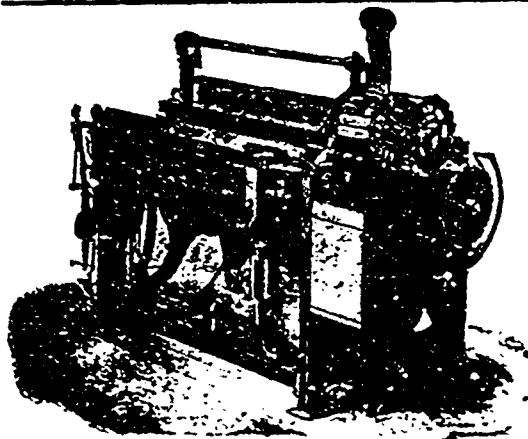
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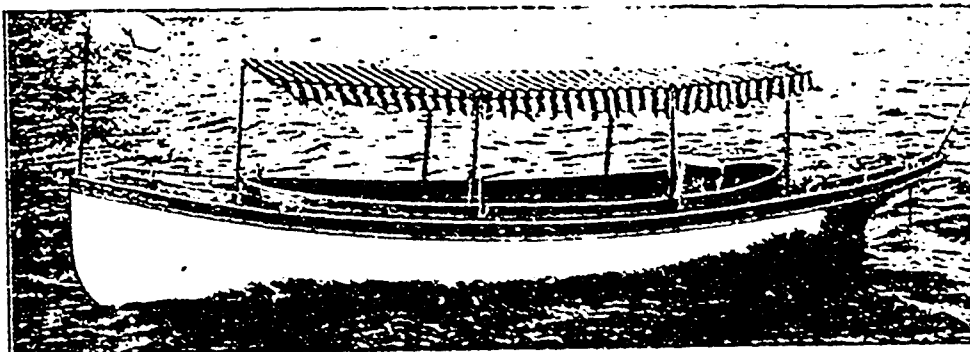
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days, twenty hours, twelve hours, six hours, one hour, or fifteen minutes, as desired.

The company also manufacture Bristol's round recording pressure gauges—standard eight-inch chart—designed to meet a demand for a recording pressure gauge at a lower price than their standard forms, which makes continuous record day and night of steam, water, oil, gas, or air pressure. It is simple in construction, accurate and reliable in operation, and handsomely finished.

For prices and other information write to The Bristol Co., Waterbury, Conn.

INCREASED RATE OF COMBUSTION.

Independently of the greater economy and higher rates of combustion, mechanical draft stands as the only means by which the increased rate can be economically obtained. Coincidentally the boiler capacity must of necessity be greater, provided the grate area is maintained. The expense or inconvenience of a chimney, to obtain rates above twenty or twenty-five pounds per square foot per hour, becomes so great as to practically preclude an increase. As observed by A. J. Durston, "as long as draft was dependent upon a funnel for its production, a much greater combustion than twenty-five pounds of coal per square foot of grate was rarely achieved; with artificial draft on the other hand, the rate of combustion may be accelerated to any amount, and as a boiler's capability of transmitting heat without injury to itself is simply a matter of degree, experience has been necessary to determine the rates of combustion that can with safety be employed with different types of boilers." When it is considered that in boilers of the marine type the combustion rate resulting from the employment of mechanical draft is now carried as high as forty to fifty pounds, that in torpedo boat and similar service a rate of seventy to eighty pounds is frequent,

and in locomotive practice as high as 120 pounds is not at all unusual, the possibilities of increased rates of combustion with mechanical draft are evident.—Extract from Treatise on Mechanical Draft, by B. F. Sturtevant Co., Boston, Mass.

NAMES OF TALKING MACHINES.

They are called "graphophones" by the United States Patent Office. In the popular mind there is considerable misapprehension and confusion regarding the correct designation of talking machines. The words "graphophone" and "phonograph" are ordinarily misused as having the same meaning. The name "phonograph," which was given to the first crude model constructed by Edison, has clung in large measure to the perfected talking machine, as it is known to-day. It is now, therefore, to many people to learn that all the talking machines of the present day are officially termed "graphophones" by the U. S. Patent Office.

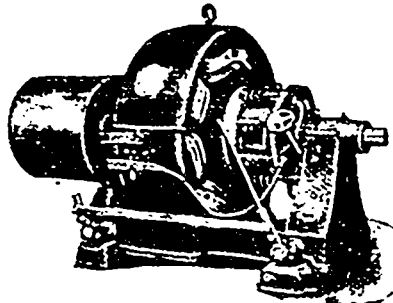
In 1887 the attention of the world was riveted to a new invention by Thomas A. Edison of a machine that would talk, to which he applied the name "phonograph." Imaginative people at once began extravagant speculations as to the many uses to which it could be put. The mechanical methods employed in it, however, were incapable of practical use. It employed tinfoil as the medium for receiving and reproducing the sound waves, and a record made on this material was not permanent, was far from being perfect or even satisfactory, and it could not be removed from the particular instrument on which it was made without destroying the record. The phonograph served to demonstrate that sound waves could be recorded and reproduced, but it could render no practical service to mankind, and disappointed expectations. In the course of a few years it was forgotten.

The graphophone appeared ten years after the phonograph. It was invented in the Volta Laboratory, Washington, D. C., as the results of experiments conducted by Alexander Graham Bell, of telephone fame, and his associates, Dr. Chichester Bell and Prof. Sumner Tainter. Its great improvement over the phonograph, and the feature which revived interest in the talking machine and made it of practical value, was in providing a method of cutting and engraving a record upon a wax-like tablet or cylinder. This discovery makes possible permanent records that can be taken from the machine on which they were made and reproduced on the same or other instruments.

The Patent Office has put into the graphophone class all similar inventions, including Edison's; and, technically speaking, every practical talking machine in the United States to day is a graphophone.—Communication of Messrs. Marion & Marion, Patent Attorneys, Montreal.

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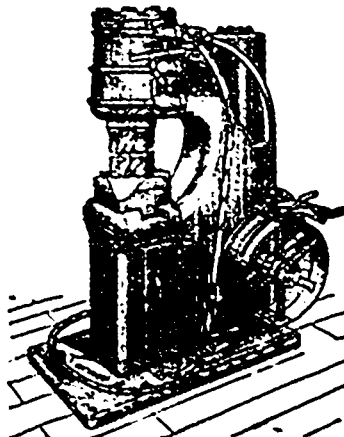
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Canadian Patent November 9, 1897.

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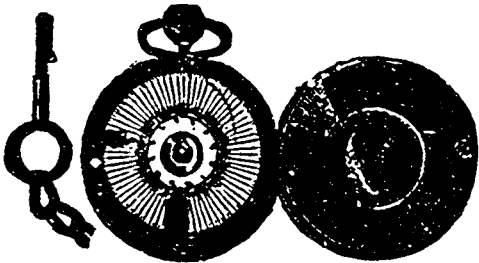
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one or two miles to go over the watchman's route once. When we consider that he is expected to make a round every hour, it is evident that some device must be employed by which the owner will know whether these many miles have been traveled or not. In the Nanz system, a dial is placed inside the clock, and keys are fastened in different parts of the buildings, which the watchman should visit. Each key makes an independent mark on the dial, which shows the exact time at which the visit was made. The dial in this way becomes an accurate record of the presence of the watchman at the stations during the night.

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INDUSTRIES OF ONTARIO.

That the great strides that are being taken in the industrial development of Ontario are being closely observed by our American friends is evident from what some of their most influential journals have to say concerning it. Even so important a paper as

Bradstreet's publishes a two-column article, which is of so interesting character that we here reproduce. It is as follows:—

Six months ago the Ontario government announced that it would inaugurate a policy of encouragement of the refining of nickel within this province, and intimated that a heavy tax would be imposed on nickel matte which was being shipped in large quantities to New Jersey. This was the beginning of a large development of the nickel-refining industry at Sault Ste. Marie. Previous to the inauguration of the nickel policy of the provincial government, it had been determined to accord to the pulp industry similar encouragement to that which had characterized the government's treatment of the manufacture of lumber. An export duty was placed on pulp wood, and the result was speedy arrangements by large capitalists to erect large pulp mills in Ontario, the government making grants to the promoters of large tracts of spruce, jack pine, and poplar timber limits, from which they were to have the right to cut timber for their mills on giving an undertaking to pay the government forty cents per cord for all the timber cut. This arrangement resulted in the erection of one of the largest pulp mills in the world at Sault Ste. Marie by Mr. F. H. Clergue and certain American capitalists who

are associated with him in his enterprise at that point.

Having been informed of the attitude of the government toward the nickel industry, they at once set to work to discover a process for the reduction of nickel matte which

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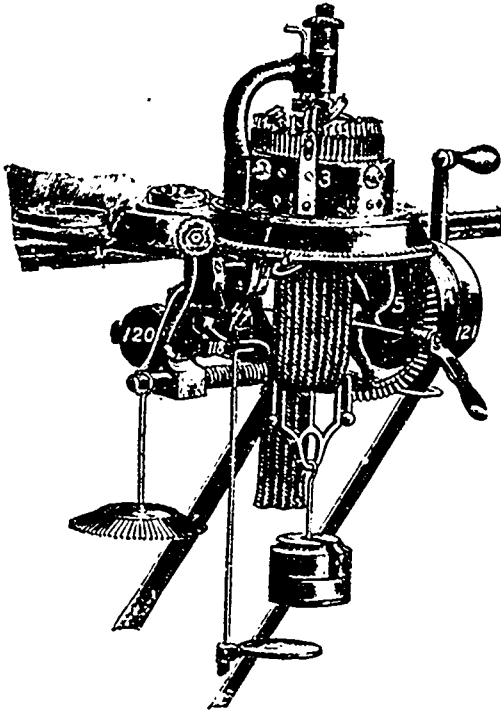
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would not infringe existing patents. After diligent work a process was discovered, and at present a plant is in course of erection at the Canadian Sault, which will be operated on somewhat remarkable economic principles in connection with the pulp industry there. At present sulphur is required for the production of dry pulp, and the sulphur has to be produced by a chemical process. Nearly all of the ores in Algoma are sulphides, and, by the process that will be used for the reduction of nickel matte, sulphur is produced from the ore. The sulphur in this case is a by-product, but it will be used in the production of pulp, and the necessity of chemically producing the sulphur will be avoided by making the two industries work together. The Sault people, headed by Mr. Clergue, went into the nickel industry by a mere accident. They were anxious to obtain sulphur for pulp making, but were not prepared to bring it from the mines of Sicily at a cost of \$25 to \$40 per ton. Going to Sudbury, Ont., where there is sufficient nickel to last the world for 100,000 years, an option was obtained on a property there, and experiments were made with the ore from a nickel mine, or deposit, to obtain the sulphurous acid gas from it to use in the production of dry pulp. It was found, after the sulphide had been obtained from the ore, the residue contained nickel and iron in a natural state of union so per

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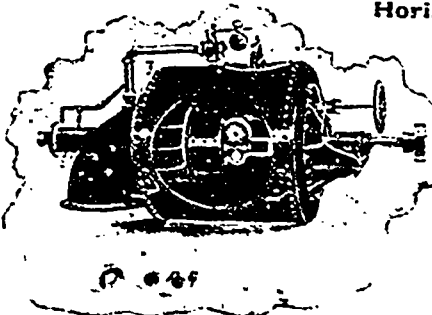
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fact that, when fused together and reduced to a metal, it produced an alloy of nickel and steel so far superior to anything that had yet been used that when offered to Krupp, the great German gunmaker, he at once made a contract for a supply of the metal for five years. Then began the erection of the reduction and the ferro-nickel plant. It was to encourage the production of refined nickel in Ontario that the government imposed a heavy duty that is practically prohibitive on nickel matte or unrefined nickel going out of the province. This policy was strongly opposed by the representatives of the people in New Jersey interested in getting supplies of the raw material from Ontario, and by owners of nickel lands in Sudbury, who wished to sell them to parties requiring the ore.

In connection with the pulp and nickel industries at the Sault, the Algoma Central Railway is being built in order to keep the mills supplied with pulp wood. The railway will be 200 miles long, and in consideration of a grant of 1,480,000 acres of crown land along its route a syndicate has undertaken to settle on the lands adjoining the railway 1,000 male adults yearly for ten years, develop 40,000 horse power along the streams in the country through which the railway is to run, build a pulp mill in addition to the mill at the Sault and a nickel reduction plant in addition to the Sault reduction works. The contract is a large one, but so great is the confidence of the promoters of the industries described that they are confident of being able to fill the terms of their agreement with the Ontario Government. The terms on which the land grant was made to the railway company also call for the employment on Lake Huron of four large freight steamers, with a tonnage of 2,000 each, to carry ores from Michipicoton, on Lake Huron, to the Sault. These steamers will be used for the Atlantic trade during the winter.

The pulp-mill industry is not all confined to the Sault. But taking advantage of the policy of the Ontario government to encourage the manufacture of pulp in this country, four other large concerns are now making arrangements to produce the pulp on a large scale, and it is held that not a contract of any extent for paper is made in any market in the world till the prices current

for pulp in Ontario are first obtained. It is said that \$15,000,000 to \$20,000,000 are ready to be invested, if necessary, in industries in Algoma, Ont., and a large part of that sum has already been invested, with the prospect of large returns in the next couple of years.

At Hamilton, Ont., a nickel plant on a large scale is being erected for the reduction of matte. The process to be used at Hamilton is what is known as Dr Mond's process, but it will prohibit the people at Hamilton from refining nickel in Canada for the European markets. The policy of the Ontario government in passing legislation that practically prohibits the export of nickel matte, pulp wood and sawlogs to the United

States is much criticised, and opinion is divided as to the advisability of interfering with the export of the first-mentioned article. In the matter of nickel, especially, it is held that the policy is unwise, because, in the first place, there is not yet any process in operation in Canada by which nickel can be refined, the plants now being erected being incomplete, and it is further argued that the nickel-reduction process to be used at the Sault will be capable of refining only ferro-nickel, while the nickel exported in large quantities to New Jersey from Sudbury is what is known as copper nickel; in the second place, the prohibition of the export of nickel matte will keep American capital out of the country that would otherwise be in-

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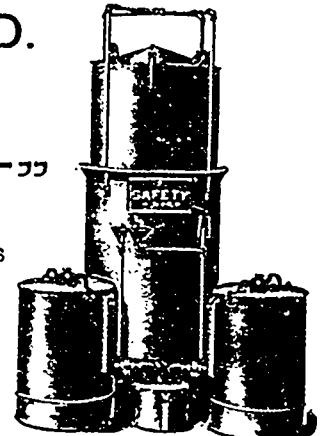
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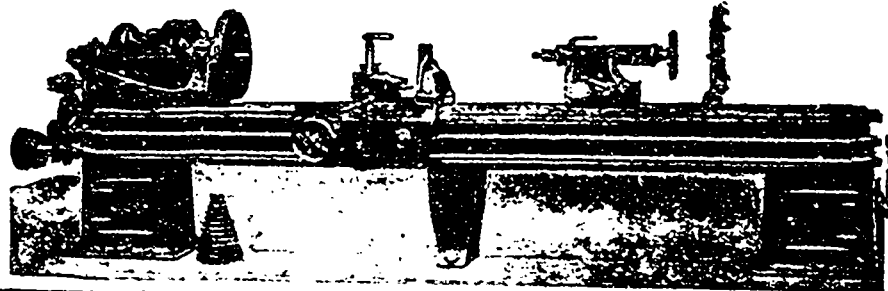
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vested in the acquisition of nickel properties.

THE MOVING SPIRIT.

Industrial New Ontario, both possible and actual, were well outlined by F. H. Clergue, the moving spirit in the new enterprises at the Sault, in a recent address before the Toronto Board of Trade. Clergue is a man of most comprehensive mind, and in an address of 10,600 words unfolded to his hearers a plan of industrial development of vast proportions. The first step was the harnessing of the water power at the "Soo" and next the construction of a pulp mill which is the largest of its kind in the world. At present a sulphite fibre mill is under construction with an accessory plant for the recovery of sulphur from the ores of Algoma.

Nearly all of these ores are sulphides and Mr. Clergue set about and succeeded in devising a method for extracting the sulphur from the ore. The sulphur, of course, was merely the by-product of the ferro-nickel and copper-nickel ores in which it occurred; and thus there will follow naturally the establishment of works for the manufacture of nickel and iron.

After extracting the sulphur the nickel and iron were found in such a natural state of union that when smelted and reduced they produced an alloy of almost unequalled utility. This led to the projection of ferro-nickel works. Later there will follow chemical works for the production of sodium to be used in refining the nickel and copper constituents of the ore. The marketable by-products will be numerous. Iron ore lands are being developed, including the

Holm hematite deposit in the Michipicoton district, and a railway, the Algoma Central, is being built to connect the raw material with the power at the "Soo." A branch of twelve miles of this railway in the iron ore district has already been constructed and its main line will eventually join the Canadian Pacific at Missinable. Subsidies from the Dominion Government will, of course, be granted for nearly all the mileage of this railway. A land grant of 6,400 acres per mile is also being sought from the Ontario Government. In England ships are being purchased and built to move to the ore markets such ores as cannot be consumed in the furnaces at the Sault. During the winter these vessels will be used in the Atlantic trade. Clergue is planning everything upon a gigantic basis.—Cleveland, Ohio, Marine Review.

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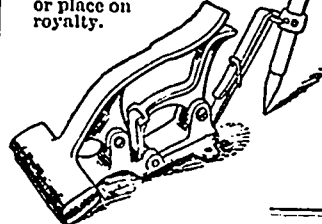
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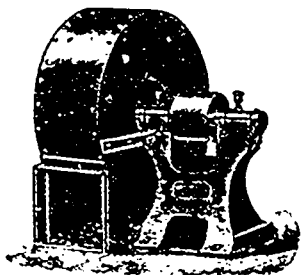
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The air volumes recommended for ventilation by various investigators of the past century show a constant increase in their quantity as the years progress. As good ventilation is only a relative term, depending largely on one's experience and the possibility of improvement, it must be evident that perfect ventilation in the broadest sense can only be secured in the open air. It is, therefore, the province of ventilation to approach as near this perfection as the means and the expediency will permit.

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a basis or limit which will meet the approval of those upon whom is placed the responsibility of enforcing these laws. Under the law as first passed in Massachusetts, the attempt was made to secure fifty cubic feet per head per minute, but it was soon discovered that such provision would necessitate the remodelling of practically every building in the State. Therefore financial outweighed all other influences, and the limit was dropped to thirty cubic feet, a figure adopted not because of hygienic deductions, but because it appeared upon investigation to be the practical limit attained by existing methods in the commonwealth.

This basis of thirty cubic feet has been very generally adopted throughout the country, and is to-day recognized as the minimum volume to be provided in any system of ventilation worthy of the name. As the

benefits of good ventilation are still further recognized, and the ability of the fan to provide practically unlimited volumes of air is better appreciated, this limit will gradually rise, until we may one day witness the compulsory provision of air for the purpose of ventilation in such volumes as to render further improvement of no practical benefit. —Treatise on Ventilation and Heating. B. F. Sturtevant Co., Boston, Mass.

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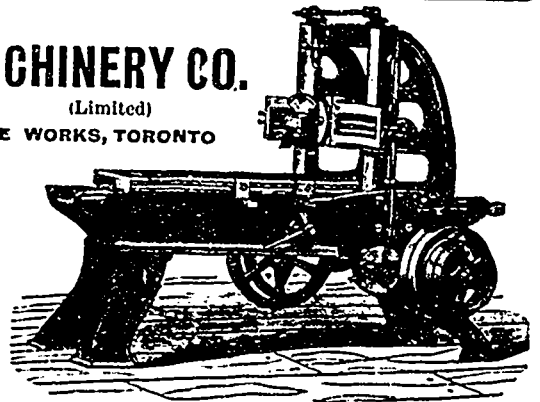
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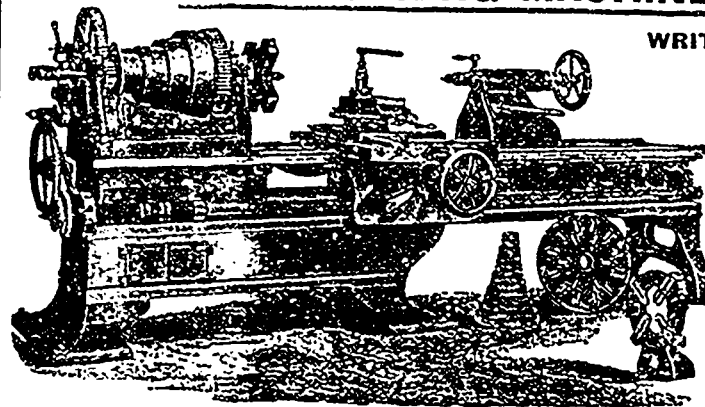
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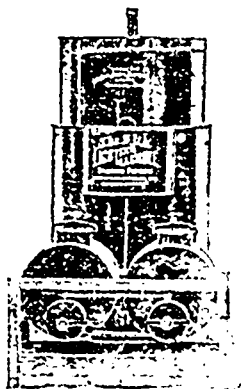
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shafting with extension tabulated lists of weights per foot of all the various sizes used, as well as tables showing the horsepower transmitted by the different sizes at all speeds. Many up-to-date shafting couplings of the latest types are also illustrated, also improved set collars, safety pattern; a most complete line of the Dodge Co.'s new ball and socket adjustable hangers, open side, and with all the most modern self-oiling types of bearings, including the capillary, ring oiling and chain oiling improvements. The Dodge Co.'s system is to stock this hanger in all drops for immediate shipment.

There are also illustrated a wide range of self-oiling bearings for all mill purposes, adjustable floor stands, belt tightners and the Dodge patent split friction clutch pulley and clutch coupling. They also show something entirely new in a clutch pulley as small as for one h.p.

The Dodge system of rope driving is well illustrated in many forms. The Dodge Co. are now thoroughly equipped for the manufacture of iron ground rope wheels.

The work also includes complete and handy tables and lists covering link chain and sprocket uses, as well as many of the company's specialties for grain elevator work. A feature of the work is the complete dimension tables appended making it invaluable to mill architects and superintendents laying out plants, a full line of pulleys of all kinds, including up-to-date patterns in cast iron pulleys, special iron centre wood rim pulleys, as well as the celebrated Dodge wood split pulley, which the company controls the manufacture of in Canada.

The Dodge Co.'s B. 6 catalogue for 1900 will, we are sure, be welcomed by every mill and factory man in Canada, and we are told will be mailed free on application.

NEW ONTARIO.

Mr. Arthur White, the divisional freight agent of the Grand Trunk, who has been travelling through the district, says there has been a marvellous improvement throughout the Georgian Bay region since the spring of 1898, brought about by the log policy of the Ontario Government. Every lumber mill along the route has been equipped with the latest improvements, several new mills have been erected, and both the old and new mills are nearly all running night and day, supplying their own electric light, the whole region now having become a scene of renewed activity and prosperity.

The total quantity of lumber expected to be cut is about 235,000,000 feet this year, this only embracing the mills from Parry Sound north to Richard's Landing, on the

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Sault Ste. Marie River. The logs for this cut were all safely secured and drawn to the streams tributary to the bay, but the unusually rapid shrinkage of the creeks and streams has caused quite a considerable quantity of these logs to be hung up in the woods, and unless the customary June rains are exceptionally heavy they will be unable to bring quite a percentage of their logs to the mills this year.

The copper industry at Parry Sound does not appear to be developing itself as rapidly as was anticipated. Renewed energy has been thrown into the copper works at Bruce Mines. A strong company is being formed, and it is now anticipated that the result will be a large and profitable yield.

Sault Ste. Marie shows the most remarkable improvement and signs of prosperity. Large pulp, paper, iron, carbide, alkali,

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factories and lumber and nickel steel mills are in working order or under progress. Mr. White had a personal opportunity of verifying every detail of the various industries of Mr. F. H. Clergue, discussed at the Toronto Board of Trade, as in progress at Sault Ste. Marie, and he is of the opinion that Mr. Clergue's representations were exceedingly modest compared with the results to be seen. The Algoma Central Railway has already constructed and in operation a division of its system running from Michipicoton Harbor to the Hollen mines, where it taps a mountain of the purest hematite brown ore, calculated to contain many million tons. This ore is being mined for smelting at Sault Ste. Marie, Midland, Hamilton, Deseronto, and also at Collingwood when smelters are put up at the latter point.

Another branch of the Algoma Central Railway is being constructed from a point near Sudbury, tapping the nickel belt of the district with a view of supplying the nickel ore via the C. P. R. to the smelting works and rolling mills at the Soo, and to the smelting works on the Grand Trunk Railway system from Little Current by water to the ports of Midland and Collingwood. The main line of the Algoma Central Railway is under construction and twenty-five miles of it will be completed by July 1, 1900, and an additional 100 miles before the opening of navigation next year. This line traverses through one of the best portions of New Ontario, and there are already being erected on its right of way large lumber mills to saw both hard and pine lumber. It will bring to the pulp and paper mills at Sault Ste. Marie the almost unlimited supply of pulpwood in the vicinity, and also bring down for reduction purposes the nickel and other ores found in the vicinity of the country it passes through. These vast enterprises will undoubtedly quickly populate New Ontario.

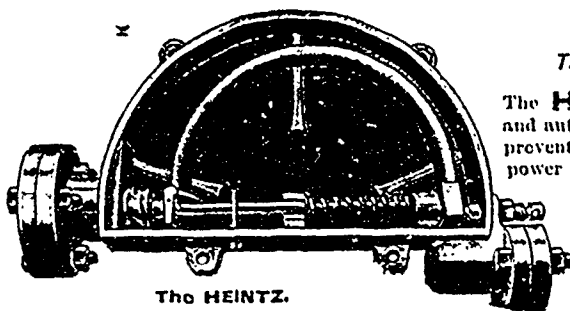
The fishing industry on the Georgian Bay is reported, so far as they have gone this

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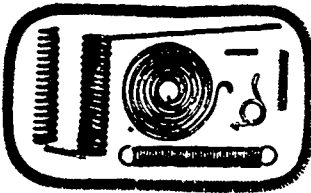
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year, as being above the average catch. The fish is being sent principally to the markets of Buffalo, Detroit and Chicago. Throughout the entire Georgian Bay district and such portions of New Ontario as Mr. White visited there appeared to be an air of prosperity and contentment. Mr. Clergue being evidently the leading spirit in New Ontario.

CANADIAN CLOTHING FOR SOUTH AFRICA.

The awarding of a contract to a Hamilton firm for the manufacture of 30,000 suits of uniform for the British soldiers in South Africa is a fact of more than usual significance. That we have in Canada a firm that is able to turn out 500 complete suits of clothing per day speaks volumes for Canadian enterprise. Once having gained recognition in South Africa in the ready-made clothing line the Canadian firm engaged in that and cognate business ought to make an effort to establish a permanent clothing trade in South Africa. The wide-awake business men of the United States are already laying out plans for invading South Africa as soon as peace is restored. A Philadelphia exchange advises those engaged in the clothing business in the United States to co-operate with a view to obtaining a footing in South Africa. As soon as the war is over there will be a tremendous demand not only for clothing but for nearly every other manufactured article in South Africa. In order to get a grip on some of this trade, American clothing houses turning out different lines of goods are advised to co-operate and share the expense of sending a competent representative to spy out the land. The advice given to the American clothing firms ought to be taken to heart by the business men of this country. One firm might not be able to bear the expense of sending a representative to South Africa, but several might easily combine to share the cost. There are many articles of clothing in the manufacture of which Canada can successfully compete even with Great Britain. We certainly ought to be as able to compete in South Africa in ready-made clothing as the United States. In the course of a few years we will have three great colonial confederacies attached to the Empire—Canada, Australia and South Africa. It may be difficult for the colonies to establish a reciprocal preferential tariff with Great Britain, but there is nothing to prevent the putting in force of such a tariff between the colonies themselves. The confederated colonies are not wedded to free trade ideas. We will not be surprised if some scheme of preferential trade between Canada, Australia and South Africa may be agreed upon as soon as the Australian Confederacy is established and South Africa is consolidated into a great British dominion. If the colonies are banded together for mutual protection, why should they not be banded together for mutual trade?—The Toronto World.

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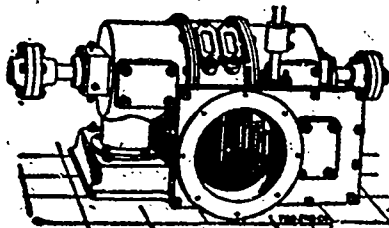


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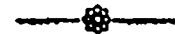
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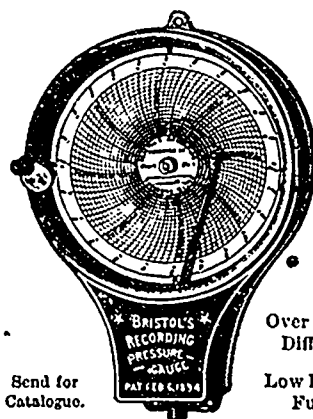
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