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VOL. 38.

TORONTO, MAY 19, 1899.

No. 10.

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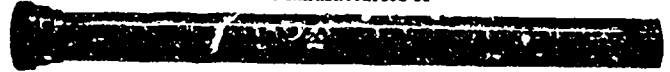
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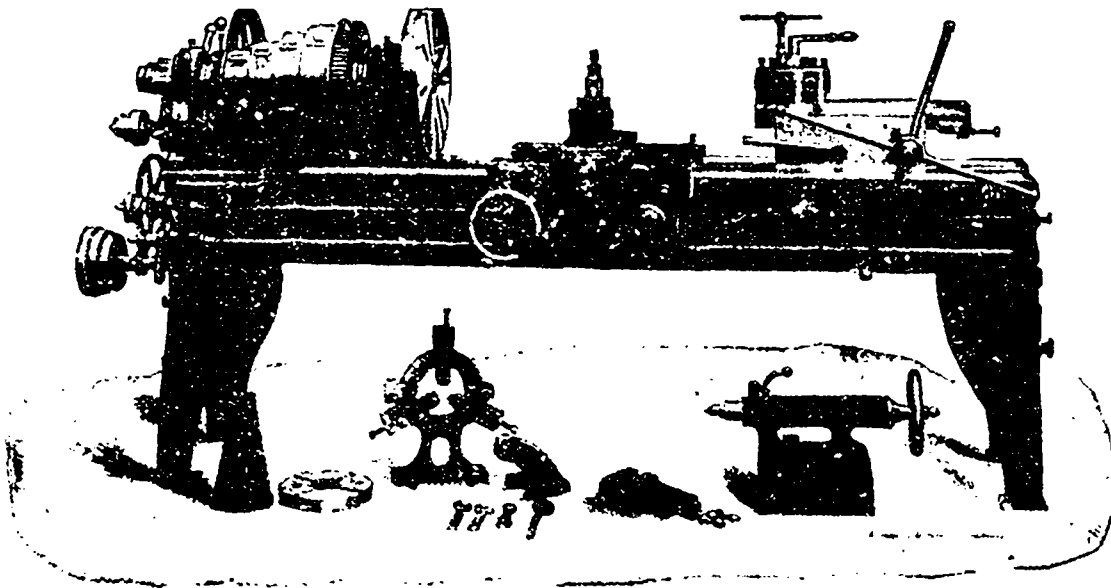
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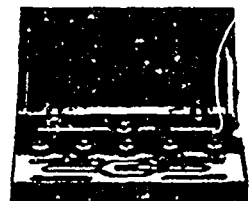
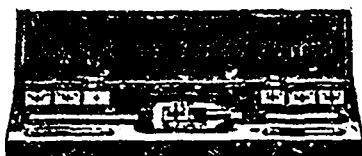
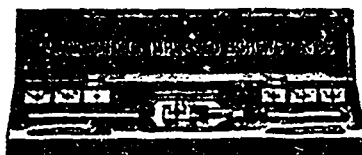
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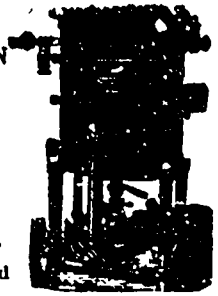
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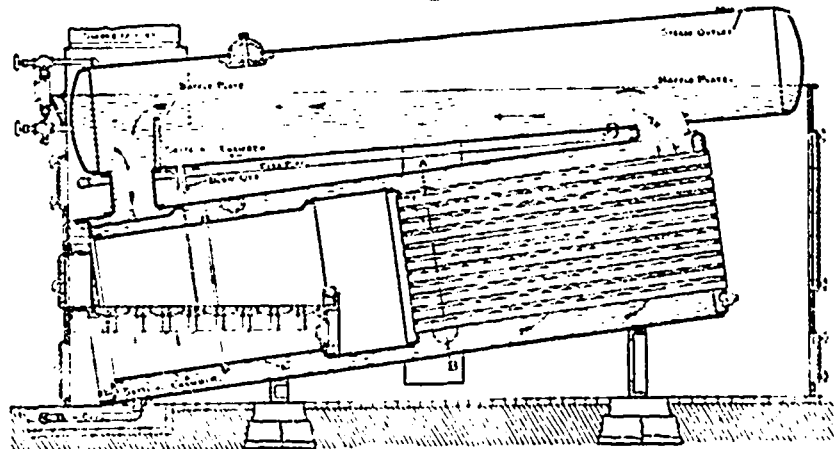
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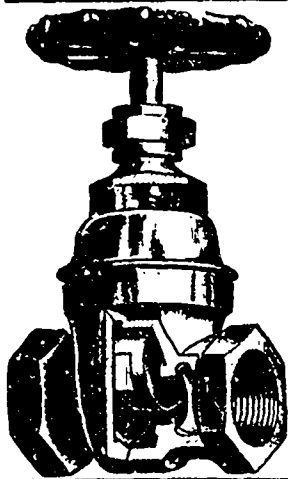
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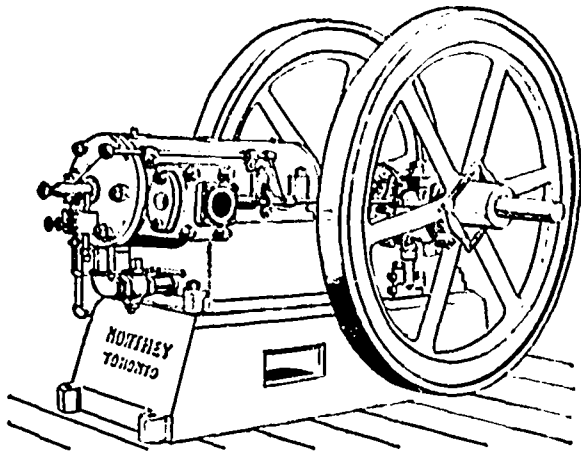
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LABOR CONDITIONS IN GREAT BRITAIN.

Ever since the recession of the Conservative party from power, and the going into force of Finance Minister Fielding's remodelled tariff, in which a twenty five per cent. preference is shown to British goods coming into Canada, Sir Charles Tupper and the other Conservative leaders have been attempting to show that the reason why our import trade from Great Britain is at a virtual standstill is because of the changes that have been made in the tariff. They say that if those changes had not been made our imports from the Mother Country would have increased in similar ratio with those from the United States, which is not now the fact. On the other hand, in our opinion, the explanations given by the friends of the Government are not satisfactory and to the point they have overlooked the true solution and answer to the Conservative arguments.

But it is not far to go to discover the cause or causes of this failure of Great Britain to keep step to the music that is being played by American manufacturers in their invasion march into Canada. It is not so much because of any tariff favors shown to our American friends, nor any discrimination for or against British manufacturers shown by Canada, but the trouble lies with the conditions that prevail in Great Britain. It is not surprising that there should be such an enormous displacement of British manufactures in the Canadian market by American manufactures, when that fact applies with astounding force to the British market itself. Mr. Murat Halstead, United States Consul at Birmingham, writing to the State Department at Washington, discussing the disposition of the British people to give preference to British products whenever possible, says:—

It might be well to understand that "free trade" Great Britain, owing to a commendable feeling of loyalty to British interests and the almost universal recognition of an obligation

to purchase, whenever possible, articles of British manufacture only, is in a degree a very well protected country. One can pick up almost any publication—a daily, a weekly, or a monthly—and see that the advertising line regarded as most catchy is "Support home industries, give employment to British labor." There is real value in that line, as there is in it the spirit of the people, very few of whom will buy knowingly an article of foreign manufacture if the same article is manufactured in Great Britain, even though this be higher in price; and from the mouths of store or shop keepers the word "imported" has not to the ears of Britishers the dulcet sound it has with us. This form of patriotism, it seems to me, is worthy of our partial imitation. The determination to support home industries is the first obstacle the American salesman encounters in this country, and the second is the length of time it takes to introduce a new article. I could give instances without number where manufacturers here have declined advantageous offers of component parts of the articles they make, or have even refused to allow such offers to be made, when they knew that the components were of foreign manufacture. They simply would not permit themselves to be tempted by price or quality. Press and public both feel at liberty to take to task anyone buying manufactured articles abroad, and a good excuse must be given.

Some months ago it was made known that the Midland Railway Company had ordered twenty locomotives, ten each from two manufacturing firms in the United States, and the newspaper comments were many and reproachful; and at the annual meeting of the Midland shareholders, the chairman explained that the company's business had increased so greatly that engines for immediate use were absolutely necessary. He said the Company had given orders for two hundred locomotives to British manufacturers, and would have been glad to have given the rest of the orders at home, but all the engineering works of Great Britain were so far behind with work, owing to the great engineering strike, that no British firm could be found to accept orders beyond what had been given them; so, as a last resort, the Company had to look to America, and they found that not only could they have engines built very cheaply there, but that the American engines would be delivered long before the British engines were ready. At that time the London Daily Mail printed a special cablegram from Philadelphia stating that one of the directors of the Great Northern Railway of England had visited that city within a few days, and the result was an order had been given to the Baldwin Locomotive Works for twenty engines for use on the Great Northern lines. The concluding line read "Baldwin's recently received an order for thirty locomotives for the Midland Railway," and the explanation is, I believe, that the Midland has recently increased its American order, though originally only ten locomotives were ordered from Baldwin and ten from Schenectady.

This cablegram very naturally caused considerable excitement, and the Daily Mail forthwith requested an explanation from its Philadelphia correspondent, which came promptly, and which that journal gave as follows:—

The exclusive information cabled by our Philadelphia correspondent that the Great Northern Railway Company has placed an order for a number of engines with the Baldwin Locomotive Works in that city was, on enquiry yesterday at King's Cross, confirmed by Mr. C. Steel, the general manager.

As that gentleman explained to a Daily Mail representative, it was a matter of great regret to the directors that they had been compelled to take this course; but there was no alternative. It was impossible to obtain the engines in this country by the time required, and therefore it was necessary to go elsewhere for them.

Mr. Steel gave striking proof of the truth of what was stated in our leading article yesterday as to the inability of British engineering firms to promise prompt delivery. Apart from the engines which have been ordered from America, the

general manager said the company already had engines on order in this country. For months it had been wanting them, but could not get them.

"We have every wish to be loyal," he said, "and have no desire to send trade out of the country; but all the engineering firms are full, and the orders we have given are months behind time in being fulfilled."

The Daily Mail, commenting editorially on this order under the caption "The Result of a Mistake," said—

The news that the Great Northern Railway Company is following the example of the Midland Company and ordering locomotives in America may well inspire in us some uneasy reflections. The original mischief was caused by the most insane and disastrous labor struggle of recent years—the dispute in the engineering trade. As a consequence all work in our British establishments was thrown back, and the foreigner was given a great opening, of which he took the fullest advantage. Owing to the arrears of work, our British firms were unable, even at the close of the struggle, to promise prompt delivery. And thus the hold which the foreigner has gained is being strengthened, for those who want their orders quickly completed are going to the United States.

As an example we may quote from Bradstreet's this instance: A Sheffield firm required six planing machines—all to be speedily delivered. Two were ordered in America, two in Glasgow, and two in Leeds. The New York Trade Journal states that the only firm which delivered its goods on time was the American. Its planing machines were shipped and actually erected in part before either of the home firms had done more than cast the bedplates.

No doubt, it was stress of work due to the strike which hampered the two British firms. But let the community consider the net result. The foreigner has scored a success and won an opening where the Britisher formerly had things all to himself. The home engineering firms shrink from laying down fresh plant and adding to their capital to meet a rush, which is due, as they consider, to the arrears that have accumulated, and which, when it passes, will leave their extra machinery and capital unemployed.

There is, too, a further moral for the workmen. From the Clyde shipbuilding yards the story comes that the men, who are drawing high pay and can earn all that they want by putting in three or four days in the week, can not be persuaded to labor continuously for the six days. It is certain that the Clyde yards are so busy that they are turning orders away, with the result that these go to foreigners. Here, then, the men are shortsightedly acting against their own larger interests, and are giving to the alien half the loaf, when, with energy, they might keep the whole loaf to themselves. At present, this is all very well; but when the slack times come, how will the men like the foreign competition which they have encouraged?

Mr. Halstead, commenting upon the disposition of the British workmen to go on strike upon every possible occasion, and to take numerous holidays, says:—

The day after to-morrow will be Good Friday. It will also be bank holiday, which is a legal holiday, and Monday will be another bank holiday. Last year, at a similar period, there were blue skies in manufacturing Birmingham for nearly ten days, and it was eight days before I saw the smoke from the first factory chimney; and the owner of that factory, perhaps overwhelmed with orders, was probably making a vain effort to coax some of his people back to work. A manufacturer will say:—

I would be happy if I could even get my men back in a week after a bank holiday; but it is hopeless to try to get fairly started again inside of ten days, and one can not, you know, afford to burn fuel for the half dozen who will go to work. My clerks will take stock, and, as an encouragement and with a hope of improvement in the future, I pay extra wages to any of the factory hands who do turn up; but, as the machinery is not going, they are put at the stock taking.

If the weather is clear there will be over a week of blue skies again in the Midlands this year. Will the facts that

British engineering firms are so busy that orders for locomotives must go abroad, and machinery and many other things must be purchased, whether from home or not, make any difference? Not a bit of it, and there are six holidays during the year. At Easter and at Christmas, they come in pairs; so that there are really four periods during the year with from a week to ten days of national idleness; and during the fifty-two weeks of the year, there is on every Saturday a half holiday, which is so universally observed that even the repair hands in the smallest bicycle shops lay off, and on this great bicycle-riding day it is almost impossible, after 1 o'clock, to have the slightest repair made to a bicycle, to replace a lost nut, or buy a monkey wrench, a bottle of oil, a pump, or to get a puncture stopped; and with a percentage of workmen, Monday is another holiday, a sort of a Saint Recovery day.

The introduction of American machinery had perhaps something to do with the engineering strike. It at any rate brought matters to a crisis, for the workmen were opposed to any kind of new machinery, believed in the one man to one machine practice, made it difficult for a willing workman to do more than a minimum of labor, and wasted from ten to twenty minutes after the bell rang at the end of the breakfast, the noon time, and the tea recesses. Now, there are hundreds of American time clocks in British factories.

The Daily Mail editorial and special cablegram give a good idea of what advantage the engineering strike has proved to be to "foreign" competitors. The slate strike introduced well-machined, well-colored American slate; and the Welsh coal strike of last summer made American coal a competitor of British in Mediterranean and South American ports. Strikes here are not based so much on wages as on factory friction. Mr. Halstead knows of a factory with eight hundred hands, a large proportion of them highly skilled, and their average wages hardly equal 70 cents a day, and the foreman's two guineas (£10.20) a week is considered ample compensation and he has worked faithfully for the same employer for a quarter of a century.

THE REVENUE FROM CUSTOMS DUTIES.

Hon. W. S. Fielding, Minister of Finance, in his budget speech in the Dominion Parliament, May 4th, speaking of the financial affairs of the country, said: I have the agreeable duty of dealing with a period which is unquestionably the most prosperous period in the history of the Dominion of Canada. I shall treat in the first place of the fiscal year ended June 30th last, and as some nine months have elapsed since that date and all the main features of the year's accounts have long been public property, I shall be as brief as is consistent with the importance of the subject. Speaking generally, the operations of the year have surpassed the expectation formed by me a year ago in the statement I then made. The marked revival which has been experienced in all lines of trade in the business world has of course contributed to this result, and I am persuaded that the policy of this Government in relation to all that touches the people's interest has also been an important contributory cause. For the year 1897 the total revenue amounted to \$40,555,238.08, or \$1,255,238.03 more than I anticipated, and \$2,725,459 more than the previous year. The details of this revenue I give as follows, with a comparison of the receipts of the previous year, 1896-97:—

	1897.	1898.	Increase.	Decrease.
Customs.....	\$19,478,247	\$21,704,892	\$2,226,645	
Excise.....	9,170,378	7,871,662		\$1,298,816
Post office....	3,202,938	3,527,809	324,871	
Miscellaneous	5,978,213	7,550,972	1,472,758	

Showing a net increase for 1898 over 1897 of \$2,725,459.

The increase in custom duties is very pronounced. From the analysis of the report of my colleague, the Minister of Customs (Mr. Paterson), I find that on the following articles we received an increase in the amount of duty, as compared with the previous year :—

INCREASE.

Ale, beer and porter.....	\$4,075
Animals, living.....	31,521
Brass and manufactures of.....	4,572
Arrowroot biscuits, rice and macaroni.....	65,729
Flour and meal of all kinds.....	29,119
Brooms and brushes.....	6,132
Candles.....	5,080
Cement.....	37,780
Clocks and clock springs.....	11,302
Coffee.....	3,814
Copper and manufactures of.....	5,342
Cotton, manufactures of.....	172,816
Drugs, dyes, chemicals and medicines.....	34,752
Earthenware and china.....	7,125
Fancy goods.....	90,545
Flax, hemp and jute, manufactures of.....	48,634
Fruits and nuts, dried.....	80,718
Fruits and nuts, green.....	25,147
Furs and manufactures of.....	5,115
Gunpowder and other explosives.....	3,509
Gutta percha and India rubber, manufactures of.....	20,992
Hats, caps and bonnets.....	35,148
Iron and steel, and manufactures of.....	744,756
Jewellery.....	25,624
Lead and manufactures of.....	10,784
Leather and manufactures of.....	48,674
Marble and manufactures of.....	6,413
Metals, composition and other.....	63,879
Musical instruments.....	11,717
Paints and colors.....	10,158
Paper and manufactures of.....	32,288
Pickles, sauces and capers, all kinds.....	3,844
Printing presses.....	11,018
Provisions, viz., butter, cheese, lard and meats.....	243,882
Ships and vessels and repairs on.....	16,474
Silk, manufactures of.....	166,047
Spices of all kinds.....	4,004
Spirits and wines.....	77,803
Sugar, candy and confectionery.....	5,376
Tobacco, manufactures of.....	160,046
Varnish.....	4,287
Vegetables.....	15,167
Watches and parts thereof.....	5,552
Wool and manufactures of.....	144,207
All other dutiable goods.....	507,979

On the other hand, we have received from the following classes of articles a reduced revenue as compared with the previous year :—

Books, periodicals and other printed matter.....	\$20,951
Grain of all kinds.....	116,722
Bricks and tiles.....	2,906
Carriages.....	90,048
Carpets and squares.....	11,047
Coal and coke.....	38,629
Cordage of all kinds.....	5,829
Embroideries, n.e.s.....	30,176
Fish and products of.....	3,791
Glass and manufactures of.....	45,355
Gold and silver, manufactures of.....	2,562
Oils.....	46,316
Seeds and roots.....	10,782
Sugar of all kinds.....	399,639
Sugar, molasses.....	12,630
Wood and manufactures of.....	3,080

WAR SHIPS ON THE GREAT LAKES.

Our esteemed contemporary, The Marine Record, Cleveland, Ohio, one of the most acceptable journals that comes to our desk, is very desirous that some arrangement may be made whereby war ships may be constructed in American shipyards on the Great Lakes, and, in discussing the question, repro-

duces an editorial regarding it that appeared in the last issue of THE CANADIAN MANUFACTURER, declaring that the exact point it desires to make is—not to have war ships on the lakes, but that they may be built there for service elsewhere. It says :—

The sole argument on our part, from an industrial standpoint, is as follows :

There are shipyards, engine building establishments and boiler works in the United States with accompanying industries. Citizens residing and doing business at lake ports have invested millions of dollars in the foregoing industries, and perhaps a million of men, more or less, are interested therein. The antiquated agreement debarbs this multitude of labor and capital from action and discriminates to that extent between citizens of the United States.

We have no doubt but that all interests would agree in stating that any departmental, or rather naval tonnage, constructed on the lakes, should not be fully equipped until it reached the coast ; moreover, the stipulation might as easily be made that no craft built to the order of the Navy Department should remain on the lakes after equipment, partial or complete.

The Marine Record does not seem to have a comprehensive grasp of the circumstances. Salt Lake, in Utah, is entirely within the territory of the United States—Lake Erie is not. War ships built in any American sea coast ship yards have access to the ocean without having to pass through any foreign territory—such ships built in Cleveland or any other American city on the Great Lakes could not have access to the ocean without passing through Canadian territory ; therefore it would be useless to build such ships in American lake cities unless with the intention of instituting and maintaining a menace to Canada, and the intention of the Rush Bagot treaty was to prevent any friction that otherwise might have arisen between the two countries. A man who carries a chip on his shoulder is always supposed to be looking for someone to knock it off, with a view to subsequent hostile proceedings, and the man who loads his pockets and belt with revolvers and the legs of his boots with bowie knives only does so because he thinks he can get the drop on the other fellow. Such actions are not usually indulged in by peaceable people, and they certainly have an appearance of hostility that should not be indulged between neighbors.

If it is unfortunate that every facility exists for building war ships on the Great Lakes without the possibility of floating them to the ocean, it is equally unfortunate that such a condition exists as regards the great inland sea in Utah. But a barrier does exist, and that is all there is of it. It may be that the treaty is an "antiquated agreement," as our contemporary suggests, but it must be observed, not that it discriminates between citizens of the United States, which it does not do, but because it is calculated to preserve peace between that country and Canada.

We repeat what we have already said, that it would not be wise to disturb the terms of the Rush-Bagot convention. The United States cannot build armed ships of modern types or of any other type on the Great Lakes for service in any other waters and get them away from the shipyard in which they were constructed, except by the grace and permission of Canada, and Canada will never grant that permission. The United States can, if so disposed, release itself from the obligation now imposed by the treaty simply by giving the necessary notice, but to do so would not imply unobstructed passage through Canadian canals to the ocean. In the interest of friendship and brotherly love the idea should be abandoned.

THE MILLS OF THE GODS.

It is said that the mills of the gods grind slow, but they get there all the same, or words to that effect. It sounds strange, the news that comes to us from across the water that it is quite possible that at the next general elections in Great Britain one of the issues—perhaps the most fiercely contested one, will be whether there shall be a break away from free trade and the adoption of a measure of tariff protection. Events seem to be shaping themselves in that direction, and it is within the range of possibility that the cry, "Free trade as they have it in Great Britain," will soon lose its force and meaning.

Thus a London correspondent of *The Globe* tells of a remark dropped by Mr. Balfour in his speech at a recent Primrose League meeting; and, while it may not have meant anything really, certainly gives some further ground for the suspicion that a general election may not be far off. Would it not be an interesting development, the correspondent asks, if the question at issue between the two great parties when they next appeal to the country were that of the maintenance of free trade?

In speaking of this matter, the correspondent remarks upon the rapidity with which public opinion veers and changes at the present day, and though public opinion has had no opportunity to express itself on this question, the Government seems dangerously near to being committed to a principle which is certainly not free trade. The writer had before him a leaflet entitled "Protection Within the Empire," written by that doughty free-trader, Lord Farrer, which had just been issued by the Cobden Club. At the beginning of it is laid down as declared by Lord Rosebery in a speech at Manchester in November, 1897, the usually accepted principle of British trade policy. Lord Rosebery was at the time commenting on the doctrine of Imperial preferential trade, and the line of his argument was that not only would such a policy weaken the empire internally and make the idea of empire odious to the working classes of the country, but that it would probably cause other nations to combine for its destruction. "Such an empire as ours," he said, "cannot be built up without exciting great jealousy. We are regarded abroad with envy and suspicion. This is a central fact. Is it not worth your while to walk warily upon the path of empire? Suppose, in face of this suspicion, it was proposed to establish an Imperial customs union. . . . It would place all nations of the world in direct antagonism to it. It is something which, if possible, they would all combine to destroy." Lord Farrer adopts this statement as his own, and proceeds to argue that, through the machinations of Mr. Chamberlain, Great Britain has already departed from the path of free trade and is no longer a free trade country. He points out that on the representation of the Colonial Secretary the reciprocity clause was dropped from the new Canadian tariff, because of the difficulties that would have arisen through favored nation treaties, and that tariff was made a protective one as regards British goods. By his invitation and permission the chartered government of Rhodesia also placed upon foreign goods higher duties than those on British goods, after Lord Ripon, his predecessor, had refused to sanction such a proceeding, as being opposed to British fiscal policy. More lately, countervailing duties on foreign bounty-fed sugars have been levied by

Britain's great dependency, India, with the express consent of the British Government, and Lord Farrer thinks it quite possible that this scheme first saw the light in "that workshop of economical heresies and financial fallacies—the Colonial Office."

In speaking of this measure Lord Curzon, but recently a member of the British Government, said: "To meet them (sugar bounties) by a countervailing duty is to redress the balance and restore the conditions under which trade resumes its freedom. I do not think we need pay much attention, therefore, to the mutterings of the high priests at free-trade shrines. Their oracles do not stand precisely at their original premium. This is not a question of economic orthodoxy or heterodoxy. It is a question of re-establishing a fiscal balance which has been deflected, for their own advantage and to our injury, by certain of our foreign competitors." He also said: "It may be that this bill will set an example of far-reaching significance. By some it may even be regarded as a factor in the Imperial problem." These things show, Lord Farrer contends, that "Mr. Chamberlain and his colleagues, whilst unable to face the odium which would attach to any overt attempt to introduce protection on a great scale into the policy of Great Britain, are yet willing and anxious to adopt the principle of protection, and to undermine the great fabric of free trade where they can do so without attracting general notice and raising a general clamor." How far the Government are prepared to go in the direction of preferential trade should be shown by their action in answer to the protest of the colonial Agents-General against the wine tax. To remit the extra duty on colonial wines, thus giving them a preference over the foreign product, would cause a loss in estimated revenue, Sir Michael Hicks-Beach thinks, of only about £20,000. The matter is, therefore, of small importance financially. It is only a principle which is at stake. If the Government is prepared to admit the principle of preferential trade, it will surely do so on this occasion. It is even reported that Mr. Chamberlain favors such a course, though he has pointed out to the representatives of the Australian wine trade that the colonies interested have always been protectionist, considering their own ends only, to the detriment of the trade of the Mother Country, and that if any concession is made it will not be because they have deserved it, but on broad Imperial grounds. The matter was brought up in the House in a question, and the only objection suggested by the Chancellor of the Exchequer was that foreign countries might send their product through certain of the colonies and thus evade the extra duty. It may be that he will make this the ground for refusing to consider a united protest from the colonies, since the Government appears of late to have developed a remarkable timidity in the matter of speaking out straight about anything.

CANADIAN BICYCLE INDUSTRY.

There seems to be some truth in the report current in Toronto that a bicycle trust is in contemplation, to include all the larger bicycle manufacturing concerns in Canada. Whether the trust will eventuate or not, the incident is sufficient to draw attention to the extent of the industry in this country, the competition that it has to encounter from the United States, and the export trade in bicycles.

It will be seen from the figures, which are taken from the Trade and Navigation returns, or are based upon them and the data supplied by a leading bicycle manufacturer in Canada, that the dealers and assembling jobbers of this country are interested in the sale of 40,000 foreign wheels annually. During the last year the value of the importations of bicycles and parts thereof amounted to \$835,715. The total number of bicycles sold in Canada in the year, according to the manufacturers' own returns, was 50,000, out of which 27,308 were imported from the United States complete. The value of the bicycle parts imported into Canada from all countries during the same period was \$279,752. This latter sum would represent at least 12,000 bicycles at \$27 each. Altogether, then, the total importation of bicycles, completed or in parts, was 39,308, or in round numbers 40,000. This leaves only 10,000 bicycles as having been manufactured in Canada for the home market, and if a fair estimate is made of the number turned out by the big makers here, the total appears to be correct. A prominent dealer says it is understood that the scheme of the combine contemplates amalgamation with a capital of \$3,000,000, of which \$2,000,000 is to be preferred stock at 7 per cent. This would make a first charge of \$140,000. The important point to consider, he adds, is what chance the trust would have of shutting out the 40,000 foreign wheels, and replacing them by Canadian-made goods. The United States manufacturers become more aggressive every year, and it is unlikely that the Government would consent to place a specific duty on the foreign goods.

With the present duty of 30 per cent. the United States, he believes, will continue to send in their bicycles and parts. If Canada cannot compete with them now, the question is, will she be able to do so under the trust? The United States factories have immense resources and output. Taking one example, the Western Wheels Company of Chicago turned out 150,000 wheels in the year. There is another with a producing capacity of 100,000, and there are ten other large firms. The total duty collected on the 27,308 bicycles imported amounted to \$179,259, or to an average of \$6.57 each. There was also collected on bicycle parts \$83,534, making the total duty \$262,793. The average cost of the imported wheels was \$22.20, on which duty was assessed. On referring to the returns for the year ending June 30, 1897, it will be found that the total importation of completed bicycle from all countries reached 24,558, valued at \$705,705, while of parts the value was \$281,713, a grand total of \$1,080,418. Going back to the former statement, one finds that there has been in 1898 a decrease in the value of importations of \$194,703. The total duty collected in 1897 was \$311,241, which gives a decrease of duty for 1898 of \$48,447. The average cost of the wheels in 1897 was \$32.40, against \$22.20 in 1898, a reduction of about one-third. The average duty in 1897 was \$9.27 per wheel, and in 1898 \$6.50. The number of bicycles imported in 1897 was 24,558, and in 1898 27,308. And yet the larger number in 1898 cost \$189,742 less than the smaller number in 1897. These figures go to show that the foreign makers are cheapening products and increasing their exports to us. Other probabilities which have to be considered are that the Miami Company, manufacturing the Ray cycle, propose to establish a factory in Lindsay, and the Pope Company making the Hartford and Columbia wheels, are negoti-

ating to open an establishment in Canada. There are in Canada many important manufacturers of parts, and these it has not been proposed to take into the trust. Their continued competition in the small towns and cities of Canada in providing local dealers with the goods to make a small number of wheels must, of course, be taken into account. All these matters offer scores of points for discussion and consideration.

There now remains the foreign market to be considered. Turning to the trade and navigation returns again, it is found that the value of the completed bicycles, the produce of Canada, exported in 1898, was \$373,333, representing 8,617 bicycles. Of these Australia took 5,229, value \$243,042; Germany 1,441, value \$44,148; Great Britain 6,161, value \$28,901; British Africa 254, value \$12,726; France 490, value \$20,514, while the remainder went to Newfoundland, Sweden and Norway, United States, British West Indies, etc. The parts exported were valued at \$39,445, of which Great Britain took \$17,589, and Australia \$18,786. The showing is very creditable, and it is probable that the promoters of the combination calculate on a very large expansion of this trade. According to these the Canadian manufacturers valued their bicycles at an average of \$43 each. Taking single instances, the value of the wheels sent to Germany, where duty had to be paid, was \$30 each, to Australia about \$45, to France \$41, to the United States \$35, to Great Britain \$46. These valuations are all higher than those imported into Canada from the United States. Finally, taking last year as a basis, we have, say, 10,000 wheels for home use, and 8,617 for export, or a market for 18,617 Canadian bicycles.

The manufacturer above alluded to, who is in a position to know whereof he speaks, places the product of Canadian manufacturers at 30,000 wheels, and if those imported were estimated at 20,000 more, the Canadian market demanded about 50,000 bicycles a year. It had to be remembered, he pointed out, that the majority of the wheels imported from the United States were cheap or juvenile wheels, a class of goods that the Canadian makers did not touch. He added that the home bicycle trade was never in so flourishing a condition as at present. His own firm were busy in meeting the demand, and he understood that this was the case with other manufacturers. Altogether, the prospect for this year, as a whole, was very bright indeed.

THREE SUGGESTIVE VIEWS.

View One:—Twenty-two thousand periodical publications print advertisements in North America. Grand total circulation, 3,500,000,000 copies. There are 2,000,000 advertisements in each collective issue. Thirty-five billion impressions of advertisements are made in a year. Annual advertising, sheet upon sheet, would make a pile 117,000,000 feet high. The advertisements of a year, end to end, would reach 111,000 miles. There are 100,000 printing offices in North America. There is an expenditure of \$150,000,000 a year for commercial printed matter. Cost of covering the earth with printer's ink, \$2,000,000,000 a year. Aggregate annual circulation of the world's periodicals, 12,000,000,000. Seven hundred and fifty thousand tons of paper that would cover 10,500 square miles, or make a pile 500 miles high, are consumed.—The Paper Mill.

View Two:—A shortage of box timber threatens to cause serious inconvenience, it is said, in all branches of trade. Soft woods are scarcer than they have been in many years, and prices have doubled in all lines. The question of how to secure packing cases is becoming a difficult one for manufacturers, wholesale dealers and jobbing houses. It is estimated that at least 60,000,000 feet of timber is used annually for packing purposes in New York City alone. Thus the packing-box industry is one of no mean proportions. The time seems ripe for the introduction of some new form of package that will take the place of wooden cases. How would news board answer the purpose? The pulp and paper industry, at all events, must solve the box problem, in one way or another.—The Paper Mill.

View Three:—The spruce wood forests of the United States, from which the material for the manufacture of the paper consumed in the publication of the 22,000 periodicals mentioned by The Paper Mill is fast being depleted, and the most available source from which the United States can draw its supplies is Canada. So also as regards timber for making boxes; and our contemporary shows very clearly that the consumption of both paper, pulp and lumber must soon exceed the possible production capacity of that country.

The policy of Canada is free entry into the United States of Canadian wood products in exchange for free pulp wood and logs. If the United States will not concede the one it cannot have the other.

HISTORY OF THE PACIFIC CABLE.

Sir Sandford Fleming, who, it will be remembered, was expert adviser to the Imperial Committee on the Pacific cable which sat in London during 1896, has issued a vigorous remonstrance against the unexpected and disappointing attitude of the Imperial Government on that question. The remonstrance is in the form of an open letter, and is as follows:—

To the British People.—Within the last few days it has been stated that the Home Government has not responded to the proposals of Canada, Australia, and New Zealand respecting the establishment of the Pacific cable in the way that the Governments and the people of these countries had reason to expect; in consequence of which a feeling of disappointment and surprise is on all sides expressed.

It had been arranged that the Pacific cable should be established as a national work, the Governments of Canada, Australia, and New Zealand being joint partners with the Imperial Government.

This arrangement has been slowly developed. It has been generally favored by all the Governments for some time. The Home Government has frequently been asked to take the initiative in carrying it into effect, but the Colonial Secretary has always insisted that Canada and the Australasian colonies should take primary action by determining what proportion of the cost of the undertaking each would be willing to contribute.

It has been a matter of much difficulty to reach an agreement on this point, and the difficulty has been enhanced by the great intervening distances and the character of the means of communication; in consequence of which much delay has arisen. At length, however, conclusions have been arrived at. On August 20th last, the Australasian colonies finally agreed to contribute eight-eighteenthths of the cost, and last month Canada finally undertook to contribute five-eighteenthths, making thirteen-eighteenthths in all, thus leaving only five-eighteenthths to be assumed by the Home Government.

It appears that the Home Government, although it has not absolutely declined to enter into the partnership and assume the remaining five-eighteenthths of the liability, has merely offered to bear five-eighteenthths of any loss of revenue which may result from operating the cable, provided priority be given to Imperial Government messages, and that they be transmitted at half ordinary rates.

As this proposal at the eleventh hour, taken by itself, involves an entire change in the well-known plan upon which Australia, New Zealand and Canada have been proceeding in their negotiations for more than two years—and moreover is in itself of no value in securing the establishment of so important a national work—it is impossible to believe that it is the full or final judgment of her Majesty's Home Government, for the following reasons, viz.:

1. It would always be regarded as a recession on the part of the Mother Country from a common understanding with Canada, Australia, and New Zealand.

2. It would always be regarded as an attempt to retard the expansion, and cripple the commerce of the Empire, in the interests of a few rich monopolists.

3. It would always be regarded by the people of Canada, Australia, and New Zealand as an unjustifiable and discourteous act to them.

4. Its effect would be far-reaching, and its immediate effect would be a fatal blow to the scheme for establishing a system of State-owned British cables encircling the globe.

5. It would be a very grave retrograde step in the Imperial movement which aims to draw closer the bonds between the Mother Country and her daughter lands.

Some of the grounds for these reasons may be stated as follows:—

The principle of joint government ownership was referred to at length at the Ottawa conference, where Lord Jersey represented the Home Government (see page 67 of the proceedings appended to Lord Jersey's report). Lord Jersey in his report alluded to State ownership (page 15), and said that the matter of joint ownership was "left undecided, and, indeed, must remain so till the two main points, of route and cost, are settled; once they are arranged definite agreements become possible." Both these points were shortly afterwards settled. The question of route was settled by sending a special commissioner to the Hawaiian Islands to obtain a landing station. Landing on any one of the islands was refused, and there remained only one route for the cable to follow. The second point was settled by the Canadian Government taking steps as authorized by the conference to ascertain the cost. Both points were thus settled before the end of 1894. Up to that date there was some divergence of opinion as to the best means of establishing the cable; whether by a subsidized company or as a State work, to be jointly owned and controlled by the several Governments, but there was no difference of opinion afterwards.

The Canadian Government gave notice by public advertisement in London and elsewhere that they were prepared to receive proposals, in several forms. The result showed beyond all question that the principle of State ownership was the true principle for establishing this particular work in the interests of the British people.

In 1895 the High Commissioner for Canada and the Agents-General for the Australasian colonies were charged by their respective Governments to represent to the Colonial Secretary the importance attached to the Pacific cable and to ask that an Imperial commission be appointed to promote it. The Colonial Secretary (Mr. Chamberlain) constituted an Imperial Cable Committee, which sat in London in 1896 and reported in January 5th, 1897. The report of this Committee has been published only a few days ago, but some information respecting the decisions and recommendations of the Committee were given to the public directly after it was signed. Among other things published in January, 1897, it was stated in the London, Canadian, and Colonial press that the principle of State ownership was favored. The full text of the

CANADIAN MANUFACTURERS' ASSOCIATION.

President:
J. F. ELLIS.

First Vice-President:
P. W. ELLIS.

Second Vice-President:
R. E. MENZIE.

Treasurer:
GEORGE BOOTH.

Chairman Executive Committee:
R. W. ELLIOT.

Chairman Tariff Committee:
W. K. McNAUGHT.

*The Executive Committee meet on the
Second Tuesday of each month.*

OFFICES

**McKinnon Building,
TORONTO.
Tel. 1274.**

J. J. CASSIDEY, - SECRETARY.

**THE OBJECTS OF THIS ASSOCIATION
ARE:**

To secure by all legitimate means the aid of both Public Opinion and Governmental Policy in favor of the development of home industry and the promotion of Canadian manufacturing enterprises.
To enable those in all branches of manufacturing enterprises to act in concert, as a united body, whenever action in behalf of any particular industry, or of the whole body, is necessary.
To maintain Canada for Canadians.
Any person directly interested in any Canadian manufacturing industry eligible for membership.

CANADIAN INDUSTRIAL LEAGUE.

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CANADA'S COMMERCIAL AGENTS.

The following Canadian Commercial Agents (whose addresses are given) will answer correspondence relative to commercial and trade matters, and give information to those interested as to local trade requirements in the districts they represent.

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

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

- J. G. Colmer**, 17 Victoria Street, London, S.W., England.
- Thomas Moffat**, 16 Church Street, Cape Town, South Africa.
- G. H. Mitchell**, 15 Water Street, Liverpool, England.
- H. M. Murray**, 40 St. Enoch Square, Glasgow, Scotland.
- Harrison Watson**, Curator Imperial Institute, London, England.

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

report was sent confidentially to each respective Government, and its whole contents has, of course, been known to them for more than two years. In short, ever since the Cable Committee made their investigation, the principle of State ownership has been accepted, and it has been understood that the Pacific cable should be jointly owned by the Home Government, Canada, Australia, and New Zealand in proportions to be determined. The only question remaining unsettled was the precise share to be assumed by each.

To determine the last question has been a matter of great difficulty, and it has caused much delay. The Australasian Governments have had several conferences among themselves, and when at last they agreed, on August 20, 1898, to bear eight-eighteenths of the whole liability, it was with the distinct condition that the Imperial and Canadian Governments would together contribute the remaining ten-eighteenths of the capital required. The Canadian Government has done her part by accepting without cavil the principle of State ownership, and by undertaking to contribute as large a share of the capital as the Imperial Government. The Australasian Colonies and Canada have together agreed to bear thirteen-eighteenths of the liability, leaving only five-eighteenths for Great Britain to assume. In view of all the circumstances narrated, it may reasonably be expected that the matter will be reconsidered, and that her Majesty's home authorities will yet see their way to complete the partnership arrangement which Canada and Australia and New Zealand are so desirous of having consummated, in their own interests and in the interests of the whole Empire.

There is no denying the fact that the British communities on both sides of the Pacific ocean have a determined enemy in the Eastern Extension Telegraph Company. In his pub-

lished letter to Sir Wilfrid Laurier of December 28th, 1897, the writer pointed out the exact position of that company. Fearing competition and a reduction in the high charges exacted, its attitude has always been hostile to the Pacific cable. On every occasion during the past twelve years it has thrown obstacles in the way of connecting Canada and Australasia telegraphically, and has frequently employed subtle means to accomplish its ends.

One of such attempts was exposed at the last meeting of the Canadian Senate (April 28th), when the Secretary of State and the leader of the Opposition were of one mind in denouncing it. On that occasion the Minister of Justice used these words:—

"I apprehend that for a hundred years there had been nothing more seriously done under Imperial authority affecting colonial interests than the attempt to create a monopoly and restrain and cripple the commercial growth of this country."

The case alluded to is but a single illustration of the means taken by that company to defeat the aspirations of Canada and Australasia. When the history of the conflict between these countries and the monopoly comes to be written it will be found that the case recently unveiled does not stand alone, that there are a number of other cases equally extraordinary.

The monopoly's present design is to delay the British Pacific cable until their own adverse scheme be sufficiently advanced. There is evidence to show that the Eastern Extension Company is in alliance with a company organized in the United States to lay a cable from San Francisco to Manila. This company did not succeed before Congress rose in getting the subsidy it sought, but it succeeded in defeating

the Government measure to establish a cable to Manila under the United States Post-Office Department. Having done so, there is strong probability that it will obtain all it wants when Congress again meets. With a cable stretched from San Francisco to Manila and there connected with the Eastern Extension cables, the two companies will practically become one concern. If before them the British Pacific cable has made no progress there will be small hope for it afterwards.

Obviously the Eastern Extension Company has much to gain by delay, and they will secure ample delay for their purposes if the Home Government now departs from the plan upon which Australasia, New Zealand, and Canada have acted with the full knowledge of the Colonial Office.

But we must refuse to believe that her Majesty's Government will, without any previous intimation, withdraw from the arrangement, and make an offer practically of no value, the first effect of which would be the defeat of the British Pacific Cable project. The offer is, that for certain stipulated advantages the treasury in London would pay five-eighteenths of any deficiency in earnings. What does this mean? It is not a subsidy of £20,000, as stated in the press, or of any sum. If we refer to the report of the Canadian commissioners, Lord Strathcona and Hon. A. G. Hardy, of January 12th, 1897, we find that in the year 1902, if the cable be then laid, and it could not possibly be laid sooner, there would be an actual loss ranging from £13,000 to £40,000. If we turn to the report of the Cable Committee, of which Lord Selborne was chairman, there would be no deficiency in revenue if the present charges be maintained, and even if they be lowered fully thirty-three per cent. the deficiency would only be £12,000 in 1902, while there would be no deficiency in 1903, or in any subsequent year. The offer then is that under a certain contingency the treasury may be called upon to pay five-eighteenths of £12,000 for one year only, and for this possible payment the Imperial Government could claim priority of transmission, and half-price on all messages for an indefinite number of years.

In December last the press of Great Britain was ringing the praises of a proposal to establish a State-owned system of electric cables for the Empire. It is recognized that a British Pacific cable is the key, and the only key, to such a system. Without a telegraph connecting Canada and Australasia the greater scheme is impossible.

"The general testimony of the British press is that the Pacific cable apart from its inherent merits, would be the direct precursor of a 'round the world' cable system for the Empire; that as such it would lead to cheap telegraph transmission between every British possession, promote closer union, develop commerce, and confer many social as well as naval and political advantages."

If these are objects worth having there must be nothing done, or left undone, which will cause farther delay.

It is gratifying to read in this evening's newspapers the following condensed telegram: "Fearing that Great Britain's departure from the original proposal would delay and thus defeat the Pacific cable, British Columbia offers to contribute two-eighteenths of the cost in addition to Canada's five-eighteenths."

It is a mistake to suppose that a Pacific cable is greatly required by Canada for purely Canadian purposes. While it is necessary to Australasians and their correspondents in the United Kingdom to have an alternative line, in order that correspondence may be facilitated and never interrupted, it is not so indispensable to the Dominion. It must be recognized by all that Canada is moved, not by necessity, not by narrow, selfish considerations, but by her zeal for Imperial unity.

The joint ownership of the cable by Great Britain, Canada, Australia, and New Zealand would be a unique co-partnership unparalleled in history; it would be an object lesson to the modern world. To throw this co-partnership overboard at the last moment would be a momentous step back-

ward in the movement which we had hoped would bring into permanent alliance Great Britain and her great self-governing daughter nations in both hemispheres.

MEETING OF THE SHAREHOLDERS

OF THE

CANADIAN MANUFACTURER PUBLISHING CO., Limited.

The Shareholders of the Canadian Manufacturer Publishing Co., Limited, are hereby notified that a General Meeting of the Company will be held on Monday, the 5th day of June, 1899, at the hour of 11 o'clock in the forenoon, at the Head Office of the Company, Room 408 McKinnon Building, corner Jordan and Melinda Streets, Toronto, for the purpose of receiving and considering a report from the Directors upon the affairs of the Company, to elect a Board of Directors for the ensuing year, and generally to consider other business of importance to the Company.

ARTA CASSIDY,
Secretary.

Dated this 19th day of May, A.D. 1899.

EDITORIAL NOTES.

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

Messrs. John Inglis & Sons, engineers and foundrymen, manufacturers of steam engines and boilers, roller mill machinery, general mill furnishings, etc., write us:—"We are not only glad to have the CANADIAN MANUFACTURER come into our office, but we read it thoroughly and believe it is the best advertising medium for our business in this country."

"It is impossible to spend money abroad and to spend it at home. Money spent at home is spent wholly for the improvement of home conditions. Money spent abroad is spent mainly, and often wholly, for improvement of foreign conditions. Protection is a policy for the improvement of home conditions."

Intending exhibitors at the Paris Exposition of 1900 are urgently requested to send in their applications for space by June 1 next. The Board of Commissioners meet on that date in Ottawa to commence the allotment of space. Additional forms of application, classifications, and all other information will be sent to enquirers by addressing a post-card to the Ontario Commissioner, Parliament buildings, Toronto, or to the Minister of Trade and Commerce, Ottawa.

The Ontario Government has stationed forest rangers at the mouths of the principal streams flowing into Lake Huron, the Georgian Bay and Parry Sound, in order to see that no logs are exported to the United States except those cut previously to the prohibition coming into force. The rivers so watched are the Mississauga, Thessalon, White Fish, French, Magnetawan and Sequin. The Crown Lands Department does not believe that any of the Michigan lumbermen will attempt to export in defiance of the law, but deems it best to be on the safe side by guarding against such a contingency. One of the largest Michigan firms, Eddy Bros. of Bay City, have cut 15,000,000 feet in Ontario limits during the past winter, and will probably have this all manufactured under contract in Ontario.

A press telegram from Washington a few days ago stated in effect that all hope of reconvening the Joint American-Canadian Commission in August has been abandoned. The conference adjourned after having made good headway, as it was thought at the time, towards the drafting of an agreement, owing to an unexpected and insurmountable obstacle in the shape of the lumber and boundary questions. The conference adjourned, with the understanding that, meantime, the Government of the two countries would test public sentiment. It was also hoped that some of the difficulties that had presented themselves in the way of a conclusion of the work of the conference might, in the interim, be removed by diplomatic negotiations. It has now been demonstrated, however, that the temper of neither side has yielded sufficiently to warrant the expectation of any successful result attending the reconvening of the Commission.

The London Chronicle, speaking of the expected failure of the International Commission to make a treaty that would be acceptable to both Canada and the United States, says—that it is not surprised by the announcement that the negotiations will not be resumed. It declares that the statement that the Americans are utterly discouraged is absurd, and says the fact is the Americans are discouraged because they could not get all they wanted from Canada without giving anything in return that was worth having. It holds that Canada made a perfectly fair offer on every point.

Professor Mavor of Toronto University, who leaves shortly for England to conduct an investigation into the operation of the Workmen's Compensation for Injuries Act there, has received the following letter of instructions from the Premier of Ontario:—

"The Government has learned that you are during the summer to spend some months in England and some time in Scotland, and as you have given a good deal of attention to the question of labor the Government desires to avail itself of your visit to make inquiries concerning the Workmen's Compensation for Injuries Act, 1897: (1) As to its effect upon workmen and employers, or in the words of the act, 'undertakers'; (2) as to the effect upon special and particular kinds of manufacturing establishments, firms and corporations; (3) as to whether the act gives satisfaction in labor circles, to labor organizations and to labor generally; (4) whether the machinery provided by the act for the recovery of compensation works satisfactorily to workmen and employers; (5) as to whether faults are found with it, and whether there are complaints of a general or specific character in relation to the law, or to its working by either workmen or employers; (6) whether there has been much or little litigation under the new law; (7) whether amendments have been suggested, and, if so, in what particulars; (8) whether there is any general feeling against the principle of the Act, and, if so, to what extent; (9) whether it has had the effect of reducing wages in any particular industries; (10) or of excluding from employment any particular classes of persons—and generally to make inquiries respecting any other matter which has a bearing upon the law or its working, or upon the recovery of compensation under the law."

As will be seen by his card in another column, Mr. A. J. Sage, of Melbourne, Australia, expects to be in Toronto at an early day with a view to forming the acquaintance of manufacturers and others interested in the trade of Canada with Australia, and to make arrangements looking to his handling Canadian made goods and representing the makers

of them in that country. Mr. Sage comes recommended by Mr. J. S. Larke, the Canadian Commercial Agent at Sydney, New South Wales. While in Toronto he would be glad to meet manufacturers and others who may be desirous of opening up business with Australia. Communications addressed to him, care of CANADIAN MANUFACTURER, would reach him.

In a recent editorial in these pages, discussing the building of war ships on the Great Lakes, we said that if the United States should engage in that industry, no such ships could reach salt water "except by the grace and permission of Canada," making reply to which The Marine Record, of Cleveland, Ohio, says:—

Relative to the inuendo that lake-built craft can only reach the coast by the "grace and permission of Canada," we can simply refer to the U. S. S. Michigan, built at Pittsburg, Pa., in 1844, put together and launched at Erie, Pa., and in service as a lake patrol ever since, so that it is nearly time that she had a rest. The position is, therefore, clearly defined, in stating that lake shipbuilders as citizens of the United States ought no longer to be debarred from bidding on the construction of national tonnage, the Rush-Bagot agreement to the contrary notwithstanding. This, we perceive, is all there is to the question of building naval tonnage on the lakes. Otherwise, the Michigan episode and experience can be quickly and easily duplicated, or rather reversed, inasmuch as material for construction might be shipped east instead of west, as in the case of the Michigan, over half a century ago.

In view of the fact that, Rush-Bagot treaty or not, American war vessels built on the Great Lakes can never reach the ocean through Canada, it might be as well for our American friends in those cities, and Pittsburg, also, if they are really determined to build such ships, to begin the construction of a tram road over which they can be transported to the ocean and thus repeat the episode of the Michigan, which our contemporary tells us, can be so quickly and easily duplicated.

At a meeting held recently of the Committee appointed to make the local arrangements for the approaching annual convention of the Canadian Electrical Association at Hamilton, a draft programme was considered and adopted. The dates selected for the Convention, subject to the approval of the Executive, are the 23th, 29th, and 30th of June. The business sessions, as well as the annual banquet, will probably be held at the New Royal Hotel. A sufficient number of papers on a variety of subjects of interest to those engaged in the various departments of electrical work, have been promised, and are in course of preparation. Among the features of the entertainment will probably be a trip to the Beach over the Hamilton Radial Railway, and an evening excursion on the Lake, a trip to Grimsby Park over the Hamilton, Grimsby and Beamsville Electric Railway, and a visit of inspection to the stations of the Cataract Power Company at St. Catharines and Hamilton. The Hamilton Street Railway Company have very kindly offered free transportation to members of the Association during the Convention. Everything points to a successful and enjoyable meeting.

The Canadian Press Association excursion from Toronto to the Pacific coast, starting August 1st, promises to be a notable event. Although initiated by the Canadian Press Association, it will not likely be confined to its present members. Any Canadian journalist of good standing may enter the association and share in this outing. It is expected that news-

paper men from St. John's, Nfld., from the Maritime Provinces and from the Quebec associations will also join in the party. A circular has just been issued by the Association, giving particulars of the trip and estimates of the cost. The party to the coast will be absent about three weeks, and the total cost for meals, berths, hotel accommodation, etc., will be very low. Persons not desiring to go further than Winnipeg may stay there for a few days, and then return by the regular trains, and by boat from Fort William. This will make a twelve days' trip at one-half the cost of the coast trip. The return from the coast will be via Revelstoke, Rossland, Nelson and the Crow's Nest Pass. The Canadian Pacific Ry. Co. are desirous that the country should be thoroughly seen, and are arranging for such stop-overs and side trips as may be necessary for this purpose.

Messrs. Biggar, Samuel & Co., Toronto and Montreal, have sent us a very handsomely bound volume of their 1899 Canadian Textile Directory, just issued from the press. It is a very complete reference book, including the names of all manufacturers and dealers in the textile and kindred trades in the Dominion of Canada and in Newfoundland with especial reference to manufacturers of cottons, woolens, knit goods, carpets, silk, jute, flax, felt, rubber, asbestos, etc.; also of clothing, haberdashery, ladies' wear, buttons, feathers, etc.; dyeing establishments and laundries; furniture, upholstery and upholsterers' supplies; sails, tents and awnings; window shades and wall paper; hats and furs, paper and pulp mills; dealers in raw wool, cotton and furs; dealers in dyestuffs, etc. There is also a great deal of other very useful information contained in the book.

BRITISH-CANADIAN TRADE.

The following inquiries have been received at the office of the High Commissioner of Canada in London, England.

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

26. The names of exporters of birch spool-wood from Quebec and the Maritime provinces are asked for.

27. An enquiry has been received from one of the paper trade journals for the names of wood-flour exporters. The product is used to some extent as a filling in the manufacture of certain grades of papers.

28. A firm of manufacturers and importers of turnery and domestic joinery have asked to be placed in communication with Canadian exporters of brass broom handles and ash rake and fork handles.

29. Enquiry has been made for porcupine quills and the name of the firm will be given to anyone who is able to ship these goods.

30. The manufacturer of a patent automatic weighing and sack-filling machine, which he thinks should be specially useful to Canadian shippers of grain, has been enquiring as to how he can best extend the sale in the Dominion.

31. A member of a Scotch firm is shortly leaving for Canada, and would like to have the names of reliable shippers of oatmeal, packers of canned and dried fruits, and manufacturers of broom handles, washboards and woodenware, upon whom he can call with a view to business.

32. An enquiry has been received through the Agent of the Government in Glasgow from a firm who are prepared to correspond with exporters of turkeys for the next season's supplies. They have had a large experience in the business so far as Russian and other foreign turkeys are concerned.

33. A Dundee firm of fifty years standing have asked to be referred to commission firms in Toronto and Montreal suitable to represent them in jute and linen goods.

34. A firm of wholesale manufacturing opticians, scientific instrument makers and electricians wish to be placed in communication with firms in the Dominion open to do business in these lines.

35. An enquiry has been received from a Swedish firm for Canadians open to export aspen wood for the manufacture of match splints. Large quantities are already imported from Russia.

36. A Spanish house has asked to be furnished with names of Canadian fruit brokers, timber merchants and manufacturers of white phosphorus.

37. A linen and bedding firm wishes to correspond with a Canadian exporter of poultry, wild fowl, and other feathers and downs.

38. An Irish wholesale house wishes to purchase flake oatmeal and desires to be placed in communication with Canadian exporters.

39. Enquiries have been received for birch cut in squares for making bobbins; birch in any lengths up to 1 foot square; if it can be supplied cheaper than the smaller sizes at present being used. Other wood, such as oak or beach, if cheaper, might be quoted for instead of birch, so long as there is no bark on it.

TRADE CONDITIONS IN AUSTRALIA.

Of all the commercial agents maintained by Canada in other countries Mr. John S. Larke, who is agent for Australasia, resident at Sydney, New South Wales, is one of the most observant. A native Canadian, who had long and successful experience as a manufacturer, his knowledge as such stands him in good stead in observing the wants of the country in which he finds his field of duty, and this is apparent in a recent report to the Government, in which he says:—

"I came to Australia with the conviction that with her water powers, cheap food, an invigorating climate, great resources of raw material and an industrious and intelligent population, Canada should steadily increase her manufacturers and become an export nation; that it was to her interest to ship goods highly finished instead of raw materials, and that Australia was her most promising market. I am stronger in that belief than ever. Here the language is English, the business methods are much akin to those in Canada, imports are largely paid for in cash, and the Australians are a highly prosperous people and bound in the ordinary course of events to become more so. They, to-day, are the largest consumers of imported goods, in proportion to population, of any people in the world. They can afford and do pay profitable prices for articles that are good and are made known to be good. Canada is making some lines needed here, and has the machinery and men to make more of them than she requires at home. To keep these factories running at full time is advisable, and a market must be found abroad. Australia has shown a readiness to accept these goods that indicates what may be done by proper means.

"There are difficulties in beginning our trade, some of them, as distance from the market, are common to all countries doing business here, while others are special. One of these is the fact that Canada is considered here to be like Australia, a young country with imperfectly developed resources, that its manufactures are relatively small and not advanced more than the industries of these colonies and therefore incapable of competing with those of Europe or the United States. Large houses consider it would therefore be a waste of time to open up a trade with such institutions, because they say that when samples and prices appear to be right they could not depend upon getting their orders filled promptly. This has, unfortunately, been supported by circumstances. I have endeavored to get as many business men as possible going to Europe to go via Canada in order that they might personally enter into arrangements with a view to business. Some of them on their return I found had merely looked at the factory and, finding it to be smaller than those

they knew in England or the United States. had not even gone into the office or made themselves known. It has further been confirmed by the fact that when any considerable orders have been sent forward, in the majority of cases, they either had not been filled or filled only after considerable delays. This to such an extent that houses who welcomed Canadian goods into this market have recently declared that they will give no more orders for them.

"This cannot be helped and is incident to a young country beginning an export trade. It has been greatly accentuated during the last eighteen months by the greatly increased demand in the home market which naturally had the first claim upon the attention of the manufacturers.

"Another difficulty is that not many of the Canadian manufacturers have the surplus capital necessary to develop a profitable trade. To open a branch in Australia costs not a little money. The Canadian firms who have tried it have undoubtedly been surprised at the amount, in most instances it has been double the amount anticipated. There is first cost of sending out a man, leasing a building and the preliminary expense incidental to opening up a new trade. As the stock will be, on the average, four months from the time it leaves the factory until it reaches here, there must be at least stock equivalent to four months' sale on the way or here at all times. In the case of one Canadian bicycle firm the amount of capital invested in this way cannot be less than from eighty to one hundred thousand dollars. In this case some stock is carried in several of the colonies. In cases where a branch is not necessary there will be no inconsiderable expense, if a trade is to be secured, in opening up. Few agents can be found who will take a new line without an allowance for introduction work and advertising. In most instances where they do not require this the agents are new to the business, have small means and throw the work up after a short experience, or as soon as they can secure some more promising occupation. I have had to place Canadian goods in the hands of five agents in succession before any business has been secured. I have now on my hands some Canadian lines, the agencies of which have been thrown up; in several of them the trade was fairly springing up, but the agent, hoping he had secured something more profitable, abandoned them. There is no essential difference in beginning a business here than in Canada, except that the competition is greater. These initiatory costs are incurred in Canada, where well established houses find it necessary to advertise and open branches in order to secure and retain trade. It would be unreasonable to expect that a trade abroad would be done cheaper than it can be done at home.

"To secure the trade open to Canada a manufacturer, when his facilities for the production of goods are large enough to warrant it and he has the available capital, should open a branch. In specialties, as bicycles and sewing machines, it seems impossible to secure a large trade without it, unless the manufacturer is prepared to sell at such price as will induce

some firm with large capital to purchase outright. In this case the price offered would likely be unremunerative. In many lines the capital required would not be nearly as large as in the case of the bicycles referred to. A Canadian furniture firm began to receive returns on an expenditure of about five or six thousand dollars. When it might be unwise for one manufacturer alone to take the risk it could be divided by an association of two or three manufacturers of allied but not competitive goods. What is especially needed is the formation of an export company similar to those which are extending the trade of Germany and the United States. These are not for the purpose of bringing the manufacturer and buyer into correspondence, but they show samples, take orders, ship goods and collect payment. Such a company could handle many lines, when necessary carry stocks and from the extent of the trade secure better freight rates than a single shipper. The Canadian manufacturer, having an assurance of the stability of such a company, would be ready to supply the goods when he hesitates now to take the risk of selling to customers so distant and unknown to those in business in Australia. Without these agencies Canadian trade is extending, but not at all as rapidly as I should wish to see it. Recently one or two representatives of Australian houses who visited Canada have made satisfactory arrangements with manufacturers to represent them in these colonies. Representatives of a large British Columbia lumbering firm are now in this colony looking into the trade here. I anticipate that it will result in a large increase in the trade with British Columbia."

NEW BRUNSWICK TO GREAT BRITAIN.

Replying to a manufacturer of box shooks, barrel staves, etc., at River Charles, N.B., who desires to have information regarding the best facilities for shipping his products to the British markets, would say that during the winter months there are lines of steamships running from St. John, N. B., to London, Liverpool, Manchester, Glasgow and Belfast or Dublin, all of which are available for the purpose indicated. During the summer months the Furness Line steamers sail fortnightly between St. John and London, calling at Halifax. This, we believe, is the only regular summer service between St. John and the United Kingdom, but tramp steamers and sailing vessels frequently load at St. John with deals, etc., for the Old Country.

SHOES IN SWITZERLAND.

Imports of shoes into Switzerland are steadily increasing. In 1897 Germany supplied no less than \$296,400 worth of leather shoes, Austria \$126,400 worth, France \$137,400 worth, whilst the share of the United States amounted to only \$600. In fine men's and ladies' shoes a successful business could be established in Switzerland if proper efforts were made and the requirements of the market studied.

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CAPTAINS OF INDUSTRY.

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

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

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

The Grand Trunk Railway will construct a second steel railway bridge across the Niagara river. It will connect Black Rock, a suburb of Buffalo, N. Y., with the Canadian shore opposite that place.

Messrs. Evans and Askwith of Ottawa and Lowrie of Russell were in Cornwall, Ont., organizing the Cornwall Peat Company this week. They have secured options on 1,200 acres of peat bog near Newington, Ont. The promoters have issued and are distributing a pamphlet, setting forth the value of the deposits it proposes to work and explaining the process of manufacture.

Alterations, improvements and additions to the Queen's Hotel, Toronto, are to be made the present season, involving an expenditure of \$100,000.

The Georgian Bay lumber business already shows many signs of activity and healthy improvement. The embargo on logs will cause more manufacturing this year in that region than has been done for many years. There is a good demand for board lumber in Canada, the United States and Britain. There is also an active demand for Canadian deals in Britain.

The James Walker Hardware Co., Montreal, has been incorporated with a capital stock of \$75,000 to carry on the business of dealing in machinery, tools, implements, hardware, etc.

Messrs. G. B. Underwood, of New York, and J. H. Tilden and C. A. Birge, of Hamilton, Ont., and associates are forming a joint stock company with \$100,000 capital stock, and headquarters in Hamilton, to

manufacture the Underwood Pulmonary Inspirator.

The Clayton Air Compressor Works, 26 Cortlandt street, New York, have sent us a copy of their complete Catalogue No. 10 just published. The catalogue is one of the most complete works of its kind, and embodies the very latest and highest types of air compressing machinery. It contains illustrations and lists of sizes of the standard patterns; also, illustrative descriptions of the Clayton type of compressor. Among the other contents of the catalogue will be found valuable data and tables of compressed air, transmission and capacity lost by air compressors in operation at various altitudes. Air receivers, vacuum pumps, carbonic acid gas, and high pressure compressors, are all fully described. This catalogue is issued for gratuitous distribution, and will be forwarded upon application.

The Siemens & Ebel Co., Hamilton, Ont., manufacturers of coflins, caskets, etc., whose lumber mill in that city was recently destroyed by fire, have accepted plans for a new mill, which will be 150 x 50 feet, three stories high. It will be equipped with the best and most up-to-date machinery, and when the firm gets in its new premises it will be ready to undertake a considerably increased volume of business.

Contracts for the new buildings of the Sawyer-Massey Company, at Hamilton, Ont., have been let. The additions to the present premises will be 245 feet long by 50 feet wide, one and two stories high.

A new flour mill is to be built the coming summer at Margaret, Man.

The brick addition to the works of the B. Greening Wire Co., Hamilton, Ont., will cost \$6,500.

Messrs. Wm. and J. G. Groey, Toronto, are just issuing a circular in pamphlet form, letter size, intended for up-to-date millers, entitled "Pointers on Conditioning Wheat for Milling." It alludes to the fact that wheat, as it arrives at the mill, varies greatly in condition, some being hard, some soft, some dry, some moist—that capacity, granulation, color, and finish are largely governed by the condition of the wheat when ground—that there is a condition in which wheat is at its best state for grinding—that the best results are obtained when wheat is milled in its right condition—that uniformity of condition is essential to uniformity of flour—that the miller who would excel must have easily adjustable means whereby the wheat can be readily and uniformly brought to and maintained at the best conditions for grinding. Add moisture to soften and toughen hard and dry wheat—steamers are used for this purpose. Draw moisture to the right position in wheat berry for soft and moist wheat—heaters are used for this purpose. These facts are obvious to experienced millers, but where steamers and heaters are to be obtained, and how to use them to best advantage, is told in this little book that goes free to all applicants.

The sash and door factory of Mr. A. Smart, at South French, Ont., was destroyed by fire May 12. Loss about \$1,500. It is probable the works will be rebuilt without delay.

Messrs. E. Simpson & Co., Moose Jaw, Assinboia, N.W.T., will build a 50-barrel flour mill.

Ernest Harris & Co. will add roller mill machinery to his feed-cutting plant.

The Mayor of Mattawa, Ont., is trying to attract a pulp industry to his town. He points out that Mattawa is on the main line of the Canadian Pacific Railway, at the junction of that road with the Lake Temiscamingue Colonial Railway, and that the Lindsay, Haliburton and Mattawa Railway, which is about to be constructed, will pass through the town; Mattawa, he further states, is surrounded by an almost illimitable supply of the finest spruce, for the transportation of which there are the cheapest natural facilities in the streams of the upper Ottawa valley.

Messrs. Wood Bros.' flour mill at Brantford, Ont., was destroyed by fire May 16; loss about \$18,000.

INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

PISTON INLET Air Compressors

STRAIGHT LINE
 DUPLEX and
 COMPOUND.

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

JAMES COOPER MANUF'G CO., Limited, - 299 St. James St., Montreal.

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Chicago Pneumatic Tool Co. has purchased the patents formerly owned by the Consolidated Pneumatic Tool Co., now defunct. These patents include all the Keller and Wolstencroft types of tool-construction, and, in addition, several new applications which have not yet been taken out. These patents originally cost the Consolidated Pneumatic Tool Company about \$40,000, and in purchasing them the Chicago Pneumatic Tool Company acquires control of about all of the pneumatic tool patents of value in existence.

The McLachlan Electric Motor Co., 94 Adelaide street west, Toronto, of which Mr. George McLachlan has charge, is really an old friend under a new name. Everyone remembers Mac as having been until recently connected with the Toronto Motor Co. The new premises are conveniently located on a very busy thoroughfare, well equipped, and are full of work. They manufacture motors and dynamos, and make a speciality of repairing.

The corporate name of Maple Leaf Rubber Co., Toronto, has been changed to the Queen City Rubber Co., Limited.

The South Essex Veneer and Basket Co., with head quarters at Leamington, Ont., has been incorporated with a capital stock of \$3,000 to manufacture veneer, baskets, fruit boxes, etc. W. H. Parnall is one of the incorporators.

Messrs. F. B. Chapin and associates have been incorporated as the Sudbury Copper and Nickel Co., with a capital stock of \$2,000,000, with headquarters at Sudbury, Ont., to carry on the operations of mining reduction, etc.

The General Engineering Co., Toronto, of which Mr. James Milne is general manager, informs us that some of their recent placements of their Jones Underfeed Mechanical Stokers were as follows:—The Cosgrave Brewing Co., Toronto, 2 stokers; Toronto Railway Co.—third order—4 stokers, making 16 in all for that concern; London Electric Co., London, Ont.—third order—8 stokers; Coleman's Salt Works, Seaforth, Ont., 3 stokers. Full particulars regarding their fuel saver and smoke abator supplied on application to the company, whose head office is at Room 52, Canada Life Building, Toronto.

At Midland, Ont., the ground has been staked out for the foundation of the blast furnace works to be erected there by the Canada Furnace Co. of Montreal. Mr. Drummond, president of the company, has gone to Philadelphia and other American cities to look for the machinery which will be installed in the works. An arrangement has been made between the Town of Midland and the

company for the running of a ferry across the bay to the works this year, which will materially lessen the distance. For the present season tramp steamers will be utilized for bringing in ore, but next season it is expected that a regular line of boats will be established.

Mr. F. S. Pearson of New York, consulting engineer for the Cuban Electric Co., has awarded the contract for two 230 horse power engines to the Robb Engineering Co., of Amherst, N. S. They are for an electric railway from Regla, on the opposite side of the harbor from Havana, to Guamaoca about eight miles distant.

Messrs. G. H. Bertram, M.P., Toronto; Walter Ross and E. W. Brydges, of Rat Portage, Ont., and associates, have been incorporated as the Rainy River Navigation Co., with a capital stock of \$99,000, with headquarters at Rat Portage, to operate steamships on the Lake of the Woods, Rainy River and elsewhere, and to operate hotels, parks, pleasure grounds, etc.

The British-American Pulp and Paper Co. has been incorporated with a capital stock of \$3,000,000, with headquarters at Montreal, to manufacture paper pulp and paper and to carry out all operations necessary in that business.

The McLachlan Gasoline Motor Co., 94 Adelaide street west, Toronto, is a new concern of which Mr. J. C. McLachlan is the head, who have begun the manufacture of gasoline motors for horseless carriages, etc. When it is observed that Mr. McLachlan wishes for the excellence of these machines one may feel much confidence in the utility of them. A two horse power motor in operation shown in their shops weighs less than 90 pounds. Applied to a suitable vehicle one might ride all day and night too at a uniform rate of ten miles an hour. The gallon tank can be filled at any way side store where gasoline is kept for sale. Write to Mac for further information.

The Richelieu & Ontario Navigation Company is applying to Parliament for legislation to increase the capital stock from \$2,000,000 to \$5,000,000, and to authorize the company to build hotels. It was explained that the company proposed adding to its fleet of steamers, increasing its western business between Toronto and Montreal, and building such hotels on the lower St. Lawrence as will bring the resorts there up to the standard of those on the American coast.

An important transaction has just taken place at Victoria, B.C., by which the British Columbian business of the Canada Paint Company, Limited, of Toronto and Montreal, has been sold to a new corporation, the

British America Paint Company, who have acquired the entire merchandise, plant and machinery of the Canada Paint Company in Victoria, and who will start under the most favorable conditions.

McMaster University, the Baptist institution at Toronto, Ont., is to have a new chapel, a new library building and a catampus, at a cost of \$35,000.

The Pneumatic Supply & Equipment Co. has been organized under the laws of the State of New York, and has opened an office at 120 Liberty street, New York. It is the purpose of this company, as its name implies, to deal generally in compressed air equipment, and it will make a speciality of the installation of complete plants, eliminating the division of responsibility which has hitherto existed in the trade. The company is bringing out several specialities in the compressed air line, such as pneumatic oil rivet forges, quick acting hose couplings, and has in addition closed agencies for several standard types of compressors. Mr. J. W. Duntley, the president of the Chicago Pneumatic Tool Co., is the president of the new Company. Mr. E. B. Gallaher, formerly with Messrs. Patterson, Gottfried & Hunter, is the vice-president and engineer, and Mr. W. P. Pressinger, formerly manager of the Clayton Air Compressor Works, is secretary and treasurer. The rapidly widening scope of compressed air application opens a large field of usefulness for the new company, and the character of its incorporators is an assurance of its ability to meet the requirements of the trade.

Three by-laws granting loans aggregating \$47,000 to Case & Co., pork packers; Van Egmond & Co., woollen mills; and Mr. Bell, foundryman and implement manufacturer, at Seaforth, Ont., have been carried by over the necessary two-thirds majority. The Ontario Legislature has passed measures granting the necessary authority upon which the municipality could act.

Messrs. Parko, Davis & Co., manufacturing chemists, Detroit, Mich., but who have for a number of years maintained a manufacturing plant at Walkerville, Ont., under the management of Mr. E. G. Swift, have become organized under the laws of Ontario.

The general revival and expansion of business throughout the Province of Ontario is evidenced by the fact that during the first four months of this year the charters issued to companies brought into the Provincial Secretary's Department \$21,527.50, while during the same period last year the amount received was \$8,385.27. Fully 80 per cent. of the companies that have received charters are new business concerns.

REDDAWAY'S ORIGINAL

CAMEL BRAND HAIR BELTING

STRONGEST BELT MADE. NO STRETCHING.

NOT AFFECTED BY DAMPNES,
HEAT OR STEAM.

WRITE FOR PARTICULARS. LARGE STOCK ON HAND.

Fire Hose, Steam Hose, General Mill Supplies.



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

Mr. A. T. Smith, district superintendent of the Bell Telephone Co., at Kingston, Ont., has invented special instruments of unique design for communication between the attendants on the surface and the diver at the bottom of the river, where he is engaged in the work of raising the Cornwall bridge. The ordinary diving apparatus has been dispensed with, and supplemented by special diving bells, so constructed as to withstand the pressure of the current. They are also protected by heavy metal shields. The telephone is put inside the bell, and electric alarms give the signal when either party desires to converse.

The new steamer Toronto, of the Richelleu and Ontario Steamer Navigation Co., is being supplied with mattresses and pillows by the Alaska Feather and Down Co., of Montreal. The contract calls for 80 wide, 64 medium, and 202 narrow curled hair mattresses, also 20 other mattresses, making a total of 366. The feather pillows required number 850, and the total value of the order will amount to several thousand dollars. The goods are to be delivered in time for the Toronto's first trip on the 25th of May.

The pine logs cut last winter in the Georgian Bay district for and by Michigan lumbermen, must be sawn into lumber on this side under the new Ontario regulations, and the result will be a remarkable increase of activity in the saw mill industry in this province. The Michigan men refrained from making contracts until the last moment in the hope that the Ontario Government would relax the regulations. A strong effort was made to secure a three months' respite which would have enabled the Michigan men to raft their logs over, but the Government announced that the regulation must stand. The result has been that during the past few weeks the Americans have been making enquiries as to the facilities for sawing in Ontario preparatory to closing contracts. Turner & Fisher, of Bay City, have closed a contract with a Midland firm for the sawing of 20,000,000 feet, to be afterwards taken over to Bay City. This alone means an expenditure of from \$40,000 to \$50,000, and other firms will be obliged to follow suit. The only logs that can be legally rafted this season are the few left over from the cut of the winter of 1897-98, and the logs cut under the jurisdiction of the Dominion Government from Indian Lands.

The total volume of these log exports will do little towards satiating the hunger for lumber that has recently developed in Michigan, where the dealers are only beginning to realize the necessity for obtaining supplies from Canada. There is said to be an absolute dearth of lumber in Saginaw and Bay City, and the factory owners are at their wits' end to procure the raw material for their industries. This is particularly the case in regard to the box, shoo and door factories. The whole enormous wood-working industries of the Michigan coast cities are dependent, to a large extent, on Canadian lumber, and the scarcity will mean plenty of work this season for the mills of the Georgian Bay.

A property near the railway station at North Sydney, C.B., is declared to possess economical advantages for the manufacture of coke, and it is said that the Nova Scotia Steel Company has decided to establish works within the limits of the town for the manufacture of coke. Mr. Graham Fraser, manager of the company, has examined the locality carefully. Coal from the General Mining Association can be dumped off the cars alongside the works. This coal was tested at the New Glasgow works last year, and found to be suitable for coke and smelting, and freer of sulphur than coal from any other mine in the province. Again the George's river iron deposit is quite close, where also there is an abundance of limestone. In order to secure abundance of this article, Mr. Fraser has banded the extensive limestone deposits at Point Edward and Northwest Arm. At present, says The Herald, the company will draw the coal from Cape Breton to Ferrona for the manufacture of coke.

Mr. Chas. Brent, M.E., of the Rat Portage, Ont., Metallurgical Works, has recently pointed out the fact that electric power might advantageously be supplied to and employed by the mines located within a radius of twenty-five miles of the water power at that place. He points out that, in winter especially, electric hoists possess a distinct advantage over steam hoists, as the use of steam, when the thermometer is below zero, is attended with many difficulties. This also applies to diamond drill work, both on surface and underground. Mr. Brent estimates that electric power can be supplied at less expense than for plant,

and at half the cost of steam power. In this connection the Rat Portage Reduction Works are being equipped with motors to which current will be supplied at a cost of \$8 per day of twenty hours for 75 h.p.

Messrs. G. M. Van Walkenburg and associates have been incorporated as the Farmers' Elevator Co., of Forest, Ont., with a capital stock of \$3,000.

R. E. Dowsett and associates, Rat Portage, Ont., have been incorporated with a capital stock of \$25,000 as the Rat Portage Brick Co., to manufacture brick, etc.

A telegram from London, Eng., a few days ago, states that the Dominion Syndicate, Limited, has been formed there with a capital of £500,000, to build the Georgian Bay Canal within three years, and develop the electrical, mineral, pulp, and other industries along the route. Sir Edward Thornton, ex-British Minister to the United States, is chairman. Mr. Melvor, of the Cunard line, and Mr. Jones, of the Elder-Dempster line, are also members of the syndicate. Sir Benjamin Baker is consulting engineer, while Lord Kelvin has accepted the post of consulting electrical engineer. The solicitors are Sir Henry Fowler, ex-Secretary of State for India, and Mr. Perks, M.P. Right Hon. Mr. Chamberlain has been approached by members of the House of Commons with a view to securing an Imperial subsidy. Lord Aberdeen urged the Imperial importance of the scheme.

The premises of Messrs. Walsh & Co., brass-founders, Montreal, were, on May 5, damaged by fire to the extent of about \$2,000.

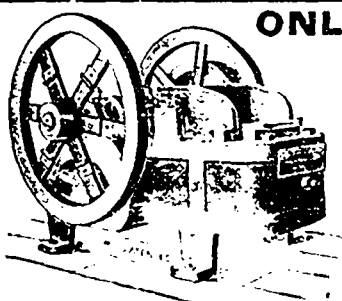
A good sample of petroleum sent from Port Carling, Muskoka, has been received in Toronto. This is said to be the first discovery of oil in that district, and the gentleman who sent the sample states that a promising vein was struck while boring for a well. Interested Toronto parties have sent an expert up to investigate.

A number of wholesale grocers of Toronto and Hamilton, who do not purchase their vinegar of the recently formed vinegar trust, will start a new vinegar factory at Hamilton.

The Alaska Feather and Down Co. premises in Montreal were gutted by fire May 9. Loss about \$15,000.

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

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



ROLL JAW CRUSHER.

ONLY

FINE CRUSHER

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

FOR ORES.

STURTEVANT MILL CO., BOSTON, MASS.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER

Work is progressing rapidly on the installation of machinery at the Ottawa Paper Company's new mill at the Chaudiere. Two extra beating tubs have been built and put in place, making a total of four, with a combined capacity of 4,800 pounds of paper per day. These tubs are made of wood, and are twenty-one by eight feet, and have a depth of four feet. The beating rolls which will be placed in them are sixteen feet square, and weigh five tons. The Jordan engine, which will also be placed in position at once, has an output of 500 pounds of pulp per hour. The value of the entire plant will be in the neighborhood of \$20,000.

The Guelph (Ont.) City Council has approved the proposition of Messrs. White & Sons, London, Ont., to re-open and operate the rolling mills, formerly owned by the Guelph, Norway Iron and Steel Company. The City exempts the new concern from taxation for ten years. The mills will be operated by a joint stock company, and will employ not less than forty hands.

The new mill of the Frontenac Milling Company at Kingston, Ont., recently completed, is a product of both Canadian and American machinery builders. The build-

ing is 64 x 52 feet in size, 65 feet high, the walls being of brick and the roof of iron. There are four stories and basement, and it has capacity for 300 barrels of flour and 100 barrels of corn meal daily. The roll floor has ten sets of rolls for flour and two for corn meal. The engine and iron work were supplied by Canadian shops. Mr. A. B. Campbell will be permanent manager of the mill, and W. J. Doble, lately with the Ogilvie Company at Montreal and at Goderich, superintendent.

A party of American capitalists having acquired a number of coal areas between River Inhabitants and Port Hawkesbury, N.S., intend bringing to the country first-class diamond drills, and boring in the centre of their property to a depth of 800 feet. There is supposed to be coal in the River Inhabitants district, but as yet it has not been explored.—Mining Record.

The new swing bridge of the Canadian Pacific Railway over the Government canal at Sault Ste. Marie, Ont., was swung for the first time on April 25. The superstructure, which is 408 feet long, and is said to be the longest swing bridge in Canada, was erected by James Finley for the Dominion

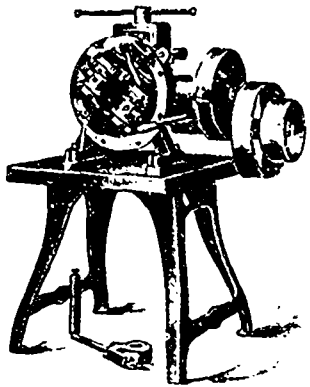
Bridge Company of Montreal, and was built in place without any interruption of railway traffic. The bridge will do away with the objectionable pier which has stood in the centre of the canal as a nuisance to a great many of the skippers using the canal. The dredge is now taking out the bridge pier, and in the coming season vessels using the Canadian lock will have an entrance 150 feet wide, and one that no objection can be raised against.

The Robb Engineering Co., Amherst, N.S., inform us that they have secured the order for the steam plant to go into the new works of Mr. A. Belanger, at Montmagny, Que.

The Ontario Wind Engine & Pump Company, Toronto, have received a letter from Simferopol, Russia, enquiring for their goods. This company's goods are becoming well known in all parts of the world, as well as a household word in Canada.

Madison Williams and associates, Port Perry, Ont., have been incorporated as the Madison Williams Turbine Co., with a capital stock of \$20,000, to manufacture water-wheels, saw-mill machinery, etc.

THE BEST PIPE THREADING and CUTTING-OFF MACHINES



No. 00 Machine, Power Attachment.

ARE MADE BY THE **ARMSTRONG MFG. CO.**
BRIDGEPORT, CONN.

Also Manufacturers of a FULL LINE of **ADJUSTABLE STOCKS and DIES**
And **WATER, GAS and STEAM FITTERS' TOOLS.**

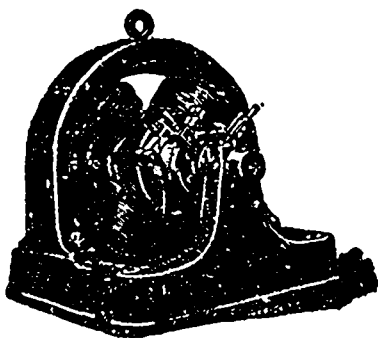
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HIGH-CLASS ONLY.

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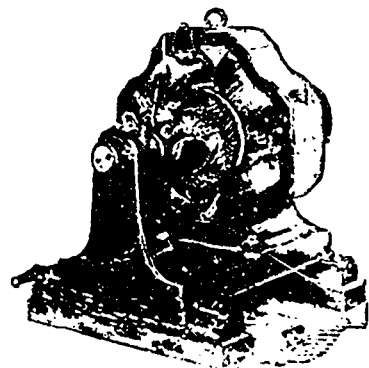
Engine Packing,
Magnesia Pipe Covering
Lubricating Oils
and Grease.

The

William C. Wilson Co.
Limited

24 FRONT STREET EAST
TORONTO, ONT.

Electrical Construction Co. of London, Limited.



MULTIPOLAR MOTORS & DYNAMOS
And Direct Connected Plants
for Isolated Lighting.
Repair Work a Specialty.

HEAD OFFICE AND FACTORY:
No. 90 YORK STREET, London, Canada.
760 Main St., Winnipeg.
42 York St., Toronto. 131 Granville St., Halifax.

The exports of wood pulp from Canada, according to the trade and navigation returns, are given as follows :

1890.....	\$80,006
1891.....	188,198
1892.....	219,458
1893.....	368,092
1894.....	547,217
1895.....	590,874
1896.....	675,777
1897.....	741,959
1898.....	1,210,421

The exports to the United States were :

1894.....	\$368,256
1895.....	336,385
1896.....	557,085
1897.....	576,720
1898.....	534,305

According to advices from Duluth, Minn., another mineral industry has been added to the many of the Lake Superior country, and

a successful beginning has been made in the mining of zinc. Some time ago a company of Eastern Canadians, under an option, began mining and shipping zinc blende from a property on the north shore of the lake. They have now closed the deal, and are enlarging their operations materially with a view to becoming leading factors in the zinc market. The despatch further says : They are now shipping about 300 tons of their product monthly to Brussels, and will add to this amount with the summer season. The ore is very rich, running as high as 64 per cent. in zinc, and averaging about 50 per cent. Zinc is mined in Missouri that at a profit runs no higher than 14 per cent. The mine has a number of strong veins exposed in the face of a cliff, and the work of mining is very easy and cheap. Geologists will be particularly interested in this development, as the presence of zinc about Lake Superior has not been commonly known.

The Corporations Committee of the New Brunswick Legislature has in hand a bill for the incorporation of the New Brunswick Pulp and Paper Company. The applicants are Frank Lloyd and Neil Turner, of London, England, Thomas R. Hilyard, Arthur Hilyard, and Herbert A. Hilyard. The capital stock is to be \$900,000, with power to increase by \$600,000 more. A pulp and paper mill is to be erected on the Tobique River, near the Narrows. There is some opposition to the bill from parties who don't want to have the Tobique dammed. On their part, the promoters say they would make good all damage that would be caused by their water power works. The head office is to be in Perth, Victoria County, N.B.

For several years Mr. W. N. Young, of Boston, has quietly carried on considerable work at McAdam's Lake, East Bay, Cape Breton County, N.S., on some large deposits of shale. These shales which are black, and of lower carboniferous age, are very highly bituminised. Trial tests show that they yield readily considerable amounts of oil, available for lighting and lubricating purposes, besides other products, among which may be named pitch, tar, etc. It is claimed that the high quality of these products ensures a price in the market much higher than is paid for the equivalent Canadian or United States articles, and that the size of the deposits, and the cheapness with which the operations can be carried on, render competition useless in the matter of the most valuable products obtainable from the shales. A company has recently been formed, and the erection of a distillery, mining plant, etc., decided on. Should the undertaking prove successful, it will be probably the precursor of a large business of a similar character in other localities.—Mining Record.

The McCready Evaporating Company, Winnipeg, (Man.) propose to evaporate a large number of eggs this season. The eggs are evaporated, ground to powder, and sealed in cans like baking powder. This product is called ovo.

The large planing mill of Messrs. Sommons & Evel, wholesale manufacturers of coffins, Hamilton, Ont., was destroyed by fire, May 4. Loss about \$10,000.

..CHICAGO.. TIME RECORDER

A RELIABLE TIME RECORDER MUST POSSESS THESE THREE QUALIFICATIONS :

1.—It must be an accurate Timepiece.

We use the famous SETH THOMAS CLOCK.

2.—IT MUST PRODUCE A CLEAR RECORD, AND ONE THAT CANNOT BE DISPUTED.

Our Sight-opening feature, whereby each man can inspect his record when made, eliminates all chance for dispute.

3.—IT MUST BE SIMPLE, POSITIVE, AND QUICK OF OPERATION.

The "CHICAGO" has less complicated mechanism than any other Recorder made, and by the simple manner of operating employees can register two-fold more rapidly than on any other.

If you have none you pay for it in lost time every year.

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W. C. BULLOCK & CO.,
42 York Street, TORONTO, ONT.
PHONE 293.



Numerical (or Key) Recorder

The Economical Development of Water Power



Horizontal Setting, with Quarter Turn Elbow.

CHICAGO TIME PUMP COMPANY.

Requires, where the supply of water is limited, that every available foot pound of energy contained in it be properly set to work. On the other hand, if the source of power is abundant your interests suggest that the plant be made as compact and powerful as possible, to reduce the space occupied and the first cost.

The Crocker Patent Turbine....

is peculiarly adapted for service under any of these conditions, as it possesses great efficiency under varying degrees of gate opening, and the ratio of power developed to diameter of wheel is remarkably large. To those interested we will supply catalogues and particulars of leading plants, together with a copy of latest official Holyoke test, 1899. Water powers reported upon, and estimates prepared. Correspondence invited.

The JENCKES MACHINE CO.,

42 Lansdowne St., Sherbrooke, Que.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

HARBOR IMPROVEMENTS.

The Dominion Government have voted money for the improvement of Ontario harbors, etc., as follows:—

Bowmanville harbor, \$5,000; Bruce Mines wharf, \$10,000; Burlington channel, repairs to piers, \$40,000; Collingwood harbor, \$60,000; Goderich, reconstruction of breakwater, \$46,500; Goderich, dredging, \$20,000; Hawkesbury, dredging, \$3,000; Kincardine, repairs to pier and dredging, \$1,500; Kingston harbor and dredging, \$10,000; Little Bear Creek, dredging, \$2,000; North Bay, pile wharf, \$8,000; Oakville, repairs to piers and dredging, \$45,000; Oshawa, repairs to piers, providing harbor is transferred to municipal corporation, who will maintain it in future, \$8,000, revote; Owen Sound, dredging and pile work, \$19,600; Picton, dredging, \$5,000; Port Burwell harbor, \$45,000; Port Elgin, construction of groyne, \$5,000; Port Hope, repairs to pier and dredging, \$25,000; Port Stanley,

repairs to pier and dredging, \$13,000; Rainy River, improvements to channel, \$1,500; River Ottawa, improvements steamboat channel, \$7,200; Saugeen river, dredging, \$3,100; Southampton, dredging, \$2,000; Sydenham river, dredging, \$5,000; Thornbury, dredging, \$3,000. Toronto harbor, works at eastern entrance, etc., \$75,000.

For a long time it has been understood that Armour & Co., and Swift & Co., two of the largest pork packers in Chicago, were looking for sites in Toronto on which to locate branches for the development of their English bacon trade under Canadian conditions. Nothing definite has ever been done, but the rumor is again revived. For several days recently a representative of a Chicago firm was in Toronto in search of a ten-acre lot for the establishment of such plant.

The old established works of the Haydenville Co., at Haydenville, Mass., and New

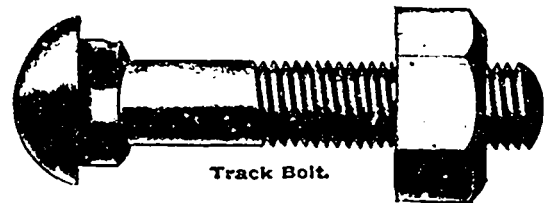
York City, manufacturers of brass and iron valves, cocks, gauges, lubricators and engine fittings, have been thoroughly reorganized with the following officers:—C. J. Hills, president; C. K. Sanborn, vice-president, and A. S. Hills, treasurer. The works have been running continuously for over fifty years, and the product has always been kept at the highest standard of excellence both as to quality of metal used and workmanship employed. Engineers and steam-fitters who have used these goods speak in highest terms as to the uniformity of threads and practical construction of the working parts. The company is in a position to quote low prices and execute orders promptly. They have removed their New York office from 73 Beekman street to the American building, 150 Nassau street.

The by-law authorizing the Village of Winchester, Ont., to grant a bonus of \$10,000 to a pork packing establishment has been carried by a large majority.

THE CUMMER For Mechanically Drying Everything

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

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



Track Bolt. SEND FOR ILLUSTRATED CATALOGUE.



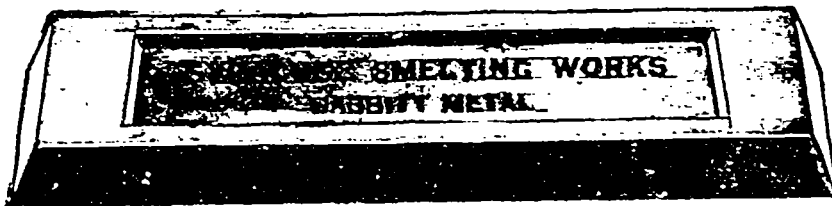
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SWANSEA (NEAR TORONTO).

Use Syracuse Babbitt Metal

IT IS THE BEST AND CHEAPEST FOR

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

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

SYRACUSE SMELTING WORKS.

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

A discovery of a peculiar soft white earthy mineral was recently made in East Kootenay, near Windermere, B.C., which, on examination, proved to be uncrystallized alum, an article that is extensively used in dyeing and calico printing.

The Toronto Police Commissioners have appropriated the sum of \$1,500 for the purchase of an electrically driven ambulance. If the operation of it should prove to be satisfactory, it is probable that all the patrol wagons will be electrically equipped.

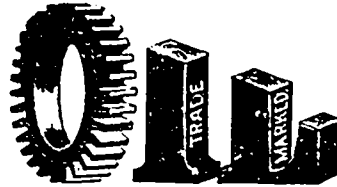
THE DOMINION COAL CO.

Last year the Dominion Coal Company shipped, in round figures, 1,155,000 tons. This year the probability is the shipments will reach 1,750,000, or an increase of 600,000 tons, representing an increased royalty of \$75,000. The new market at Everett will take from 350,000 to 400,000 of the increased shipments. It is expected that a larger quantity will this year be sent up the St. Lawrence. The shipments to the principal market will go close on three quarters of a million tons. In order to overtake this big business the company have secured for the season no fewer than seventeen steamers, seven of which are of the turret type. The seven turret steamers have a total capacity of 22,500 tons per trip; the other nine steamers have a total capacity of 23,500 tons. The capacity of the whole fleet is 46,000 tons per trip. Besides the "time" steamers there will be a number of "trip" boats. The coal for the big gas works will be shipped, principally, from Louisburgh. The largest part of this big output of coal will require to come fresh from the mines, as the quantity banked up till the end of April does not exceed 230,000 tons. Owing, however, to the high state of efficiency of the several collieries of the company, it is thought there will be little difficulty in securing a monthly output of a hundred and forty to a hundred and fifty thousand tons. —Halifax Mining Record.

"Capitol" Cylinder

"RENOVN" ENGINE

"ATLANTIC" RED



RELIABLE WELL-KNOWN BRANDS.

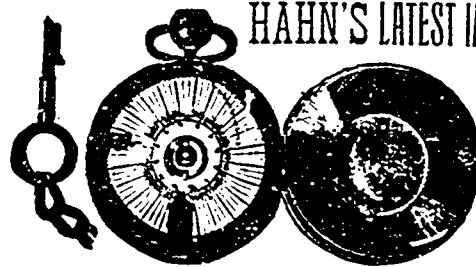
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QUEEN CITY OIL CO.

SAMUEL ROGERS, President.

LIMITED, TORONTO, CANADA.



HAHN'S LATEST IMPROVED WATCHMAN'S TIME DETECTOR

This Clock is adapted for six or twelve stations, and the keys are all different, ranging from 1 to 6, and 1 to 12, instead of as in the old style Time Detectors, which mark either by holes or an impression on the dial, being the same for all stations.

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This Clock received the First Prize at World's Fair

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34 OLIVER STREET. - BOSTON, MASS.

DYNAMOS, MOTORS, ANY TYPE OF ELECTRICAL APPARATUS AND ALL KINDS OF MACHINERY

The year 1898 was a banner year in the collieries of British Columbia, the output of the Vancouver mines alone being 11,126,531 tons, about 100,000 tons more than was produced in any previous year, and to this must be added 9,334 tons from the Crow's Nest, which has just entered the field as a producer. In addition, Vancouver Island produced in the neighborhood of 35,000 tons of coke, and the Crow's Nest collieries some 3,600 tons of a very superior quality of coke. Anthracite coal has been found on Queen Charlotte Island, and on other islands off the coast, but has not been worked as yet, although the prospects are promising. In addition to the minerals mentioned gypsum, asbestos, plumbago, and mica occurs in various parts of the province.

The **Canadian Gazette**

LONDON, ENGLAND

A Weekly Journal

Of information and comment upon matters of use and interest to those concerned in Canada, Canadian Emigration and Canadian Investments.

EDITED BY THOMAS SKINNER, Compiler and Editor of

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Every Thursday. Subscription, \$4.38 per annum

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Advertisements The charge for ordinary advertisements is \$1. per line of twelve words; and for Leader page advertisements, 1s. per line. The scale of charges for Displayed Advertisements, Special Positions, and for a Series may be had upon application to the publisher.

THE SOUTH AFRICAN Trade Journal AND Shipping Gazette

THE RECOGNIZED ORGAN OF COMMERCE FOR SOUTH AFRICA.

PUBLISHED MONTHLY AT CAPE TOWN, SOUTH AFRICA.

It circulates throughout the Mercantile Centres of South and East Africa, including Cape Colony, Orange Free State, Transvaal, Natal, British Protectorate of Bechuanaland, Zambesia, etc.

Advertising Rates on Application.

THE AMERICAN

CARPET and UPHOLSTERY .. JOURNAL

Each number contains valuable statistics as to the imports and exports of the United States, and all the news relating to the allied industries.

It carries the advertisements of the leading firms in the business, and is regarded as a most valuable medium for reaching the entire trade of the country.

Subscription Price, - \$2.00 a year

For Canada and the United States.

PUBLISHED BY THE TRADES PUBLISHING COMPANY,

102 South Twelfth Street,

PHILADELPHIA, PENN.

It is announced that the Trenton, Ont., Electric Company and the Trenton Water Company have amalgamated, under the name of the Trenton Electric and Water Company, Limited. An arrangement has been entered into with the town of Trenton whereby the new company is given entire control of the town's water power, including the privilege of transmitting power to outside points. The new company will proceed at once to construct a transmission line to Belleville, Ont., and intend doing their own construction work.

From the agreement between the Nova Scotia Government, on the one side, and Daniel F. Emery, jr., of Portland, Me.; and Edward L. Sanborn, of Boston, Mass., and Robert B. Blodgett, of Boston, on the other side, is ascertained more fully the nature of the concessions granted to the lessees, and

of the conditions they have to carry out. The pulp-wood lands leased consist of two blocks—one in Victoria county, comprising 460,000 acres, the other in Inverness county, containing 138,000 acres. The total area is 4.4 square miles. The amount of rental is to be \$6,000 per year. The transfer of the lease is to be allowed without the consent of the Government. Within two years the company must spend \$10,000 upon the lands in Victoria. Within two years the construction of pulp or paper mills must be commenced in both counties, and these mills must each have a daily capacity of at least 50 tons. The mills are to be completed within four years from the beginning of the lease. If the mills are constructed and successfully operated as required, the lease may be renewed, after the first thirty years, for a like period. All

wood cut and taken from the lands is to be manufactured within the province. If the company fails to go on with its mills, or pay rent for six months, its rights are to be forfeited.

The Ontario Wind Engine & Pump Company, Toronto, have recently shipped a large tank, 24 x 16 feet, to the General Mining Association, Sydney, C.B., to be erected on a 40 foot substructure, according to plans prepared by the above company. They are also installing a large water supply plant for Manawaki, Quebec. They have also recently made a further shipment of their well-known Canadian Air Motors for the Government of Cyprus.

A. Tessier's planing and lumber mill at Penetanguishene, Ont., was destroyed by fire May 9.

Shafting, - Hangers, - Pulleys.

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And carry a full line of the above requisites for Factory and Mill purposes. Send us your specifications! Our prices will surprise you! Afterwards our goods and prompt shipment will please you.

We issue a 270 Page Catalogue FREE for the asking.

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 Headquarters in Montreal—LAURIE ENGINE CO, 321 ST. JAMES STREET.



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




Wire Screens for Every Class of Material.
 Perforated Metal of Steel, Copper, Brass, Zinc for all purposes.
 Special Attention given to Miners' Requirements.

TO MANUFACTURERS...

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

RICE LEWIS & SON
 (LIMITED)

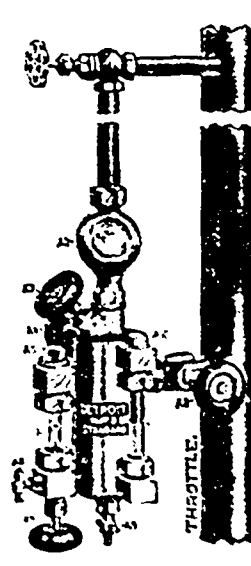
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BOBBINS
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 PICKER
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 ROLLS, Etc.

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



THE BEST JUDGES OF ENGINES
 THOSE WHO BUILD HIGH-GRADE ONES
 ALL USE

The **Detroit
 Sight-Feed
 Lubricators**

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

Send for Catalogue and Prices.

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 DETROIT, MICH.**

ADVERTISE IN THE CANADIAN MANUFACTURER.

SEND FOR RATES.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

PEAT FUEL IN MEXICO.

The scarcity of fuel in Mexico might be called a "burning question." The enactment restraining the cutting of the remaining standing timber in that country is not enforced, because the people must have fuel. The country is destitute of coal, and an inferior quality of the imported article sells for \$18 per ton (all Mexican prices are given in Mexican silver), while better qualities command \$22 or over per ton. Pennsylvania and Wales furnish large quantities of bituminous coal for steam purposes, no anthracite being used. Pine wood which sells in Canada for about \$2 per cord, is sold in the city of Mexico at from \$14 to \$18. In 1897 there was consumed in that city \$7,000,000 worth of fuel of all kinds, and the demand overlaps the supply.

In view of these conditions, a syndicate of Americans some time ago formed the Mexican Industrial Development Company, gained control of the peat deposits near Lake Nachimileo, about eight miles from the city of Mexico, which are probably the only deposits of that character in that section of the country, and proceeded to exploit it.

The extent of the deposit is estimated at about 8,000,000 tons of dry fuel, and it will renew itself every 15 years. The company expended large sums of money upon the installation of machinery, etc., all of which is still in good condition, but failed in their efforts to construct compressing machinery entirely suitable for their purposes, such a necessary feature to the success of their enterprise. These works that have for so long a time been shut down and in idleness are now about to be again put in active operation.

Peat from this Mexican deposit has been brought to Toronto and put through the Dickson press with splendid results; and

the necessary capital has already been subscribed in Canada and in England, and a working company organized to put in Dickson presses in the works of the Mexican company under an agreement with them. Common labor is very cheap in Mexico, and the climate is admirably adapted to the drying of peat almost all the year round. The report of a representative of the Mexican company to his own board early in 1898 contains this statement: "In Mexico the field is clear of all competition, and liable to remain so for a long time, while hundreds of chances for profitable manufacturing industries only await the advent of cheaper and reliable power."

Mr. A. A. Dickson, of Toronto, the patentee of the Dickson Open-Tube Vertical Press, has lately returned from an inspection of the Mexican deposits, and his report and that of Mr. Blanchard of the Mexican Company, are both full of striking facts regarding the probable financial success of the enterprise.

The Peterborough Canoe Company, Peterborough, Ont., have just shipped to British Columbia a very neat and staunch steam launch, to be run on Lake Okanogan, that province. The craft is 50 feet long by 8 feet beam, of very graceful shape, strongly constructed, and beautifully finished. The order for this steamer was placed only about six weeks ago. It was loaded upon a special car, and shipped to destination via the C. P. railway.

Messrs. W. J. Still, G. S. Still, Thomas Bengough and associates, have been incorporated as the Still Motor Co., Limited, with a capital stock of \$75,000, and headquarters at Toronto, to manufacture motor carriages of different descriptions, automobile carriages, motors, etc.

VALUABLE AIDS TO BUSINESS.

Kelly's Directory of the Merchants, Manufacturers and Shippers of the World.

The Standard Export Medium—Endorsed by the British Government—Published Annually, price \$9.00.

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	Price.
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Grocery and Oil and Color, and Provision Trades	10 00
Leather Trades	8 00
Stationers, Publishers, Printers, Booksellers and Paper Makers	7 00
Chemists and Druggists and Chemical Manufacturers	7 00
Engineers, Iron and Metal Trades	9 00
Manufacturers of Textile Fabrics	10 00
Watch and Clock, Goldsmith and Jeweller's Trades	6 00
Building Trades	9 00
Wine and Spirit Trades, Brewers and Maltsters	7 00
Post Office London Directory (16th annual edition)	10 00
Titled, Landed and Official Classes	5 00
Clergy List	3 00
Royal Blue Book	2 00

Colonial Directories.

	Price.
Queen-land Official Directory	\$13 00
Post Office Directory of Victoria	13 00
" " New Zealand	13 00
" " New South Wales	13 00
" " Western Australia	8 00
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" " Tasmania	8 00
Directory of Belgium	7 00
General Directory of South Africa	7 00

All these Directories contain a classified Business list.

National Directories.

	Price.
Royal National Directory of Scotland	\$14 00
Royal National Directory of Ireland	11 00

PARIS EXPOSITION, 1900.

Kelly's Directories, Ltd., of London, Eng., desire to announce to their many patrons in the Dominion, and to Canadian Manufacturers generally, that they have made arrangements for prominent space in the Paris Exposition in 1900, in which to exhibit their

COMMERCIAL DIRECTORIES

prominent amongst which are the Merchants, Manufacturers and Shippers of the World. Employes conversant with the French, German, Italian, Spanish and other languages will be in daily attendance, and the names and addresses of British and Colonial Manufacturers will be furnished all enquirers interested therein.

Exhibitors or Non-Exhibitors who desire to distribute Circulars, Catalogues, Commercial Prospectuses, etc., at the Paris Exhibition, can make arrangements with us for that purpose at reasonable rates. Prospectus with advertising rates and full particulars on application to

KELLY'S DIRECTORIES, LTD.,
28 VICTORIA ST., TORONTO, ONT.

The Jones & Moore Electric Co.,

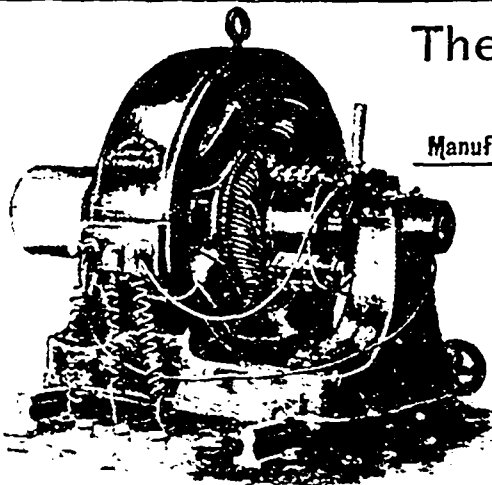
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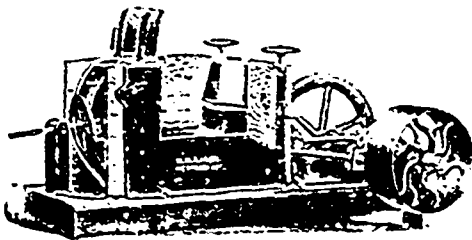
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A GREAT DISCOVERY.

Here's news for scientists and chemists. A Toronto paper says: "Several interesting experiments were made with spirituous liquors at the headquarters of the Canadian Temperance League, corner of Elm and Terravay streets, on Friday evening. By means of a cleverly-constructed still, alcohol was extracted from a bottle of lager beer and from a bottle of pale ale. Alcohol was also discovered in Jamaica ginger, and when lighted would burn as clearly and brightly as brandy or gin. These demonstrations were made in connection with one of a series of scientific talks delivered by Mr. W. B. Sweetnam, under the auspices of the educational branch of the League."

If Mr. Sweetnam knows of any vegetable substance whatever, from a grain of mustard seed to a mammoth Douglas fir, from which alcohol cannot be obtained, he ought to impart his knowledge to the world.

"It is not generally known that over 60 per cent. of wood may be converted into liquid," remarks the Boston Transcript. "The strongest hydraulic pressure would not squeeze one half of 1 per cent. of moisture from dry wood, but by putting the same material into an iron retort and converting it into charcoal by means of heat, the gases and smoke to the extent of fully 65 per cent. of the weight of the wood may be condensed into liquid called pyroligneous acid, and from it are obtained wood alcohol, acetate of lime and wood tars. A cord of wood weighing 4,000 pounds produced about 2,650 pounds of pyroligneous acid and 700 pounds of charcoal. The pyroligneous acid from one cord of wood produces nine gallons of 82 per cent. crude wood alcohol, 200 pounds of acetate of lime, and about twenty-five gallons of tar, besides thirty-five bushels of charcoal. After the pyroligneous acid is neutralized with lime the wood alcohol is distilled off, the lime holding the active acid in solution. After the separation of the wood spirit, the remaining liquid is boiled down in open pans to a sugar, which is dried, and becomes the acetate of lime of commerce. Acetate of lime is used for making acetic acid. Fully three-fifths of all the wood alcohol and acetate of lime produced in the world are made in the United States. Fully 15,000 acres per year are cleared for this purpose. Wood alcohol affords a perfect substitute for grain alcohol for manu-

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CHARLES F. CLARK, President.

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Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

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The Bradstreet Company, Toronto Office:—**Cor. Jordan & Melinda Sts.**

THOS. C. IRVING, — — — Superintendent.



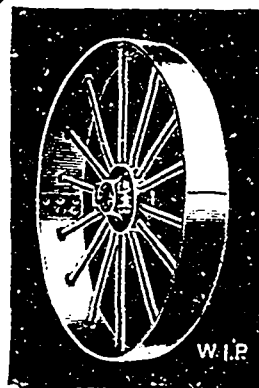
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 Manufacturers of....
Machine Screws
 OF EVERY DESCRIPTION.

SEND FOR CATALOGUE and PRICE LIST.



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Agents Wanted.



- PULLEYS . .
- BEARINGS . .
- SHAFTING . .
- Gas Engines.

Australian Business

Mr. A. J. SAGE, of Melbourne, Australia, Manufacturers' Agent, will be in Canada in May, and will be glad to meet manufacturers and others desirous of opening up business with Australia.

Letters can be addressed to

A. J. SAGE,

Care THE CANADIAN MANUFACTURER, TORONTO.

up to end of May.

Refer to J. S. LARKE, Esq., Commercial Agent for Government of Canada, at Sydney, N.S.W.

THOMPSON & CO.,
 Manufacturers of
BOBBINS and SPOOLS

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**Leather Belting,
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'Phone 374.

facturing and mechanical purposes, and at less than one third the cost. It is used principally as a solvent in the making of shellac varnish, in making celluloid, photographic paper, etc. It makes many beautiful dye tints. It is antiseptic, and much used for liniments and for skin rubbing in bath-houses."

THE EVOLUTION OF THE BLAST FURNACE.

In an interesting paper read before the Philosophical Society of Glasgow Professor A. Humbolt Sexton gave some interesting statistics of the gradual development of the iron industries and the use of the blast furnace. Iron originally, he said, was undoubtedly prepared in the state of malleable iron in low hearths, the furnaces being exceedingly simple, in many cases consisting only of a low cylinder of clay in which the pure oxides of iron were heated with charcoal. Furnaces of this type have been in use from the very earliest times, traces of them being often found on ancient Egyptian sculpture. In different countries development had taken place at very different rates, so that there were many places at present in which primitive methods are still in use. About the twelfth or thirteenth century the

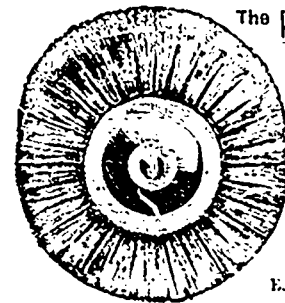
hearth was increased in size, the result being that a higher heat was attained, and the carbon combined with the malleable iron produced for the first time cast iron. This might be taken as the start of the blast furnace. The first blast furnaces were fed with charcoal, and therefore were always planted where wood was abundant. The first in Scotland was erected in Ross shire at Letterowe in 1707. Later, furnaces were put on Lochfyne side, and at Bonawo on Loch Etive. The consumption of charcoal was so great that it looked as if the process would have to be abandoned, but in 1665 Dudley suggested the use of coal. It was not, however, till 1735 that Abraham Darby made this a success at Coalbrookdale. The first coke furnace in Scotland was erected at Carron about 1760. The furnaces were very small. In 1786 the Clyde Iron Works were established, and the furnaces were built larger. Here, in 1801, Mushet discovered blackband ironstone. In 1820 Neilson applied the hot blast. This might be taken as the commencement of modern iron smelting.

The Kerr Engine Co., Walkerville, Ont., inform us that they are exceedingly busy in manufacturing valves and hydrants. This

is one of the busiest concerns in Western Ontario, and are operating specially in water works, pumping machinery, hydrants and valves, and general brass work. They are the sole makers in Canada of the Weber patent straightway valves. At this time they are busily engaged in installing the engines and machinery in the Lake Erie and Detroit River Railway Co.'s side wheel steamer Flora.

The factory of the Bishopric Paper Box Co., of Toronto, was gutted by fire, May 5. Loss about \$10,000.

A vote has been taken in Durham, Ont., on a by-law which was carried, granting a loan of \$10,000 to the Durham Furniture Company.



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FACTORY

Manufacturers of ALL KINDS OF BRUSHES.

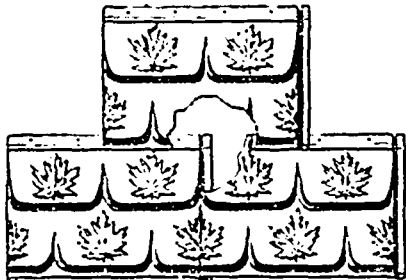
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the advantages of using metal roofing constructed on our patent "SAFE-LOCK" principles they would not accept a substitute.



OUR "SAFE-LOCK" SHINGLES

interlock each other on all four sides—leaving no openings for snow or rain to get in. They are easily put on by anyone—are practically fire and lightning proof and give a building a neat finished appearance. We can tell you more. Ask for free catalogue and samples.

THE METAL SHINGLE & SIDING CO. (LIMITED).

PRESTON, - ONTARIO.

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LARGE THREE-STORY BRICK FACTORY

Formerly occupied by Cobban Manufacturing Company, corner Terauley and Hayter Streets, Toronto. Over 40,000 square feet flooring, Boilers, Engine, etc., also yard accommodation.

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Dominion Oil Cloth Co.

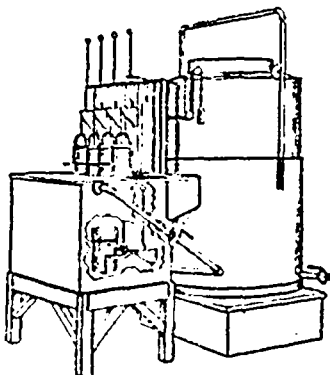
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Size—2 1/2 light to 2000 lights.

ACETYLENE GAS

Ideal Generator the only machine that submerges the carbide.

No Opening of generator.

No Heat in generator.

No Overgeneration.

No Bad Odour through house.

No Danger.

Recognized by all EXPERTS as the PROPER PRINCIPLE

Town Lighting and Large Plants a Specialty

J. WALLACE & SON, 156 King St. East, Hamilton, Ont.

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NEW ANILINE DYESTUFFS.

New Patent Blue G. A., New Patent Blue B. and 4 B. have been on the market since May, 1898.

The Farbenfabriken Co., of Elberfeld, have produced a new homogeneous dyestuff, under the name of New Patent Blue G. A., which differs from the older brands, in that it exhausts the dye bath almost completely. It is greener and brighter in shade and possesses greater covering power. The ease with which it dyes level, its fastness to alkali, light, rubbing and milling corresponds very closely with the B. and 4 B. brands.

New Patent Blue G. A. is specially recommended as a level dyeing color for the production of fancy shades on ladies' dress goods and yarn, and, owing to its fastness to milling, can be safely employed in combination with Alizarine colors.

Dyes with twenty per cent. glauber salt and four per cent. sulphuric acid.

Direct Blue Black 2 B. - Owing to the general tendency to a decline in price of direct black dyestuffs, Direct Blue Black 2 B. has been placed upon the market to meet the demand for a good cheap black. In many respects it closely resembles the Direct Blue Black B., differing only in its brighter blue shade and cheaper price. Direct Blue Black 2 B. is adapted for the production of blacks, either as a self color or in combination with Direct Deep Black R. W. or "E," and, further, with Benzo Chrome Black B., for dyeing dark navy blues. Owing to its solubility and excellent dyeing properties, this new product can be employed for dyeing loose cotton in a machine or apparatus, and also for dyeing yarn, as well as piece goods.

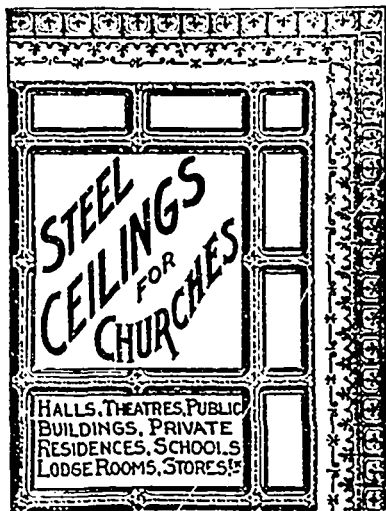
In the dyeing of half wool, Direct Blue Black 2 B. dyes the wool fuller than the B. brand. Pattern Card 729 shows shades to Direct Blue Black 2 B., on suitable material.

Benzo Dark Green 2 G. In appreciation of

the success attained with Benzo Dark Green B., the makers have added a new brand to this group of direct green dyestuffs, known as Benzo Dark Green 2 G. It is a homogeneous dyestuff, and is both yellower and clearer than the G. brand. In properties, it is identical with Benzo Dark Green B., and, while it is not as bright in shade as Benzo Green, it is considerably cheaper. The new brand is especially suitable for cotton and has a great affinity for vegetable fibre. Is less suited for mixed fibres, as it dyes the wool or silk in a neutral bath deeper shades than the cotton.

Fast Red P. R. extra is an acid wool color, possessing good level dyeing properties, and, being very cheap, can be utilized for the production of Bordeaux reds. Is also suitable for shading Scarlets bluish. In properties, it is the same as most of the well-known Fast Red brands.

For a good full Bordeaux shade use three



Not a Substitute

but superior to lath and plaster, will not crack and fall off, absolutely fire-proof, handsome in appearance. Estimates furnished on receipt of plans.

Pedlar Metal Roofing Co.
OSHAWA, CANADA.

THE SMART-EBY MACHINE CO.,

Steam and Gas Engines,
Pumping Machinery,
General Machinery.

LIMITED
193 BARTON STREET EAST
HAMILTON, ONT.

WRITE US BEFORE PLACING YOUR ORDER.

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COMPOUND
COMPANY

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CHEMICAL
COMPOUNDS

CIVILITY
CAREFULNESS
COMPLETENESS
CONTINUITY

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

IF YOU DO NOT BUY

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Zinkolene Saves Money

THE CHEMICAL COMPOUND CO., 66 River Street, - TORONTO.

ONTARIO GOLD MINING DISTRICT :

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

A Few Mines



WHO USE

BRITISH COLUMBIA :

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

CANADIAN RAND DRILL COMPANY, Montreal

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pounds Fast Red P. R. extra, twenty pounds Glauber Salt, four pounds sulphuric acid per 100 pounds woollen goods.

A number of shade cards have recently been compiled by The Bayer Co. showing latest color and combinations on suitable goods.

Any of the above cards, samples, shades, etc., to be had from the Dominion Dyewood & Chemical Co., Toronto, sole agents in Canada for the Farbenfabriken, vormals Friedr Bayer & Co., Elberfeld, Germany.

COAL ON VANCOUVER ISLAND.

A telegram from Victoria, B.C., says According to news received by the steamer Willala, all Carmanah Point and the lands of the surrounding districts have been staked off as coal lands, coal having been found in paying quantities within a stone's throw of the lighthouse. Seams were unearthed over a foot thick, and great excitement prevails along that part of the coast. Mr. Daykin, the lighthouse keeper at Carmanah, who came down to attend the Methodist Conference, was in early on the strike and brought the news here. He has secured 610 acres of coal lands and looks forward to being a coal baron in the near future. He intends to take down a diamond drill on the next steamer. A number of other residents, with a number of prospectors, have also staked out properties.

A piece of anthracite coal taken from the point was put in the fire at the lighthouse by Mr. Dakin, and it burned like a candle. The coal is said to be of the best quality. It is understood that mining operations will be commenced immediately, and most of those who have located claims will endeavor to

develop them as soon as possible. It has been known for some years that coal existed in the West Ronfrew district, but the present strike far exceeds the expectations of the most sanguine. Carmanah is about fifty miles from Victoria, and the discovery means much for the latter.

TEXTILE PRINTING.

In a recent lecture at Manchester, England, Sir Thomas Wardle gave a resume of what is known on the subject describing the various styles and treatment that obtained in the earliest and more recent times in the several Oriental countries. Some of these features are of curious and peculiar interest.

Mr. Wardle stated that Pliny gives Egypt the fame of being the first printing country, claiming that the art spread eastward into Persia, India and China. It is thought by some, however, that India is the birthplace of printing, and that the Egyptians learned the art from that country, where it is claimed to have been practiced for several centuries before Christ, linen cloth being used for this purpose prior to the introduction of cotton cloth.

In the Coptic burial grounds of Christian Egypt at Achmin and Sakarrak, cloths have been found printed and dyed by the "reserve" process in one or two colors, and printing blocks have also been discovered. These tissues, which were mostly in the form of tunics and other garments, date from the earliest centuries of our era down to the ninth or tenth, during which period they were distributed into Western Europe, as disclosed in excavations and clerical tombs.

It is very probable that the early Christian Egyptian workers carried the art of printing into Persia—not only reserve print-

ing with dyeing, but direct printing in colors, and with gold and silver leaf fixed upon the cloth with glue. The art has continued to the present day, but with designs entirely altered in character and treatment from those of earlier days. The love for deep and elaborate borders developed in Persia, as in India. A great and constant feature in these manifold borders is the ever-recurring pine pattern, which also specializes the beautiful shawls of Kasimor and tissue printing in India. A curious thing is that their dye and print works are called "workshops of Christ."

In Persia Christ is the patron of dyers and printers, who have handed down a tradition which resembles one that Pliny related. According to Persian tradition, Jesus was a dyer. He was apprenticed to a dyer, who ordered him to dye some stuffs in different colors. He threw them all into the same vat. The dyer, alarmed, immediately took them out, and to his astonishment each piece came out the color required. It seems almost certain that it was the Christian workers of Egypt who in the first centuries of our era introduced this art into Persia.

Dyeing and printing are two of the great crafts of India. There are samples in existence at least 2,000 years old, and many now engaged in this business claim that their families have done the same thing for more than a thousand years. Bandana, or handkerchief, printing was one of the earlier forms, and continues to be such to-day.

Mr. Wardle tells the story of a 2,000-year-old legend of how the dyer of a certain section of India dyed only blue, knew no other and would know no other, because only blue had been dyed by his people. He

When were
Your
BOILERS
Last
Inspected?

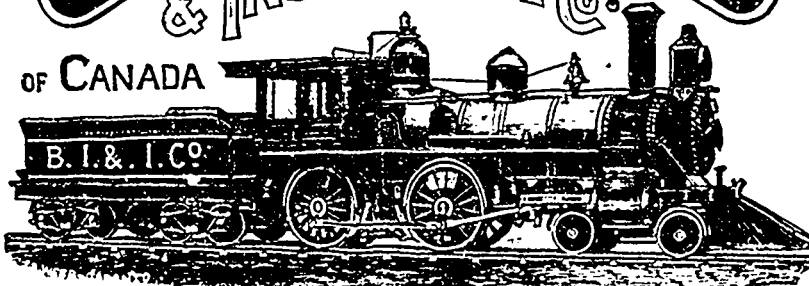
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The IMPROVED JONES UNDERFEED STOKER

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

N.B.—Have you seen our Underfeed as applied to Houses, Schools, Churches, etc.?

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Head Office... 80 CANADA LIFE BUILDING, - TORONTO.

Montreal—A. TREVETHICK, - Box 1123.

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verified the legend himself by trying to get a dyer in the same locality to dye a piece of cloth for him some other color, but was told the same thing; and when Mr. Wardle offered to teach them how to dye other colors, refused the instruction, for the same reason given in the legend of 2,000 years ago.

FINISHING FLANNEL GOODS.

The first operation is milling, and this is of greater importance in the case of flannel than other goods. Flannel may be milled with soap or Fuller's earth.

Milling with Soap.—Soap is used when the flannel is to be dyed in the piece, or if it has been already dyed with colors fast to milling. The soap used should contain only one-third to one half of the usual amount of free soda, because the yarn used for flannel is not so dirty or speckled as that used for most other classes of material, and also because soda tends to give a hard, disagreeable feel to the goods, and imparts a yellow tint to white or light colored material. The best soap is a tallow cured soap. Only the very finest qualities of flannel are washed before milling. Cylinder milling machines are now most commonly employed.

Milling with Fuller's Earth.—Flannels dyed with colors not fast to milling are washed in hand washing machines with a strong bath of Fuller's earth; then washed with water, hydro-extracted, wrapped on the cylinder machine and run without the useful properties of the material being in any way impaired. After milling, the goods are washed in a weak bath of Fuller's earth and again hydro-extracted.—Textile America.

NEW COAL TAR COLORS.

ANILINE DYES.

Acid Violet 9 B The latest addition to the Acid Violet family. Besides possessing the same strength and properties as Acid Violet 6 B., it is faster to alkalies than the latter product, and will compete against it.

Paper Black T. and Coal Black B.—These new colors are especially adapted for paper dyeing. They dissolve very easily in hot water, and when combined with one another, produce a fine, deep and useful, black shade.

**THE CANADIAN
COLORED COTTON
MILLS COMPANY.**

Cottonades, Tickings, Denims,
Awnings, Shirtings,
Flannelettes, Gingham,
Zephyrs, Skirtings,
Dress Goods, Lawns,
Cotton Blankets,
Angolas, Yarns, etc.

Only Wholesale Trade Supplied.

D. MORRICE, SONS & CO.

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Felts for Pulp Mills

20 years in the business — the first to make Felts in Canada; capacity 1,000 lbs. per day. All our Felts are woven endless, without a splice. Our Felts will last longer and make dryer Pulp. All up-to-date mills use our Felts. New mills, when in need, write for samples and prices.

HAMELIN & AYERS, Lachute Mills, P.Q.

THE "SAFETY" Acetylene Gas Machine

Manufactured by

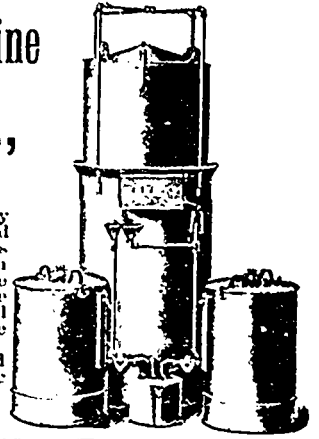
**THE SAFETY LIGHT AND HEAT CO.,
DUNDAS, ONT.**

WHAT SOME OF OUR FRIENDS SAY OF US:

DEAR SIR, I have much pleasure in testifying to the efficiency of the Acetylene Gas-Generator which you manufactured and placed in my house. We have now had the same in use four or five months and are very much pleased indeed with the light which we obtain from this new kind of gas. It is a beautiful, clear white light. The flame is small but it is exceedingly brilliant. We may add that the time taken by the attendant for charging the generators is very small indeed, in fact we often go several days without charging the same at all. I have great pleasure in recommending your firm to any person who may desire this new gas. Especially do we think it is good for towns and country places where people have not access to public gas plants, and hence require their own private apparatus.

FREDERICK W. WATKINS.

Departmental Store, 15 to 21 James St. South Hamilton



The London Machine Tool Co., LONDON, ONT.

Toronto Office, (PHONE) MANUFACTURERS OF GENERAL MACHINERY...
42 York Street, 1 293 1

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

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

All correspondence relating to the following Tools will be promptly answered, viz:

- LATHES—Engino, Gap, Break, Turret, Fox, Spinning, Etc.
- PLANERS—Standard, Crank, Plato, Etc.
- DRILLS—Standard, Sensitive, Multiple, Radial, Etc.
- MILLING MACHINES—Lincoln, Plain, Universal, Etc.
- SHAPING MACHINES—Whitworth, G. & E. Rack-Driven, Etc.
- HAMMERS—Steam, Sandage Drop, Stiles Drop.
- BULL-DOZERS for all purposes.
- PUNCHES AND SHEARS for Plate, Angles, Channels, Gauges, Etc.
- PRESSES for Cutting, Stamping, Drawing, Wiring, Riveting, Etc.

And we would call special attention to our General Machinery in our line. ALEX. GARTSHORE, President. J. G. ALLAN, Sec. Treas. JAS. THOMSON, Vice-Pres. and Gen. Mgr.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.

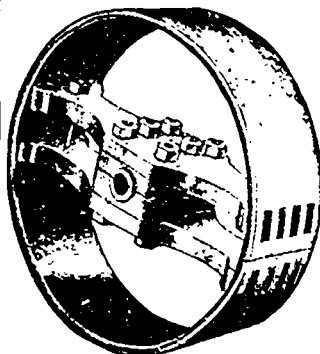
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3 in. to 60 in. diameter.

For Water, Gas, Culverts and Sewers

Special Castings and all kinds of FLEXIBLE AND FLANGE PIPE.
WATER WORKS SUPPLIES HAMILTON, ONT.



**BENT WOOD SPLIT PULLEYS,
RIM... (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. Manufacturing Co., of Toronto,
257 King St. West, Toronto.

A pattern card has just been compiled (No. 738-1899), showing these new products dyed on white paper pulp.

Benzo-Nitrol Black, B. and T.—Some two years ago a new process for producing shades dyed on cotton, fast to washing consisting of an after-treatment with diazotized Parani-traniline or Benzo-Nitrol. Colors represented in this list of dye-stuffs are direct yellow, yellow P.R., chloramine orange, Chicago blue, Benzo-Nitrol brown, Pluto brown, and direct fast brown. The above two new products.

Benzo-Nitrol Black B. and T. have just been added to the list, and are capable of producing good blacks by this simple method of dyeing. Benzo-Nitrol Black B. yields a bluish black; the "T." quality a coal-black shade, which can be brightened by topping with methylene blue. The fastness to wash-

ing of the T brand is slightly inferior to the B. brand, which latter, however, is on a par with the fastest of the existing diazotizable colors. The fastness to light of both products is equal to the fastest diazotized and developed colors.

NEW SHADE CARDS.

Benzo-Nitrol Black B. and T.—On cotton yarn, No. 742-1899.

Paper Black T. and Coal Black B.—On white paper pulp, consisting of 60 per cent. wood pulp, and 40 per cent. cellulose, No. 738-1899.

Victoria Blue B. and New Victoria Blue B.—On wool and cotton yarn, No. 735-1899.

Half Wool Ladies' Covert Coating.—Shades fast to light, No. 720-1899.

Direct Blue-Black, 2 B.—On cotton, No. 729.

Fancy Woven Cotton—Dress and apron material, No. 723-1899.

Fancy Shades—On carpet yarn, No. 728-1899.

Benidine Colors—On cotton yarn 11, No. 712. This card shows three classes of Benidine colors, viz., Diazo colors, Benzo-Nitrol colors, Benzo-Chromo colors and others, after treated with metallic salts.

Samples, instruction circulars and any of the above new shade cards, mailed gratis to interested dyers by the Dominion Dyewood and Chemical Co., Toronto, Canada, sole agents in Canada for the Farbenfabriken, vorm. Friedr Bayer & Co., Elberfeld, Germany.

The T. Eaton Company, Toronto, have obtained a permit to build a 150-ft. brick smokestack for their factory, to cost \$3,000.

JOHN J. KELLER & CO.

104 and 106 MURRAY ST.
NEW YORK

220 Church St., Philadelphia.
135 Pearl St., Boston.
18 Pryor St., Atlanta, Ga.

**Aniline Colors,
Dyewood Extracts,
Sumac and
Nutmeg Extracts.**

FAST COLORS for Wool Dyeing,
One Dip Cotton Colors, Novelties
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Printing.

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The latest device for

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By Daylight

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Pulleys, Hangers, Tube Cut-
ters, Pipe Cutting Machines,
Swing Saws, Wood Lathes,
Dough Mixers, or Paper Box
Machinery.

We

Make all these lines, and can
quote you as good, if not bet-
ter prices than other people.

G. T. PENDRITH & CO.,

73 to 81 Adelaide St. West,
TORONTO.

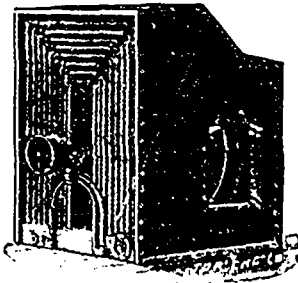
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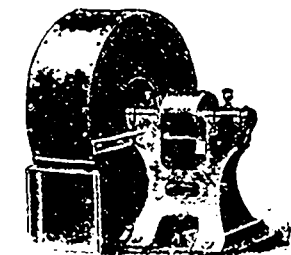
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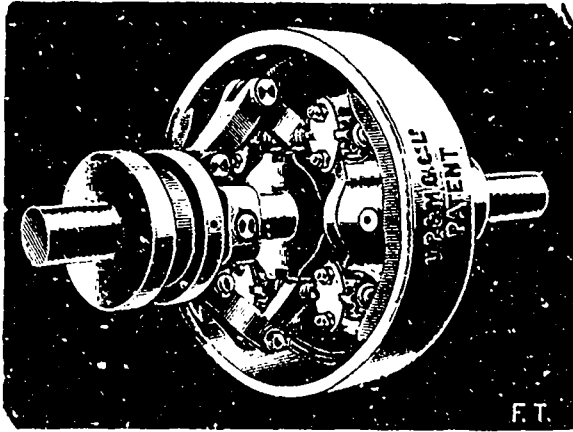
Boston, New York,
Philadelphia, Chicago, and
Gloversville, N.Y.

**Dyewood Extracts,
One Dip Alizarines,
Aniline Colors,
Dyestuffs and
Chemicals.**

A NEW FRICTION CLUTCH.

The accompanying illustration is of a new type of friction clutch which is now being introduced into Canada by the Unbreakable Pulley and Mill Gearing Company, Limited, of West Gorton, Manchester, England. Pulleys manufactured by this company are now driving the exhibits of the Scottish Laundry Supply Association at Stand No. 4

In the case of the one under notice the driving power is transmitted by heavy arms or horns, on which the friction blocks slide, so that all strain except that of putting the blocks into gear is taken from the screws. These are two in number, right and left-handed, and the arm for their rotation is forged solid. The main and lock nuts are gun metal, to avoid any chance of rusting should the clutch remain for long either in or out of gear.



The novelty of this clutch consists in the method of applying the power from the usual sliding sleeve upon the shaft to the extremities of the screw levers. Instead of the connecting links being carried in rigid centres on the sleeve, as is usually the case, they are pinned to a gimbal or ring pivoted on the sleeve. By this arrangement, as will be readily understood, any pressure put upon the sleeve must be transmitted with absolute equality to the two friction blocks; thus any chance of uneven wear on the blocks or undue strain upon any separate portion of the mechanism is avoided. We understand

from the makers that a number of these new clutches have already been sent out, and have been at work for considerable periods, producing very satisfactory results. The clutch is not an expensive one, and in order to fulfil the requirements of the trade it is made in various sizes, according to the diameter of shaft and power to be transmitted. It is also designed to be

used either to couple shafts or to carry a pulley. Ample provision is made for adjustment, and all the parts, although guarded by an outer shell, are in full view and at once accessible. The mechanism of this patent clutch is clearly defined in the illustration.

CANADIAN PEAT FIBRE.

A company is about being formed in Toronto to establish works for the manufacture of peat fibre from the moss that covers all the peat bogs in the country. The process for the manufacture of the fibre is claimed to have been recently discovered by Mr. Karl A. Zschorner, an Austrian, who claims that the fibre can be made into wrapping paper, cardboard, carpet, matting, horse blankets, rope, twine, etc., and also for bandages, etc., for hospital uses, because of its excellent antiseptic properties.

The inventor of the process started a factory in Vienna about a year ago, and the business has increased so wonderfully that it is now a very large concern. It is called the Torf Industrie of Karl A. Zschorner & Co.

When the product of that factory reached Great Britain it aroused interest, and Ireland, where there are so many peat bogs, was looked upon as a great place for a similar industry. A syndicate of Irish gentlemen formed a company with a capital of £120,000 sterling to establish an industry similar to that now carried on in Vienna. A factory has been erected in Dublin and £60,000 was paid for control of the patent in Great Britain.

A syndicate of Toronto capitalists have had the new industry brought to their notice by Mr. D. W. Jameson, of this city, and have

THE STURTEVANT SYSTEM

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Heating and Ventilating

APPLICABLE TO ALL CLASSES OF BUILDINGS

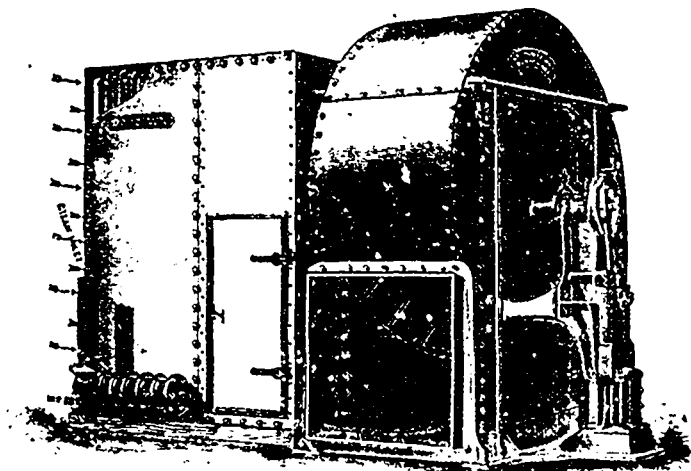
Has had a THOROUGH TEST in the Dominion AND THE Northern Portion of the United States.

Over 300 Plants in Successful Operation in this Cold Climate.

Send for Catalogue No. 84, Describing this System and No. 86, Showing 2,500 Representative Buildings Heated and Ventilated

B. F. STURTEVANT CO.
BOSTON, MASS., U.S.A.

A. R. WILLIAMS MACHINERY CO., LIMITED
General Canadian Agents
Toronto, Brantford, Montreal



The Sturtevant Steam Heating and Drying Apparatus

**For . . .
Drying**

This Apparatus is unexcelled for Lumber, Cotton, Wool, Hair, Brick, Pottery, Glue, Soap, Cloth and all Textile Goods.

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**NIAGARA FALLS
ACETYLENE
GAS
APPARATUS**



Patented in
Canada, United
States and
Great Britain.

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This is the
only machine
perfectly auto-
matic in its ac-
tion, requiring
little or no atten-
tion. 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
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NIAGARA FALLS ACETYLENE GAS MACHINE CO.
NIAGARA FALLS, ONT. LIMITED

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Perfection
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Lighting.

At the Mini-
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Write for Catalogue.

THE
Acetylene Lighting Co.
(LIMITED).
LONDON, ONTARIO.

looked upon it with such favor that a repre-
sentative has gone to Europe in reference to
the matter and to visit the Zschornor factory
in Vienna.

COAL IN NEW BRUNSWICK.

It is known that many thousands of dol-
lars have been expended in prospecting and
developing the oil deposits at Baltimore
mines in Albert County, New Brunswick.
This enterprise has not as yet yielded a pay-
ing percentage upon the investment, and the
oil works at that place have been abandoned.
Westmoreland County is to be the scene of
the next operations in the search for oil.

An agent sent by New York capitalists
believes, however, that the oil is but a by-
product of a more valuable mineral, which
exists in almost unlimited quantities. Ever
since the prospecting for oil began in Albert
County it has been known that coal, or shale,
as it is called, was found abundantly. So
engrossed were the oil men in their enter-
prise that they paid little attention to what
is now believed to be one of the most valu-
able coal deposits ever discovered.

The quality of the coal is said to be su-
perior to the best Scotch cannel coal for
some purposes. It is particularly valuable
for mixing with other coal for the produc-
tion of illuminating gas.

An engineer, who was sent by the pro-
moters to look over the ground, estimates
that 200,000,000 tons of the coal are in
sight. The depth and extent of the deposit
has not yet been tested. A company will be

organized, the capital stock to be about
\$1,000,000.

The nearest railway point to the deposit is
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CANADA'S WEALTH OF TIMBER.

In a recent interview on Canada's pulp
wood resources, Mr. Thomas Southworth,
Clerk of Forestry in Ontario, says it is im-
possible to guess the dimensions of the
supply in Canada or even in Quebec. Que-
bec is probably richer in spruce than is
Ontario. In the latter province the main
source of supply is north of the height of
land. On the Hudson Bay Slope there are

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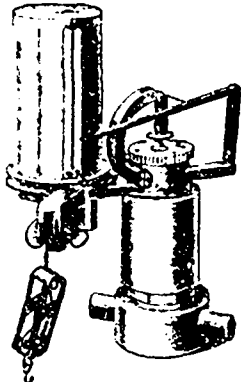
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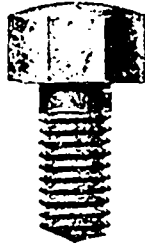
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many million acres upon which spruce is the principal timber. It would be quite impossible, Mr. Southworth says, to make any estimate of the timber on this immense territory. He refers to Mr. O'Sullivan's report to the Quebec Crown Lands Department estimating merely the present crop of pulp wood in St. John Basin alone at 97,000,000 cords. Mr. Southworth himself then ventures an estimate of the area in Ontario covered more or less with spruce. He puts it at 10,000,000 acres. As to which is the best timber for pulp, of course Mr. Southworth says spruce. Poplar, however, is still used, he says, to a considerable extent, and he knows some mills that largely depend on basswood.

Spruce, he proceeds to say, does not grow so fast as white pine, but as the trees for pulp purposes do not require to be so large as those for lumber, they reach a merchantable condition much sooner than the latter. In some spruce countries, he understands, forests are cut for pulp in a rotation of twenty-five years. He thinks it would not pay to cut them in a shorter time than fifty years in the case of forests raised up directly from the seed in that period. But in practice he believes a spruce forest might be cut once every fifteen or twenty-five years and yield a crop that would pay, taking out the larger trees and leaving the smaller ones to grow.

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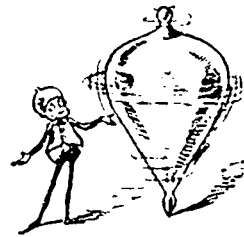
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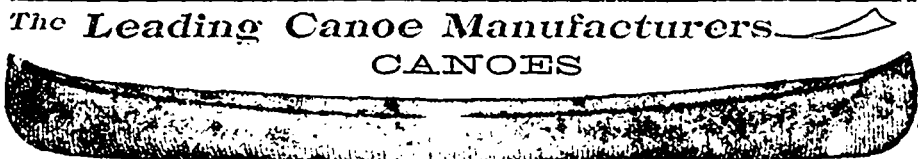
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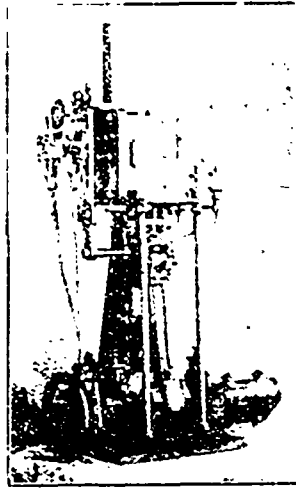
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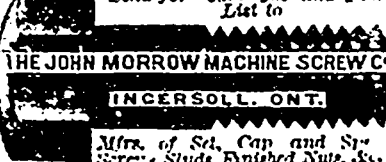
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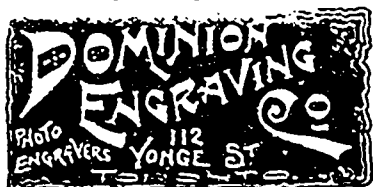
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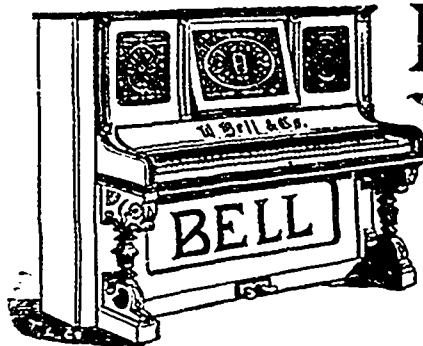


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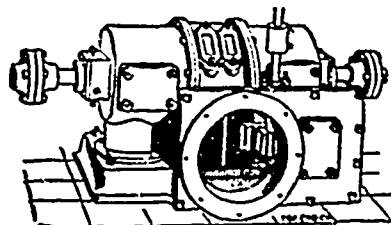
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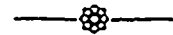
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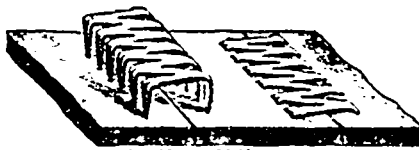
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