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CANADIAN MANUFACTURER
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Vol. 35.

TORONTO, SEPTEMBER 3, 1897.

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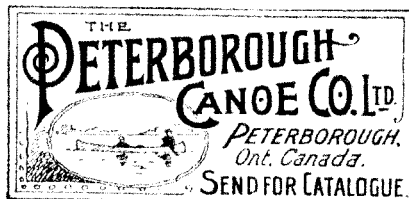
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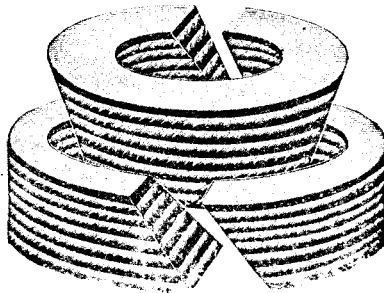
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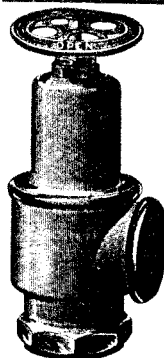
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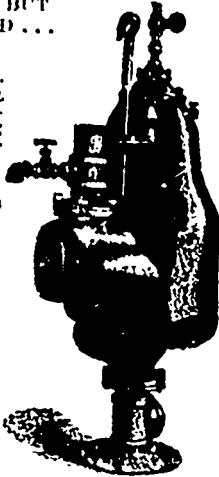
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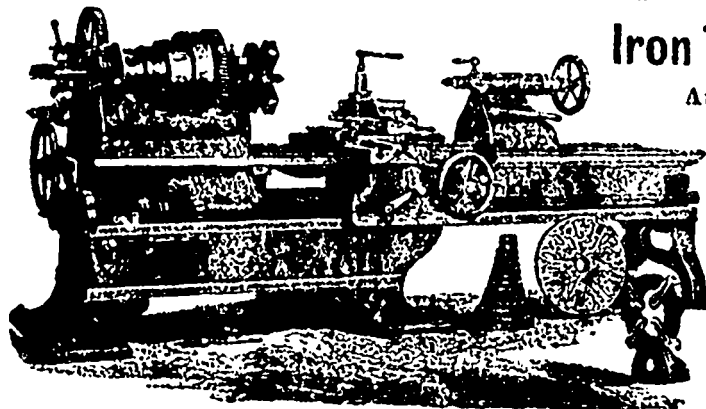
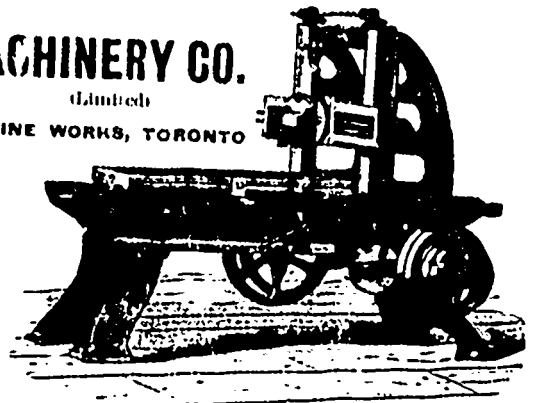
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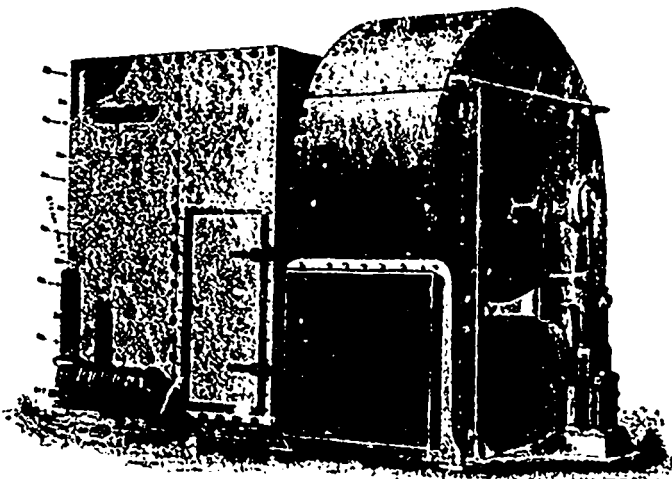
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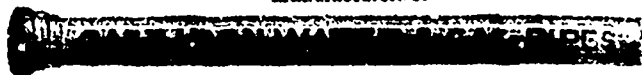
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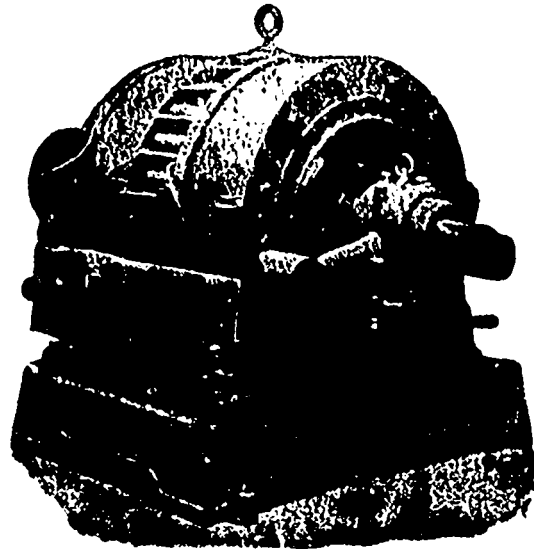
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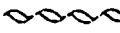
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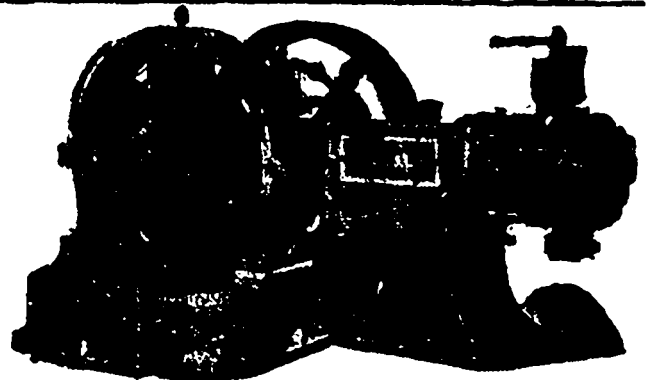
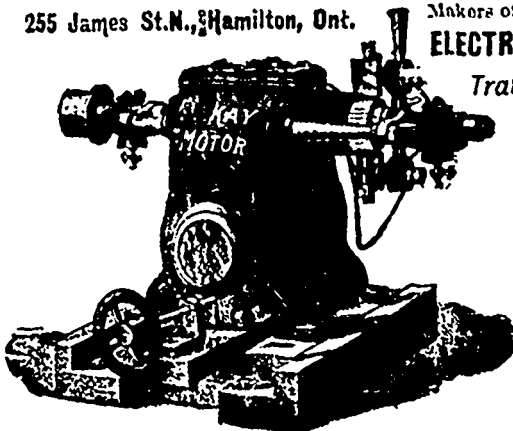
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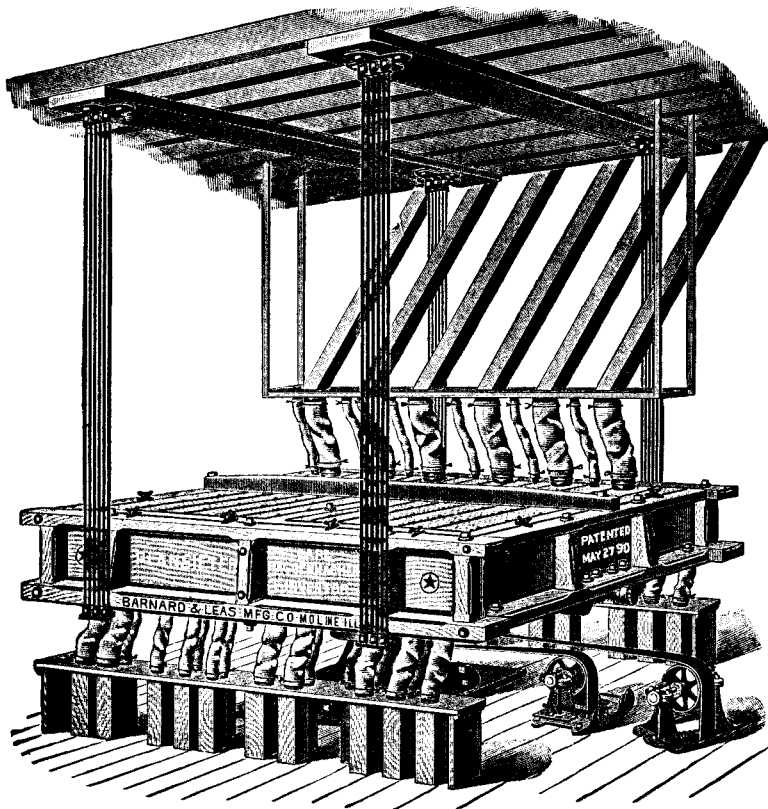
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Wray & Hawkshaw, Lucan	50
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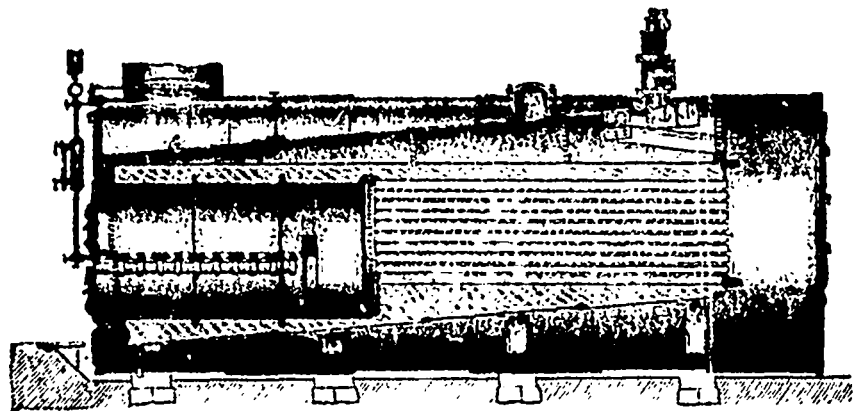
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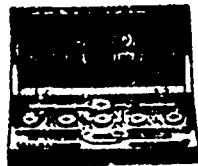
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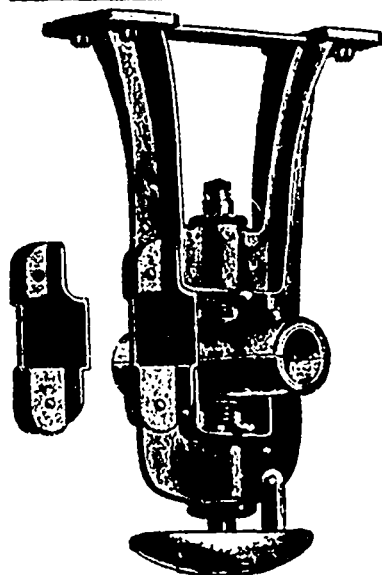
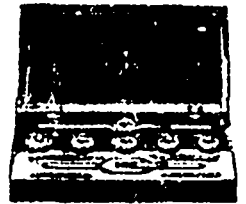
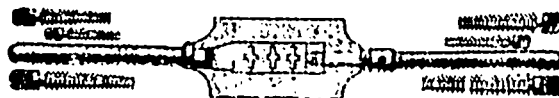
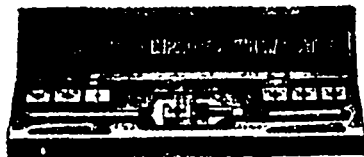


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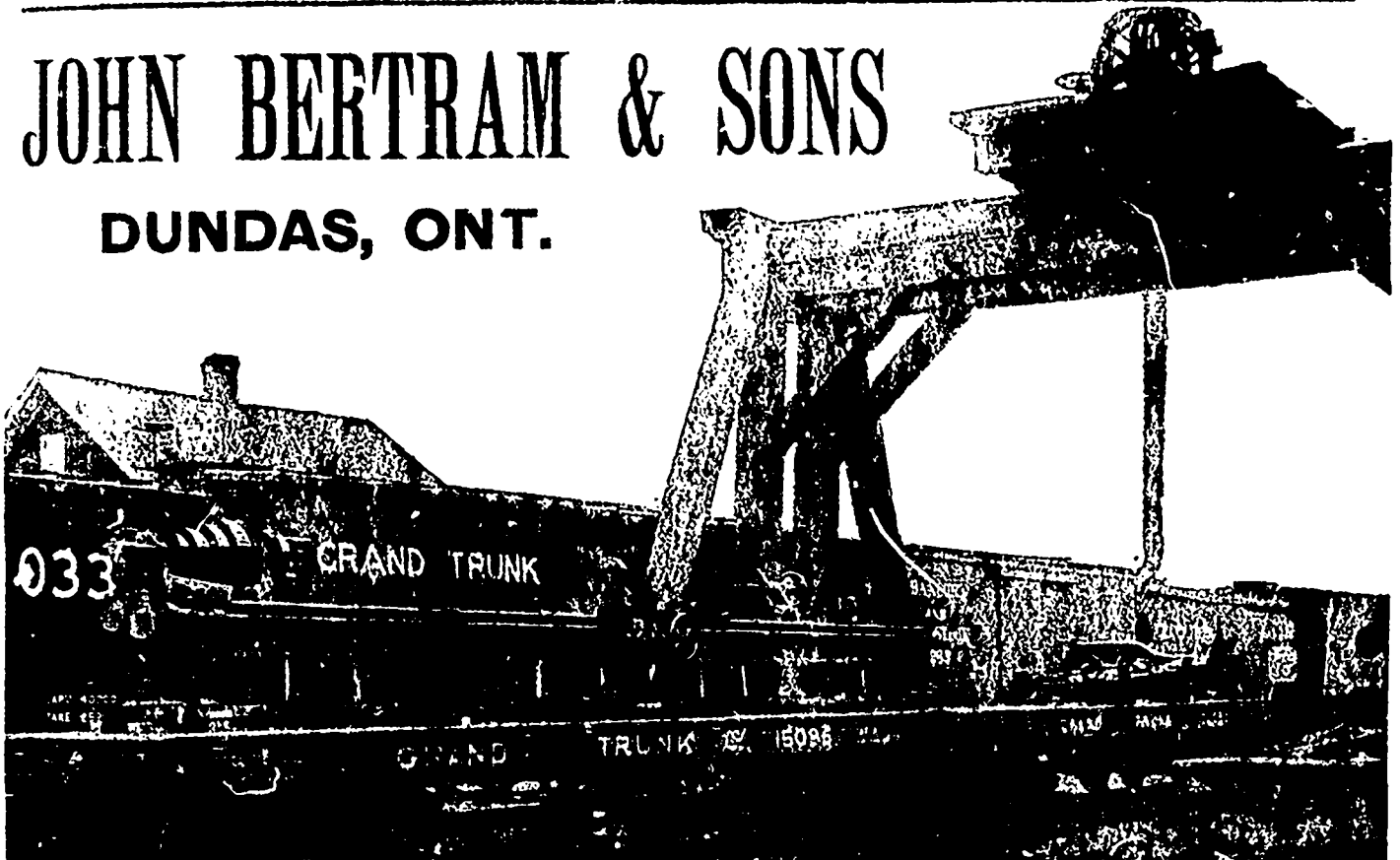
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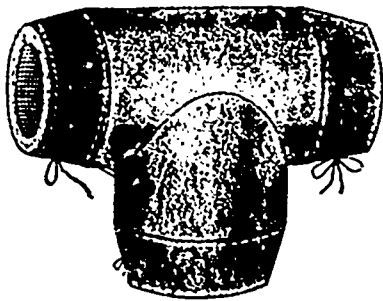
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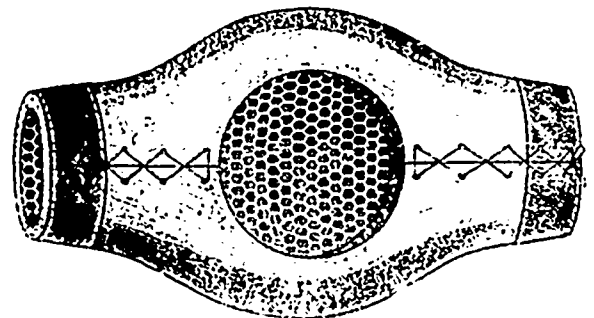
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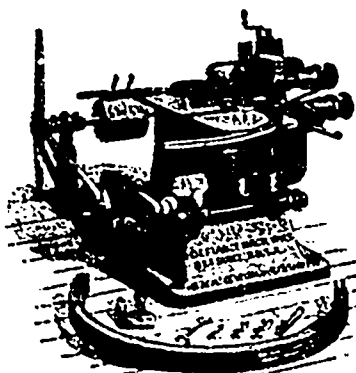
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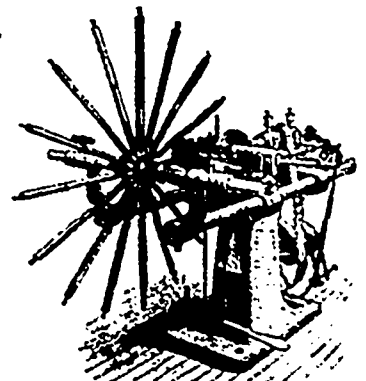
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ADVERTISING RATES:

\$12.00 Per Column inch per year; Thirty inches to Page.

The Canadian Manufacturer Publishing Co, Limited.

McKinnon Building, Cor. Melinda and Jordan Sts., Toronto.

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NOTICE:—Although we printed an unusually large number of copies of our Tariff Edition, the demand for them has been so great that our supply has become nearly exhausted. The remaining copies will be sold to present subscribers only, at twenty-five cents each; and sent as a premium to new subscribers who send us one dollar for a year's subscription to THE CANADIAN MANUFACTURER.

OUR TARIFF EDITION

The tariff edition of THE CANADIAN MANUFACTURER, published on August 6th, which contained the full texts of the 1897 Canadian Tariff, the 1897 United States Tariff, the British Tariff, the Newfoundland Tariff, and the British Merchandise Marks Act, was received with very great favor by every one into whose hands it came. Some of the expressions regarding it are as follows —

The Hamilton Blast Furnace Co.: We congratulate you upon your ability and enterprise in issuing such a valuable edition of THE CANADIAN MANUFACTURER as that of August 6th. The thanks of all commercial people are due you.

The Metallic Roofing Co., Toronto. We find the Tariff Edition of THE CANADIAN MANUFACTURER of August 6th most conveniently arranged for reference, and think your enterprise in publishing it very commendable. It will be highly appreciated by all those who are fortunate enough to receive a copy of it.

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The American Watch Case Co., Toronto: The Tariff Edition of THE CANADIAN MANUFACTURER is not only highly creditable to your enterprise, but practically invaluable to every merchant or manufacturer having business with Her Majesty's Customs. We congratulate you upon its success.

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Messrs. Parke, Davis & Co., manufacturing chemists and druggists, Detroit, New York, Kansas City and Walkerville: We take pleasure in complimenting you upon your thoughtfulness in publishing the tariffs contained in your Tariff Edition. The publication should be of great assistance to the merchants and manufacturers of the Dominion.

The Dominion Dyewood & Chemical Co., Toronto: We are sure the Tariff Edition of THE CANADIAN MANUFACTURER will be very much appreciated by all your subscribers. We compliment you upon your enterprise in putting such information into such convenient and practical shape. We hope the venture will bring you the return it deserves.

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Messrs. Stevens, Hepner & Co., manufacturers of brushes, brooms, etc., Port Elgin, Ont.: We thank you for the Tariff Edition, and take pleasure in acknowledging our appreciation of it. We consider that as a ready reference book its value cannot be over estimated.

In a future issue we will have pleasure in reproducing many more of the kind expressions of our friends regarding our Tariff Edition.

SMASHING CANADIAN INDUSTRIES.

A few months ago The Montreal Herald, urging the importance of the Canadian consumer using, as far as possible, home made goods in preference to those of foreign production, said:—

The situation aptly illustrates the distinction between the policies of the Liberal and Conservative parties. It is all the difference between "may" and "must." It has been the object of the Conservative party in the past, through its policy of high protection, to force the consumer to patronize the home manufacturer, whether he would or not, and whether the goods were good or bad. The result has naturally been

the establishment of a false basis of trade, with all its accompanying evils of ephemeral enterprises, periodical over-production, and continuous customs frauds. The policy of "must" has proved a failure, and has brought its own reward. The idea that it was the intention of the Liberal party to smash Canadian industries as soon as they had a chance has been exploded, if it was ever seriously entertained. On the other hand, it appears to be the desire of the Liberal Government to foster every industry that can be carried on without injustice to the remainder of the community. It should be the endeavor of every Canadian to second their efforts in that direction. There is no discredit to the words "home-made;" they sound far better than the "made in Germany" which shows up so often. Canadian goods have already, in many lines, made the influence of their quality felt in open competition with those of other countries. It now remains with Canadians themselves to show, by their patronage, their faith in the skill and labor of their own country.

In the light of events that have transpired since the foregoing was written, our esteemed contemporary should explain. It tells us that it never was the intention of the Liberal party to smash Canadian industries, but it is observable that as soon as that party came into power, under a plea that it was giving preferential tariff advantages to Great Britain by a twenty-five per cent. remission of duties on merchandise coming from that country, it opened the door to the same preference to merchandise coming from more than twenty other countries with which Great Britain had "favored nation" treaties. The general reduction of duties effected in the new tariff was a heavy blow to the manufacturing industries of Canada; and this was greatly aggravated by the so-called preference to British products. Conceding something to Great Britain through patriotic or sympathetic motives, and the blow to the manufacturers was severe enough in all conscience; but when that patriotic blanket is required to be stretched so as to cover nearly the whole world, it is resolved with a mass of shreds and tatters ridiculous to behold.

It may be that The Herald believed that it was speaking truthfully both for itself and for its party when it asserted that it never was the intention of that party to "smash" Canadian industries; but events show that the Government, put in power by that party, either knew that it intended to engage very vigorously in the smashing business, or the conviction is irresistible that they were unable to measure the results to flow inevitably from the laws they were enacting. If the Government, consisting of the wisest and greatest statesmen of the Liberal party, made a law which, as they and The Herald declared was not intended to injure the manufacturers, and was to apply to Great Britain only; and if, as has been proved, that this law applies to nearly every nation on earth; and if, as has been proved, that no special preference has been shown to Great Britain, although that supposed preference was the sugar that coated the pill that the manufacturers and the Canadian people generally were obliged to swallow, the conclusion is obvious that the Government either were not wise enough to comprehend what the effects of the law would be that they were passing; or that it was their deliberate intention to lull the people into a feeling of security, the awakening from which would find them bound hand and foot and being led captive at the tail of a free trade chariot.

Ignorance is to be deplored, and all the more when displayed by those who rule over us, and is not an evidence of fitness for office. Duplicity is infinitely worse. Excuses may be made for those who are ignorant, but none whatever for the dishonest.

FAITH IN CANADIAN SKILL AND LABOR.

It is the desire of the Liberal Government to foster every manufacturing industry that can be carried on without injustice to the remainder of the community. It should be the endeavor of every Canadian to second their efforts in that direction. It remains with Canadians themselves to show by their patronage, their faith in the skill and labor of their own country.—Montreal Herald.

The method adopted by the Liberal Government to foster the manufacturing industries of Canada was, first, to greatly reduce the duties upon such articles as Canadian manufacturers produce; second, by enacting a law by which merchandise produced in Great Britain should come in at a reduction of twenty-five per cent. from this reduced duty; third, that the merchandise of more than twenty other countries besides Great Britain should be allowed to come in at this greatly reduced, or so-called preferential duty. That's the way the Liberal Government of Canada shows its desire to foster Canadian manufacturing industries.

And this, too, we suppose is the method of fostering so that there be no injustice done to the remainder of the community. The manufacturer, as a unit, is a very large and important integer of the Canadian community, and considering the way in which this importance is magnified by the army of employees and of those dependent upon them, it will be found that, by the law of interdependence, the welfare of the whole community must be affected either for good or bad by anything that affects the manufacturer and his employees. If the laws of the country favorably affect the manufacturer they also favorably affect the whole community; if the laws antagonize the interests of the manufacturer, by the same token they injuriously affect the masses of the people.

We are told, too, that it should be the endeavor of every Canadian to second the efforts of the Government in their desire to foster our manufacturing industries. To this proposition we would most heartily agree if it could be shown that the Government were using any endeavors whatever in this direction, if it could be shown that the endeavors that they have already put forth were not calculated, if not intended, to utterly destroy the manufacturing industries of Canada, or to so emasculate them as to render them of but little value. It is not a good way to support an enterprise by removing all support from it.

It is superfluous for The Herald to tell us that it remains with Canadians themselves to show by their patronage their faith in the skill and labor of their own country. The people of Canada have been showing this faith for the past eighteen or twenty years, and would be showing it to-day in a most practical manner had it not been for a side wind that placed the Liberal party in power. Without doubt the people of Canada are now as much attached to the theory of tariff protection as they were when Sir John Macdonald first swept the country with his invincible National Policy. The Liberal party did not accede to power upon any demand of the people for an abandonment of protection, an evidence of which was shown when Sir Wilfrid Laurier assured the manufacturers of Brantford that if elected he would see to it that their interests would not suffer. And yet we see this same Sir Wilfrid returning from abroad happy in the possession of a Cobden Club medal. The prosperity that has so generally attended Canadian manufacturing industries is an evidence that the Canadian people had, and still have, the utmost faith in the skill and labor of their own country.

SIR WILFRID LAURIER'S BRANTFORD PROMISE.

On the second day of February last a great political demonstration occurred at Brantford, Ont., held in the interest of Mr. C. B. Heyd who was then aspiring to election as Member of Parliament for the riding of South Brant. The meeting was addressed by Hon. Mr. Laurier, Hon. A. S. Hardy, Premier of Ontario; Hon. Wm. Patterson, Controller of Customs, and others. Mr. Hardy, in his speech, said that Ontario was in love with Mr. Laurier, and looked upon him as the ideal of what a Canadian statesman should be.

Mr. Laurier at the very beginning of his speech went into a discussion of the trade policy of the Liberal party during which he made the following declaration:—

One thing is clear to me, though a protective tariff in my estimation is never conducive to the welfare of the people at large, I am aware that under a protective tariff industries have been built up in which capital has been invested, and if you are to proceed hastily and without due regard it will be possible by a stroke of the pen to wipe out millions of dollars invested in these industries. It will be possible to do that; so that a man who retires to bed well off at night, may awake and find himself a pauper. We do not want to do anything of the kind, and that is the reason why we are obtaining information, so that when the day comes when we shall have to give to the consumers of the country that measure of relief to which they are entitled, and which we have promised to them, we shall do so without injury in any way to established industries. That is what we want to do, and though Mr. Foster may sneer at and taunt us, I ask him if he thinks he could revise the tariff in any other way than this.

How Mr. Laurier's policy, and the tariff that eventuated from it, has departed from the lines laid down in this Brantford speech, the history of the events that have occurred since then quite fully records. As the Premier truly said, under the National Policy that had prevailed in Canada for eighteen years, millions of capital was invested in manufacturing industries that any hasty or ill-considered legislation might, by a stroke of a pen, wipe out of existence, so that a man who retired to bed well off at night might awake in the morning to find himself a pauper; and that sort of legislation, he said, he and his Government would be careful not to enact.

But things have changed since this Brantford declaration. What he then asked for, and what his oratorical companions asked in his behalf, was the confidence of the people that in the formation of the tariff that was then being prepared, whatever shape it might assume, it would contain no feature injurious in any way to the established industries of the country. The country, then, had good reason to suppose that this promise would be lived up to.

At the following session of Parliament the tariff was perfected and presented to the gaze of an admiring world. In it was an abandonment, as far as possible, of specific duties that trust and best safeguard against undervaluation and fraud upon the revenue. In it, as far as possible, every feature of protection to Canadian manufacturing industries was abandoned. In it was a special proviso by which a reduction of twenty-five per cent. was to be made in duties on British merchandise. This latter feature, we were told, was to be made from purely patriotic motives—a discrimination in favor of the Mother Country, to be participated in by no other nation. It is difficult to see how this twenty-five per cent. discrimination, even if made in favor of Great Britain alone, could have any other than an injurious effect upon

Canadian manufacturing industries, but it was in the nature of a coating of sugar to render it palatable to the people.

Did Mr. Laurier and his Government really know what they were doing when they introduced this discriminatory clause in the tariff? If they knew they were false to the Brantford promise, and to scores of similar promises made in other places. If they did not know what they were doing they should never have been entrusted with the reins of Government. When submitted to the crucial test of the Home Government it was discovered that because Great Britain was in treaty with Belgium and Germany, in all British possessions the same tariff duties applying to British merchandise should also apply to Belgian and German merchandise; and that Canada must of necessity admit both Belgium and Germany to the benefits of the preferential clause of our tariff. The Brantford promise to the contrary notwithstanding, the Government was forced to admit the merchandise of these foreign countries at the very same rates of duty accorded to Great Britain.

This was a bad realization of a sacredly made promise, but upon further investigation it is discovered that not only Belgium and Germany, but every other nation with whom Great Britain has treaties which include what is known as the "favored nations" clause, Canada must concede the same tariff favors that are extended to Great Britain. These foreign countries are:—

Algeria.	Madagascar.
Argentina.	Morocco.
Austria-Hungary.	Muscat.
Belgium.	Persia.
Bolivia.	Russia.
Chili.	Salvador.
Colombia.	Spain.
Corea.	Switzerland.
Costa Rica.	South African Republic.
Denmark.	Sweden-Norway.
Dominica.	Tonga.
France.	Tunis.
Germany.	Uruguay.
Liberia.	Venezuela.

So that the so-called preferential tariff that Mr. Laurier told us was to apply to Great Britain only, and that on patriotic and sentimental grounds, must, of necessity, apply to some twenty-eight other nationalities.

And this is the way the Brantford promise is kept.

HOW OUR TARIFF DISCRIMINATES.

A few days ago the Government at Ottawa passed an Order-in-Council giving the so-called "British preference" in our tariff to the following countries:—

Argentina.	Norway and Sweden.
Austria.	Russia.
Bolivia.	Persia.
Colombia.	Tunis.
Chili.	Venezuela.
Denmark.	

This preference, we were told when it was being placed in the tariff, was to apply to Great Britain only.

Then it was extended to Belgium and Germany.

Then it was accorded to France and Algeria.

Then it was made to include the dozen countries above enumerated.

And there are more to come, which will include almost every nation on the face of the globe.

The British flag waves over many other countries than Great Britain, and it might reasonably be supposed that, if Canadian tariff favors of a preferential character were to be bestowed upon every foreign country, they should also be conferred upon all British countries and possessions, but, strange to say, nothing of the kind is done, with the exception of New South Wales, that practices free trade. All British possessions, as below enumerated are liable to pay the higher rates of duty upon their imports brought into Canada; and thus we see that our tariff discriminates against some thirty-seven British countries and in favor of some twenty-eight foreign countries.

The British countries against which our tariff discriminates are:—

Ascension.	Jamaica.
Bahamas.	Leeward Islands.
Bermudas.	Lagos.
Basutoland.	Mauritius.
British Boshuanaland.	Malta.
British Honduras.	Newfoundland.
British Guiana.	Natal.
British New Guinea.	New Zealand.
Borneo.	Nige: Protectorate.
Cape of Good Hope.	Queensland.
Ceylon.	South Australia.
Cyprus.	Straits Settlements.
Falkland Islands.	Sierra Leone.
Fiji.	Tasmania.
Gambia.	Victoria.
Gibraltar.	Western Australia.
Gold Coast.	Windward Islands.
Hong Kong.	Zululand.
India.	

A notable feature of the so-called British discrimination in our tariff is that the imports from these favored foreign countries into Canada must, to enjoy the discrimination, be brought directly from the country of production; but if they should come by way of Great Britain, in British ships, the preference is not given.

Great Britain does most of the carrying trade of the world. A French ship may load with French merchandise at a French port, and when bringing her cargo to Canada will enjoy the favors of our preferential tariff; but when a British ship takes the French merchandise first to a British port and transfers it to another British ship, the cargo pays the full rates of duty, no preference whatever being allowed; and that is how our British preference tariff discriminates against British ships and British trade.

A contemporary sizes up the situation as follows:—

Some of these discriminations are ridiculous. For example, Newfoundland takes a good deal of our produce—flour, potatoes, cattle, and so on; but Norway and Sweden take nothing, and, as a matter of fact, come into serious competition with us on the British market. Our Government lays a discriminatory duty upon Newfoundland products, and gives Norway and Sweden a preference. France is carrying on a war against Newfoundland fish in the interests of St. Pierre and Miquelon. We discriminate against Newfoundland and give St. Pierre and Miquelon, as colonies of France, better terms than we accord to our fellow-subjects. Newfoundland is already agitating for the ratification of the Bond-Blaine treaty, which gives the United States a tariff preference over us in the markets of that colony. This is not a matter for surprise under the circumstances. Venezuela, the republic

that made the anti-British demonstrations on the boundary question and nearly precipitated a war between Great Britain and the United States, gets a tariff preference from us; but British Guiana, next door, has to pay the high duties. Oom Paul, in the Transvaal, is also entitled to a preference if he sends us anything, but Natal and the Cape Colony have to pay the high rates. We will, it seems, take anything Argentina has to sell at the lower duties; but when it comes to the Australian colonies we promptly discriminate. A number of the British possessions are sugar-producing countries—the West Indies, for instance. Mr. Fielding has taken good care that they shall not come in on reciprocal terms under any circumstances; for his tariff declares that there shall be no low or reciprocal rate for sugar. We decline to take British sugar at a lower figure than the sugar of the Spanish colonies. As a matter of fact, we give Spain and her colonies a tariff preference on everything but sugar, as, for example, fruits, but the same articles coming from British possessions must pay the heavier duty. It will be observed that our discriminations take the form of low duties to foreign countries that will send in manufactured articles to compete with and to injure our industries, and of high duties to British countries which export natural products such as we do not grow, and which, but for these high duties, would send us their products and take from us ours in exchange. It is a dreadful tangle. True, it will only last for a year; but when the year is up a new set of complications will arise. As one batch of foreign countries drops off the low tariff list another batch will come on, and the British section will remain out as before.

TARIFF PROTECTION NECESSARY.

Speaking of the lumber business The Montreal Herald says: "Or shall we treat the example of the United States as unworthy of imitation, recognizing that it is the outcome of a selfish, narrow and dangerous spirit—indicative of a demoralization of public opinion and of a lowering of national dignity?" Never mind the United States or the example of that country. Common business sense teaches that when one has a good thing he should keep it and make the best of it.—Hamilton Spectator.

This we take to mean that The Spectator thinks it is common business sense for Canada to put an export duty on her wheat in order that it may be ground into flour in this country, her wool so that it may be spun and woven in this country, her ore that it may be smelted, her fish that they may be cured, her barley that it may be malted. If not, why not; where's the difference?—Montreal Herald.

The Herald fails to catch on. The reason why The Spectator advocates placing an export duty on round logs is that the only country to which Canada can conveniently export round logs—the United States—is deficient in that article and can obtain it from no other source as well as from Canada, while, at the same time, that country imposes a heavy duty upon lumber manufactured from logs. This is done, first, to prevent the free competition of Canadian with American lumber in the markets of that country, and, second, to make Canadian lumber contribute to the revenue of the United States.

The case is very different as regards the other articles The Herald alludes to. While it might be desirable to have all the wheat grown in Canada manufactured into flour here at home, Canada does not enjoy a monopoly in wheat growing, and, therefore, cannot command the situation as in the case of saw logs; and as regards wool the situation is entirely similar. But Canada does enjoy a virtual monopoly of the production of nickel, and, therefore, it is entirely feasible for

us to impose an export duty upon nickel ore and matte with a view to forcing the refining of the article here at home. Every important nation of the world is a large consumer of Canadian nickel, especially for the manufacture of armor plates for war vessels; and the United States is a very large consumer for that purpose. That country admits Canadian nickel ore and matte free of duty, but imposes a heavy duty upon the refined article; and this is done to build up the nickel refining industry in that country. As with saw logs so it is with crude nickel. The United States requires large quantities of both these articles, and is very deficient in the production of them. And while our neighbors are compelled to depend so largely upon Canada for their supplies they will not allow Canada to send to them either of these articles in a finished condition except upon the payment of almost prohibitive duties. They desire to make Canada bear a relation to the United States precisely similar to that borne by the Children of Israel to the Egyptians in the olden days—simple hewers of logs and diggers of ores, for the aggrandisement of their country and the humiliation of ours.

The theory of *The Herald* is that if our Michigan neighbors prefer to purchase our saw logs to cut into lumber in their own mills, why let them have them, even if Canadian mills are idle; that if the United States prefer to have the nickel for the armor plates of their war ships refined in that country in preference to purchasing the article refined in Canada, why let it so be. These arrangements would not be so objectionable were it not that that country goes as far as it can to exclude Canadian lumber and refined nickel from its market, the products of a country upon which they are so entirely dependent for these articles.

Heavy export duties should be imposed upon saw logs and nickel ore and matte, and pulp wood also, when going to any country that imposes heavy duties upon Canadian lumber, Canadian refined nickel and Canadian wood pulp.

The *Herald's* theory of give away and take nothing is not adapted to the necessities of Canada. It is the observing of this theory that has prevented the materializing in Canada of vast enterprises such as steel works, rail mills and nickel and gold refineries; and this country can never attain to the industrial independence that should characterise it until the obsolete free trade policy is entirely abandoned and tariff protection to manufacturing industries carried out to its fullest extent.

EDITORIAL NOTES.

An important decision has been rendered by the Department of Justice as to the scope of the provision in the new tariff law placing a discriminating duty of ten per cent. upon certain merchandise transported in other than American vessels. The decision was requested by the Secretary of the Treasury, who asked whether a discriminating duty of ten per cent. should be levied under section twenty-two on diamonds the product of a foreign country not contiguous to the United States and imported from Canada, and whether, in determining the liability of the diamonds to the discriminating duty it was material to ascertain the mode of conveyance used in transporting them into the United States. The Attorney General has answered the first question in the affirmative and the second in the negative. In reference to the second question the Attorney General said that in deter-

mining whether the goods under consideration were subject to the discriminating duty it was not material to ascertain the mode of transportation or method of importation, but that it was sufficient to know that they "come into" the United States from a contiguous country, and are within a class subject to duty, being the production or manufacture of a foreign country not contiguous to the United States and not being imported in the usual course of strictly retail trade.—Bradstreets.

Canada has begun to take means to enforce the alien labor laws against Americans. Commissioner McCreary this week informed the Canadian Pacific authorities that any American laborers engaged for railroad work would be deported to their own country again. The Commissioner has instructions from the Canadian Government to strictly enforce the new law. This is exactly what might have been expected from the paltry and ill-advised measures taken at some of the lake ports, and it is quite within the bounds of possibility that the next step the Dominion authorities will take is to debar American sailors from shipping on any of their vessels where or when Canadians are obtainable.—Marine Record.

An order in council has been signed by Lieut.-Governor Kirkpatrick confirming the action of the Ontario Cabinet in their decision arrived at at a meeting of council last week to cancel or remit all claims and penalties incurred up to date by a number of companies incorporated in Ontario by reason of their failure to comply with the provision of section twenty-two, chapter twenty eight, of sixty Victoria, requiring the unabbreviated word "limited" to be printed or affixed to their names as the last word of the style of the firm. This action was taken owing to the fact that the companies affected had not knowingly or wilfully violated the law, and also that they have already been put to considerable expense by reason of the action taken by Inspector Bowker in issuing writs against them for the omission.

One of the most interesting incidents of the year is the fact that the meetings of the American Association for the Advancement of Science and of the British Association were held in two cities of the North American continent less than two hundred and fifty miles apart. The American Association has been in session at Detroit, Mich., and the British Association at Toronto, Ontario. The meeting of the British Association at Toronto may be regarded in its way as a recognition of the imperial idea which has been given so much prominence of late. It is safe to say that never before have so many men of scientific distinction been gathered together within so small a radius. Of the utility of these gatherings it is at this late day entirely unnecessary to speak, but the circumstance of the simultaneous meeting of the two great scientific associations at such a little distance from one another would seem to suggest the advisability of selecting some of the great cities on the North American continent for the meetings of the great international scientific gatherings of the future.—Bradstreets.

The Ottawa Ministers have committed another fiscal blunder. They have given the "British preference" to every European country except Italy, and have issued a Customs regula-

tion declaring that it shall not apply unless the importations from the favored countries are "direct." That is to say, if the goods are sent via Great Britain the higher duty shall be charged. This is a discrimination against British shipping and in favor of that of Germany and of France. Foreign goods brought to Canada by a British vessel pay twelve and one-half per cent more duty than if they came in a foreign vessel. - Mail and Empire

Now that the tariff bill has become a law, and with it a provision offering adequate protection to the beet sugar industry, it is believed that branch of business will enter upon such an era of development in this country as will ultimately result in the home production of all the raw sugar refined in the United States, thus bringing added profits to the farmers and building up a great industry. The tariff is necessary in order to counterbalance the large bounties offered by Germany and France on beet sugar production in those countries, by which the sugar produced there could be sold here at cost, under a low tariff, the bounty alone being large enough to afford the producers a good profit. - Steubenville, O., Press.

Canada has another railway scheme mixed with politics. It is of interest on the lakes as it pertains to the movement of Manitoba grain. A line of road is projected between Winnipeg, the capital of the Canadian Province of Manitoba, and Duluth. By a direct line of about 350 miles between the two points, by far the greater portion of it lying within the State of Minnesota, it is expected to bring the principal part of the product of the immense wheat fields of Manitoba to the lakes at Duluth for shipment to Buffalo, whence it will be forwarded to New York and shipped to Europe instead of going over the Canadian Pacific Railway to Montreal direct or to Fort William and thence largely by Canadian vessels to Montreal. The political feature of the enterprise is found in the evident intention of Premier Greenway to run the next Manitoba election on the issue of making a contract with the proposed railway, by which, in consideration of a bonus to aid its construction, grain is to be carried to Duluth for ten cents per 100 pounds, or but little more than half the rate now demanded by the existing circuitous line between the two points. Bitter political opposition is being made to the project. The cry is raised that it is a direct blow to the Canadian Pacific Railway, largely built with government aid; that it will rob the English stock and bondholders of that line; that those interested in the projected road are mostly New Yorkers, and that it will benefit New York to the damage of Montreal, give employment to American instead of Canadian lake tonnage, and inflict injury on eastern Canadian interests. The Greenway supporters make no other reply than that their platform is "Manitoba first," and that they "are resolved to get lower wheat rates by establishing a direct route to New York via Duluth and Buffalo, which is Manitoba's natural route to the seaboard." - *Marine Review*.

A few days ago in Montreal, the Ministers of the Province of Quebec were waited upon by an influential deputation of pulp manufacturers. The deputation was headed by Mr. John Forman, president of the Pulp Manufacturers' Association, and included Mr. John McFarlane, of the Canada

Paper Company, Mr. W. H. Rowley, of the E. B. Eddy Manufacturing Company; Mr. J. C. Smith, of the Toronto Paper Company; Mr. F. H. Clark, of the South Ste. Marie Paper Company; and Mr. A. Scauer, of the Mackinaw Paper Company. There were also represented by letter and personally the Laurentide Pulp Company of Montreal; Mr. James Davy, of Merriton, Ont.; Mr. Florentin Saxe, of Old Lake Road, near Riviere du Loup, Que.; Messrs. Hamlin and Ayers, Lachute, the Thompson Paper Company, of Newburg, Ont., the Acadia Paper Company, of Halifax, and Mr. John R. Barber, of Georgetown, Ont. The deputation waited upon the Government, or, more properly speaking, this joint meeting was held for the purpose of exchanging information and of fully considering the present position of the Canadian pulp trade, in view of the changed conditions arising out of the new American tariff, and from the fact of the enormously increased exportation of pulpwood in saw logs and cordwood in different forms to the United States from Canada. The members of this and allied trades have had different interviews with the Federal Government during the last year, and asked for duties varying from \$2 to \$1 per cord, or its equivalent, and in view of the recent resolution by which the Federal Government was empowered to impose this export duty, it was thought best to await the return of Sir Wilfrid Laurier to ascertain definitely the intentions of the Government in regard to this matter. In the meantime the deputation asked the Provincial Government to lower the stampage dues from thirty five cents per cord of a hundred and twenty eight cubic feet to twenty-five cents per cord. The Ministers promised to take the matter into their earnest consideration, but as the question would affect the revenue from Crown lands no definite answer could be given at the present time.

According to the records of the United States Treasury Department, British vessels are carrying over fifty-five per cent. of the merchandise of that country, both of imports and of exports. Examination of figures for the first six months of this year shows the total imports in vessels have been of the value of \$432,689,981 and of domestic exports in vessels \$452,800,405. The percentage of imports carried in American vessels is 15.35 and in foreign vessels 84.65. Of imports in vessels the British have carried 55.89 per cent.; the Germans, 11.49; French, 5.46; Dutch, 3.3, and all other foreign, 8.51. Of domestic exports only 8.19 is carried in American bottoms, 91.81 being carried in vessels of other nations. British vessels carry 68.23 per cent. of the value of exports by vessels; Germany, 8.92; French, 2.19; Norwegian, 2.93, and all other foreign, 9.51. The value of imports carried in American vessels for the six months ending June 30th was \$66,428,149, and of that carried in foreign vessels \$366,261,832, and the value of exports for the same period carried in American vessels was \$37,113,158, and of that carried in foreign vessels \$415,687,238. The value of sugar, which has been largely brought from the West Indies in American vessels, carries the percentage of imports in American vessels higher than that of the value of domestic exports. Since 1870 the Bureau of Statistics has stated the value of merchandise imported and exported in cars and other land vehicles. During the first half of the year the imports carried was \$20,068,149 and of exports \$27,297,619.

A few months ago when the United States Senate rejected the arbitration treaty proposed to be entered into by that country and Great Britain. The Toronto Globe said:—

In the year 1895 the total exports of merchandise from the United States were \$807,538,165, of which Britain bought \$387,125,458, and her dependencies and colonies \$105,382,576, or a total of \$492,508,034. Sixty per cent., therefore, of the exports of the United States are purchased by the people of the British Empire. Of the \$387,125,458 worth of products which are taken by the United Kingdom, practically the whole enters the British markets without paying a dollar in imports of any kind. It will be said that the British people buy these goods not to favor the United States, but because it suits them best to do so. This, of course, is quite true so far as it goes, but it must not be forgotten that the great bulk of the agriculturists in the United Kingdom think that it is a boon and that it should be withdrawn. Such events as the rejection of the arbitration treaty will not lessen the strength of this section of British opinion.

The New York Daily Financial News has lungs like a blacksmith's bellows. Hear it blow. Speaking of Hawaiian annexation and the more or less speedy absorption of the whole continent, it says: "It is but a question of time only when we shall dominate both the northern and southern continents of America. Canada naturally belongs to us, and will come in at the proper time. Mexico, too, if not in the near future, will later on, while she may retain her name it will be nominally only!" It is this sort of impudent blowing that produces a feeling of disgust. The United States is a great country, but it, as yet, has no distinctive name like that of Mexico and Canada. The centuries will hasten along the corridors of time with many repetitions before a nameless country floats its flag over the whole American continent.

Readers of The London Advertiser have, no doubt, frequently noticed that that paper, from time to time, reproduces many of the items that first saw light in the Captains of Industry department of THE CANADIAN MANUFACTURER, relating to the industrial development of Canada. The Advertiser is, we believe, the only paper in the country that makes these items of news a special feature in its editorial page. The management of the late lamented Empire declined to admit such matter to its columns on the ground that it received no quid pro quo for advertising the concerns named. The Advertiser is possessed of more liberality.

It is suggestive to remember what influence outside pressure has had on Canadian development in the past. It is clearly recognized that the abrogation of the treaty of 1854 had no small influence in bringing about Confederation, and the Anglophobes in the United States may again be building better than they know. No lesson is more impressively taught by the records of the past than the shortsightedness of man. He designs one thing and a totally different thing is the outcome. Napoleon III. thought to curb the growing importance of Prussia, and the result of his effort was a united Germany.—The Globe.

Free-traders will never understand the doctrine of protection. None are so blind as those who will not see. Protection is demanded, not to increase prices, but to give us the control of our own home market for the products of the American wage earner. Free-traders have been challenged

over and over again to mention a single article in common use that has not been sold at lower price within a comparatively brief period from the day a protective tariff was put upon it and its manufacture in this country entered upon on a large scale. They never have done it and they never will do it, because they never can do it.—American Economist.

When duties increase productions they decrease prices. When they decrease productions they increase prices. The consumer is benefited by the first and injured by the second.

A joint stock company, called the Spreckel Sugar Company, has been formed in California with a total capital stock of five million dollars; the organizers being J. D. Spreckels, A. B. Spreckels, A. F. Morrison, M. H. Wood and W. D. K. Gilson. Producing beets and manufacturing sugar therefore is to be the primary object of the company, and incidentally they will engage in agriculture, will build, equip and manage factories and refineries, deal in real estate, construct railways, build ships, and do all other things necessary to the successful development of the sugar-making business. What the success of the venture will be is likely to be of interest to those Canadians who have faith in the establishment of the beet-root sugar industry in this country. Up to the present it has not been attended with success, although we note that a company having that object in view has been organized in Ontario and is now putting a superior class of machinery, being confident that success is in store for the undertaking. We cannot see why such an industry cannot be profitably and advantageously carried on in this country.—The Shareholder.

The new one dollar "Canadian" bill is printed by a Yankee firm. It has a picture showing Yankee lumbermen getting out logs to be sawed in the United States. It also shows the portraits of two people who live in Great Britain. The "Canadian" part of the bill has been omitted.—Hamilton Spectator.

Washington advices indicate that the State Department has sent instructions to United States ambassadors and ministers abroad accredited to countries with which the United States has trade relations and which would be affected by the enactment of the Dingley Tariff law, directing them to communicate to the foreign offices at their respective posts the text of the act and to call attention to the sections of the new law which provide for retaliation, reciprocity and other similar relations. This action has been taken by the department in order that there may be a proper basis for the institution of negotiations looking to the consummation of some of the reciprocal agreements contemplated by the Dingley law. Owing to the complexity of the subjects to be treated and the dissimilar conditions existing in various countries with which the United States may have to do, the ground covered by the State Department in these instructions will be difficult to traverse; but something has to be done in relation to the matter, inasmuch as Congress has in terms enjoined the beginning of negotiations as soon as may be after passage of the Dingley law. Up to the present no responses have been received by the State Department, but indications furnished by our officials abroad point to the probability of overtures being made at almost any time.—Bradstreet's.

The far-reaching results of the recent famine and plague in India are observable in the recent report of the Suez Canal Commission. Being the short cut highway from Europe to the Asiatic countries in the East, the canal could not escape a serious curtailment in its revenue. The decrease in receipts is shown in the recently issued report of the Peninsular and Oriental Steamship Company, showing a falling of some 600,000 francs, as compared with the revenues received the previous year, and is attributed mainly to the famine and the plague in India. The loss would have been much greater had it not been for a large and unexpected increase in exports, consisting of extensive shipments of machinery and railway material to Australia and the far East. The consignments under this head from Great Britain alone last year were 212,000 tons more than in 1895, while the Board of Trade returns for the first four months of this year show indications of a still further improvement for the coming twelve months. A significant feature of what would have otherwise made the decrease still more observable was the receipts from the passage of troops—Italian, Spanish, English, German, etc.—the Italians increasing nearly 64,000 in 1896 over the year 1895, and the Spanish nearly 26,000. The Turkish increase was nearly 8,000, and of Germany about 9,000. The total number of passengers in 1895 was 216,940, as against 308,243 in 1896, the largest of any one year since its opening. This report, while showing a decrease in revenue through unexpected causes that are limited to one season only, is encouraging for the future, as they are scarcely liable to occur again for some years to come, and when the commercial standing of their great highway will be on a much more secure and paying basis.

The chief feature of the preferential tariff seems to be the innumerable perplexities in its working. Those who import British goods find that statutory declarations of British origin are necessary, and these are annoying to the maker of the goods, and expensive to the Canadian importer. Still another obstacle to the declared purpose of the tariff, i.e., a preference to Britain, is its practical discrimination against British trade routes. The one-eighth reduction is only granted on goods coming direct from the country of origin. Now, it is a custom of importers who buy largely in Britain, and to a less extent in Continental Europe, to have all the goods shipped to Canada from a central point in England. London is the mart of the world. The average English free-trader is as proud of the immense profits enjoyed by the country as an ocean carrier as he is of her fiscal policy. But the Canadian tariff, as now administered, says to the French, Belgian or German firm, who have sold goods to Canadian merchants: If you ship via England the goods will pay a higher duty than if they are sent by a foreign line direct from a French or German port. As long, therefore, as the present arrangement continues in force the tariff discriminates against British shipping. Possibly this was not contemplated by the Government; it may not have occurred to the Ministers. But even so, the whole experience with the new tariff points the moral that a government which does not really understand a great question should not attempt to deal with it until a careful study of conditions and results has been made.—The World.

The Spreckles beet sugar plant, now in course of construction, near Salinas City, Cal., will have, to begin with, two

direct-current generators of 400 kilowatts each, for electric power purposes, a lighting dynamo of at least 100 k.w. capacity, and a large number of motors. The main building will be 100 by 586 feet, and five stories in height. Three thousand tons of beets will be crushed daily, and the daily output of refined sugar will be 450 tons. The space required for the fifteen beet bins is twenty acres.

Think of what such an establishment would be to Canada! and yet the Spreckles plant is but one of many now in successful operation in the United States. Think of how many farmers would find employment, and of how many acres of land would be under profitable cultivation to supply three thousand tons of beets per day for a season extending over one hundred days. And yet no politician or statesman in Canada has ever yet been acute enough to advocate the building up of the sugar beet and beet sugar industry in this country.

An American Senator has publicly apologized for his negligence in voting for the railway discrimination clause without knowing of its existence. The blunder is no worse than many which have been made with the full knowledge of Congress.—Toronto Globe.

Will Sir Wilfred kindly say if he, like the Yankee Senator, will publicly apologize for not knowing that his little gun was loaded when he interjected his British preference Schedule D into the tariff—that clause that does not discriminate in favor of Great Britain as he said it would. The blunder is worse than any that has ever yet come to our notice.

A Cleveland, Ohio, dispatch states that President A. J. Moxham, of the Johnson Steel Company, who is now in England, has just secured orders for 20,000 tons of steel rails for electric roads in Ireland. This is probably the largest order of steel rails for electric-railway purposes ever shipped out of this country, and the fact that they are to be sent to the very doors of England is one of the very notable features of the affair. Mr. Moxham has obtained a freight rate of \$3 a ton from the works to Ireland. It will be necessary for the Johnson Company to build special rolls to do the work, and already work has been begun on them.

There is no more reason for Cleveland, or any other city in the United States, manufacturing steel rails for Ireland than for Toronto or any other Canadian city: that is, there would be no more reason had it been that Canada had protected the iron and steel industry as it has been protected in the United States. As it is, no steel rail ever having been rolled in Canada, we are now as much dependent upon the United States for the article as Ireland is.

LITERARY NOTES.

A strong point for The Methodist Magazine and Review for September in its superior illustrations, there are over forty. Those on "The Appian Way, and Footprints of St. Paul," are of unusual interest. "The Indian Famine and Indian Missions," is an able study, with beautiful illustrations, of an important subject of intense interest. The article on "Treaty Making in the Canadian North-West," is by the Rev. John Semmons, who well understands the subject of which he writes. "Current Topics," "Science Notes," "Book Notices," and "Religious Intelligence," make up a valuable number.

The September Ladies' Home Journal is a notable number. A spirited article by John F. Coyle, "When Henry Clay Said Farewell to the Senate," describes the most impressive and dramatic scenes ever enacted in Congress. Elizabeth Baland, in "The Difference Between Mrs. A and Mrs. B," defines the exactions that "The Four Hundred," or the dominating social circle of communities, imposes on an aspirant for admission to its ranks. The first part of Mrs. Mark Morrison's "The Pixies and the

Elaine" series will charm every child who may follow the adventures of those winsome fairies. A composition for the piano, "Golden Vineyard Waltzes," the musical feature of the magazine, is regarded by its composer as one of his best. Edward W. Bok, discusses "On Being Old-Fashioned," and other topics of especial concern to women. The Curtis Publishing Company, Philadelphia, one dollar per year.

The September number of The Canadian Home Journal, beyond its characteristic name, bears very little resemblance to The Canadian Home Journal of the past two years. It is under an entirely new management, and nothing will be spared in making it indispensable to every Canadian woman, in every Canadian home, and of which every Canadian journalist may justly be proud. The current number contains, among many other things, the first of a series of articles on the old families of Canada, illustrated, and entertainingly written by the celebrated art critic and educationist, Miss Alexandrina Haussay; a very graphically written sketch of a trip from Toronto to Chippewa, from the pen of Madeleine Geale; a page of Savoury and Seasonable Dishes, by Mrs. Jean Joy, Principal of Domestic Science Department of Toronto Technical School; all the latest fall fashions and fancy work; Music Notes, by C. E. Saunders; an article on "Art in Muskoka," as seen by T. Mower Martin; a review of the latest books published; a pretty story of Love in the South, by Catharine Mann-Paymant; a page for children; Notes on Golf and Yachting, and two pages of music. The fancy work department is another attractive feature. All the latest and prettiest designs will be illustrated, the patterns or materials for which can be obtained from The Canadian Home Journal. Free lessons in all the newest embroidery stitches are also being offered, instruction to be given by one thoroughly competent to teach. Address, The Canadian Home Journal, McKinnon Building, Toronto.

TRADE WITH MEXICO.

Mr. E. E. Sheppard, who was appointed a special Canadian Commissioner to Mexico to look into trade possibilities, has reported to the Minister of Trade and Commerce. He says:—

RECIPROCALITY SUGGESTED.

Every new industrial enterprise which is not represented in Mexico receives on its establishment ample tariff protection, and a number of concessions with regard to taxation, and these features have proved very attractive to German, United States and French capitalists. Nevertheless, there are a number of avenues of business which, if taken advantage of by Canadian enterprises, would prove very profitable. Furthermore, if Mexico and Canada, similarly and disadvantageously situated as they are with regard to the tariff now imposed upon the products of both countries by the United States, were to make some reciprocal arrangement for the exchange of commodities, a very large business could be established between Canada and Mexico. During the past eighteen months over half a million cattle went from Mexico to the United States at an average duty of \$1.50 per head, while the average duty now imposed by the United States is between \$4 and \$5 per head.

SEWING MACHINES.

After pointing out that Mexico, like Canada, was harassed by the Alien Labor Law, Mr. Sheppard proceeds to deal with the different industries. He says that the sewing machine agency disposes annually of over 300 machines manufactured in Canada. They found the absence of parcel post a great inconvenience for getting the small parts of the machine, which they sometimes want promptly. If the machine was as attractive looking as the United States article many more of them would be sold.

A Canadian knitting machine is said to be becoming popular in Mexico, though every effort is being made by a rival firm to supply it with a machine manufactured in the United States.

MARKET FOR TOOLS.

In hardware the Germans have nearly the whole trade. They make a specialty of the Mexican market. But, for all this, there is said to be a market for Canadian shovels, picks, axes, hoes, forks and the higher grade of hand implements. But this would have to be established in spite of the German dealers and not by their assistance.

The French largely control the dry goods trade. Canada provides nothing that could compete.

CARRIAGES AND WAGONS.

In carriages France also sends the finest vehicles used. The turn-outs in the city of Mexico surpass in elegance and expense anything to be seen in Canada, and in proportion to the population both the horses and carriages are much finer than can be

seen in Central Park in New York city. Some of the carriages are from the United States, and Canada ought to be able to compete for a share of the business. Some carriage and wagon factories have been established, but their output is crude.

Large importations are made of farm wagons. Many are from England. This is a business worth looking into, as it is worth getting.

The Mexican is a natural worker in leather, and it is improbable that Canada could compete in anything but the very finest harness, even if the duties were not, as they are, prohibitory.

MARKET FOR CUT NAILS.

Nothing can be done in saddles, and cut nails would require to be of United States pattern. Wire nails are now made in the country, and not imported. The consumption of tacks is small. However, there is a market for cut nails, and it is worth looking into.

Canadian manufacturers ought to find a good market for hand tools. The prices paid by dealers appear to be about the same as those offered by Canadian manufacturers. Instead of sending samples Canadians ought to select the kind of tools most used in Mexico, and offer a price for their duplication.

ON THE INSTALLMENT PLAN.

Sewing machines are sold almost altogether on the installment plan, a discount of \$10 being allowed for cash. The time allowed for payment is in the neighborhood of two years. The Canadian machines bring from \$85 to \$115 each, Mexican money. The high rate of exchange still leaves a profit.

BICYCLES.

There is only one make of Canadian bicycles sold in Mexico. The agent for this machine claims that the wheel is satisfactory, but it costs more laid down here than other makes which are equally satisfactory. All things being equal, he would prefer to sell the Canadian wheel. The wheels which are competing with the Canadian one are the Dayton and the Synceuse, which he claims to buy at \$50 gold less \$5 off; while the Canadian machine is \$60 cash at point of origin. Wheels are gone into Mexico by the carload.

BONANZA IN LAMPS.

Owing to the very high price of coal, gas is but little used. A petroleum lamp, with cooking utensils, finds but little favor, as a supposedly similar one was previously found to be a failure. If such a lamp proved to be a success, and the maker had confidence in it there would be a bonanza in it for him. Lamp chimneys are supplied from Germany. There is also a line of United States chimneys which may be dropped from a height of several feet on to a wooden floor without danger of breaking.

ELECTRIC SUPPLIES.

The principal houses for telephone, telegraphic and electric light supplies of the United States are represented, and not only take large orders, but carry a more or less complete stock of general supplies. The business is developing into large proportions. To do business, an agent and stock would be required at the capital.

MACHINERY.

In regard to machinery, the cotton mills are being put in by English firms. Coffee and sugar plants were at one time put in almost exclusively by English houses, but German and United States firms are now offering a stout competition. Mining machinery is almost entirely sold by English and United States firms.

FURNITURE.

Common furniture is manufactured in the country, but anything of first-class material is imported from the United States. The duty is high, and only very good furniture could be exported. The Government buys a great deal of school furniture, and Canada ought to get a large share of this patronage if it displayed the excellent patterns in which the Dominion excels. Some of the Mexican houses are magnificently furnished, but in many cases such furniture is brought from Paris.

SAFES ARE WANTED.

The burglar not having become as accomplished in Mexico as in the United States and Canada, burglar proof-safes are not in demand except to banks and other institutions. Nevertheless a large and profitable business is done in safes, especially by Ohio firms, who have adapted their goods to the necessities of the country. Canada might share in this business. To establish a business it would be necessary to have an agency.

There does not appear to be a market for boots and shoes, and rubber goods and shoes are almost entirely unknown.

A large business can be done in turned and Japanese ware, but lightness, cheapness and durability must be considered.

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In regard to agricultural implements, plows are most popular that have but one handle, the native being used to plowing with a crooked stick, through which a sort of shears is inserted. They prefer but one handle, because they use but one hand in guiding the plow and the other for prodding the oxen. There is a market for reapers. Agricultural help costs twenty-five to fifty cents per day, according to locality. Manufacturers who take pains to introduce their implements and gradually educate the Mexican laborer will be rewarded by a faithful and remunerative patronage.

FLOUR MILL MACHINERY.

In respect to flour mills, it would pay a Canadian firm to enter into competition with the United States concern which is now putting machinery into the mills there.

TIMBER AND RAW MILLS.

The timber question is an important one. Some of the railroads use steel ties because timber is so scarce. For the first time in many years pine shingles are being imported in large quantities. The imports of lumber in 1896 were valued at over \$2,000,000 in gold, as against \$600,000 the year previous. While the machinery for manufacturing lumber must be in great demand in Mexico, the exporter must also find a good market in Mexico. Those who wish to obtain their fair share of the trade should immediately set about capturing it.

There is a good market for clay-working machinery. The business in pianos and organs is good. The favorite piano is an upright.

THEY BUY OUR WHISKEY.

One of the largest items of Canadian export to Mexico is whiskey. Every canteen in Mexico offers for sale the whiskey of a particular Canadian firm.

Mr. Sheppard gives in his report the freight rates, the duty, telegraph tolls, business taxes and other valuable information, as well as important suggestions as to how to proceed to do business in that country. He concludes as follows:

CANADIANS IN MEXICO.

"There are between seventy-five and one hundred Canadians who either live in the City of Mexico or make their headquarters here. Of these fully one-half are in responsible positions or doing business for themselves, and all of them seem prosperous. I have taken considerable pains to become familiar with the opinions of as many as possible of my fellow-countrymen, and have found much valuable advice and cordial sympathy.

"There is also a large colony of Britishers here, representing old country houses and travelling about the country. Amongst these, and at the British Legation and Consulate, I found a hearty welcome and ready co-operation. In offering a recommendation at the close of four weeks' study of the situation, I have had every point carefully checked by those who have resided here for years, and feel sure I am but expressing the sense of everyone who has been consulted.

A PERMANENT EXHIBIT.

"To establish any line of business in Mexico City, now that competition is so keen both among native manufacturers and foreign firms, means the exercise of considerable patience and the expenditure of considerable money. If the manufacturers and exporters of Canada who are interested in obtaining a share of the Mexican market were to unite together and form a permanent and co-operative exhibit in the city, the business of the whole Republic could be reached with but little expense, and the articles exhibited would be continually under the eye of men representative of the buying classes. Details of such an exhibit have been suggested to me by many Canadian residents in this city, who are sanguine of the success of the scheme. Undoubtedly all Canadians resident in Mexico are anxious that Canada should make an effort to introduce Canadian goods, and but few are hopeless as to a favorable result. These few, it may be said, are either not conversant with business, or have interests which might be injured.

METHOD OF SELLING GOODS.

"In a general way the suggestion is that a large room in a central locality should be rented, the space divided among the exhibitors and a representative of the exhibitors given charge of the exhibits. The travellers who are going about Mexico soliciting orders for some large old country houses, as a rule, carry but few lines, and none of them are likely to interfere with anything offered by a Canadian. I have met a number of these gentlemen,

and they say they would be willing to carry catalogues and solicit orders for anything which is even remotely in their line. For instance, one salesman who has but two or three articles visits the principal haciendas of Mexico every year. He expressed himself as willing to look after agricultural implements, but felt doubtful if he could do much without sample implements and pieces which could be provided in case of breakage.

PAYMENT OF TRAVELLERS.

"In nearly all the lines which I have suggested as being adapted for Canadian trade, men speaking Spanish fluently could be found to solicit orders on commission, and special ones could easily be obtained for each line if a certain amount of money were advanced for travelling expenses. Nearly all business done by canvassers and salesmen in this Republic is done on commission, and an allowance for expenses, this allowance being made permanently in many cases, but always when a new line is being introduced; though, of course, there are a number who receive salary and commission combined. An effort lasting over one, two or three years would demonstrate to the Canadian manufacturer, at no great cost, the possibility of introducing his goods.

THE GOVERNMENT'S ATTITUDE.

"The Government of Mexico would doubtless be willing to have such an exhibit established on the same terms as the United States manufacturers are establishing them in South American centres, where the goods are admitted free of duty and practically held in bond until sold as samples; thus minimizing the outlay of those joining in the experiment.

"In consulting the Hon. Mr. Lamontour, Finance Minister, in regard to this, he expressed his cordial approval of the idea, and said the Government of Mexico was willing to do everything in its power to facilitate such an enterprise. The only limitations he placed upon the project were that goods should not be sold at retail except as samples, and that the Government of Canada should supervise the exhibit and be responsible for its conduct. He pointed out that were it a private enterprise or one conducted by a syndicate of manufacturers it might be used as a means of smuggling, and the responsibility being divided among so many the Mexican Government could not supervise it without seeming intrusive and annoying. For these reasons, he expressed a decided preference for having it under the control of the Canadian Government, which would be responsible for everything imported and the payment of duties when the articles were sold or sent elsewhere.

THE TARIFF ON FISH.

"At the same interview with the Minister of Finance, I ventured to ask that the salt, dried and pickled fish, which is so large an export of Canada, might receive some attention at the next revision of the Mexican tariff, which, I am told, is shortly to take place. These articles (which are largely imported by other Latin-American countries) hardly come to Mexico at all, as they have to pay an equal duty with canned fish and the most expensive grades of articles preserved in their own juices and intended to retain their natural flavor and consistency. I believe if your department were to make further representations to the Government of Mexico, that, in the event of communications being established, a large trade in such fish might be opened up.

A WONDEREUL CURRENT.

What is electricity? is a question that cannot be intelligently answered. It is known to have no material part that can be seen handled or weighed. It is a something that is known only by its action, and that for thousands of years was not known to the wise men of this world to have an existence. The progress of electric engineering science has advanced from agencies perceptible only to our senses, which emphasized organization could not perceive, but which has been transferred from the imponderable and immaterial to the material, giving motion and power wherever required. Prof. Faraday demonstrated that ether, an entity that is believed to fill all space in our system and other systems, is in some way directly allied with electric power; it is also believed to be the agent by which light and heat are transferred from the sun to our planetary system, and possibly from other suns and systems also. The question of what is ether cannot be answered by the scientists of this day, yet they are not entirely in the dark with regard to some of its properties, though not susceptible of proof.

Optical observation shows that there is a medium, not material, by means of which light is transmitted, and in another form power or potential. Atmospheric air is known not to be the means by which light is transmitted. This was demonstrated by Sir Isaac Newton. The space between the sun and the earth does not contain air, it being a part of the earth's substance. The German

scientist Hertz proved that electric and magnetic action is an etheric phenomenon. Electric potential is defined by modern scientists as being ether in a state of unbalanced strain, this strain manifesting itself in the conductor of an electric circuit, one end connected with the dynamo and the other with the lamp or motor and that the ether transmits along the surface or through the conductor. The pressure being imparted to it by the dynamo minus the friction, it is not known whether the ether is transmitted along the surface of the conductor or through its substance. It is believed to form a belt or chain from the dynamo to the motor to give it motion, but how this belt or chain is held together there is no explanation or theory. Electric action is known to be practically instantaneous. So much is this the case that it is as if the ends of the conductor were held together by a substance less compressible than a steel bar, yet weighing nothing.

Electricity is possessed of great power, notwithstanding its immateriality; more so than anything known. Its vast practical power can be seen on the great electric locomotives built by the Westinghouse and Baldwin companies, some of 1,800 horse-power, and the electric motor of 3,000 horse-power at Niagara Falls and elsewhere, also evidenced on our street cars and in mills and factories everywhere. The power that can be transmitted through a copper conductor one inch in diameter, say thirty miles, at ten per hour, with a voltage of 10,000 and 1,000 amperes is over 13,000 horse-power. The strain on a cable that would transmit this power would exceed 1,000,000 pounds, enough to break eight steel cables, one square inch section, carrying 120,000 pounds each. There is no means known by which this enormous amount of power could be conveyed safely and effectively, but by the electric current, yet very much more than this could be done; it is also done economically, realizing from 70 to 90 per cent of the power of the dynamo, depending on the size and construction of the dynamo. One horse-power will give 2,000 candle-power from a good arc light, and 250 candle-power from good incandescent lamps. It is also of great value in the electric furnace, doing chemical and mechanical work never before done.

For general power purposes, like shafts, belts or cables, it can be applied around sharp corners, be placed at any angle, horizontal or vertical, and occupy very little space, and can be delivered at great distances, in fact in nearly everything that enters into the

wants and conveniences of the people, electricity can be made use of. It is believed that all the operations of animal and vegetable life and the climate and seasons are influenced by it. There can be no doubt but that electricity is a necessity in the operation of natural law and that for this purpose was called into existence along with all the wonders that surround us by the Divine Creator and Ruler of the universe. J. H. KILBY, in Hamilton Spectator.

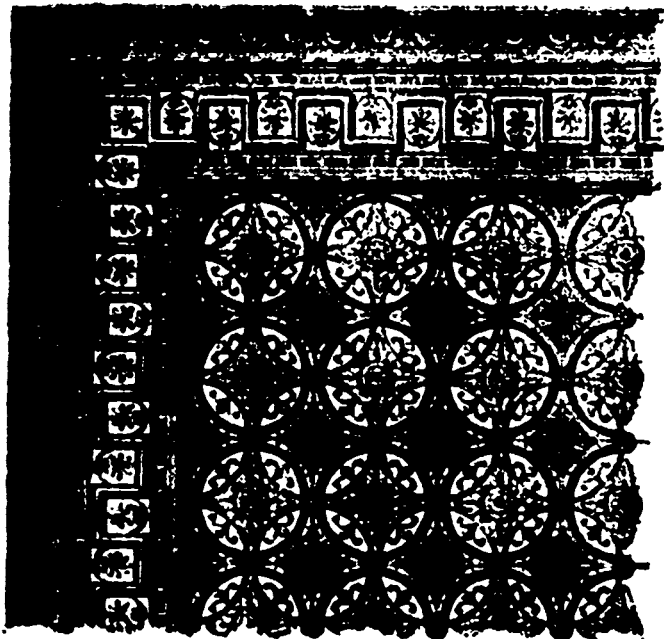
KLONDIKE REGULATIONS.

Following are the terms of the amended regulations just issued by the Dominion Government governing gold mining in the Klondike district of the Yukon:

"That the regulations governing the disposal of placer mining claims along the Yukon River and its tributaries in the Northwest Territories, established by order in Council, be amended by providing that entry can only be granted for alternate claims, known as creek claims, bench claims, bar diggings and dry diggings, and that the other alternate claims be reserved for the Crown, to be disposed of by public auction, or in such manner as may be decided by the Minister of the Interior.

"That the penalty for trespassing upon a claim reserved for the Crown be the immediate cancellation by the Gold Commissioner of any entry or entries which the person trespassing may have obtained, whether by original entry or purchase, for a mining claim, and the refusal by the Gold Commissioner of the acceptance of any application which the person trespassing may at any time make for claims; and that in addition to such penalty the Mounted Police, upon a requisition from the Gold Commissioner to that effect, may take the necessary steps to eject the trespasser.

"That upon all gold mined on the claims referred to in the regulation for the government of placer mining along the Yukon River and its tributaries, a royalty of ten per cent. shall be levied and collected by officers, to be appointed for the purpose, provided that the amount mined and taken from a single claim does not exceed \$500 per week, and in case the amount mined and taken from any single claim exceeds \$500 per week there shall be levied and collected a royalty of ten per cent. upon the amount so taken out up to \$500, and upon the excess or amount taken from any



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Asylums, Offices, Stores
Residences, etc.**

The many advantages of their use, as a modern substitute for wood and plaster, lies in the fact that they are light in weight, will not crack nor drop off, consequently no danger of falling plaster; are unquestionably durable, have air-tight joints, are easily applied, are

practically fire-proof, are highly artistic, do not harbor vermin or the germ of disease, and possess splendid acoustic properties in addition to many other points of excellence over any other form of interior decoration.

SOLE MANUFACTURERS

Write for prices and ask for Catalogue "O."

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THE METALLIC ROOFING CO., Limited., Cor. King and Baffin Sts., TORONTO

single claim over \$500 per week there shall be levied and collected a royalty of twenty per cent.; such royalty to form part of the consolidated revenues, and to be accounted for by the officers who collect the same in due course.

"That the times and manner in which such royalty shall be collected, and the persons who shall collect the same, shall be provided for by regulations to be made by the Gold Commissioner, and that the Gold Commissioner be and is hereby given authority to make such regulations and rules accordingly.

"That default in payment of such royalty, if continued for ten days after notice has been posted upon the claim in respect of which it is demanded, or in the vicinity of such claim by the Gold Commissioner or his agent, shall be followed by the cancellation of the claim.

"That any attempt to defraud the Crown by withholding any part of the revenue thus provided for by making false statements of the amount taken out may be punished by cancellation of the claim in respect of which fraud or false statements have been committed or made; and that in respect of facts as to such fraud or false statement or non-payment of royalty, the decision of the Gold Commissioner shall be final."

Another order in Council reads as follows:—

"Whereas clause 7 of the regulations governing the disposal of placer mines on the Yukon River and its tributaries in the Northwest Territories, established by order in Council of the 21st of May, 1887, provides that if any person shall discover a new mine, and such discovery shall be established to the satisfaction of the Gold Commissioner, a claim for 'bar diggings' 750 feet in length may be granted; and whereas the intention was to grant a claim of 750 feet in length to the discoverer of the new mine upon a creek or river, and not to grant a claim of that length for 'bar diggings,' His Excellency, by and with the advice of the Queen's Privy Council for Canada, is pleased to order that clause 7 of the said regulations governing the disposal of placer mines on the Yukon River and its tributaries shall be and the same is hereby amended, so that the above grant to a discoverer may apply to creek and river claims instead of to 'bar diggings.'"

George Hawkes, Wakefield, Mass., will start a factory to manufacture rattan furniture at Lower Cape, Albert County, N.B.

CANADIAN NICKEL.

An announcement of the greatest importance to Canada was made by Mr. Cochen in the British House of Commons a couple of weeks ago. The Admiralty have resolved to adopt nickel steel as the material for the protection of the new warships to be constructed during the coming year. The new American navy is being sheathed with nickel steel, and after careful tests the British authorities have decided that the material is a distinct advance upon ordinary steel armor. The Daily Graphic, describing the new naval construction programme, says:—"The principal item is the cost of laying down four new warships of an entirely novel pattern. They are to be cruisers and battleships in one. In speed they will fall little behind those mighty cruisers, the Powerful and the Terrible, but they will also carry armor which will enable them to resist the direct fire of six-inch guns. At the same time, although their armament is practically the same as that of the Powerful and her sister ship, their displacement will be nearly 2,500 tons less. The secret lies in the adoption of nickel steel for the armor plating, this material giving the same resistance as steel for much less weight."

The lead of the British Government in naval matters is followed by all the great powers, and there can be no longer any question that the warship of the future will be clad in nickel-steel armor. Canada, which has the greatest deposits of nickel in the world, should benefit much from the new departure. The nickel mines of New Caledonia are much further from Europe and far more difficult of access than our own, and shipments of nickel to Europe should, in future, show great expansion. It is not at all creditable to us that the nickel mined, after being converted into matte, is shipped to New Jersey to be refined by American labor. It is asserted by gentlemen well acquainted with the business that the terms of sale of the nickel lands provided for the refining of the nickel in Canada. If this is the case, the Government, with the prospect of a greatly increased use of nickel in the near future, should insist upon the erection of refineries. The phrase used in the agreement between the Government and the operators of the nickel properties is that the ores shall be treated in Canada. A reduction of the raw ore to matte may be treating under the law, but the probability is that a strict interpretation calls for smelting. —Toronto Globe.

SADLER & HAWORTH

FORMERLY

ROBIN, SADLER & HAWORTH

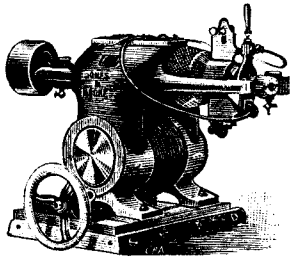
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OAK-TANNED LEATHER BELTING

MONTREAL AND TORONTO

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

ELECTRIC BARGAINS



**350-light Incandescent Dynamo
And One Smaller Machine**
One Arc Light Dynamo
One Electric Motor
Above are but slightly used, and are as good as new.

We Manufacture a full line of
Dynamos, Motors and Platers
WRITE FOR PRICES.

THE JONES & MOORE ELECTRIC CO.
22 Adelaide Street West
TORONTO.

CAPTAINS OF INDUSTRY.

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

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

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

The Rat Portage Lumber Company has been meeting with great success in the new industry of manufacturing sash and doors, which was established less than two years ago. Previously the sash and doors used in Manitoba and the Territories were imported from the United States. Since the company established the sash and door factory the industry has been steadily increasing in im-

portance, and this season the demand has been so good that the factory has been kept running night and day part of the time. The goods are now sold all over Manitoba and the eastern portion of the territories, wherever Lake of the Woods lumber goes.—Winnipeg Commercial.

Owing to the rise in the price of oil the Ottawa Gas Company are compelled to go

THE - - - -

WM. HAMILTON MANUFACTURING CO., Limited

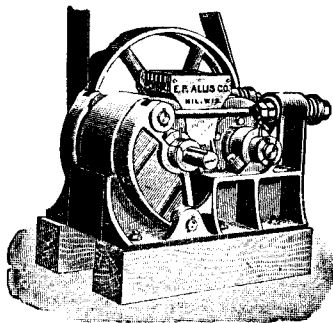
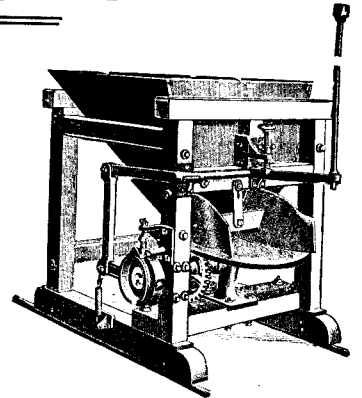
MANUFACTURERS OF

THE "RELIANCE"

Mining, Milling

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Smelting Machinery



FOR THE DOMINION OF CANADA

(Under License from The E. P. ALLIS CO., Milwaukee, Wis.)

Crushers, Rolls, Jigs, Concentrators, Screens, Stamps, Pumps
Compressors, Hoists, Boilers, Engines, Water Wheels, Etc.

Branch Office
VANCOUVER, B.C.

PETERBOROUGH, ONT.

back to the use of coal for manufacturing gas. For this purpose they are erecting five new patent recuperating benches of six retorts each. These will have a daily capacity of 300,000 cubic feet of gas. These, in addition to the oil plant now doing the work, will make a total generating capacity of 800,000 cubic feet daily. The iron work is now on the way from England, and will reach the city shortly. Other parts of the machinery were procured in St. Louis and in Canada.

A shipment of 526 bicycles was made to Australia a few days ago by the Massey Harris Company, Toronto.

Messrs. Davidson & Davidson's saw mill at Colpoj's Bay, Ont., was destroyed by fire a few days ago.

Mr. James Loughhead is building a brick addition, fifty feet by thirty feet, two-storeys high, to his hub and spoke factory at Saruis, Ont.

The first carload of peaches and pears to be shipped in cold storage all the way to England, left the Niagara district a few days ago. Regular shipments will be made to London and Glasgow.

The Paint, Oil and Chemical Company, of Toronto, has been incorporated with a capital stock of \$50,000, to manufacture paints, oils and chemicals.

The London Box Manufacturing and Lumber Company's factory, London, Ont., was damaged by fire a few days ago.

The Defiance Machine Company, Defiance, Ohio, for whom the estate of T. T. Coleman, Scarforth, Ont., are the Canadian agents, recently received a large order for wheel machinery from Paris, France.

The vast country north of the Gulf of St. Lawrence is, to the uncommercial explorer, the most interesting region on this continent, if not in the world. For nearly four centuries the ships of civilization have sailed by it, yet, except at the very water's edge, there has been no intrusion upon it. The rivers which pour forth from every opening in the hills bear witness that the back country is a net-work of lakes and water-courses. Ask the Commissioner of Crown Lands of the great Province of Quebec to-day what his department knows of that region, and he will tell you that it is the least known portion of North America; that only a few of the lakes have been surveyed; that two exploring parties have recently crossed the peninsula; that a handful of fishermen's houses fringe the gulf; that for the rest of it, the wandering Montagnais Indians are the only tourists who traverse half a million square miles of territory. Steamers go up the Saguenay. Lake St. John is reached by rail. But away to the northeast is a tremendous tract of country, from whence issue streams greater than the Hudson, the headwaters of which no white man has ever seen. From "To the Shores of the Mingan Seigniory," by Frederic Ireland, in Scribner's.

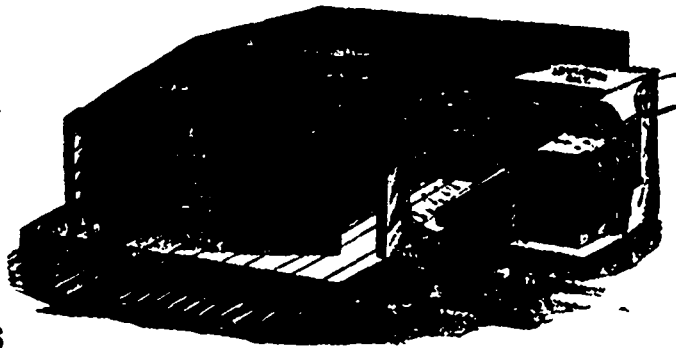
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HOT BLAST HEATING SYSTEM FOR LARGE BUILDINGS

Ventilating Fans,

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LITTLE WONDER HOT WATER BOILER for Heating Dwellings.

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

MAKERS OF

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Sole Agents for SCHEEFFER RECORDING WATT METERS
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HAHLO & LIEBREICH, BRADFORD, ENG.

Machinery Merchants and Exporters

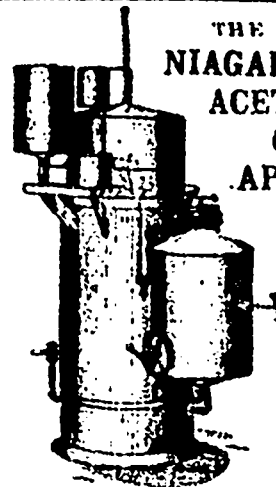
NEW and GOOD SECOND-HAND **WOOLLEN MACHINERY**

SHAKE WHEELS, TEAZERS, RAG PICKERS, GARNETTS, AUTOMATIC FEEDS, WASTE CLEANERS, CARDS, CONDENSERS, SELF-ACTING MULES, TWISTERS, LOOMS, HYDRO-EXTRACTORS, SHEARING MACHINES, Etc.

GOOD Second-Hand **COTTON and WORSTED MACHINERY**

BELTING, CARD-CLOTHING, PICKERS, PICKING BANDS, etc.

THE NIAGARA FALLS ACETYLENE GAS APPARATUS



Patented in Canada, United States and Great Britain.

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

Acetylene Gas the Coming Light.

CHEAPER THAN ELECTRIC LIGHT
COAL GAS OR COAL OIL

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

For particulars write to the
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NIAGARA FALLS, ONT. LIMITED.

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COPPER
WORK**

Brewing Kettles, Boiling Coils,
Beer Coolers, Attempartors
Spargers, etc., etc.

—THE—
BOOTH COPPER CO.
LIMITED,
TORONTO, ONT.
Established 1851.

**VALVES AND
PIPE . . .
FITTINGS**

WRITE FOR LATEST PRICES

**RICE LEWIS
& SON, Limited**
Corner King and Victoria
Streets
TORONTO

A. C. NEFF, Chartered Accountant. JAMES WOOD, Late Sec The T. E. Co. Ltd.
NEFF & WOOD
PUBLIC ACCOUNTANTS, AUDITORS
ASSIGNES, ETC.
Room 500 McKinnon Bldg., Toronto

In the issue of THE CANADIAN MANUFACTURER of August 20th we published a clipping from Power, having reference to valves, etc., being made to a given dimension, and manufacturers publishing the requirements so that steam fitters might know the lengths to cut their pipe. The St. Lawrence Foundry Company, Toronto, inform us that their catalogue now in preparation will furnish this much needed information, so that steam-fitters or mill owners using their valves, indicators, etc. will have no trouble in making their pipe standard lengths. Their catalogue is now nearly ready, and as soon as issued will be sent on application.

The Trail, B.C., smelter has produced the first brick of refined gold ever produced in Canada. It weighed 250 ounces and was worth over \$5,500. Hereafter both refined gold and copper will be turned out by the Heinz smelter ready for market.

The Perth Flax and Cordage Company, Perth, Ont., has been incorporated with a capital stock of \$30,000, to grow and manufacture flax, and to manufacture twines, cordage, oil, etc.

The ratepayers of Hull, Que., will vote on a by-law to raise \$53,000 for the extension of the city's waterworks system.

THE ACME ROCKING GRATE CO.



The Acme Rocking Grate Bar is composed of fine zig-zag bars connected together: the centre bar is 3/4 inches deep, the two bars next the centre are three inches, and the two outer ones are two inches. They are connected every six inches, thereby giving a very strong and durable bar, with very little iron on surface, giving a larger percentage of air space than any bar made, and will burn screenings as

well as lump coal, while there is no trouble whatever in crushing the clinkers. We guarantee ten per cent. saving in coal in every cast.

This is what a Street Railway has to say after making a test with screenings:

THE TORONTO SUBURBAN STREET RAILWAY CO.
R. WILSON-SMITH, Pres. E. P. HEATON, Vice-Pres.
R. H. FRASER, Sec. and Manager.

Messrs. The Acme Rocking Grate Company.

GENTLEMEN.—The Grates put in by you in our Power House have shown a decided saving in coal.
Yours truly, R. H. FRASER.

Toronto Junction, April 29, 1897.

The Acme Rocking Grate Co. 175 FRONT STREET EAST,
TORONTO, ONTARIO

\$45 DOLLARS \$45

Invested in a six month's course of training in

**Shorthand, Telegraphy
and General Commercial Subjects**
IN THE

**Central Business College
OF TORONTO**

will pay an invaluable dividend to any bright, intelligent young man or woman who attends this school.

The best time to invest will be on Sept. 1st, when the Fall Term begins. Scores of young people sent direct to good situations during the last session. Particulars cheerfully given.

Address: W. H. SHAW, Principal.

THE CROCKER TURBINE.

The cut shows the direct connection of two 29 inch.

Crocker TURBINES

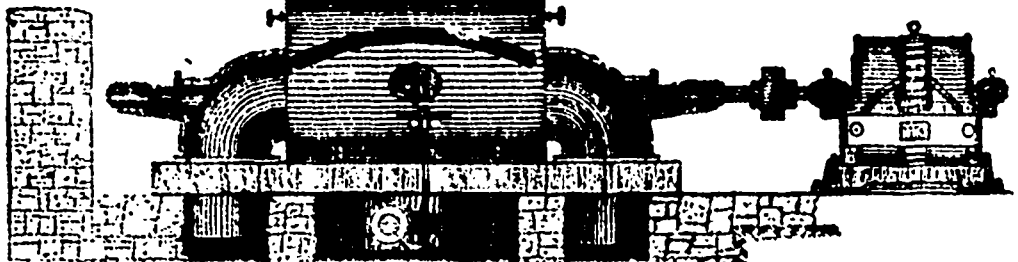
Under 30 feet head to

ELECTRICAL GENERATOR

At Power Station of North Shore Power Co., at St. Narcisse, Quebec.

Two sets were furnished for lighting and power for City of Three Rivers.

17 Miles Distant from Power Station



THE JENCKES MACHINE CO., SHERBROOKE, QUE.

Address for Catalogue and full information—28 LANSDOWNE STREET

**COMPLETE WATER POWER PLANTS
BUILT AND INSTALLED.**

Sir Donald Smith, in a letter to the Minister of Trade and Commerce, requests him to lay before the Canadian lumbermen an opening for their product in London. He states that almost the entire metropolis is paved with wooden blocks covered with a coating of asphalt. The blocks are described as yellow deal, and are imported from Norway and Sweden. A single block of the yellow deal accompanied the High Commissioner's letter. It is a wood that is not found in this country, resembling both spruce and pine. Canadian red pine should be a better wood for the purpose, and if any Canadian firm cared to take the chance the Canadian article could be tried in London, and possibly a very large trade worked up. A contract is now open from one of the London vestries, if any Canadian firm would care to take it up.

The Berlin Gas Co., of Berlin, have been operating an incandescent lighting plant on the three wire system, but are now extending the incandescent lighting service so as to

BENT RIM WOOD SPLIT PULLEYS

(REID'S PATENT).

THE STRONGEST, LIGHTEST, AND BEST BELT SURFACE
IN THE WORLD.

No Glue, no Nails in Rim like Segment Rim Pulleys, to be affected by Steam, Dampness or Moist Temperature.

EVERY PULLEY GUARANTEED

The Reid Bros. Mnfg. Co., of Toronto, 102-108 Adelaide St. West, Toronto.

furnish light to the residential portion of the town. They have decided to use alternating current and have placed the order for the new equipment with the Royal Electric Co., using the "S. K. C." system throughout. They have just made extensive alterations in their station, and have now 2-100 k. w.,

Edison 500 volt generators for furnishing current to the Berlin & Waterloo Street Railway. They also operate a local power service from their three wire low tension system, besides furnishing the town with arc lamps, for which purpose they operate 2-50 light 4 amp. Hall dynamos.

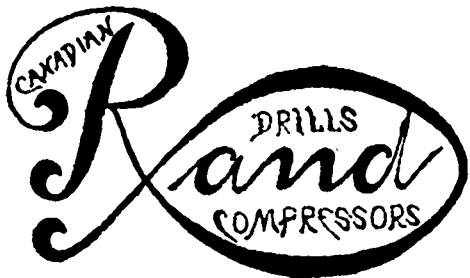
WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY PITTSBURG, PA.

THE LEADING MANUFACTURERS OF ELECTRICAL APPARATUS FOR ELECTRIC LIGHTING, POWER TRANSMISSION, AND ELECTRIC RAILWAY PLANTS

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BUFFALO—No. 1130, Guarantee Bldg. PHILADELPHIA—Girard Bldg. SAN FRANCISCO—Mills Bldg. ATLANTA, GA.—Equitable Bldg.

WESTINGHOUSE ELECTRIC COMPANY, Ltd., 22 Victoria Street, LONDON, S.W., ENGLAND.

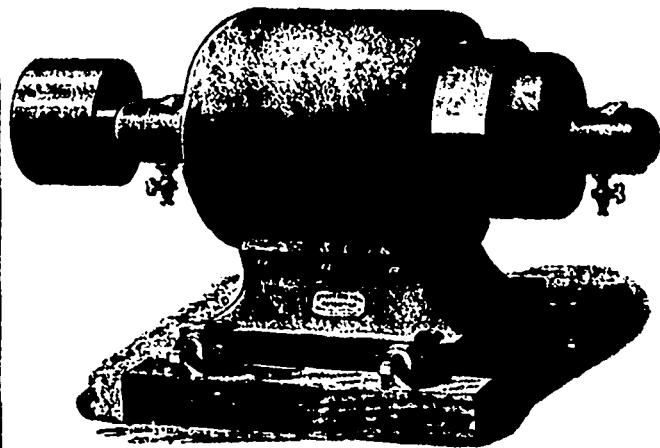
For CANADA address, - - - - - AHEARN & SOPER, - - - - - OTTAWA, CANADA



ARE MANUFACTURED BY



THE Storey Motor and Dynamo



MANUFACTURED BY

THE STOREY MOTOR AND TOOL CO.

John St. North, Hamilton, Can., and Philadelphia.

Send for Catalogue.

Dominion Oil Cloth Co.,

Manufacturers of....

OIL-CLOTHS OF EVERY DESCRIPTION

Floor Oil-Cloth, Table Oil-Cloth, Carriage Oil-Cloth,
Enamelled Oil-Cloth, Stair Oil-Cloth, etc., etc.

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PRESTON, - - ONTARIO.

MANUFACTURERS OF

FINE AND MEDIUM TWEEDS

ADVERTISE IN

The Canadian Manufacturer

DO YOU WANT TO GIVE

YOUR SON

A Profession?
A Start in Business?
A Farm?

YOUR DAUGHTER

▲ A First-Rate Education?
▲ A Dowry?
▲ A Home of her own?

— If so, take out Children's Endowments for them in the —

Manufacturers' Life Insurance Company.

For particulars address, **George H. Sterling**, Secretary,
Head Office, Toronto, or your Local Agent.

GEORGE GOODERHAM, President.

J. F. JUNKIN, General Manager.

Cleveland WIRE SPRING Company, CLEVELAND, OHIO, U.S.



TEMPERED STEEL MACHINE SPRINGS.

SPECIAL SPRINGS of all description to order
and for Upholstery, Furniture, Beds, Chairs, etc.
WIRE, Oil Tempered, Spring Steel and all kinds

Railway Spikes.

Pressed Spikes

Washers

Rhode Island Horse Shoes

Cut Nails

Bar Iron and Steel

ABBOTT & CO., - MONTREAL

The Thompson Electric Co.

HAMILTON, ONT.

"Enclosed Arc Lamps"

To burn 150 hours without Recarboning, for Series, Incandescent, Alternating and Power Circuits.

"Open Arc Lamps"

For all Circuits, Single and Double Carbon Lamps.

We are the only concern in Canada making a specialty of manufacturing all kinds of **Arc Lamps**.

WRITE US FOR PARTICULARS.

The ratopayers of Stouffville, Ont., have voted to expend \$25,000 to inaugurate a gravity waterworks system for that village.

There is a boom in Newfoundland owing to the recent discoveries of coal on the west coast. The deposits are very extensive and the seams vary in width from six to thirty feet. The quality of the product is believed to be equal to the best Welsh steam coal. Experts pronounce the prospects excellent. Sixty thousand tons are already visible, and it is expected that coal mining will become one of the most promising resources of the island.

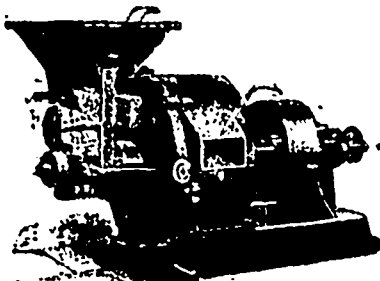
Toronto and Montreal capitalists, after a keen competition with a United States syndicate, have secured the franchise for the construction and operation of an electric railway in Kingston, Jamaica.

Messrs. Tait Brothers' cooper shop and heading mill at Duart, Ont., was damaged by fire a few days ago.

A contract has been let with the Canadian Hand Drill Co., of Montreal, to equip the Foley mine in the Hat Portage district, Ontario, with a complete air-compressor plant, and it is claimed that when completed it will be the largest mining plant in that district. The compressor is of the latest type, with compound steam cylinders operated in conjunction with a condenser. Air is to be conducted all over the different workings, so that when completed operations may be carried on all over the property by means of compressed air as a power. As these workings are scattered, the change will do away with the use of several small boilers, and effect a very considerable saving in fuel as well as in the pay-roll. The larger portion of the machinery is at present on the ground, and the balance will follow in a few days. By the installation of this compressed air plant a very considerable saving will be effected in the cost of production, as the power can all be developed in one concentrated plant, and distributed to the different works with practically no loss.

The Wm. English Canoe Co., Peterborough, Ont., have recently built large canoes for carrying heavy loads, and at the same time to be easy running. They are intended specially for the use of surveyors, prospectors and mining companies, and are built from fifteen feet to twenty-four feet in length, and weigh from ninety to one hundred and fifty pounds. Full information will be sent on application.

J. J. Stevens, late of Stevens, Hamilton & Company, manufacturers of tools and machinery at Preston, Ont., has made arrangements with the owners of the patents to manufacture the Model gas or gasoline engine which has been on the market in the United States for some time.



ROCK

CRUSHERS

EMERY

MILLS

AND

MILLSTONES.

FRENCH BUHR AND ESOPUS STONES. *Send for Circular.*

STURTEVANT MILL CO.

BOSTON, MASS.

The enlargement and deepening of the Canadian canals is proceeded with, as the following particulars show: "The Lachine Canal is being deepened, the new Soulanges Canal, which is to replace the old Beauharnois, is well under way, and the Cornwall, which has never given satisfaction to the carriers, is being attended to. Perhaps the most important work now going on is the re-building of the present Galops canal, which extends between Iroquois and Cardinal, a distance of seven miles. The re-building, it may be stated, consists chiefly in widening, straightening and deepening the water course. This little stretch of water has been notoriously insufficient for the accommodation of the carrying trade of the country, and its enlargement has long been recognized by the governments of the day. Its shallowness, but more especially its tortuosity, has

always been the bane of the fresh-water skipper. The steadily increasing traffic on the great St. Lawrence necessitates the deepening and enlargement of the canals. The Galops is now in the hands of the government. It is intended that when completed it shall have a depth of fourteen feet throughout, instead of nine, as at present. The depth may possibly be increased. At Iroquois, where the only lock exists, which lock is 200 feet by twenty-five, it is intended to construct one of 800 feet by fifty, capable of allowing the largest lake vessels, or even small-sized ocean-craft to pass through. The length of the lock will be 1,100 feet over all, with a lift of seventeen feet. There will also be a guard lock at the western entrance, 275 by twenty-five feet. The walls of the lock will be constructed of solid masonry of the most improved fashion. The reports that our great waterway to the sea is being grad-

ually improved have, therefore, good basis in fact.

Messrs. Stephen and Lewis Pierce have purchased the Aylmer grist mills, Aylmer, Ont., from Mr. E. R. Ingram.

The Williams Shoe Company, Galt, Ont., are moving their plant to the building formerly occupied by the Stevens and Hamilton Company in that town. The working staff will be increased as soon as the change has been effected.

Wm. W. Stewart, Lucknow, Ont., is erecting a new planing mill on the site of the building burned in June last. The new mill will be two stories, 79x56 ft., and will be thoroughly equipped with modern wood-working machinery, and a new eighty h.p. Bell engine from the Bell Engine Works, Hensall.

**YOU SAVE
20%**

BY USING
**CRYSTAL
CARBONATE**

PUREST AND CHEAPEST
FORM OF

SAL SODA

MADE ONLY BY
THE UNITED ALKALI CO., LIMITED

ORDERS FOR IMPORT ONLY

ARTHUR P. TIPPET & CO., Ag'ts for Canada
MONTREAL

TO BELT USERS:

IT IS NOT WIND YOU WANT.
RESULT OF MY TRIP:

**GENUINE
ENGLISH OAK
TANNED BELTING**

D. K. McLAREN

24 Victoria Square, - MONTREAL

FIRE PROTECTION.

INDICATOR VALVES. CHECK VALVES.
INDICATOR POSTS.
FIRE HYDRANTS. CAST IRON PIPE.

For the modern equipment of your Mill with Automatic
"Sprinkling System," write us.
We manufacture a full line of these goods.

ST. LAWRENCE FOUNDRY CO.
OF TORONTO (Limited),
TORONTO, - CANADA.

SHUTTLES



BOBBINS
SPOOLS
PICKER
STICKS
CLOTH
ROLLS, Etc.

JOHN HOPE & CO., - - LACHUTE, QUE.

Penman Manufacturing Co., Limited
PARIS, ONTARIO.

Manufacturers of
HOSIERY, SHIRTS, DRAWERS,
GLOVE LININGS AND YARNS

Selling Agents: D. MORRICE, SONS & CO., Montreal and Toronto.

ROSAMOND WOOLEN COMPANY
ALMONTE, ONT.

FINE TWEEDS, CASSIMERES, AND FANCY
WORSTED SUITINGS AND TROUSERINGS.

Guelph Woolen Mill Co., Limited
GUELPH, ONTARIO

Manufacturers of
Underwear, Hosiery, Wheeling, Fingering and Worsted Yarns
KIDDERDOWN FLANNEL, ETC.

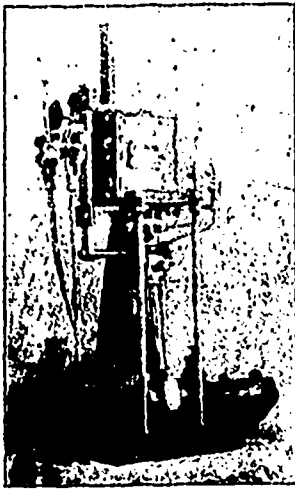
Selling Agents: Donald Fraser, Montreal E. H. Walsh & Co., Toronto.

AUBURN WOOLEN COMPANY
PETERBOROUGH, ONT.

Manufacturers of Fancy Tweeds, Etc.
Selling Agents, D. MORRICE, SONS & CO., Montreal and Toronto.

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Safety Water Tube BOILERS
PROPELLER WHEELS
Stationary Engines and Boilers

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TRADE MARK.

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METAL

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 words,
 and

ATLAS does not rely on empty
 talk for its UNSURPASSED
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*It has Been Undeniably
 Proved that ATLAS METAL
 is Superior to all and has
 stood under Enormous Pres-
 sures and Phenomenal Speed.*

TRY ATLAS METAL
 WHERE
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WE CHALLENGE A TEST

Against any Anti-Friction
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Kemp Mfg. Co.

TORONTO.

Galvanized Steel Pails

FOR FIRE PURPOSES ONLY.

NO HOOPS TO FAIL OFF.

PRICES ON APPLICATION.

The Dominion Bridge Company, Montreal, are placing in position the steel roof of the new power-house of the St. John, N.B., Railway Company.

The town hall at Galt, Ont., was destroyed by fire a few days ago. Loss about \$1,500.

The Ballard Electric and Machine Company, Toronto, has been incorporated with a capital stock of \$24,000, to manufacture electrical apparatus, motors, dynamos, etc.

The Laing-Ritchie Company of Essex, Ont., has been incorporated with a capital stock of \$40,000, to manufacture agricultural implements.

Messrs. A. J. Hiltz & Co., Truro, N.S., have increased the capacity of their wood-working factory by installing a twenty-five h.p. electric motor.

The Rogers Electric Company, London, Ont., are installing the electric lights in the Anderson Furniture Company's factory at Woodstock, Ont.

Sealed tenders endorsed: "Tender for Lock Gates," will be received until the 14th day of September, 1897, for the construction and setting up in working order of sixteen pairs of Lock Gates. Plans and specifications of the work can be seen on and after the 6th day of September, 1897, at the office of the Chief Engineer of the Department of Railways and Canals, Ottawa. Printed forms of tender can also be obtained at the place named.

We are in receipt of price list of Lancashire patent hair belting, manufactured by the Lancashire (Eng.) Patent Belting and Hose Company, and for which Mr. D.K. McLaren, 24 Victoria Square, Montreal, is sole agent for the Dominion. Mr. McLaren will be pleased to mail list and full particulars on application.

The exports of butter and cheese from Montreal so far this season have been the largest in the history of the trade for that period of the export season. The cheese markets abroad have shown a marked improvement the past two weeks. Prices in the country continue to advance, and it is reported that contracts for September and October have been refused at 10¢. A sale of 15,000 boxes, representing \$105,000, by a Montreal firm at 10¢ is reported. It is one of the largest sales of the season.

The Gurneys, of Toronto, and other capitalists, have formed a company and will engage in the heating business in London, England.

The Goldie & McCulloch Company, Galt, Ont., have been awarded the contract for the engine and boiler for the new elevator at Kingston, Ont.

The report of Mr. Thomas Southworth on Forestry in Ontario, shows that in the lumber business of Canada about \$18,000,000 of capital is invested, employing 40,000 people with a wage roll of \$12,000,000, and an annual output valued at \$45,600,000.

The Intercolonial Deep-Well Boring and Manufacturing Company, Petrolia, Ont., has been incorporated with a capital stock of \$150,000, to bore and drill wells for all purposes, and to manufacture drilling tools, etc.

Messrs. George A. Merriek and Thomas A. Anderson have commenced business in Winnipeg, Man., under the style of the Manitoba Building Paper Company.

The docking of the immense American battle-ship Indiana, at Halifax, was one of the events which contribute to advertise Halifax to the world at large.

The R. J. Lovell Company, Toronto is being incorporated with a capital stock of \$3,000, to carry on the business of printing, lithographing, embossing, etc.

The Ion Specialty Company, Toronto, is being incorporated with a capital stock of \$50,000, to manufacture specialties, to deal in patents, etc.

Cyrile Carron, who owns a planing mill at L'Original, Ont., will start a carding mill as an adjunct to his planing business.

The Cowichan Lumber Company, Bobcaygeon, Ont., is being incorporated with a capital stock of \$150,000, to do a general lumbering business in British Columbia and elsewhere.

G. A. Burrows is start a new carpet factory at Breslau, Ont. The plant includes some of the latest improved Knowles looms, and a first-class line of carpets will be placed on the market.

The time for receiving tenders for hydraulic or electric elevators; electric and gas fixtures; pneumatic clucks; steel and wrought iron; terra-cotta, brick arching and concreting for the new municipal buildings, Toronto, has been extended to September 20, 1897. Full particulars may be had from John Shaw, Mayor, Toronto.

The Northey Manufacturing Company, Toronto, recently shipped a new steam engine to the A. W. Brodie mills, Hespeler, Ont., to be used in the fire protection of the town.

It is understood that the Cornwall, Ont. Electric Street Railway Company are making arrangements to run their line from the depot and freight shed in town to the main station on the line of the O. & N.Y., a mile and a half distant.

The Robb Engineering Company, Amherst N.S., have just constructed and tested a locomotive for the new Pole Railway, running from Weymouth, Digby County, N.S. to New France. It resembles an ordinary locomotive, boiler and engine mounted on a flat car, the wheels of which are concave to fit the wooden rails of the road, which are about a foot in diameter. This is said to be the first locomotive of this type ever in use.

Messrs. John and Thomas Rowan, Orangeville Ont., with others have formed a company to utilize the deposits of marl recently discovered in the township of Caledon near Orangeville.

The Rathbun Company, Deseronto, Ont., have received an order for 200,000 feet of timber for the new railway bridge to be built over the St. Lawrence River at Cornwall, Ont.

The Kerr Engine Company, Walkerville, Ont., will supply the pumping machinery for the new waterworks at Renfrew, Ont.

The Essex Standard Gas Company, Essex, Ont., has offered to furnish Chatham with natural gas for heating purposes at a rate of thirty cents per thousand cubic feet. The city offices are to be heated free of charge and the schools at twenty cents per thousand feet.

The Granby Rubber Company, Granby, Que., have recently put in six paper box machines and will in future manufacture their own paper boxes in which to put up their goods.

The Durham Woollen Mills Company, Durham, Ont., has been incorporated with a capital stock of \$25,000, to manufacture yarns, flannels, blankets, tweeds, hosiery, etc.

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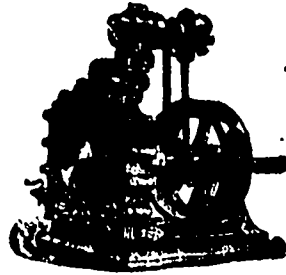
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Nutmeg Extracts.**

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ALSO FOR

Attachment Direct to Fans, Blowers, Centrifugal
Pumps, Stokers, Steering Gear, Etc.

Correspondence Solicited.

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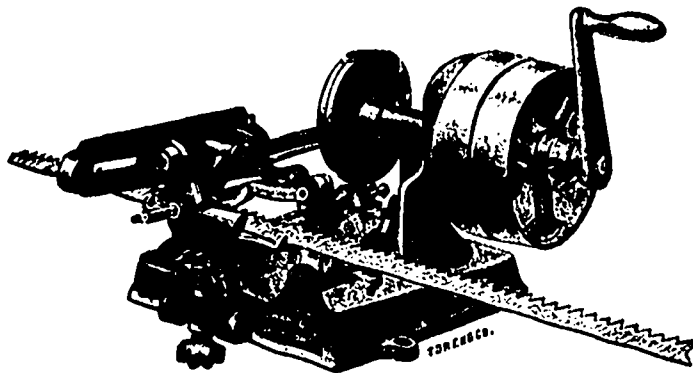
EASTMAN, P.Q.

Much of the machinery manufactured by the Buffalo Forge Company, Buffalo, N.Y., is used by the United States Government in its federal buildings, post offices and other public structures of the larger and better class. Buffalo fans, engines and heaters are widely adopted for the heating and ventilating plants. Among such work being constructed by the above company is the apparatus for the United States Government post office at Washington, D.C., consisting of three large special steel plate fans in the three-quarter housing type, capable of delivering a total of 300,000 cubic feet of air per minute, each fan having a suitable direct attached horizontal engine of the centre-crank type, with cast-iron sub-base. The court house and post office at Omaha, Neb., is being similarly equipped. The United States revenue cutters and torpedo boats, also, afford opportunity for the use of specially designed fans and engines, and it is here that the Buffalo Forge Company have had wide experience in meeting the requirements incident to such service. A number of orders are now in process, the most recent being for the United States Torpedo Boat No. 17. The electric light plants of the Government, both on shipboard and land, are a field for the introduction of Buffalo automatic engines. There are several forms of single and double types. A recent introduction is the open marine frame, which, for direct connected work is meeting with wide sale. The centre-crank self-oiling enclosed horizontal is a favorite form for larger plants.

BAND SAW FILING MACHINE

The Simplest, Best, Most Durable and
Accurate Machine of its Class

Every User of
Band Saws
Should Have
One



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Saw Mills and Wood-Working Machinery of all kinds, Corliss and
Slide Valve Engines, Boilers, Moffat's Improved Feed Water
Heaters and Purifiers. We make the Best. Write and Get Our Prices

Toronto Warehouse, - - 160 King Street West

The Metallic Roofing Company of Toronto have just issued a new, well-prepared and handsome catalogue of their goods. It is an exceedingly handsome affair, filled with photogravures of the goods offered. A look through it shows the artistic quality of the designs furnished for the metallic embossed ceilings, wainscottings, etc., supplied by the firm. As for the quality of the goods the best advertisement in it is supplied by the lists of firms who use the goods. Among the Toronto buildings which have been built with these appliances are the new I. O. F. Temple building, the C.P.R. Exhibition building, the Yonge and Dundas Street Fire Halls, the offices of Messrs. Davidson, Hay & Company, the Gendron Manufacturing Company, Mason & Risch, the Mercer Reformatory, the School of Practical Science, the Rossin House block, the Church Street School, the Athenaeum and Liederkrantz Clubs, the Heintzman Piano warehouses, etc. Outside of Toronto may be mentioned the Asylums for the Insane at Mimico, Kingston, Hamilton, London, and Brockville, the Asylum for Idiots at Orillia, the Deaf and Dumb Institute at Belleville, the Opera House, City Hall and Ladies' College at Hamilton, the Kingston Collegiate Institute, the London Y.M.C.A. building, the Te-cumseth House, London, etc. The entire catalogue is extremely interesting.

The British Columbia Mills Trading Company, of Vancouver, B.C., are lighting up their mills by electricity, the plant being furnished by the Royal Electric Company, Montreal.

The Pritchard-Andrews Company, of Ottawa, has been incorporated with a capital stock of \$50,000, to carry on the business of engraving, lithographing, printing, book-binding, etc., and to acquire the business heretofore carried on by Messrs. Pritchard and Andrews, as manufacturers of stamps, seals, etc.



THE B. GREENING WIRE CO. LTD.
PERFORATED METALS.

HAMILTON, - CANADA

CATALOGUE AND PRICES ON APPLICATION.....

The Canadian Pacific Railway Company have recently largely increased the staff in their car shops at Porth, and are working overtime. The Royal Electric Company is installing a plant in their shops.

Now Brunswick evidently has quite a future as a pulp manufacturing centre. The English syndicate who recently purchased the Masterson mill at Miramichi are making

extensive improvements. There are prospects of at least four other mills being erected, two of them in the immediate vicinity of St. John. Messrs. A. Cushing & Co. will build a mill of a capacity of twenty tons daily, adjoining their lumber mill at Union Point, providing they are given water free of charge. There is no doubt that some of these mills, and perhaps all, will be in course of erection within a few months.—St. John, N.B., Globe.

THE BIG ST. LAWRENCE POWER PLANT.

At Messena, on the St. Lawrence river, it is proposed to erect turbines, generators and a great power station from which will radiate lines stretching miles away carrying the pent-up energy to factory and home. It is understood that a vast amount of capital will be put in circulation for the furtherance and successful completion of this gigantic plant the cost of which erection will range from \$3,000,000 to \$6,000,000. This company has been in London selling bonds to the extent of \$3,000,000, its original capitalization being \$6,000,000.

Messena is unique as the site for a power station. The N.Y. Central and Grand Trunk Railways converge and unite at this point and the Vermont Central is but six miles away. It is presumed that this great flood of energy will so build up Messena and the surrounding districts that they will in a very short time be classed amongst the greatest of manufacturing districts. The power house in which the generators and turbines will be placed is to be erected near the Grass river, from which they hope to obtain before two years have passed at least 75,000 horse power. The water power secured will be due to a canal reaching from the St. Lawrence above the rapid, that bridge the river near Messena to the valley of the Grass river. At this point a head of over forty feet is obtained, and power sufficient to satisfy the expectations of the engineers in charge. This canal will have dimensions as follows: it will be two hundred and twenty-five feet wide and twenty-five feet deep; the water flowing through it re-entering the St. Lawrence river a short distance below the rapids.

The reader has, perhaps, already realized that the great power set in motion and sent pulsating through huge cables to distant points represents potentially enormous interests. The control of power is the control of wealth, and there is no better gold mine. No clearer example of the modern purse of Fortunatus than a great stream whose force is turned to use in this manner. The utilization of water-power is but the beginning of a great cycle of dependent interests.—The Electrical Age.

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

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PIG IRON

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IMPROVED SPECIAL FEATURES
Economy in Use of Water, Great Power
Equal Efficiency at any Gate-Opening
Steadiness and Strength of Motion
Sensitiveness to Change in Gate-Opening
Ease for Regulation by Governor
Strength and Durability
Freedom from Trouble with Step
Not Clogged by Ice
Accessibility to all Parts

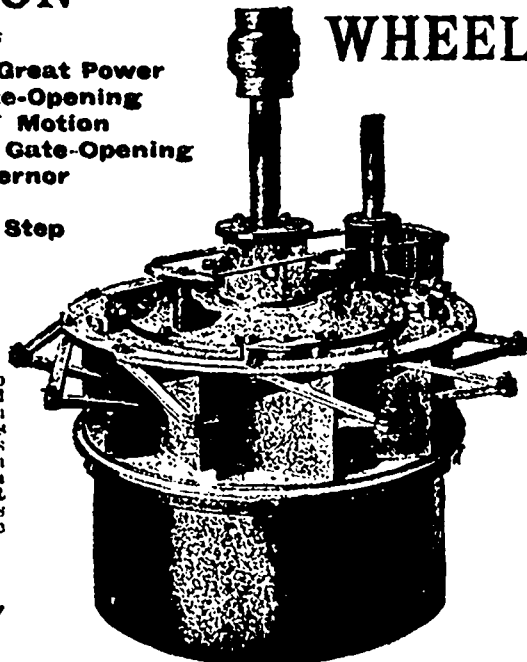
ST. CATHARINES,
 February 9 1897

Messrs. Wm. & J. G. Greey,
 Toronto.

GENTLEMEN.—Your favor of the 5th to hand. Have been away from home, and hence delay in answering your letter. You ask us how your Dominion Wheel compares with the Well, sirs, the comparison is this—we have been using two 38 inch diameter, double wheels, and your 54 inch Dominion wheel we put in December last gives us as much power as both and does not use but very little more water than one of the 38 inch wheels. Yours truly,
 COOK & SON.

MANUFACTURED ONLY BY

WM. & J. G. GREEY
TORONTO



NEW DYE STUFFS.

ALIZARINE CYANINE GREEN paste, brought out several months ago by the Farbenfabrik, has proved such a successful and necessary color in the dye house, that the firm was pleased to produce an improved brand, Alizarine Cyanine Green G extra, an Alizarine dye-stuff of excellent qualities.

This German firm now places upon the market a third brand, namely, Alizarine Cyanine Green E. paste, (patented). This color resembles the G. extra mark, except its better covering property and cheaper price. The method of application, the great fastness to light, and relatively good fastness to milking, are the same in both cases.

Alizarine Cyanine Green E. is especially adapted for the production of dark bottle green and dark blue green shades on horse wool, yarn stubbing, and piece goods in combination with the alizarine cyanine or alizarine blues. It may be also combined with coeruleine and alizarine blue black B as bases, thus forming a cheaper color dye.

Alizarine Cyanine Green E., on account of its good covering power and lower price, will without doubt meet with marked and wide

spread appreciation. For new shade card No. 605, 1897, and samples, apply to the Dominion Dyewood and Chemical Co., Toronto.

LACTIC ACID has the advantage over tartar and oxalic acid, that in presence of sulphuric acid it is a much stronger reducing agent. A lactic acid mordant bath exhausts better than a bath with tartar and oxalic acid, and thus a considerable saving in chrome is effected. Shades dyed on this mordant are fuller and somewhat faster to milling.

Shades dyed on 2 65 per cent lactic acid, 1.35 per cent. bichrome, 1 per cent. conc sulphuric acid are decidedly fuller than shades dyed on the following mordants (1) 3 per cent. bichrome, 2 1/2 per cent tartar, or, (2) 3 per cent. bichrome, 2 per cent. oxalic; or, (3) 3 per cent. fluor chrome, 1 per cent. oxalic acid.

Blue dyestuffs, besides showing greater intensity on a lactic mordant, are slightly

redder in tone, which is, however, not an objection. With lactic acid the addition of sulphuric acid is absolutely essential. The Farbenfabriken of Elberfeld, Germany, have recently put upon the market a technical brand of lactic acid of great purity, free from iron and glutinous matter, which is (as every dyer knows) of vital importance to the production of clear, pure shades. Samples, comparative tests, circulars, and any recent information on lactic acid and its application will be forwarded gratis by The Dominion Dyewood and Chemical Co., Toronto, sole agents in Canada for Farbenfabriken vorm. Friedr Bayer & Co., of Elberfeld, Germany.

PRINSEOL BLACK SS. is a new dye-stuff, very fast to light, and cheap in price. This color is very suitable for dyeing a deep black in combination with acid green, yellow or orange, and also for producing the well-known Aachen brilliant blue, a dark navy blue, in combination with an acid violet, or

other blue coloring matter. Cotton threads are, in the dye bath, stained, but on continued boiling become clear. Dye with 3 per cent. acetic acid and 10 per cent. gluber's salt, enter goods at 120 F., and bring gradually to boil. In order to completely exhaust, add at intervals 1 to 3 per cent. sulphuric acid.

PLUTO BLACK, B. R. A. G. These three new brands of cotton blacks pluto black, B., R., and G., brought out a month ago by the Farbenfabriken, were introduced by the distribution of small dyed skeins. A pattern card has now been prepared with great care, which shows the comparative value and proper mode of application. These colors are of especial use for suitings, on account of their excellent fastness to light. In this respect they surpass the well-known Direct Blacks. For new pattern card No. 604, 1897, giving full information, apply to The Dominion Dyewood and Chemical Co., Toronto.

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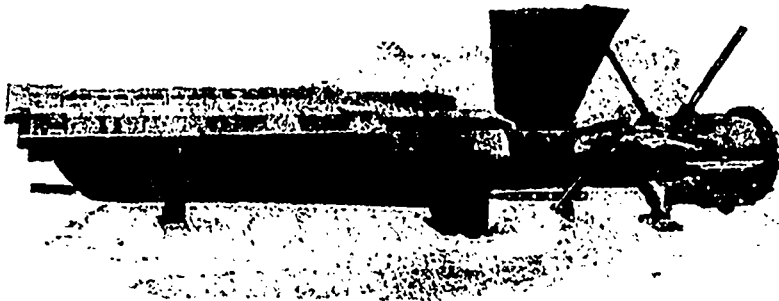
FOR SALE IN GOOD CONDITION { **One 100 K-W Multipolar Generator,**
Two 80 K-W Bipolar Generators, 500 Volts

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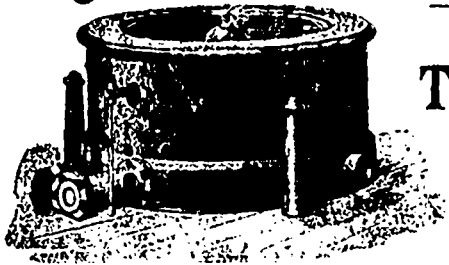
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MANUFACTORIES, DYE HOUSES,
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Oakey's Emery Paper, Black Lead, Etc.
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For Wood-Working, Paper Cutting and

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Machines



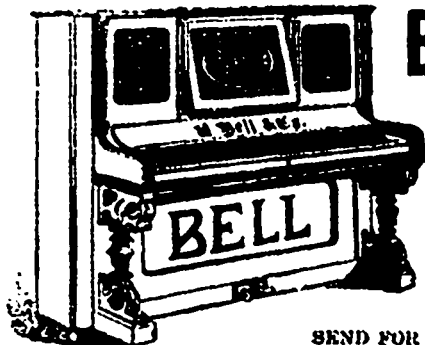
Shear Blades,
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Etc., Etc.



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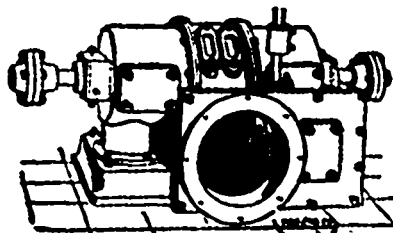
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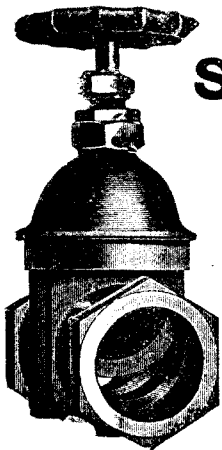
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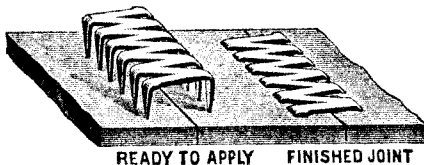
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