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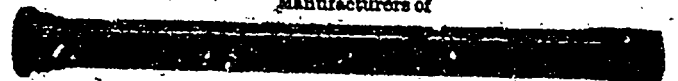
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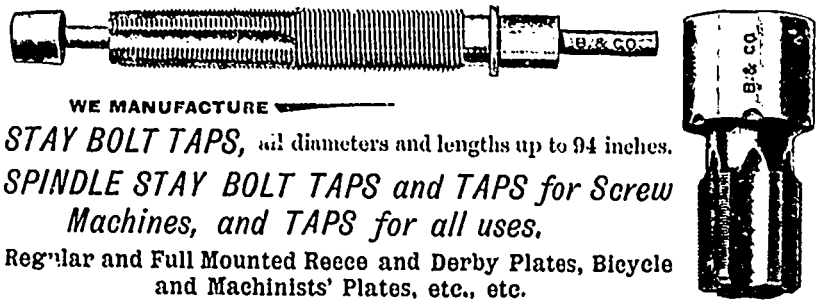
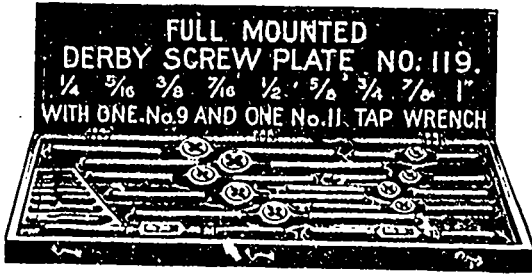
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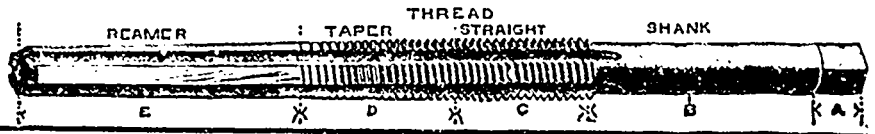


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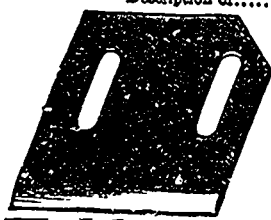
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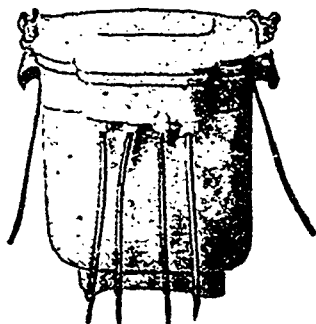
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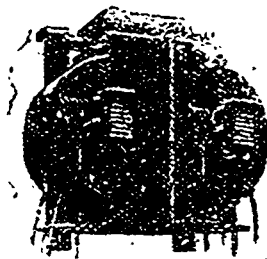
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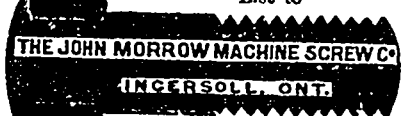
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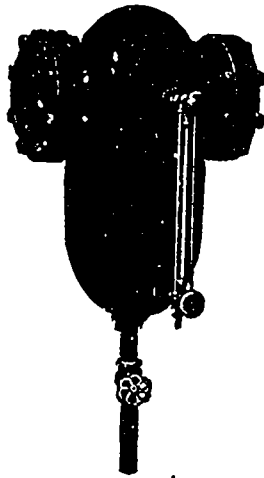
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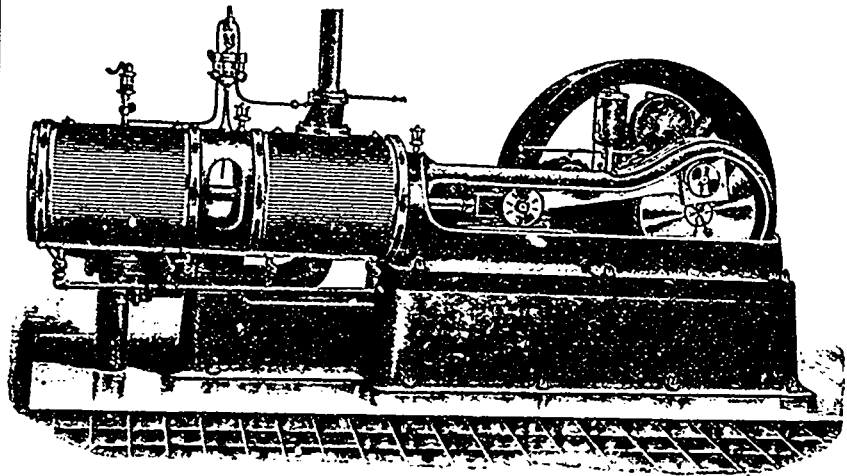
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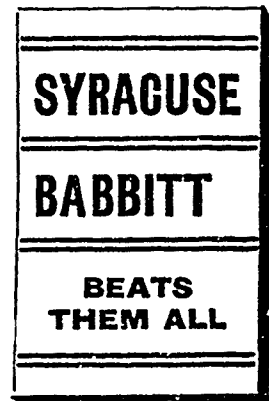
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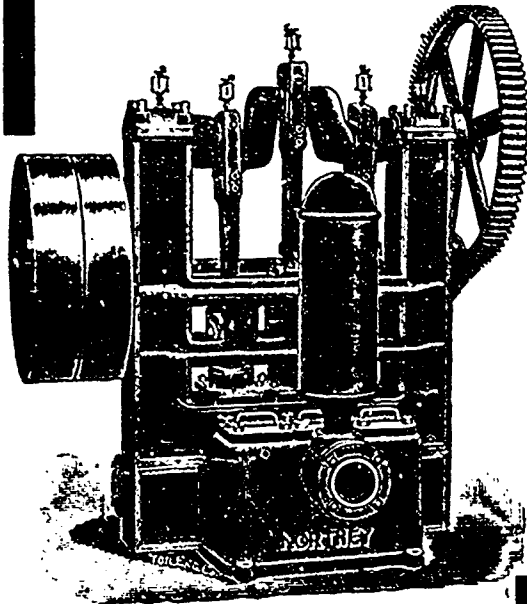
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AGENTS FOR UNITED STATES.

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J. J. CASSIDEY, Editor and Manager

BRITISH COLUMBIA IRON AND THE POSSIBILITIES OF LOCAL MANUFACTURE.

The Victoria, B.C., Mining Record, discusses the iron industry of that province as follows:

The deposits of iron ore in British Columbia are numerous, and some of them are of ascertained value. There is sufficient evidence that the supply is extensive enough to enable the province to take the leading place among the iron producing countries, in which respect it stands, as far as is known, alone in the Pacific Northwest. The companies which now are or contemplate being engaged in iron smelting in the State of Washington, look to British Columbia for their chief supply of ore, and the consumption already amounts to a very considerable figure, and it will certainly increase. A not unnatural feeling has arisen in some quarters in favor of taking steps to complete the utilization of our ores at home by the erection of furnaces to manufacture pig iron at home and the establishment of plants for the production of steel. It is pointed out with much justice that extensive industries would certainly follow in the wake of the production of pig iron, and also that the markets of the Orient and Australasia are just as open to British Columbia products as to those of the United States. Necessarily the domestic consumption of iron would be smaller than that which furnaces in the United States would supply, but even allowing for this it is contended that British Columbia offers such facilities for the production of iron that the industry could be profitably carried on here.

While much that has been said and written on this subject is necessarily more or less speculative, there is probably a solid basis for this claim. It is an economic principle that a country which is content to export raw material, makes the least of its natural wealth. The manufacture of finished products is what insures a full measure of industrial prosperity. Everyone will concede that it is not desirable that our iron ore deposits should pass into the hands of American companies, who will export the raw material and manufacture the finished products elsewhere. The policy which stopped the export of pulp wood from Ontario and has prohibited the exportation of cedar cut on Crown lands in this province, is based upon a sound principle, and the time seems to have come when it should be applied to our iron ores. The question was brought up by Captain Cox in a letter written a short time ago to the Victoria Board of Trade. Captain Cox advocated an export duty on iron ore. The Board did not see its way clear to take any action upon the matter, and the

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opinion was expressed by some of the members that the most which could properly be done just now is to let it be understood that such a policy might be put in force in the near future, thus giving notice to companies contemplating investment in iron and steel plants in Washington, to work up British Columbia ores, that they might find this source of supply cut off. There is no sentiment in trade, of course, and any person investing his money in such enterprises would do so with the full knowledge that such a contingency might arise. An American iron smelter would require no vested right to export our iron ores free of an export duty or to handle them on the same basis as a Canadian concern. Yet it, perhaps, is only neighborly to let it be known that the demand for a policy which will keep our iron ores at home is likely to arise in the near future.

Whether or not an export duty is the best way to deal with the matter is another question. Possibly a better plan would be to impose a tax on all iron ore mined, with a rebate upon that smelted in the province. There can be no doubt that the legislature has full power to deal with the subject in this way, and it would be as effectual a method as could be devised.

Under present arrangements we are getting very little out of our iron deposits. A mine is being worked on Barkley Sound, the ore being shipped to Irondale, Wash., and the most of the work is done by Chinamen, and everyone knows how very little their labor contributes to business prosperity. If they are objectionable when producing wealth in the country, they are doubly so when all they are doing is to enable foreigners to carry our native wealth out of the country. The statement is made on good authority that iron ore is mined on Texada for \$1.00 per ton. This is very cheap, and if it can be done elsewhere for the same price, there would seem to be no substantial reason why the iron industry cannot be established in British Columbia on a profitable basis. The subject is one which the Department of Mines might very profitably investigate, so that at the next session of the Legislature some definite plan may be submitted for consideration. At present the great lack is of definite information bearing on the subject. One thing is clear, namely, that if it is possible to devise a policy which will ensure the smelting of British Columbia ores at home, the public will heartily endorse it.

This subject has recently been discussed at meetings of the Victoria Board of Trade and the Voters' League, and the fact

most clearly demonstrated was that intelligent treatment of it is impossible, from a public point of view, until more information is available than is at present within reach. Mr. Carmichael, the Provincial Assayer, properly pointed out that without data having official sanction, it would be extremely difficult to interest outside capitalists. As he said, private information may be just as complete and just as trustworthy as that officially compiled, but it will not carry the same amount of weight. It would not have been consistent with Mr. Carmichael's official position for him to have followed this up with any recommendation, publicly at least, whatever he may do in conversations with the head of his department. Persons who have had occasion to discuss the iron industry with prospective investors, have felt the lack of just such information as Mr. Carmichael speaks of. It might be well if the government would direct special attention to the compilation of definite matter bearing on this subject. This would call for the assignment of the duty of compiling it to some individual with a knowledge of the subject matter, but there can be no doubt as to the value of the report made by such a person. The Department of Mines cannot, in our opinion, address itself to a subject from which more immediate or more valuable results are likely to be derived.

In connection with the production of iron in British Columbia for export to countries beyond seas, mention may be made of an advantage which a British Columbia smelter, properly located, would have over one in the State of Washington, using British Columbia ores. Take the case of the Irondale smelter, which uses ore from Texada. The ore costs the company for mining and delivery \$1.00, and a royalty of 50c. per ton is paid to the owners of the mine, the freight to the smelter is \$1.00, the cost of unloading is 15c., the duty is 40c., making the cost of the ore delivered at Irondale \$3.10. Two tons of ore are required to produce one ton of pig iron, which makes the cost of the raw material for a ton of pig iron at Irondale \$6.10. If a smelter were erected on Texada, the cost of the ore would be \$1.00 per ton, or \$2.00 per ton of pig iron, making a difference of \$4.10 in favor of the Texada product. Add to this the royalty of \$2.00 per ton on pig iron and we have a difference in favor of the Canadian product of \$6.10, that is to say, the Canadian smelter would get its raw material for nothing. These figures are given for purposes of comparison only, because they might not hold true in their entirety in respect to other iron deposits on the Coast, but they show a very satisfactory margin in favor of the British Columbia product as compared with the output of a smelter in the State of Washington, dependent chiefly upon this province for its ore supply.

THE SOUTH AFRICA INDUSTRIAL EXHIBITION.

Albert P. Baker, Esq., general manager of the South Africa British and Colonial Exhibition, has, from his Manchester, Eng., office, sent us a copy of a circular he is issuing to British and other manufacturers who may be proposing to make exhibits at the great fair that will be held at Cape Town, beginning in November, 1903, and continuing for the ensuing four months. Mr. Baker says that it has been deemed advisable by the manager of the Exhibition to issue this special notice so that immediate application may be made, giving some idea as to the probable space that may be required by proposing exhibitors, and that such applications will be the first to be considered when places and allotments are ready. The enthusiastic manner in which the exhibition matter has been taken up, the correspondence re space, and the congratulatory

letters from all parts of the Empire indicate that the enterprise is being received with the greatest favor, particularly as it is coincident almost with the close of the war and the re-opening of the vast South African markets to the commerce of the world. Mr. Baker has but recently returned to England from a six-months' journey through South Africa, including all the newly acquired British possessions, made in the interest of the Exhibition, and will be pleased to correspond with any of our manufacturers and to give them the benefit of the information he obtained while there. Some of the patrons of this important undertaking include Lord Milner, High Commissioner for South Africa; Sir J. Gordon Sprigg, Prime Minister of Cape Colony; Sir Frederick Young, vice-president of the Royal Colonial Institute; Lord Strathcona, High Commissioner for Canada in London; the Right Hon. A. J. Balfour, M.P., and a great many other gentlemen who take active interest in the affairs of South Africa and of the Exhibition. Mr. Baker informs us that he is already in receipt of a large number of applications and enquiries for space, so that this Exhibition promises to be one of the greatest successes ever yet held in the British Empire.

COMMERCIAL POSSIBILITIES OF PERU.

In an exceedingly interesting article entitled "The Land of the Incas," the Imperial Argus publishes some facts regarding the commercial possibilities of Peru which are of more than passing interest to Canadian manufacturers, as well as to those of the Mother Country. The possibilities of trade with that country are very great, and the openings are, or should be, quite as promising to the exporters of Canada as they are to those of Great Britain or the United States; and the facilities of transportation are quite as convenient to us as to our American competitors. Shall we avail ourselves of the openings the Peruvian market presents?

"It would be difficult," says the Imperial Argus, "to overestimate the natural resources of this favored region, which only lacks what South Africa wants, and will surely get, a stable government and development. . . . To those who have been privileged to acquaint themselves only by reading and photographs with the cities of Luria and Cuzco and the port of Callao, it seems strange to speak of Peru as being an undeveloped country; yet when it is remembered that with an area of one-seventh the size of Europe she has a population of under 4,000,000, half of whom are of Indian race, and consequently no lovers of labor, it will at once be seen that this must be so. The form of government does not lend itself to progress, and the habits of the people who are not Indians do not lean towards energy, and the result is a fertile, healthy, and comparatively peaceful land, possessed of natural wealth which exceeds the dreams of avarice, yet without proper facilities for transport, without anything approaching adequate cultivation, with mines unworked, forests untouched, and poverty stalking in the midst of plenty. The last word is not appropriate when applied to Peru, for though we know much we are still woefully ignorant of the true magnitude of her resources. How much do we know? Primarily that she has an unrivalled climate, tropical and sufficiently moist to aid agriculture, but not so humid as to provoke malaria, a climate which does not deal in extremes, which need not enervate but which can inspire. Then she has treasures of rubber and petroleum, which latter might easily rival the products of Borneo and Baku, not to speak of Texas; mineral wealth, such as gold, silver, copper, salt and coal; forests of rare woods, such as the walnut, toon rosewood, sandalwood, and logwood; medicinal plants, such as cinchona, vanilla, ipecacu-

anha, and sarsaparilla; dyewoods, vegetable ivory, vegetable wax, divi-divi, and coca; naturally growing cacao and tobacco, and soil that is eminently fitted for coffee growing, sugar cultivation, cattle raising, and increasing the great industry of wool. Above all, it is a well-watered country, and might be what it is not, prosperous, and the home of a contented people.

So far we have stated only what Peru is, and indicated what she might become. We have told what should be done, but said nothing of what is being done, of the silent work of development that is being pushed steadily forward. Obviously the first obstacle to be overcome is the removal of difficulties of transport, and the triumphs of the engineer have been rendered possible, not because the Government was enthused with a desire for progress, but because it was hopelessly in debt. Ever since Dickens in "Dombey and Son" was grimly sarcastic about the poor man who "broke his heart in Peruvian mines," the bondholders of Peru have been the subjects of satirical comment which was not quite deserved. They may have been too confiding at one time, but they were wide awake upon occasion, and one of these times was in 1890, when the holders of Peruvian bonds to the amount of £33,000,000 sterling, together with interest from 1876, making a total principal and interest of £50,000,000, cancelled the bonds in return for concessions from the Government for certain railway, guano and mining rights, and formed a company known as the Peruvian Corporation. This company of limited liability was formed under English law with a capital of £9,000,000 ordinary shares and £7,500,000 preference shares, each bondholder receiving an agreed proportion of the shares in respect of his holding of bonds. In addition to the concession mentioned, the Peruvian Government gave to the bondholders a cash annuity of £80,000, to run for a period of thirty years, commencing in 1893, which annuity was subsequently reduced to £60,000, and, so reduced, was paid to June, 1893. Since that time, however, no further payments have been made, and negotiations for a settlement have so far not met with any success. The railways are ceded for a term of sixty-six years from January, 1890, and at the expiration thereof the lines are to revert to the Peruvian Government. Meanwhile much has been done. In 1890-91 the net receipts sterling, allowing for rate of exchange, as the result of the working of railways and steamers, were £91,771 11s. 3d.; in 1900-1901 £200,758 15s. 1d.; and with the large reserve of £130,000, which has to be drawn upon in the absence of working capital, the Corporation are still able to pay interest of 5 per cent. for the current year. The engineering difficulties which have had to be overcome, and the supineness of the Government, have added terribly to the task of the Corporation, but success has rewarded their efforts, and prospects are brighter now than they have ever been. The effect which these transport facilities will have upon the future of Peru cannot be over-estimated. We will take a few examples haphazard. Last year the Central Railway carried over their system 34,817 tons of minerals, 18,686 tons being from the Cerro de Pascoo mines, against 31,841 tons the previous year; the Pascamayo and Guadalupe Railway shows by the cargo transported a steady increase in the agricultural industry of the province of Pascamayo, although the working expenses were increased by the cost of relaying portions of the line with steel rails; the Trujillo Railway shows an increase, and sugar production in the district is being rapidly pushed forward; and the position of the Southern Railway promises to be materially benefited by agreement with the Bolivian Government, who are constructing a railway from La Paz to Huaqui, a port on

Lake Titicaca, upon which the steamers of the Corporation ply, and which will thus connect the Peruvian and Bolivian railway systems. Lake Titicaca, the sacred lake of the Incas, is the highest known navigable lake in the world, being 13,000 feet above sea level and 325 miles from Mocho, the nearest seaport, and yet the Corporation's steamer "Coya," or "Lawful Inca Princess," which is of 550 tons, was sent out in sections by Messrs. William Denny & Bros., of Dumbarton, and riveted up by Mr. John Wilson on the lake above the clouds. We are accustomed to remarkable engineering feats and betray no surprise, but this achievement and the safe landing of the sections through the surf at Mollendo shows that the agents of the Corporation will stick at nothing, and that they at least mean business and they mean development.

A great question springs from a consideration of these matters, which has already been asked in America, and that is "Who shall have the Peruvian trade?" Professor Orton, who has travelled the country, urges the people of the United States to nerve themselves for this conquest. He calls Peru the France of South America and revels in her capabilities. "These rich resources," he says, "lying almost at our very doors, must soon appeal to that restless spirit of enterprise and commercial activity which, not content with its vast triumphs, longs for new conquests and a wider field of exercise. One looks forward to the dazzling future of this great valley when the ships of all nations will crowd the network of rivers for the gold and perfumes, the gems and woods of the great Western Ophir." The answer to the Professor's poetic and yet truthful tribute—the reply to the American query—is that the Peruvian Corporation, registered under British law, is there, doing the work America would like to do. Peru is doubtless a magnificent field for commerce. British feet are planted there now, and have power to remain under contract for fifty-four years more. It is unwise to prophesy, but if, being there, we permit the trade of a country which we are developing to slip from our grasp we shall deserve all the polite epithets so frequently levelled at us, and be unworthy the pioneers of commerce who are working there so unobtrusively and so well."

AMERICAN SHIPPING.

The introduction to the 1902 Blue Book of American Shipping, published by The Marine Review, of Cleveland, Ohio, contains some facts and statements which are of much interest to Canadians. Speaking of Mr. J. P. Morgan and what is called the Morgan shipping combination, the article says:

It is proper to state that the dramatic event of the year in shipping circles has been the formation of what the newspapers loosely term the Morgan shipping combination. This extraordinary man has combined under one management the White Star, Leyland, Red Star, American, Atlantic Transport and Dominion lines of steamers. This combination was presaged by the acquiring earlier in the year of the Leyland line. The great factor in the combination is the White Star line, as the American, Red Star and Atlantic Transport lines were controlled by interests in close affiliation with Mr. Morgan. The White Star line enters the combination upon a basis of ten times its profits for the year 1900. This figure is very favorable to the stockholders of the White Star line, as the year 1900 was the most profitable in the history of the company. Notwithstanding the fact that the dissolution of the White Star company was merely a private matter—and an extremely profitable one for those who were so fortunate as to be among its shareholders—the affair created the wildest excitement throughout Great Britain, and the company was roundly denounced for surrendering its ships by those who had not a dollar at stake. In this country it killed the shipping bill absolutely as far as the present congress is concerned. The shipping bill had passed the senate with an ease which

was quite bewildering to those who had witnessed its death struggle in that body during the preceding year. It went to the house where, upon the Morgan merger following soon thereafter, it was incontinently shelved. We regard this as a peculiarly unfortunate circumstance. The country cannot spring like Jove, full armed, into the possession of an American merchant marine; and yet the average American mortal believes that Mr. Morgan has conferred this blessing upon the nation. In fact Mr. Morgan has subtracted a little less than 4 per cent. of Britain's shipping. The remaining 96 per cent. is well manned and healthful, and running along trade routes that are as automatically established as is the flow of the gulf stream. Of the vessels taken over by purchase only two of them were built in the United States and only four of them are flying the American flag. The rest, 110 in number, are flying foreign flags, and they cannot be admitted to American register unless the navigation laws are repealed—an extremely unlikely proceeding. An American merchant marine, such as existed in the days of the clipper ship, is as far away as it ever was. We will not say that we will never have an American merchant marine, but we will say that we will not have one for a great many years, unless congress comes to the rescue. The essential point of difference between Britain and the United States in the shipping field is that Britain's shipping is established. It flows along commercial lines formed by necessity and by a century of toil. Trade cannot be diverted from these lines without exceptional advantages—and the exceptional advantage in this case is congressional aid. We have never advocated aid for an indefinite period of time. We advocate it merely for a definite period of existence. A human being does not want swaddling clothes all his life, but when he is a youngster he wants them more than anything else. If aid is given until American trade routes are established it can then be withdrawn without detriment. Indeed to continue it beyond that period would probably be a detriment, but now it is a necessity. Mr. Morgan's ships are largely engaged in the Atlantic passenger service. The amount of cargo which they carry bears a small proportion to the amount which annually leaves these shores. It is the humble freighter, which braves every sea and pokes its nose into every port where freight may be obtained, that we want to favor. The amount of freight which goes abroad in an American bottom is 8 per cent.

In the great lakes district there is every indication of a volume of shipbuilding in 1903 fully equal to the record year now closing. The lake shipbuilders close their year about mid-summer, as their most active period is the fall and winter. In the year now closing they have built 43 vessels, costing about \$10,250,000. They already have for the coming year orders for 28 vessels that are to cost about \$7,250,000. This summary does not, of course, take into account any of the small vessels. It refers only to large steel ships. In the whole list of new lake vessels, for the year closing as well as the year to come only two are tow barges. The lone steamer is supplanting the steamer and its consort.

In the last issue of the Blue Book mention was made of the opening of an all-water service between Chicago and Great Britain. The Northwestern Steamship Co., of Chicago, placed four steamers on the route. Each of the steamers made one trip and then the enterprise was abandoned. The steamers were taken to the coast and converted into oil tank vessels. During the year two vessels were completed at lake ship yards for transatlantic service. They are the Minnetonka and Minnewaska of 7,000 tons carrying capacity each. As they were too large for the Canadian canals they were constructed in two sections each, towed through the canals and then joined. This feat was successfully accomplished, but it is not probable that any more vessels will be built in this way for some time to come, as the builders were certainly without profit on their order, and the ships upon completion found very unsatisfactory freights in the competitive trade of the Atlantic. No new naval contracts were placed during the year. Contracts for one battle ship, two armored cruisers and two gunboats, authorized in the last naval act, will be placed shortly. In addition one battleship will be built in the New York navy yard. Independent of these there are fifty-one warships under construction for the United States navy with a total displacement of 264,987 tons, a total h.p. of 523,420, and costing for hulls and machinery \$74,731,666.

THE JAMAICA MARKET.

The report of the committee appointed by the Kingston, Jamaica, Chamber of Commerce to confer with that appointed by the Canadian Manufacturers' Association, gives some valuable information to those who are in a position to enter into trading between the two countries.

The natural conditions are such as should favor a largely increased trade in natural products, inasmuch as each country is the complement of the other. One of the principal barriers, however, and a very important one to have removed, is the lack of proper transportation facilities between the two countries. The owners of the steamship line which already operates have shown anxiety to co-operate in the matter, and will, doubtless, do all in their power to facilitate matters.

The Jamaica committee recommends that the Manufacturers' Association should investigate the freight and other charges in connection with transportation, and compare them with those from the United States ports and take steps to procure through freight rates of an advantageous nature from Canadian centres through Canadian ports. They also considered it important that Canadian exporters should name quotations for their goods, f.o.b., at points of shipment.

The committee then indicated certain products in which, in their opinion, an increased trade could be done between the two countries, as follows:

"Our production of bananas in Jamaica is about twenty times what Canada consumes.

"The entire consumption at the present time in Canada is 600,000 bunches, of which only 12,600 bunches were shipped direct from Jamaica to Canadian ports for the twelve months ending March last, and as we look to bananas as a means of furnishing cargo for a line of steamships, we would suggest that the Canadian Government be asked to arrange the fiscal conditions so as to induce their importation from British possessions direct to Canadian ports.

"600,000 bunches of bananas per year represents two steamer loads of 25,000 each per month, being the equivalent of a fortnightly service all the year round. Such service, necessarily rapid and first-class, would not only induce tourist travel, but would afford to Canadian shippers more frequent and more desirable shipping facilities than at present prevail.

"Canada consumes about 40,000,000 oranges annually at the present time, of which only about 4,000,000 go direct from Jamaica out of a total available supply of nearly 100,000,000 oranges.

"In view of the circumstance that from September to April Jamaica can supply oranges that will compare favorably with those now consumed in Canada, with improved transportation facilities there should be no difficulty in establishing a larger market for Jamaica oranges.

"Statistics disclose the fact that Canada consumes about 150,000 tons of unrefined sugar per annum, being about eight times Jamaica's export. The preferential tariff has not been sufficient to attract our sugar, but in view of the pending abolition of the bounties, and by consequence the countervailing duties, we believe that Canada's effort to better the trade relations with this island will result in her being our best market.

"Canada at the present time imports practically no coffee from Jamaica, but there is no doubt that with more frequent intercourse our coffee would compete with other coffee on the Canadian market.

"The export of Jamaica is 100,861 cwt., of which Canada takes 2,721 cwt.

"Your committee hesitates to suggest the possibility of any

rebate of duty being granted by our island in favor of any or all of Canada's products, and in view of the fact that Canada is not at present asking for such preference, your committee does not feel called upon to make any recommendation at this stage.

"Your committee finds that 148,816 bbls. of flour were in 1900 imported into this market, of which only sixteen comes from Canada, and they consider that with proper facilities for shipping, and if Canadian merchants are willing to give the same business facilities, there is no reason why a large proportion of this trade should not be done with Canada."

FREE TRADE vs. IMPERIALISM.

It is gradually becoming fairly evident that the time is not far distant when Great Britain will have to make the choice between Cobdenism and Empire, says the Halifax Herald. An Empire without a unifying Imperial policy, it says, is not permanently possible. An Empire of open doors, with all other doors in the world closed against it, is a business absurdity. To call that an Empire, the head of which treats the other parts as so many foreign countries, is a misuse of language. It need hardly be wondered at that the Germans should deny the existence of a British Empire, when they saw the British Motherland treating the British Colonies in trade as just so many foreign countries.

In a certain sense there is undoubtedly a British Empire. British sentiment is strong, and loyalty to the King is dominant in every British Colony on the globe. This sentiment, this loyalty, speaks with cogency and effect, and no doubt will continue to speak; but it is only reasonable to suppose that as time goes on changes will come. Every living thing undergoes changes, and a living nation and Empire must be prepared for them. Everything that is to continue permanent must possess a character, or constitution, exhibiting a reason for its existence and permanence.

British sentiment and British loyalty are strong and may be trusted to provide for the future, but if they do so it will be when the present order of British and Colonial affairs is questioned and condemned, and a new order adapted to existing and growing needs is devised. Is it to be assumed that such questions will never arise? Is it to be assumed, if the affairs of the Empire continue to be managed no better than they have been and are, that no part of the present collection of British countries will ever ask what advantage is it to belong to the British Empire? Is not this very question being even now asked? Are not the British West Indies now questioning the advantage of belonging to an Empire, the head of which has no policy for the unification and benefit of all the parts, but when they ask that the unity of the Empire be recognized and they be accorded the treatment and bread of children, accords them only the treatment and scraps of charity? Certainly the British West Indies are now asking this very question, unless current reports are most singularly false; and, finding no satisfactory answer, the people of these islands, in spite of their British sentiment and loyalty, which need not be questioned, are reported to be considering the advisability of another political connection under which they hope when they ask for a chance to labor and live, they would be accorded that chance. And is this seriously to be wondered at? The British West Indies never asked for charity; they asked to be recognized as members of the British national family and to be accorded the reasonable material benefits of such family relation. Instead of having their reasonable request favorably answered, they were treated as mendicants. And the excuse was that Cobdenism forbade

the recognition of a British national family extending over seas, or that there were no material or trade benefits attaching to such relation.

Further, is it to be supposed that the British West Indies are the only part of the Empire where such questioning may, and probably will, arise sooner or later? Is the question as to the advantage of belonging to the British Empire so very far from being asked in Canada to-day? The statesmen and people of the Motherland are finding the financial burden of defending the whole Empire very great, and they are already looking to the chief Colonies to lend a helping hand in the maintenance of the defenses of the Empire. What is the Canadian government replying? What is the government press saying? Are they offering Canadian support to the Royal Navy, or are they rather intimating that Canada might better defend herself? What do all these facts suggest? The unquestioned and unquestionable unity, solidarity and permanence of the Empire as at present constituted?

The statesmen and people of the United Kingdom seem quite ready, nay, rather desirous, to recognize the whole British Empire as a national unit when they want the Colonies to do something or give something, but they recognize no such national unit for any other purpose. In the British view of trade, the British Empire as a national unit does not exist. Cobdenism, from its very nature, refuses to recognize the Colonial Empire, and it must be admitted that the Colonial Empire returns the compliment. Cobdenism and Empire have no connection, and are not compatible with each other. If British statesmen want to recognize the unity of the Empire in one way, they must recognize it in all ways, and must adopt an Imperial policy which will make it clear to all the Colonies that it is an advantage to belong to the Empire. The best interests of all British countries lie in their present political connection if proper Imperial reforms can be carried; but they will never properly constitute an Empire with the promise of permanence, while Cobdenism is dominant in the Motherland.

EDITORIAL NOTES.

In the new direct steamship line that is to be established between some Canadian port and South Africa, it is desired that Cape Town be not the only port of call; and the Canadian Manufacturers' Association have communicated with Sir William Mulock, in London, requesting that Durban and Port Elizabeth be also made ports of call. The reason for this request is that both these ports serve very considerable districts, the rail haul being shorter than by way of Cape Town. Both ports are handicapped in one way, that there are not the landing facilities that exist at Cape Town, vessels not being able to unload at the wharves. Goods have, therefore, to be transhipped in lighters, and this is to be considered in the packing, especially where the goods are of a perishable nature.

Some people in Ontario appear to be making a struggle to establish a beet sugar industry in that province. As a rule we believe in a country cultivating a great variety of industries; but even this good rule may be carried to excess. It seems probable that Ontario land could be put to better use than attempting to grow sugar beet. It would be better for Canada to grow and produce what the British West Indies need, and take the cane sugar of these islands in payment.—Halifax Herald.

Our esteemed contemporary seems to imagine that while it is a good rule for Ontario to cultivate a great variety of industries, the rule is carried to excess when the cultivation

of the sugar beet and the manufacture of beet sugar is undertaken. And this is not because the undertaking would be unprofitable or impossible, but because the British West Indies produce the sugar which we ought to consume. The Herald is more interested in importing sugar than it is in making it at home.

A few days ago a deputation of British manufacturers of paper and pulp making machinery waited upon Lord Strathcona, Canada's High Commissioner in London, asking the assistance of the Canadian Government in removing the prejudice which they say exists in Canada against British and in favor of American machinery. The deputation asked that Canada place such British made machinery upon the free list for three years, and we are told that Lord Strathcona promised to use his utmost efforts in favor of the application. This is gull. These British manufacturers already enjoy a special tariff favor, and now, finding that they cannot compete with American makers who do not enjoy such favor, are whining to have their products placed on the free list. But we do not observe that they are using any efforts whatever to favor Canada in the British market as against the United States. Why not have our preferential tariff of a reciprocal character.

It is inside of eighty years ago when Daniel Webster said: "If we had an ignorant, idle, starving population, we might set up for iron-workers against the world." To-day this massive-minded thinker would be drawing a long face over his short-sightedness. Time has made a transformation of conditions, and the iron industry has proved to be the keystone in the arch of American prosperity. The unproductive business in the days of Webster has now an annual output of 29,000,000 tons of iron and steel, a billion dollar corporation organized to carry on its manufacture, and a table of exports that in one year represented a total value of \$102,500,000. Sometimes even wise men see the world through a gimlet hole.—The Age of Steel.

There are said to be some very valuable and extensive deposits of iron ore along the banks of the Orinoco river, in Venezuela, South America, which have come into the control of parties financially interested in the Dominion Iron & Steel Co. It is also said that a company has been formed for the purpose of supplying this ore in large quantities to the works of the Dominion Iron & Steel Co. in Nova Scotia, probably to the extent of 300,000 tons a year, which would involve the service of a line of ore carrying steamers between the points of supply and consumption. Should such a line of steamers be established it would be of the greatest value to the export trade of Canada.

Mr. Thomas Southworth, director of Colonization and Forestry for Ontario, has arranged with the Toronto Industrial Exhibition Association for the use of a building on the fair grounds for a large exhibit of forest products. The building is a commodious structure, about 100 feet in length, 50 feet in width and well adapted to the purpose for which it has been secured. Mr. Southworth expects to have exhibits from New Ontario and the West Indies in addition to the one from this province.

A case has arisen in Ottawa where a Mr. M. Pyke, a laundryman, refuses to pay a laundry license of \$25 on the ground that whilst the tax is imposed on local laundries, out-

side laundries of Montreal, Hull and other places which do a large business in Ottawa escape without payment. He pays \$20,000 a year in wages. The outside concerns contribute nothing towards local taxation of any kind. If the case goes against him it will be taken to the higher courts. This is a case of the National Policy condensed into a nutshell, and Mr. Pyke should join the Canadian Manufacturers' Association and invoke its aid in his defense.

An action has been begun in the High Court of Justice at Ottawa on behalf of the Sapphine Corundum Co., against Mr. B. A. C. Craig, of Toronto, for slander and libel. Damages to the extent of \$2,000,000 are asked. The Sapphine Corundum Co. is a concern organized within the year in London, England. It has an authorized capital of £1,000,000, and some of the best financiers in England are said to be interested. The capital has been mostly subscribed. The mines to be worked are in Hastings County, Ont. Mr. B. A. C. Craig, against whom the suit is directed, is manager of the Canada Corundum Co. Mr. Carling Kelly is Canadian agent for the plaintiff company.

It will be remembered that one of the results of the strike of the machinists in the Kingston, Ont., Locomotive Works, was the bringing in by the company of a number of machinists from Scotland. Some of these men, it is said, were induced by the strikers to quit work, and now the company have caused writs to be served on 28 strikers claiming damages to the extent of \$30,000, and asking the court to issue an injunction to prevent the strikers interfering any further. The charge reads: "The plaintiff's claim is for \$30,000 damages for that the defendants have illegally conspired together and have from time to time during the months of April, May, June, July and August, 1902, induced persons having contracts with the plaintiffs to break said contracts, and have induced persons who were willing to contract with the plaintiffs to refrain from so doing by reason whereof the plaintiffs have been put to great expense and have suffered great loss, and for an injunction to restrain the defendants from interfering with or inducing persons having contracts with the plaintiffs to break them or persons willing to contract with the plaintiffs from so doing." The strikers have retained counsel and the case will come up in October before Mr. Justice Britton.

A United States agricultural implement company has just started operations for the erection of a factory at Hamilton. Hereafter competition in the implement business will be between Canadian firms almost exclusively, instead of between Canadian and American firms. The firm in question and other firms in addition would have transferred their factories to this country years ago if the tariff had been fixed so as to invite that result. The duty on implements is neither one thing nor the other, and American manufacturers have for years back been hesitating whether to come over to Canada and compete on the ground here or to remain in the States and compete from over the border. The growing demand for implements in the West has at last caused one manufacturer to flop over to the Canadian side. If the tariff had been of the 40 per cent. variety he would have come over years ago, and this country would have enjoyed the benefit of the increased business. What is true of the agricultural implement business is true of many others. The tariff is just low enough to permit the Americans engaged in these businesses to compete with Canadians from the United States, and it is not high enough to cause them to come over and manufacture in Canada. If the tariff were raised all round to 40 or 50 per cent. we would witness the rapid transfer of scores of hesitating industries to this country.—Toronto World.

CAPTAINS OF INDUSTRY.

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

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

The starting of any such concern means a demand for some sort of machines, machinery, or supplies, such as steam engines and boilers, shafting, pulleys, belting, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamos, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, 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.

Work has been begun on the construction of 1,000 box cars of 30 tons capacity, at the Hochelaga, Que., shops of the Canadian Pacific Railway Co.

The Public Works Department, Ottawa, will issue a call for tenders for the construction of a branch of the Royal mint in Ottawa.

From statistics prepared by the Building Inspector of Montreal, it is seen that that city will have over \$3,000,000 worth of new buildings erected this year.

The Read Lumber Co., Ottawa, has been incorporated with a capital stock of \$500,000 to manufacture pulp, pulp paper, etc. The charter members include C. E. Read, G. H. Perley, and F. W. Avery, all of Ottawa.

The Price Porritt Pulp & Paper Co., Rimouski, Que., has applied for incorporation with a capital stock of \$250,000, to manufacture pulp, paper board, etc. The applicants include H. E. Price, A. J. Price, both of Quebec City, and O. A. Porritt, Rimouski, Que.

The Guelph Worsted Spinning Co., Guelph, Ont., will erect a large spinning mill factory at that place.

The Cockshutt Plow Co., Brantford, Ont., will erect a new warehouse, four stories high, at a cost of about \$50,000.

The main building of the London Rolling Mills Co., will be 176x120 feet. About 65 persons will be employed at the start.

The second great stationary light-house pier at the Traverse, hitherto considered the most dangerous point in the St. Lawrence, has been successfully sunk in from 30 to 40 feet of water and there will be 26 feet of concrete over the block upon which the light will be erected. The total expenditure will be about \$100,000.

The Cape Breton Silicate Brick Co., is erecting a factory 100x50 feet, two stories high at Sydney, N.S.

J. M. Green & Sons, St. Thomas, Ont., have been incorporated with a capital stock of \$50,000, to manufacture lumber, etc. The provisional directors include J. M. Green, W. J. Green, and R. A. Green, all of St. Thomas.

The premises of F. E. Dallyn & Co., manufacturers of mattresses and hair padding, Dundas, Ont., were destroyed by fire August 6. Loss about \$4,000.

The Grand Trunk Railway Co., will construct a big elevator at Windmill Point, Montreal, and extend the terminal facilities at that point. The company will expend some \$750,000 in making the improvements.

The Cerberite Co., Toronto, has been incorporated with a capital stock of \$500,000, to manufacture dynamite, cerberite, gun powder, etc. The provisional directors include W. B. Nesbitt, J. K. Paisley, both of Toronto, and Hugh Mann, Winnipeg, Man.

The Ontario Government has so modified the regulations and orders in council governing the grant of additional water privileges at Niagara Falls to the Ontario Power Co., that no further opposition is anticipated from the Canadian Power Co., the original lessees of the falls power. Both companies will proceed now on a basis of a 50,000 h.p. development each, and it is understood that the bulk of the power has already been arranged for. The Toronto-Niagara Power Co., which will bring the Canadian company's power to Toronto, expects to use about 20,000 h.p. there and the immediate vicinity. This will displace something like 200,000 tons of soft coal now imported from the United States.

Mr. T. E. Eby, has retired from the firm of the Smart-Eby Mfg. Co., foundrymen, Hamilton, Ont.

The MacGregor-Gourlay Co., Galt, Ont., are erecting a large addition to their moulding shop, 70x40 feet.

The Spanish River Ont., Pulp Co., have now about 200 men at work on the dam, which will be 28 feet high, 90 feet long, and will when completed, give 12,000 h.p. The dam, adding 28 feet to the natural fall, gives a total head of 60 feet, and when required 20,000 h.p. can be produced. It is expected pulp will be turned out by the first of next year.

It is stated that the Pillow Hersey Mfg. Co., Montreal, manufacturers of nails, tacks, horseshoes, etc., will establish a branch of that business in Sydney, N.S.

The proposed Ross rifle factory will be commenced shortly. The Dominion Government has leased 20 acres of ground on the Cove Fields near Quebec City. The main structure, which will be erected first, will be three stories high, and have a wing of the same elevation. Another building will be constructed for heating purposes containing boilers and other equipment.

The Dominion Coal Co., will change the head office of their works from Glace Bay to Sydney, N.S., where they will occupy rooms in the office building of the Dominion Iron & Steel Co.

The machine shop of John Mutch, Point Douglas, Man., was destroyed by fire August 4. Loss about \$4,000.

Pneumatic Tools and Appliances ARE GREAT MONEY SAVERS.

Air Hoists,
Baggage Hand-
lers, Agitation
of Liquids or
Syrups in Re-
fineries.
Cushion and Car-
pet Cleaners,
Chipping Tools
for use by Ma-
chinists, Boiler
Makers, Stone-
cutters and
Marble Works.
Calking and Drill-
ing, Air Brushes

INGERSOLL-SERGEANT

PISTON AIR COMPRESSORS FOR ALL DUTIES
INLET

THE JAMES COOPER MFG. CO. LIMITED

299 St. James St., Montreal

BRANCHES - - ROSSLAND, B.C. RAT PORTAGE, Ont. HALIFAX, N.S.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Pneumatic
Augers,
Punches,
Hammers,
Rammers,
Rotary Drills,
and Augers.
Reversible
Boring Machine,
Fluo Cutters,
Rollers and
Welders,
Air Lift Pumps,
Jacks,
Paint Spreaders,
Bolt Nippers.

The excellent results which have attended the requirements that all pine logs cut on Crown timber limits in Ontario shall be manufactured in the province, has been followed by the adoption of a similar regulation in regard to hemlock logs, the new regulation to come into force after April 30 next, when the current licenses to cut timber will expire. This will be a hard blow to the Michigan saw mill owners who have been giving attention to Canadian hemlock logs since the export from Ontario of pine logs has been prohibited.—The Shareholder.

The three story bleach house of the Huntsville & Bracebridge Tanning Co., Bracebridge, Ont., was destroyed by fire recently.

The plans for the Canadian Royal Mint to be erected at Ottawa, have been prepared by Chief Architect Ewart, who visited the United States and Europe last summer to get the best possible information before proceeding with the work. Two features of the building will be endurance and security. It will be of one storey, with the exception of that part for the offices, where the main entrance is placed. This part will be two stories with a basement. The building will be constructed with limestone dressed front; on either side of the main entrance there will be granite columns, and above the main entrance will be the coat of arms and the words, "Royal Mint." As far as it is possible to make it the building will be fireproof. The roof will be of expanded iron and floors

of concrete and mosaic. It will take two years to complete, and work will be commenced this fall. The size of the building is 177x165 feet and is rectangular in form. It will be located on Nopean Point, near the Printing Bureau.

The Owen Sound Fruit Packing Co., Owen Sound, Ont., has been incorporated with a capital stock of \$25,000. The company will erect a warehouse of Portland cement, 110x50 feet, two stories high.

It is stated that the International Paper Co., with a capital of \$50,000,000, is about to utilize the limits it has secured in the Three Rivers district, and establish its pulp mills in that portion of the country. It has not yet been decided how soon the company will begin actual operations in Canada, but it will be within a year or two at the outside. The company already has a sawmill plant at Three Rivers with a capacity of 3,000 logs daily, and at Batiscau it also has a big preparing plant. Besides this, the company has added quite recently a cutting-up plant in connection with the Three Rivers mill, with a capacity of 2,500 logs daily. Manager Underwood was in Canada a short time ago, and while here he secured 197 square miles of timber on the St. Maurice River, near Three Rivers. This brings the company's holdings in Canada to the immense area of 1,000,000 acres of spruce lands. Quite a number of American syndicates have been looking over the ground and securing limits in Canada during the last few months. A significant

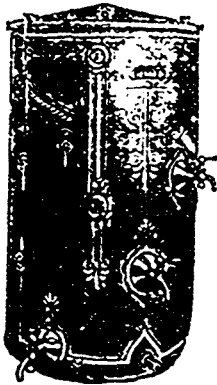
fact to those connected with the paper industry is that the largest of these syndicates, the Gres Falls Co., is controlled by men prominent in the International Paper Co., and owns a sawmill, water power and spruce limits at Three Rivers. The company is capitalized at \$500,000, and it is said to be the intention to develop at once the immense power at its command, and erect pulp and paper factories.

The charcoal plant which the Clergue syndicate is building at Sault Ste. Marie, Ont., is nearing completion and will begin operations within a few weeks. It is one of the largest in the world. The initial capacity of the plant will be 250 cords of wood per day, and it will be in commission in time to supply the blast furnace during the fall. The hardwood to be used will be procured along the line of the Algoma Central & Hudson Bay Railroad, and for several months past hundreds of men have been engaged in cutting it. At the plant not only will charcoal be produced, but by-products, wood alcohol and acid, which ordinarily are wasted. In the manufacture of these, secret processes the result of two years of experimenting will be used, and it is promised that another scientific triumph will be scored when the methods now being patented are divulged.

It is stated that a company of Canadian capitalists is being organized for the purpose of manufacturing water pipes at Sydney, N.S., for the Canadian and foreign markets.

How We Run this Oil Filter Business of Ours . . .

We make a good many strong claims for our Filters.



You read these claims month after month and some day you write us—saving 50% on lubricating oil bills interests you.

With your permission we send a Filter on 30 days' trial, to be returned at our expense if it doesn't substantiate our every claim.

Ninety-nine times out of a hundred you keep the Filter—decide that you can't afford to be without it. Nor can you.

Write for a Cross Oil Filter on trial, or at least send for a booklet.

THE BURT MFG. CO.,

Largest Mfrs. of Oil Filters in the World.

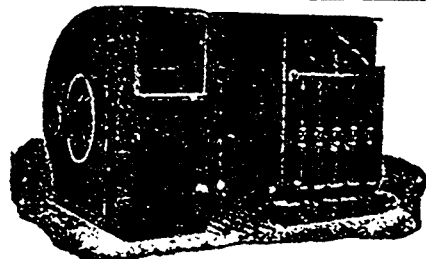
AKRON, OHIO, U.S.A.

A complete stock carried by the

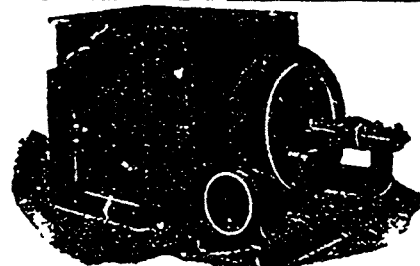
FAIRBANKS CO., - Montreal.

BUFFALO STEEL PLATE FANS

HEATING--VENTILATING--DRYING
AND
MECHANICAL DRAFT.



Left Hand Top Horizontal Discharge, Steel Plate Pulley Exhaust Fan, Drawing Through Heater.



Right Hand Bottom Horizontal Discharge, "B" Volume Exhaust Pulley Fan, Drawing Through Heater.

BUFFALO FORGE COMPANY,

BUFFALO, N.Y., U.S.A.

The Allen Mfg. Co., Toronto, has been incorporated with a capital stock of \$500,000, to manufacture apparel, etc., and machinery necessary to such manufacture. The provisional directors include A. W. Allen, A. P. Allen and Frederick Woodland, all of Toronto.

The buildings for the manufacture of a new explosive, cerberite, at Sudbury, Ont., are now well under way, and the factory will be completed shortly. The plant when completed, will be a large industry in that particular line. Four of the seven buildings required have been completed, and the excavations for engine house and other general power, with concrete bottoms, have been made. Two thousand dollars' worth of machinery has arrived, but there are specially constructed parts yet to come. The capacity of the plant will be five tons per day, and it will require from seven to eight hundred dollars' worth of chemicals daily in the making of this quantity. About twenty hands will be employed. The company have had satisfactory re-

ports from another company in Duluth for the manufacture of cerberite, but they are not so far advanced, this being the first plant erected outside the original one at Washington, D.C. Enquiries for the explosive are coming from Rat Portage, Winnipeg, Kamloops, B.C., and many eastern points.

Negotiations are being conducted in England by Messrs. R. O. and A. B. McKay, of Hamilton, Ont., for the purchase of the fast turbine steamer King Edward, recently built on the Clyde. Their intention being to run her between Hamilton and Toronto. She is said to be a very fast vessel. Messrs. McKay and their associates have it is said, also practically completed arrangements with another English ship-building firm for four new steel steamers. Two of them will be of the package freight kind for service between Quebec and Toronto. The other two will be large freighters of about 5,000 tons capacity and will engage in the Michipicoten ore trade. The plan is to have the two large steamers

reduced in length when first put together, so that they may pass up the canals. They will carry as cargoes across the Atlantic their own middle sections. On their arrival on the upper lakes, they will be put on a graving dock, and their middle sections inserted.

The Copp Foundry Co., Fort William, Ont., will erect a stove and range foundry, the mounting and machine shop of which is to be 100x48 feet long and two stories high, also a moulding shop 125x70 one story high with an addition of a cupola room, charging room and other buildings for offices and storage.

James Ross, president of the Dominion Steel & Coal Co., Sydney, N.S., announces that the net earnings for the first four months of their fiscal year, March, April, May and June, exceeded those of the same months last year by \$300,000. The steel company will manufacture this month 10,000 tons of steel, and Mr. Ross claims that the cost is from 35 to 40 per cent. less than when the concern began operations.

CAMEL BRAND **BELTING**
BALATA
RUBBER
 Linen Fire Hose,
 Water and Steam Hose,
 Packings, Etc., Etc.

THE STANDARD



GOLD WATER PAINT
 WEATHER PROOF, FIRE PROOF
 WHITE AND COLORS.

MILL SUPPLIES
 Lubricating Oils and Greases
 PAINT, PAINT OILS, ETC.

W. A. FLEMING & CO.
 Montreal and St. John, N.B.

THE CANADIAN PORTLAND CEMENT CO. LIMITED

MANUFACTURE "RATHBUN'S STAR" BRAND

THE LEADING CANADIAN PORTLAND CEMENT

Capacity of Works—500,000 Barrels per Year

THE RATHBUN COMPANY,
 310-312 Front Street West,
 Telephone Main 1379.

SALES
 AGENTS

TORONTO, ONT.

ST. LAWRENCE PORTLAND CEMENT CO.,
 2864 Notre Dame St. W.

Telephone Main 3987.

MONTREAL, QUE.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The London Rolling Mills Co., London, Ont., has been incorporated with a capital stock of \$200,000, to manufacture iron, steel, nuts, bolts, screws, hinges, etc. The provisional directors include John White, C. H. White and J. F. White, all of London.

The Nova Scotia Steel & Coal Co., Sydney, N.S., will erect a large machine shop at Sydney Mines, to be equipped with the latest and most improved machinery.

The Canadian Scoria-Block Co., Toronto, will establish a branch of their business at North Sydney, N.S. The company manufacture brick for building purposes, blocks for tiling, sidewalks, etc., from slag and refuse matter. The capital stock of the company will be \$150,000.

The saw mill, shingle mill and foundry of Binkley Bros., Neustadt, Ont., were destroyed by fire recently. Loss about \$8,000.

The Ontario Wind Engine & Pump Co., Toronto, have just shipped a car load of windmills to South Africa, and they anticipate a large increase in the trade with that new "patch of red." The sun continues to beam incessantly on the Canadian Air-motor, in all parts of the world.

The ratepayers of Sydney, N.S., have almost unanimously voted a bonus of \$250,000 for the establishment of a steel ship building industry at that place.

On August 5, 1899, just three years

ago, the first sod was turned in the construction of the plant of the Dominion Iron & Steel Co., at Sydney, N.S., and to-day the plant, as originally proposed, is completed and enjoying a substantial revenue. An official of the steel company is quoted as saying that the ore deposits on the Orinoco River, in Venezuela, for which a company has been formed by F. S. Pearson, a director of the company, would prove of inestimable value to the company, as the ore referred to was said to be the finest in the world, and this company would receive it at a cost substantially \$1 per ton less than it would be sold to other companies. Nearly three hundred thousand tons will be shipped from Venezuela to Sydney yearly, and a regular fleet of steamers will be employed in carrying it.

The factory of Merram Bros., Harrison, Ont., manufacturers of builders' supplies and novelty wooden goods, was destroyed by fire August 8.

The Guelph, Ont., rolling mills which are owned by the London Rolling Mills Co., were destroyed by fire August 9.

Messrs. Shurly & Dietrich, Galt, Ont., saw manufacturers, will remodel the premises of the Western Foundry at Tilsonburg, Ont., and use them for the manufacture of harvest tools.

The Jenckes Machine Co., Sherbrooke, Que., have just completed the casting for a huge ore crusher for the Granby Smelter Co., Granby, Que. It is said to be one of the largest in the world.

The United States Steel Corporation is making a thorough examination of thousands of acres of land on the north shore of Lake Superior. It is said that the trust has over one hundred mining engineers exploring in different parts of the territory along the shore and four miles inward. They are working in the vicinity of Port Arthur and Fort William, and between those places and Duluth. The company has already made extensive purchases of land on which iron ore has been located, and is buying up every piece of territory considered promising. There is little doubt that that portion of Canada contains large and valuable mineral deposits. Most of the land is a wilderness, and the work of exploration is being conducted under great difficulties.

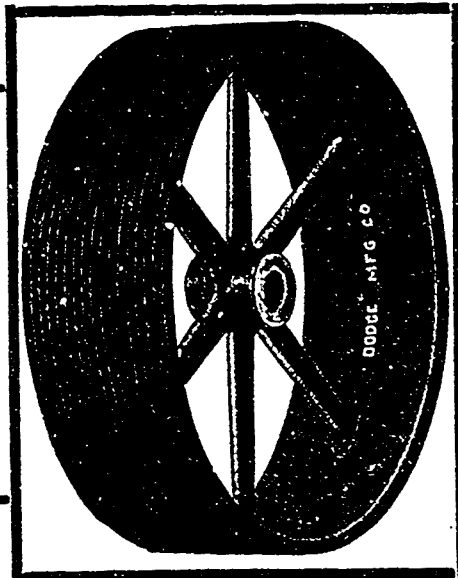
The building inspector of Winnipeg, Man., has issued, this year, permits for 703 buildings, the estimated value of which is \$1,652,450. Among other permits is one to the Consolidated Plate Glass Co., Toronto, for a warehouse and factory at a cost of about \$13,000.

The ratepayers of Stratford, Ont., will vote on a by-law to guarantee the bonds of the Kemp Mfg. Co., Newark Valley, N.Y., to the extent of \$15,000 for fifteen years, if they erect a large factory in Stratford for the manufacture of manure spreaders. About 100 hands will be employed.

The flour mill of J. M. Clemens & Co., New Hamburg, Ont., was destroyed by fire August 9. Loss about \$20,000.

IRON GROOVED PULLEYS

Spiral Steel Conveyor.
Elevator Buckets.
Detachable Chain.
Sprocket Wheels.
Belt Conveyors.
Friction Clutch Pulleys.



Clutch Couplings.
Machine Moulded
Iron Pulleys.
Steel Shafting.
Flange and Compression Couplings.

..Improved Ball and Socket Adjustable Hangers..

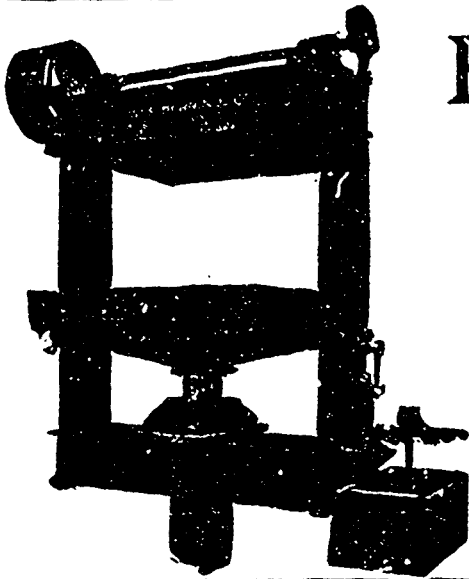
DROP AND POST, SAFETY COLLARS, ETC.

Power Transmission Machinery. GRAIN HANDLING MACHINERY.

SEND FOR CATALOGUE.

DODGE MANUFACTURING CO., - TORONTO, ONT.

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Hydraulic **PRESSES**

We Build Presses
for...

**PRESSING VENEERS
TANNERS' USES
BALING, Etc.**

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CATALOGUE
AND PRICES

William R. Perrin & Company

TORONTO, - CANADA

An elevator company in Minneapolis, Minn., in which Mr. A. McMichael is interested will erect fourteen elevators in the North-West Territories, and have them completed in time for this year's crop.

The Canadian Otis Elevator Co., are erecting an additional passenger elevator in the large departmental store of the Robert Simpson Co., Toronto. It is intended to be in operation by October, 1.

The American-Abell Engine Co., Toronto, will establish a branch foundry, machineshop and warehouse in Winnipeg, Man.

What is said to be the largest contract for leather belting ever given in Canada has been awarded by the American Cereal Co., Peterborough, Ont., to Sadler & Haworth, leather belting manufacturers, Montreal and Toronto.

The factory of the Toronto Biscuit & Confectionery Co., Toronto, was destroyed by fire August 12. Loss about \$60,000.

The ratepayers of Hawkesbury, Ont., have voted favorably on three by-laws by which \$100,000 will be raised for the installation of a system of waterworks, \$73,000 will be expended on sewers and \$20,000 on good roads.

James Wilders, Montreal, T. S. Aspinwall, Toronto, and Charles Ed-

wards, Gananoque, Ont., have been granted a bonus of \$15,000 and a free site by the council of Cornwall, Ont., to erect a furniture factory there.

It is stated that a British syndicate has been formed for the purchase of all the coal properties in Cape Breton not under the control of the Dominion Coal Co. The shipping terminus will probably be at Sydney, N.S.

The Raven Lake Cement Co., Lindsay, Ont., who are erecting a factory at Raven Lake, have the hoisting apparatus specially constructed for lifting the marl from the lake and depositing it automatically in the building.

COLLINGWOOD, ONT.

While during the last few years there have been many references to the prosperity of the country, the fact may be better realized by a concrete illustration. Take, for instance, the town of Collingwood. A little more than two years ago the Collingwood Shipbuilding Co. commenced installing a most complete plant for the construction of steel ships. Since that time the company has built two magnificent ships, viz., the steamer Huronic, which is a passenger and freight ship, having accommodation for 300 first-class passengers and freight capacity of over 3,000 tons. The guarantees given

by the shipbuilders, both as to speed, economy, fuel and freight-carrying capacity, have in every respect been exceeded.

Last fall, when the steamer Huronic was launched, the first plate of the keel of the ship Agawa was laid by the Hon. Mr. Tarte, Minister of Public Works, and this ship has since been built and thoroughly equipped. By a fortunate coincidence the Hon. Mr. Tarte visited Collingwood recently on his tour of inspection of the chief harbors of the great lakes, and was astonished to find that the single keel plate which he had laid last fall had grown into a great ship, with a carrying capacity of 7,000 tons.

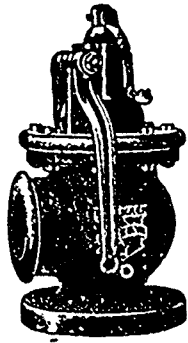
The company has at present contracts for the building of two large steamships, which are to be completed by May and June, 1903. The building of these ships and the other works on hand will for the coming year afford constant employment to from 800 to 900 men. The value of such an industry as this cannot be over-estimated, and its effects upon Collingwood have already been felt. There is an air of prosperity and confidence in the town. New buildings are being erected. There is not an empty house to be had, and the population within eight months, it is estimated, has increased about 1,500. The Shipbuilding Co. is now building a new dry dock, and purposes erecting a

**ROCK
DRILLS**

THE CANADIAN RAND DRILL CO
SHERBROOKE, QUE.
BRANCH OFFICES IN
MONTREAL, QUE. TORONTO, ONT. HALIFAX, N.S.
ROSSLAND, B.C. RAT PORTAGE, ONT. GREENWOOD, B.C.
VANCOUVER, B.C.

**AIR
COMPRESSORS
GAS**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



A
VALVE
YOU
CAN
RELY
ON
—
SEND
FOR
PRICES

CROSBY STEAM APPLIANCES EXCEL

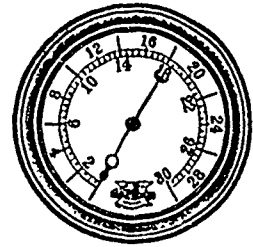
Steam Engine Indicators.
Recording Gages.
Revolution Counters.
Pressure and Vacuum Gages.
Lubricators, etc.



Stationary and Marine Valves.
Water Relief Valves.
Blow-off Valves.
Globe and Angle Valves
Single Bell Chime Whistles.
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CROSBY STEAM GAGE and VALVE CO.
BOSTON, NEW YORK, CHICAGO, LONDON

A TRUTHFUL GAGE
IS THE
ONLY GOOD GAGE



foundry, engine and machine shops and boiler shops, capable of turning out the highest types of engines and boilers, and expects to have these completed and in operation within twelve months.

The situation of Collingwood for repairing damaged ships is particularly good. It has on the west of it Owen Sound and Meaford, and on the east Parry Sound, Depot Harbor, Midland and Penetanguishene, and as the shipping to the Georgian Bay must come to some one or all of these ports, it will be an easy matter for all to come to Collingwood for repairs when needed.—Toronto Globe.

BUFFALO IMPROVED VENTILATORS.

The Buffalo Forge Co., Buffalo, N. Y., have sent us a copy of their new catalogue having reference to their Improved Ventilators, and inform us that there has been so great a demand for these venti-

lators that their previous catalogue had become exhausted, necessitating the getting out of another.

In describing this ventilator we are informed that the action of it depends upon two principles:

First.—The difference in weight between an air column having a diameter equal to that of the ventilator and a height equal to the distance between the top of the ventilator and the floor, at whatever temperature the air may be, and the weight of an air column of equal dimensions and at the outside temperature.

Second.—The ventilator is so designed that any movement of the outside air across the top of the ventilator causes an upward flow of the air in the ventilator. The wind may blow from any direction and yet the induced draft is produced through the ventilator, and carries away the hottest inside air, because it is next to the ceiling.

This ventilator, while it offers a free exit, prevents any back currents. It will effect an induced draft whenever the temperature of the inside and outside of the building is not the same. It is absolutely storm and rain-proof.

Illustrations are shown which give a good idea of the two methods of placing or fastening the improved ventilator caps to a chimney, both of which are thoroughly practical, economical and durable. The bases are made of heavy galvanized iron, with an inside or outside flange arrangement, made to fit closely to the chimney. This insures the absence of any possible dead air space, and better protects the chimney against the effects of frost, snow, rain and storm. Either flange arrangement will at once make it impossible for any rain, snow or dampness to get on the inside of the chimney. The outside flange arrangement, which fits tight over the entire top of the chim-

COWAN & CO., of GALT, LIMITED

"GALT FOUNDRY"

ENGINE and MACHINE WORKS
GALT, - CANADA

Wood-Working Machinery

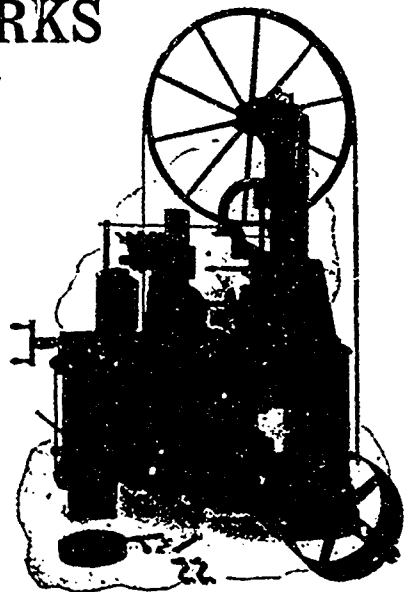
PATENT FEED WATER HEATERS AND PURIFIERS

ENGINES, BOILERS

....AND....

Saw Mill Machinery


ETC., ETC.




No. 1.

BAND RE-SAW.

... SEND FOR CATALOGUE ...



A **ARMSTRONG'S PIPE THREADING AND CUTTING OFF MACHINES,**
 For Hand or Power.
 Save Time and Labor. Capacity from 1/4 to 6 inches.
Armstrong's Genuine Stocks and Dies, THE BEST WATER, GAS, AND STEAM
 FITTERS' TOOLS
ARE MANUFACTURED BY
THE ARMSTRONG MFG. CO., - BRIDGEPORT, CONN.
 New York Office-139 Centre St. Catalogue on Request.



ney, forms a very serviceable cap and is a splendid protection to the chimney.

For the purpose of obtaining the most satisfactory results, the ventilator cap must have as great a cross-sectional area as flue or opening upon which it is placed.

The ventilator may be constructed with a plate glass top without losing its good qualities as a ventilator. By this construction it serves the double purpose of ventilating and lighting and is most effective in both. Nothing is more wholesome than pure air and good light. This ventilator will provide both. Gable or double-pitched skylights afford opportunity for ventilation at the ends without obstructing the light.

When a chimney has several flues, as is customary, a separate ventilator for each is always advisable. Two or more flues may be covered with a single base, which is very desirable; each should, however, be provided with a separate pipe and cap, making them independent of each other, and preventing interchange of smoke and gases.

When the temperature of the gases does not exceed 300 degrees F., these ventilators may be lined with pure lead to protect them against the attack of steam, sulphurous gases or any corrosive fumes.

ANOTHER BIG STEEL PLANT.

A story is going the rounds concerning the organization of the Canadian Steel Corporation, with a capital of \$18,000,000. Some time ago E. A. C. Pew, the well-known promoter of Welland, Ont., organized a company and secured a charter from the Dominion Government, empowering him to establish a steel plant at Welland, and at the time considerable attention was given to Mr. Pew's project. Since then the subject has hardly been discussed, but now has been revived, with some additional information.

A Toronto financial man has been engaged in organizing a company to take the project off Mr. Pew's hands. New York capital, it was stated, was being interested, and the early consummation of the new concern was looked for. The capital of the corporation is to be \$18,000,000 and the plant is to cost \$10,000,000. The site of the plant is to be 188 acres on the Welland canal, near the town of Welland, adjacent to the

natural gas fields (which, it is feared, may soon become exhausted), and also adjacent to the limestone fields.

An official of the company says: The plant of the company will be located at Welland, on the Welland canal, in Ontario. The site includes 188 acres, and is located in the heart of the natural gas fields of the Dominion, which supply the United States over 3,000,000,000 cubic feet of gas. This will enable the company to obtain gas at 6 cents, while it costs Pittsburg 42 cents. The limestone fields are also adjacent to the plant, and lime can be delivered for 30 cents a ton at the Welland Steel Works, while the cheapest at Pittsburg is 18 cents a bushel. These are very important items in the operation of a steel plant with a capacity of over 3,000 tons a day. The magnetic and hematite iron fields of Ontario are in greater extent in the immediate vicinity of Welland than in the whole United States combined.

NOVA SCOTIA STEEL INDUSTRY.

Mr. James Ross, president of the Dominion Iron & Steel & Coal Cos., returned to Montreal a few days ago after an extended visit to Cape Breton.

He reports both these companies to be doing excellent work. Of the Iron & Steel Co., he says that they will probably turn out 10,000 tons of steel this month, at a cost of about half what it was when they began to manufacture last February. He said that last month the company had all its ore delivered at Sydney at less than \$1 a ton, which was 35 or 40 per cent. less than what the same ore cost them last year.

A great deal depends on the output, the fixed charges are about as much now as when the Steel Co's output will reach its maximum point of 30,000 tons a month. As for the full output, Mr. Ross said that the company is getting toward that point very rapidly.

The steel made at Sydney is of the best quality, and not a single complaint had been received from any of the customers, many of whom had visited the works.

"We could sell to-day," said Mr. Ross, "three times our present output, and it is very satisfactory to realize that so much more is taken in Canada than we could have possibly expected."

Mr. Ross states that the three buildings

which will constitute the rail mill, are practically completed, and the machinery is being brought on the ground with all necessary speed.

The Steel Co. has secured several options on ore properties, and is spending a good deal of money in development and testing work. It is the policy of the company to secure all the iron ore it could in Canada.

Referring to the Coal Co. he said:

"I have also just received the returns from the Coal Co., and I find that the net earnings for the first four months of the fiscal year, that is for March, April, May and June, show an increase of \$300,000 over the same four months of last year."

These four months only comprise two months of St. Lawrence navigation, but he thought the July output would not be less than 300,000 tons. Last year 850,000 tons had been sent up the St. Lawrence, yet the quantity coming this way this season would reach over 1,000,000 tons.

—Montreal Star.

OUR SOUTH AFRICAN TRADE COMMISSIONER.—Amongst the late arrivals in Cape Town is Mr. J. G. Jardine, Canadian Trade Commissioner, who has gone to South Africa with the object of fostering trade between that country and the Dominion.

In the course of an interview published in a South African paper, Mr. Jardine said: "We export very largely agricultural machinery from over 20 firms in Canada, whilst from at least 7 of our factories boots and shoes are exported in great numbers. I believe we manufacture the cheapest medium priced boots in the world, not excepting the United States. Canada is exceedingly anxious to increase its export trade in boots and shoes, agricultural machinery, all descriptions of canned goods and meats, as well as canned vegetables and fruits. Of cheese we now export to England some \$20,000,000 worth, or £4,000,000 per year. In timber, also, Canada is well to the front. Take furniture of any kind—bedroom, office, roller desks—we obtained many awards in Paris for these things. Then there is wood pulp for manufacturing paper. Canada has the largest wood-pulp manufactures that are known, and we are exporting any quantity of wood pulp for the manufacture of paper, besides

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putting up more mills for this purpose." When asked the object of his visit, Mr. Jardine said that it was to give the people of South Africa as much information as possible with respect to Canadian industries, in order to promote trade. "We think we ought to do a large business in South Africa, he added, "but I regret to say that at present we are doing comparatively little. Canada gives value for its trade. If it had not the values it could not expect to do the trade, but it is assured that it has the values in most of the manufacturing ones that you in South Africa want, equal to anything the United States can send, and in most cases a great deal better."

Asked as to agricultural products, Mr. Jardine said that Canada was well to the front. Mr. Kitson, representing the biggest flour mills in Canada, was at present in South Africa. He represented the firm known as the "Lake of the Woods," and was well equipped with trade novelties, including such things as miniature barrels of flour. Mr. Jardine further said that Canada was making a big bid for the South African trade.

ELECTRICAL DEVELOPMENT AT THE "Soo."—Without question, one of the most active scenes of engineering development at the present time in the United States is the "Soo" district, at the point on St. Mary's River where Lake Superior empties into Lake Huron, and where two large industrial towns on the American and Canadian sides have already sprung up. The details below are given by the Electrical World: At this point the river has a fall of about 19 feet at the rapids in a distance of 3,000 feet, developing at least 175,000 h.p. Part of this energy, hitherto wasted, has already been utilized on the Canadian side, and at the present moment two other kindred enterprises are being pushed. While the development will be in sharp contrast to that at Niagara, owing to the slight head of water at the "Soo" as compared with an average of about 200 feet at the great cataract, the two enterprises compare in magnitude and each presents unique features. For the new work at Niagara on the Canadian side, three of the largest generators in the world are being built.

A contrast is presented by the plans for the "Soo," where for the new work now to be carried out, the Stanley Electric Mfg. Co., Pittsfield, Mass., has been awarded a contract for no fewer than 40 generators, etc., the impulse wheels to drive which are already in place. The building in which these machines will be installed is itself over a quarter of a mile long and three stories in height, and the power canal which will divert water from the rapids to the wheels has also been dug and finished, 210 feet wide, 20 feet deep and 5 miles long. This development is on the American side of the Sault Ste. Marie.

The amount of power to be developed will, it is stated, approximate 100,000 h.p., and this extraordinary plant will unquestionably be by far the largest hydro electric equipment under one roof in the world. The current will be utilized by the Clergue syndicate for the rolling mills, pulp mills, electro-chemical works and other industries of the Consolidated Lake Superior Co. and concerns of a similar character, while it is believed that a large part of the current will also be transmitted to Canada.

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AGENTS

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TRADE MARKS IN SOUTH AFRICA.—Canadian manufacturers are interested in a proclamation recently published by Lord Milner relating to the registration of trade marks in the Transvaal Colony, a digest of which is as follows :

The proclamation respecting trade marks provides that a trade mark must consist of or contain at least one of the following essential particulars :—(a) a name of an individual or firm, printed, impressed or woven in some particular and distinctive manner ; (b) a written signature or copy of a written signature of the individual or firm applying for registration thereof as a trade mark ; (c) a distinctive device, mark, brand, heading, label or ticket ; (d) an invented word or invented words ; or (e) a word or words having no reference to the character or quality of the goods and not being a geographical name. Every application for registration of a trade mark shall (unless it is refused) as soon as possible after its receipt be advertised by the Registrar. Opposition must be made within one month or such further period not exceeding three months as the Registrar may allow from the date of advertisement. The penalty for making false statements in regard to the registration of trade marks will be imprisonment with or without hard labor for a term not exceeding two years ; and for falsely representing any trade mark as registered, a fine not exceeding £100. The fees for registration and other matters will be such as may from time to time be prescribed by the Registrar with the consent of the

Governor administering the Colony. The fees to be paid in respect of applications and registration and other matters are to be prescribed from time to time by the Registrar with the consent of the Governor. With respect to the protection of foreign trade marks, any person who has applied for protection for any trade mark in a foreign country will be entitled to registration of his trade mark under the proclamation in priority to other applicants, providing that such application be made within six months from his applying for registration in such foreign country, and any such registration shall have the same date as the date of application in such foreign country.

THE IRON RESOURCES OF BRITISH COLUMBIA.—At a meeting of the Voters' League, held in the subject of the Iron Industry of the British Columbia on June 24, the following report of a special committee was presented :

We, your committee appointed to investigate the resources of this province in iron ores with a view of determining the economic value of the same, together with a comparison in cost of manufacture, and prospective markets should smelting and rolling mills be established, beg to make the following report :

Ore Deposits.—Your committee find that very large deposits of magnetite ores are to be found within the districts of Victoria, Alberni coast, Nanaimo, Bella Coola, Cariboo, Silmilkameen, Kamloops and Queen Charlotte Islands. Hematite also exists, the extent of which remains as

yet a matter of conjecture. Prospectors are now looking up those properties and fuller information will be available to your committee within a short time.

Locations.—Of the developed properties, upon which a value from an economic standpoint may be based, those of the Texada Island may be cited. It is here the Puget Sound Iron Co. own 2,700 acres, situated on the southwest side of the Island. Sufficient development has taken place to expose an ore body estimated by experts as representing 8,000,000 tons of commercially valuable iron, which gives a detailed test of from 68 to 70 per cent. iron, and comparatively free from objectionable properties. Arrangements have been made to transport this ore by a gravity tramway 1,100 feet in length and 500 feet above sea level, with the intention of making regular shipments to the smelter at Irondale, Washington. Here the ore is subjected to a mixture of from 1-9 to 3-10 of bog ore obtained near Hamilton, Skagit County. From this an excellent foundry pig is made, and was utilized in building the United States war vessels Olympia, Monterey, Charleston and Oregon, by the Union Iron Works Co., of San Francisco. Experts have pronounced this a superior article to the Eastern manufacture, and it is certainly a compliment to the British Columbia magnetite ores. Of other properties upon which development work has taken place, mention may be made of the Serata, with an ore body of 80 feet wide, a depth of 90 feet, with an easterly extension of considerable distance ; over 800 feet has been

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crosscutted with excellent results. The Copper Island and Sheshart have each an ore width of over 100 feet. A tunnel has been made at the latter of 200 feet wide, with a depth of 800, a very extensive body of limestone lying contiguous to this property. On the Copper Island a tunnel of 100 feet wide and of the same depth has exposed a vein from 15 to 20 feet, assaying 60 per cent. iron and no impurities. This has been traced for over half a mile, and described as one of unlimited supply. Hermatite deposits lay in close proximity. These mines are situated in the Barkley District, and are bonded by an American syndicate who expect within a short time to expend three million dollars in the erection of smelter and rolling mills. The Redonda mine is situated on the north shore of West Redonda Island, the north shore of which rises abruptly from the sea to the height of over 3,000 feet. The ore outcrop is situated at an altitude of 450 feet, a foothold to this rapid rise being afforded only by the standing timber. In 1893, 623 tons of

magnetite ore were shipped to the Oswego Iron & Steel Co's furnaces in Oregon. This work exposed an open face of solid magnetite 30 feet wide by 30 feet in height, assaying 66 per cent per ton. No further work has been recorded, and owing to the peculiar situation little is known of the extent of this deposit.

The Glen iron mine at Cherry Bluff, near Kamloops, on the line of the C.P.R., is another which has produced in a small way. The product of this mine is of excellent quality, 66-83 per cent. metallic iron, and the annual output of from 500 to 2,000 tons being conveyed by aerial tramway to the C.P.R. tracks. This ore has been extensively used for flushing purposes by the smelters of Tacoma, Revelstoke and Nelson, the estimated ore in sight being given at 2,000,000 tons.

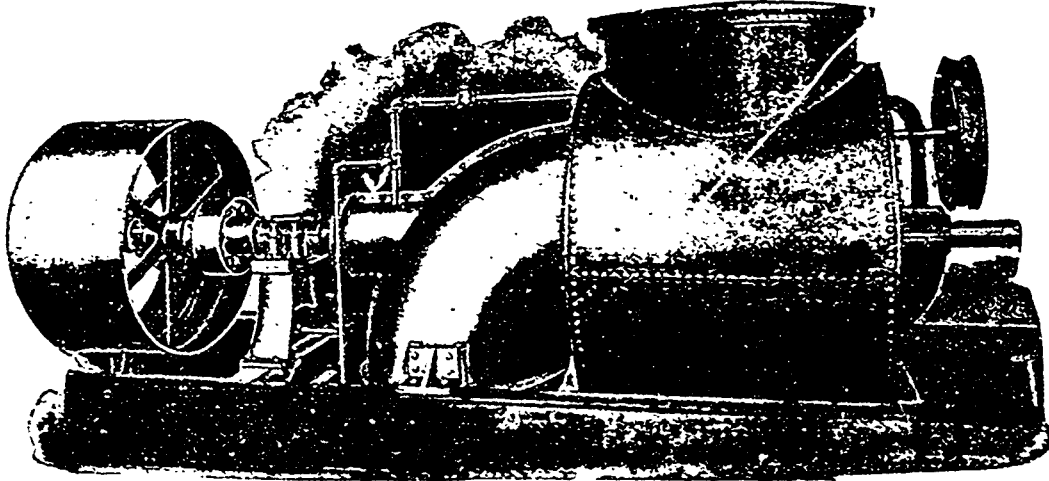
The Kootenay River deposits reported by Dr. Dawson are quite extensive, and are of a magnetite character. Their situation renders them of little commercial value, lacking facilities for cheap transportation.

Another extensive deposit of hermatite formation was discovered by Mr. Ludloff, a German geologist, in the Cariboo District. This measures 500 feet in thickness, and, like the former mine, is of little value with the present means of communication.

At Port Renfrew a vein of 100 feet in width has been located, and this is situated some seven miles from tide water and assays 68.8 per cent. iron.

A tunnel at Rivers Inlet 100 feet wide, with a corresponding depth, has exposed a vein of 30 feet width, assaying some 69 per cent. iron. Little is known by record of the two latter deposits beyond that here stated.

In addition to the forementioned properties, deposits of a more or less extensive nature have been discovered at Sooke, Chemainus, Toba and Knight's Inlets, Comox, Nootka Sound, Bella Coola, Alberni, Graham and Moresby Islands, Similkameen and other points, showing conclusively that iron ore deposits are not confined to any particular locality.



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It is an undoubted fact that immense bodies of both magnetite and hermatite lay awaiting development the moment demand and favorable conditions exist for iron and steel production.

Quality.—The investigations of your committee show that while quantity is a prime factor in the distribution of iron deposits throughout the Province, the quality and commercial value of the same is of the highest order.

Numerous assays have been made and tests applied in England, Scotland, Pittsburg, and indeed many of the leading iron laboratories of the world, in which the iron ores of this Province have not only held their own, but have been proved superior to many now used in course of iron production. Space alone prevents your committee from giving a resume of analysis in this report, but they can be tabulated if it is the wish of this meeting, and filed for future reference.

Shipping Conditions.—A peculiar feature of the iron distribution on the East and West coasts lay in their accessibility to deep water shipment. Many of the deposits are situated at the very edge of ocean navigation, with sufficient grade for chuting the ore into bins at salt water. It is stated in some locations ore can be quarried at 20 cents per ton and delivered on board of steel scows for 30 cents or less. In this respect an advantage is possessed by the coast properties over the inland deposits. Another important factor is the abundance of timber for making charcoal. The immediate deposits of limestone and coal, together with magnificent water power stretches for generating light and motive power, all point that nature has destined this Province as the workshop of the world.

Cost of Manufacture Here and Elsewhere.—This is a phase of the enquiry in which your committee have experienced

difficulty. The short time allotted for report has not afforded us an opportunity of collecting data upon the subject, and in view of the comprehensive reports now being received by the Provincial Government from British consular agents residing within spheres of the iron industry, together with the increased rate of wages paid on the coast to labor, we deem it advisable to leave this question subject to future investigation and report. We are satisfied, however, with the favorable conditions mentioned elsewhere, and that the abundance of raw materials other than iron will more than offset any difference arising from a wage comparison.

As showing the difference in point of supply and manufacture between the Irondale smelter in Washington and the Collingwood, of Ontario, your committee submit the following as a probable estimate. It must be remembered that it requires two tons of iron ore to produce one ton of pig. At the Irondale smelter the Texada ores are laid down as undermentioned:

Mining and delivery of two tons of ore at \$1 per ton	\$2 00
Freight on same at \$1 per ton	2 00
Royalty, at 50c. per ton	1 00
Unloading	30
Duty	40

Total per ton of pig iron.....\$6 10

Collingwood smelter: Ore supplied by the Superior Power Co., owned by the Helen mine, at \$1.30 per ton, 1 2-3 ton, \$2.16 per ton pig.

Estimated cost of manufacture, Collingwood smelter:

Ore, 1 2-3 tons at \$1.30 per ton	\$2 16
Fuel, 1,500 lbs. coke, at \$4 per ton	3 60
Lime	15
Labor	1 05
Maintenance and interest, 10 per cent	1 28
Power, oil, etc.	25
Office	25

Total.....\$8 74

Probable estimate to Irondale smelter:

Ore, 2 tons at \$3.05	\$6 10
Fuel, 1,500 lbs. coke	3 60
Lime	15
Labor, 100 per cent. additional	2 10
Maintenance and interest, 10 per cent	1 28
Power, oil, etc.	25
Office	25

Total.....\$13 75

Or a difference of about \$5 per ton.

The estimated cost of ore to the Irondale smelter would suffer a material reduction if smelted on the West Coast, owing to the abundance of raw materials on the spot, and a saving in the freighting, unloading and duty. If the Domin-

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ion bounty of \$3 per ton were taken from the cost, the local manufacture would be brought down to \$10.73 per ton or less. In establishing the iron industry on this side of the line an immediate demand would be created for lime, charcoal, coal, coke, and a dozen and one necessities, requiring the employment of large numbers of skilled and unskilled laborers. This would give a stimulus and lead to the establishment of many other industries little thought of at present. A permanency would thus be attained and a rapid development would take place, leaving the Pacific base of supply practically in our hands.

Markets.—This is a subject which might, in conjunction with the foregoing chapter, be referred for future report. In addition to observations on the cost of manufacturing, reliable information is now being received by the Bureau of Information on iron consumption. This should be disseminated as early as possible, for upon this question lies the immediate or future establishment of smelters and rolling mills. The incomplete returns in the hands of your committee are of small value to manufacturers or capitalists: but probable markets may be found to exist for a British Columbia product in Japan, a large consumer with little or no iron of her own; China, Mexico, Guatemala, San Salvador, Nicaragua, Costa Rica, Republic of Colombia, Philippine Islands, Venezuela, Ecuador, British East Indies, and possibly Australia. It is worthy of note that Japan alone imports from all countries iron and steel manufactures of

\$16,000,000 value—an increase of 100 per cent. over the preceding year.

It will be seen at a glance that these markets, if supplied by Canada, must, owing to transcontinental railway charges, depend upon Pacific Coast mills and factories. With unhampered restrictions upon the raw material from British Columbia, it is possible that our energetic neighbors might arise to the occasion and become formidable competitors. Much depends at the present juncture on the uses made of our opportunities. Your committee are of the opinion that this question has been entered upon too soon.

Imports of Iron and Steel.—As showing the extent of the home market, the following figures are taken from the Statistical Year Book on imported iron and steel manufactures, exception being taken on ship's boilers, fish hooks, printing presses, tin plate, sheets, etc.

	Dutiable.	Free.	Total.
1892.	\$9,968,409	\$2,673,033	\$12,641,442
1893.	10,113,177	3,080,346	13,199,223
1894.	8,776,533	2,554,238	11,310,771
1895.	7,405,923	1,843,826	9,249,749
1896.	8,463,747	2,488,860	10,952,607
1897.	8,666,497	1,947,133	10,613,630
1898.	12,691,772	3,864,989	16,556,761
1899.	15,621,346	4,147,379	19,768,725
1900.	22,299,073	7,130,160	36,429,233
1901.	18,738,135	8,042,323	26,780,458

Total 10 years: Dutiable, \$122,734,612; free, \$37,778,287; or a grand total of free and dutiable imports of \$160,512,899 for the past ten years.

Dominion Government Bounty on Steel.

—Recognizing the immense advantages accruing to the Dominion in being enabled to provide for the ever-increasing demand for iron and steel, the Dominion Government offers a bounty of \$3 per ton on pig iron made from Canadian ores, and \$2 per ton on foreign, and a further sum of \$3 per ton on steel ingots. This bounty is reduced 20 per cent. per annum after April 23, 1902. It is possible, however, owing to the success attending its efforts, that an extension might be given for several years—until, perhaps, 1907. This aid has been supplemented by the Ontario Government, which has added \$1 per ton for pig iron manufactured in Ontario from Ontario ores. This provision, with other concessions, has led to the establishment of the steel industry upon a substantial basis, and a corresponding prosperity in the provinces wherein located.

Owing however, to the rapidly increasing demand in consequence of internal development, it will be some time before any perceptible impression is made upon the imports, and a splendid field is afforded in this province for further extension in this direction.

Lack of Provincial Information.—It is greatly to be regretted that so little information is forthcoming upon such an important subject from official sources, and it is to be hoped the government will see its way clear to keep one or two practical men constantly in the field—thus enabling it to keep in closer touch with the development now going on—reporting upon fresh locations and sup-

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The question of re-staking claims demands immediate attention. Gross abuses of the present Act exist, and many good locations are tied up, which greatly affects any attempt at development.

Reticence of Prospectors.—The best information obtainable on the character of magnetite and hermatite deposits is at present in the possession of private prospectors. Your committee have interviewed a number of these gentlemen, and it would appear that considerable activity is going on at the present time in the interests of wealthy syndicates having in view the immediate establishment of smelters and rolling mills. It is owing to this fact that little can be gleaned from private prospectors. They represent to your committee that being under engagement to the companies referred to they are not at liberty at the present time to give out any information. When this has been presented to their principals, we are led to believe that the league will be placed in possession of information regarding a number of unreported properties.

Impressions.—In pursuing the investigations called for, we have been particularly impressed with the immense distribution which has taken place by nature of the raw materials throughout this Province, and particularly so of the Island of Vancouver. At a period in our history when the various manufacturing interests of the world have been brought to such a perfected state and increasing at a rapid ratio each year, it would appear to us that the time must be necessarily short before world-wide attention is directed this way. From the manufacturing possibilities presented to us by the great wealth lying dormant in forest and sea, from a harnessing of electricity to the water-powers of the West Coast to assist in bringing about a cheaper method of production in man's requirements, much is to be expected. The importance of such factors few appear to realize, and of the future that lies before us how much remains with ourselves in bringing it about in our own time, thus replacing present conditions with those of a happier nature.

Suggestions.—In suggesting to the league methods which we think would prove beneficial and tend toward the immediate development of the iron industry in this Province, your committee have written to the Bureau of Information for the Province of Ontario for all information showing the course pursued by that Government in giving encouragement to iron and steel smelting in that Province. This will be shortly forthcoming, and will be placed before you for consideration and action. We believe the iron and steel trade to be the foundation of all the industries of a country, and there is no reason why, with the advantages possessed by us, full enjoyment should not be taken of the privileges.

To bring forward debate, your committee make the following suggestions:

1. That the Minister of Mines be asked

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Wholesale Manufacturers,

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to have the various ore bodies reported upon, that accurate knowledge be forthcoming regarding: (a) The locality; (b) Quality of ore; (c) The extent of deposits, and commercial value of the same.

2. The preventing of re-staking of claims, and speedy punishment for false declaration in respect to improvements.

3. That a bill be brought down embodying the following legislation in addition to the mining laws of the province: (a) That a bonus of not less than \$—, nor more than \$—, be offered prospectors for each available body of magnetite or hermatite ores discovered within the Province, the same being approved of by the proper officer as to quality, quantity, and availability for manufacturing purposes; (b) That all such deposits be reserved by the Government in the interests of the owner to the intent that he be aided by the Government in obtaining full money value for his find. This prevents the owner locking up the raw materials of the Province against the industry; (c) That in cases where the owner is unable to prove his find the Government shall (if considered of value) reserve and prove the same, deducting the expenses from the amount of bonus

or royalty thereafter paid; (d) The Government shall place the reserved properties in the hands of responsible parties who will deposit a bond with the Government covering a contract to mine such quantity of ore per year as shall be agreed upon. Smelting, or have the same smelted within the Province. That for each ton of ore mined the discoverer shall be paid a royalty, the amount of which shall be determined according to quality, quantity and the availability of the ore, the Government at all times acting as arbitrator of values. In event of an arrangement being made for the sale or purchase of a deposit outright, the purchaser shall be required to deposit a bond with the Government covering an agreement (under the law of reserve) that the material taken from such mines shall be smelted within the Province.—Mining Record.

The Canadian Pacific Railway Co. has awarded the contract to Lessard & Harris, Montreal, for four of the buildings for the new car and locomotive works, which are to be established at Hochelaga, Que. The amount of the contract is \$235,000.

MARKETS.

This Department of THE CANADIAN MANUFACTURER is devoted to the interests of the Hardware Trade.

THE CANADIAN MANUFACTURER is distributed to the Wholesale and Retail dealers in Hardware, to manufacturers of Agricultural Implements, of Iron and Wood-working Machinery, of Electrical Appliances, of Steam Engines and Boilers, to Engineers and Foundrymen, and to Dealers in Machinery and Steam Fitters' Supplies throughout Canada. There are more than 10,000 manufacturing concerns in Canada which use Steam as a Motive Power. We reach them all. Every recipient of this paper is a buyer of Hardware of one kind or another; and Advertisers will do well to bear this in mind.

Following are reports and observations relating to the markets of Canada and elsewhere, having reference to Hardware, Metals, Paints, Oils and such specialties as are usually handled by jobbers and dealers in such goods. Following these items will be found current market quotations on such goods, and the trade are requested to suggest to the publishers any improvements by which it is believed the quotations may be rendered as correct and valuable as possible.

TORONTO, August 15, 1902.

Probably the most important feature in the financial world of the past two weeks was the announcement that the Nova Scotia Steel Co. was to be taken over by the Dominion Steel Co. and the Dominion Coal Co. on the basis of 70 for the former and 150 for the latter. When this message from Boston was posted on the local market there was a rush of buying orders which quickly rallied prices. For three days the market fluctuated within a narrow range around the high prices and the knowing

ones liquidated. Then reports denying the amalgamation began to arrive from Montreal with the result that values eased off gradually but steadily. Bank shares are firmly held and there is plenty of talk of higher prices for these properties in the near future. Lake navigation share are inclined to take a downward course, due, no doubt, to the unfavorable reports received regarding the traffic for June and July. The season is acknowledged by steamboat men to be unsatisfactory, the weather having had a bad effect on the traffic.

Commercially the city was never in a better position. From every quarter

comes reports of "good business—never better," and the indications are bright for a continuance of the good times. Importers show that they are confident of a big trade in the future, for the shipments during the past month received at this port are unusually heavy, the duties collected being the largest on record. In dry goods alone the importations far exceed those of any previous season, and in other lines there is a corresponding increase.

Few failures have been reported throughout the country, and those which are recorded are due, in the majority of cases, to outside difficulties involving the trade. Wholesale merchants report collections satisfactory, and there is an air of confidence in the future of the country trade which is encouraging to the retailer.

BRITISH PIG IRON MARKETS.—Messrs. Wm. Jacks & Co., 49 Leadenhall street, London, E.C., England, under date of July 30, 1902, quote as follows:

Since writing you last our markets here have continued strong with numerous enquiries and orders for all classes of pig iron from the United States.

To-day's prices are as follows:—No. 1 Gartsherrie, 67/- f.o.b. Glasgow including dues. No. 3 Gartsherrie 59/3 f.o.b. Glasgow including dues. Mixed numbers Cumberland Hematite 68/- f.o.b. Liverpool. Mixed numbers Cumberland Hematite 68/f.o.b. Liverpool. Mixed numbers to special analysis 72/- f.o.b. Liverpool.

WHAT'S THE USE . . .

Of paying HIGH PRICES for FAST CUTTING STEEL if your machine will not stand the strain required to get results.

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GUY TOMBS, General Freight and Pass. Agent, Quebec.

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Refined D.T.N. Hematite in small pigs 85/- f.o.b. Liverpool.

BUFFALO PIG IRON MARKET.—Office of Rogers, Brown & Co., Buffalo, N.Y., August 12, 1902.

In all grades of foundry iron, sales for next year's delivery continue at a healthy rate, and the market needs no stimulus notwithstanding the fact that the vacation period is upon us and this time of the year is generally one of inactivity.

There is a considerable variance in the views of buyers as to the length of time for which they should cover their requirements but it is interesting to note that some of the largest consumers have such a degree of confidence in a continuance of present conditions that they have already purchased heavily for deliveries running clear through the year 1903.

Active work has been begun on the construction of two large new blast furnaces at this point.

AMERICAN METAL MARKET REPORTS.—The following quotations and comments are collated from the American Metal Market, New York, and represent the latest conditions in the United States market.

AMERICAN PIG IRON CAPACITY.—In the 1901 Directory of the American Iron and Steel Association, issued this year was presented a list of 406 blast furnaces as either active or likely to be active some day. The editor says: "Eliminating some of the furnaces as being in our opinion dead for all time, there remain less than 400 live furnaces to-day. But many of these are the largest that the world has ever seen. Their annual capacity we place in round numbers at 24,000,000 tons, an increase since 1898 of exactly 33½ per cent."

Of course these figures of possible capacity mean with all the furnaces running all the time, a condition practically impossible.

There is little doubt but that the output of pig iron this year will be 18,000,000 tons or over.

It is impossible to state exactly how much the furnaces under construction will increase the maximum output or when they will become operative, but a safe estimate seems to warrant the belief that it will be by the close of 1903 over 4,000,000 tons.

Furnaces now being remodeled and enlarged will still further increase the capacity by, say 600,000 tons—a total of upward of 4,600,000 tons. This will make the total annual possible capacity of the United States available by the end of 1903 about 28,600,000 tons.

It seems, therefore, probable that by the end of 1903 the practical, effective producing capacity of this country will be in the neighborhood of 23,000,000 tons of pig iron.

Production even approaching this amount will call for a large increase in coke producing capacity.

The great bulk of the new production will be in steel making irons. The increase in foundry irons will not be largely available before the middle of next year.

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TAR PRODUCTS. Refined Tar, Benzole, Solvent Naptha.

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Chemicals. Sulphate of Copper, Chlorates of Potash and Soda, Calcium Carbide, Acetate of Soda, Wood Naptha, Acetone, Bichromates.
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Special Castings and all kinds of

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In Pittsburg, Pa., the iron and steel market is showing very few new features. There seems to be a little heavier demand for steel sheets for quick shipment, and jobbers report the volume of such orders as aggregating a pretty fair tonnage. The demand for the heavy gauges continues good and prices on the latter are quite satisfactory. There is no doubt that consumption is good and will continue good, the only trouble being the excess of capacity.

The wire makers have held a meeting, and re-affirmed former prices. It is claimed these prices are being well maintained, even on the fancy lines which take heavy extras, and there is good business going. Plain wire is \$2 a hundred and wire nails \$2.05, base, in carload lots to jobbers. Wire rods are not very strong for late delivery, on account of prospects of better steel supply, and \$35.50 could probably be done for the late months. For quick shipment, however, small lots have sold at \$36.50.

Considerable interest is manifested in the matter of importing foundry iron from England, and if the foundries can see their way clear to using an iron to which they have not been accustomed, considerable business may be done. It is understood the largest firm of dealers has already placed some considerable orders in England, and they are known to be figuring on some tonnage now. No. 3 foundry Middlesborough can be put down in Pittsburg at \$21.50. Prices quoted for

some time past on German basic, \$31 on billets and \$31.50 on sheet bars, could now probably be shaded 50 cents a ton as the material has not found a ready sale.

TIN.—In New York there is a fair enquiry for consumption and spot tin is scarce and strongly held. No wholesale business doing. Futures are neglected. Straits or Malacca—

	Spot shipment.	August.	Sept.
5 to 10 ton lots.	28.70c.	28.30c.	28.10c.
1 to 4 ton lots.	28.75c.	28.40c.	28.25c.

Terms, cash f.o.b., New York.
Messrs. C. S. Trench & Co. of New York issue the following American pig tin statistics:

Estimated stocks on spot, New York, Philadelphia and Boston	
July 1, 1902	2,235 tons
Actual arrivals during July	2,352 "
	4,587 tons
Est'd consumption during July	3,300 "

Estimated stocks on spot, New York, Philadelphia, and Boston, Aug. 1, 1902	1,287 tons
Actual afloat from East Indies, shipments to Aug. 1	2,588 "
Actual afloat from England and Holland, shipments to Aug. 1	495 "

Total visible supply, Aug. 1, 1902	4,370 tons
As against visible supply July 1, 1902	5,508 tons

Aug. 1, 1902, New York spot price of Straits	28.50
July 2, 1902, New York spot price of Straits	27.75

LEAD.—New York market unchanged. 4.15 for spot delivery in car load lots.

SHEET ZINC.—Ex store New York, in cask lots, 9x36, quote 6.75.

SPELTER.—New York market nominally 5.50 for spot.

QUICKSILVER.—New York price continues \$48 per flask for large orders, with a slightly higher figure for small lots. In San Francisco prices are steady, and the quotation is \$45.50 to \$46.50 per flask for domestic orders.

PLATINUM.—New York market \$18.50 per oz. London prices are about on a parity.

USE OF METALS IN THE PRODUCTION OF CHEMICALS.—The following table taken from the article on "Manufactures of Chemicals and Allied Products," from the Twelfth Census of the U.S., is interesting as showing what becomes of various metals in other than ordinary commercial uses.

Product.	Pounds.	Value at Works.
Acetate of lead....	1,296,991	\$73,190
Salts of Antimony.	211,996	22,778
Copperas	29,733,570	143,327
Copper sulphate ..	34,734,610	1,718,898
Salts of tin	6,247,205	603,937
Salts of Zinc.....	9,511,909	353,902

To Manufacturers



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STEEL PRODUCTION OF THE UNITED KINGDOM.—The Iron and Coal Trades Review says: The total output of open-hearth steel ingots in the United Kingdom in 1901 was 3,297,791 tons; compared with 3,156,050 tons in 1900 and with 3,030,251 tons in 1899. The increase of output in 1901 over 1900 was 141,741 tons, which is not equal to the advance made in some previous years, but is, nevertheless, above the average of the last ten years. The greatest advance in 1901 has been attained in South Wales, where the output was 738,854 tons, against 550,568 tons in the previous year. The Sheffield district has also increased its output from 257,234 tons to 309,999 tons.

The make of basic steel ingots by the open hearth process does not make nearly the same progress in the United Kingdom that it does abroad. The total output of basic openhearth steel in 1901 was 351,177 tons, whereas the total output of acid openhearth steel for the same year was 2,946,614 tons. The preponderance is on the other side in both Germany and the United States.

In the following table are represented details of the British make of openhearth and Bessemer steel ingots for each of the last six years:

Year.	Openhearth Tons.	Bessemer Tons.	Total Tons.
1896 . . .	2,371,555	1,815,842	4,133,397
1897 . . .	2,601,806	1,884,155	4,485,961
1898 . . .	2,806,600	1,759,386	4,565,986
1899 . . .	3,030,251	1,825,074	4,855,325
1900 . . .	3,156,050	1,745,004	4,901,454
1901 . . .	3,297,791	1,606,253	4,904,044

The production of Bessemer steel rails in the United Kingdom in 1901 appears to have been much under the average of previous years and is the smallest, with only two exceptions for the last twenty years.

ALUMINUM.—No. 1 ignots for re-melting (99 per cent. pure)—ton lots, f.o.b. works, 33 cents per pound; No. 2 ignots for re-melting (95 per cent. pure), 31 cents per pound; nickel aluminum casting metal, 33 cents per pound; special casting alloy, 27 cents per pound; rolled sheets, 37 cents per pound.

A SAFETY APPLIANCE WANTED.—The United States Consul at Roubaix, France, reports that the numerous accidents to workmen in establishments where belts are used has recently brought about the stringent application of a French law, forbidding the removing or replacing of a belt by hand while the machinery is in motion.

In order to obviate the waste of time consequent upon the stopping of the machinery, an association of French manufacturers has announced an open international competition for the best fixed belt moulder.

The invention should be designed for simple and not for conical pulleys, and must comply with the following conditions:

1. It must be simple, strong, and occupy little space; easy to fix and use.
2. Not dangerous in working.
3. Convenient for any speed, width, or position of belt.

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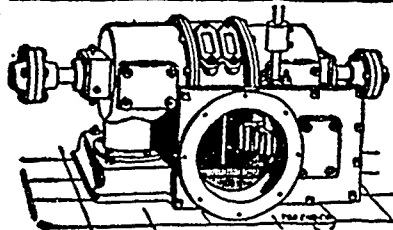
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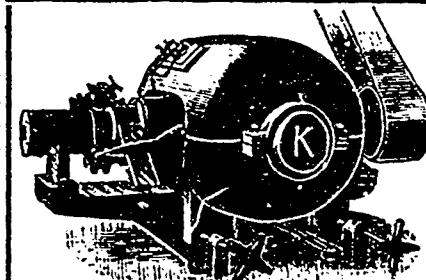
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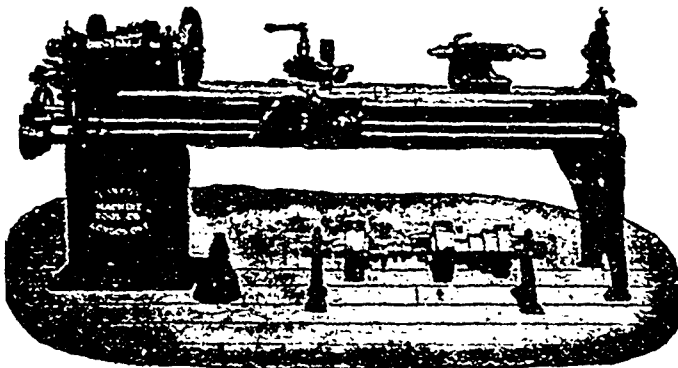
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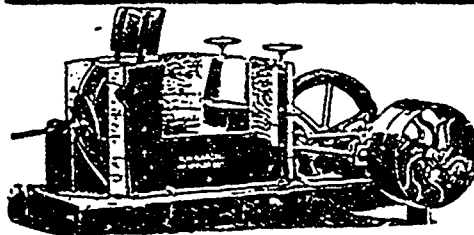
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- Dead Spindle Spooler for Warp or Dresser Spools,
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A Few Extracts from Letters from British Consuls, etc.

"I have to thank you very heartily for the copy of your Directory for 1901. I have always found it most valuable in supplying reliable information in answer to inquiries."—*H. B. M.'s Consul at Asuncion, Paraguay, Aug. 20th, 1901.*

"I am directed to thank you for the book and to express the opinion of this Consul that the work is one which cannot fail to be very useful to the commercial community."—*The Secretary of the Chamber of Commerce of Georgetown, Demerara, Aug. 15th, 1901.*

"I consider your Directory a most useful publication. Consuls are inundated with inquiries, which a reference to your work would have answered at once, and manufacturers would effect a large economy in wasted clerical work, postage and advertising, by purchasing the Directory."—*H. B. M.'s Consul at Amoy.*

"As a work of reference I consider it to be most useful. By keeping it up-to-date you are improving it in the best possible manner."—*H. B. M.'s Consul at Para.*

"I have to thank you for the two volumes of your work, which are very acceptable, as containing much useful information."—*H. B. M.'s Consul at Calcutta.*

"I beg to thank you for the copy of your Merchants' Directory, which is a most useful work, and one to which I am constantly referring business people who send inquiries to this Consulate for the names and addresses of houses connected with different trades."—*H. B. M.'s Consul at Cadix.*

"I have the last copy of the Directory—a most useful work, but which I think is not consulted by exporters as much as it deserves to be, as I am constantly receiving letters asking for information which could be obtained from its pages."—*H. B. M.'s Vice-Consul at Paysandu.*

"I beg to inform you that I shall be very pleased to offer you every assistance in my power to facilitate your very interesting work for the benefit of commerce and industry."—*H. B. M.'s Consul at Jaffa.*

"I have duly received your valuable and useful Directory of Merchants, Manufacturers and Shippers for 1899, and beg to express my best thanks for same."—*British Vice-Consul, Spezia (Italy)*

"I am constantly receiving letters of enquiry for information that in most cases could be obtained in your Directory."—*British Consulate, Uruguay.*

"The only book consulted is Kelly's Directory."—*From British Consular Return, Riga.*

"Many of these inquiries would have been rendered superfluous by a reference to Kelly's Directory."—*Report from British Consul, Genoa.*

"The Directory has been of the greatest service to me in my former Consular posts, and will, I believe, be doubly useful here."—*B. C. Chicago.*

"We beg to express our appreciation of the thorough and exhaustive character of the Directory, which covers exactly the fields we desire to reach."—*Messrs. H. M. Anthony Co., New York.*

"The copy of Kelly's Directory has already been of great use to me."—*B. P. C. Thorshavn.*

"It is a Directory which is very often consulted by the Merchants of our town."—*B. P. C. Delcagatch, Turkey.*

"Your Directory was useful to me and the merchants in general."—*British Consular Agent, Tatan.*

4. Able to throw the belt off and on.
5. Sufficiently low in price to allow of its wide use.

Competitors are invited to send a full description of their invention, accompanied, if possible, by a model or at least by satisfactory illustrations, to the President de l'Association des Industries de France contre les Accidents du Travail, No. 3 rue Lutece, Paris, prior to October 1, 1902.

PRECAUTIONS AGAINST SMALLPOX EPIDEMIC.—These regulations to govern employers of labor and employes in unorganized districts of Ontario, with a view to preventing another smallpox epidemic, have been issued by Dr. Bryce, Secretary of the Provincial Board of Health:

Shantymen, miners and other employes of lumbering camps, mining camps, saw mills, smelting works, and other industries, or any railway construction camp, are hereby notified and cautioned by the Provincial Board of Health, under the Act respecting the sanitary regulations in unorganized territories. It is required:

1. That all owners, managers, agents, or foremen, or other persons in charge, employ only vaccinated persons; that all employes are equally required to comply with the regulations.

2. That all employers of labor shall contract with a medical practitioner for their employes and works, and are authorized to deduct from the pay due to any employe a sum not less than 50c., and not exceeding \$1 per month.

3. That a hospital for the care of the sick must be provided by every employer, and that the men are entitled not only to regular treatment therein, but also to have the camps and surroundings inspected regularly and maintained in good sanitary condition.

4. That failure on the part of any person to comply with any regulation of the Provincial Board of Health renders him liable to the penalties provided in the Act.

AMIDST THE LAURENTIANS.—A very handsome little pamphlet entitled "Amidst the Laurentians" has been issued by the Great Northern Railway Co., of Canada. It is beautifully illustrated and artistically printed. The contents describe most of the beautiful scenes to be found in the Laurentine Mountains, including those about Shawinigan Falls, the rival of Niagara, and other points of interest along the road from Hawksbury to Quebec. To the tourist desiring to see as grand scenery as there is in North America, the sportsman who loves to fish or hunt, or the manufacturer desiring water power and other advantages, this pamphlet is of great interest. Copies may be had of Guy Tombs, passenger agent of the Great Northern Railway of Canada, with headquarters at Quebec.

MUST HAVE THE FRUIT.—A million barrels of apples is the order which one Belleville, Ont., dealer has received from an English house, and he has started buyers out to get the goods. The significance of this can be seen when it is remembered that a million barrels of apples would in most seasons in the past equal

nearly the whole of Canada's export. This order is, therefore, far and away in excess of any order ever received before by a Canadian dealer. It indicates the high value placed upon Canadian apples and the possibilities for increasing the trade in this fruit.

WHY DEPARTMENT STORES THRIVE.—There is no secret in the causes which have led to the success of the department stores. The managers of these concerns have brought to their work the intelligence and character of intellect that would make success in the military field. They have mastered detail, and when a perfect organization has been put at their disposal they have been able to get their minds out of the narrow rut and to make bids for public support that were practically universal. In much the same way that the modern newspaper has developed we find the department store has extended from a local institution to one drawing patronage within a very wide radius. In the old days when the weekly paper was in vogue the editor would present to his readers the news which happened within the limits of the town or city in which the paper was published. Then, as transportation facilities increased, and as the telephone and telegraph were developed the news field was extended, until now a newspaper presents to its daily readers the news of the entire world, and the city or local department of a

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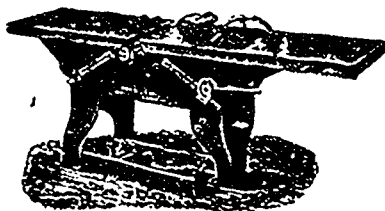
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Prices and description furnished on application

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Manufacturers of **Oilcloths** of Every Description.

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

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Cor. St. Catherine and Parthenais Streets
MONTREAL, Que.

newspaper considers everything that occurs within a radius of a hundred miles as local news. Applying this idea to the department store, we find that they, as advertisers in the newspapers which circulate in this wide area, regard the people living within the same radius as likely customers.

Every step in the business of the department store must be carefully considered, and the managers realize that perhaps the most important one is to select goods which can be sold at popular prices, but which at the same time will give full value for the money expended. No department store can gain a permanent custom by handling goods which prove unsatisfactory in use. In all stores we find that the china, glass and pottery department is one of the largest and most popular. The buyers who have charge of this department, as a general thing, exercise good discretion in selecting their lines. They come to the markets more frequently than the buyers for smaller concerns, and are capable of judging the goods by seeing them in the sample rooms, which is a great advantage. The buyer for a large department store must be in touch with the trade and with conditions generally the year round, for he is obliged to have his department undergo a change every three months to bring out seasonable goods and make a special display of them. —Stoves & Hardware Reporter.

REDUCED FREIGHT RATES.—American manufacturers, says Dunn's Review, are at present in a position to secure a liberal share of the flood of buying orders being sent out by South African firms. As a result of the rate-cutting contest now being waged between the various steamship companies engaged in the trade between New York and South Africa, rates for general freight are now less than a third of what they formerly were, and almost exactly a third of the lowest rate from London. This gives a great advantage to American exporters in offering favorable quotations to South African buyers, and it is reported that considerable trade has already been deflected to this country in consequence, and more is likely to follow if existing conditions continue for some time. One feature of the situation that should prove especially valuable to houses contemplating the introduction of their goods in South Africa, is that the prevailing freight rates will enable them to compete even in price with cheaper grades of European goods, thus effectively securing a foothold. The demand at present is largely for lumber and building material of all kinds, machinery and agricultural implements. The demand for plows, especially, is reported to be unprecedented. Two extra steamships have been put on, and those leaving are carrying full cargoes.

GOODS MOST IN REQUEST.—According to the British and South African Export Gazette some of the lines of merchandise most in demand among South African buyers just now are: Railway material, rolling stock and bridgework, mining machinery, electrical plants for mining and harbor work, telegraph and telephone

PORTLAND CEMENT

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FIRE BRICKS

Describe your requirement and we will supply a fire brick in shape and quality to suit.

Mention whether you burn coal, coke, gas or oil.

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31 Wellington St., Montreal

LONG DISTANCE PHONE 1103.

The Electrical Construction Company of London,

LIMITED

32-40 Dundas St., London, Can.

Perfection TYPE **DYNAMOS**

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Multipolar or Bipolar, Direct-Connected or Belted.

OVER 1500 OF OUR MACHINES IN USE.

We contract for complete installations, including wiring of factories.

We repair machines of any make.

Descriptive matter and estimates furnished on application.

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Steam Users. **VULITE**

is unrivalled as a disincrustant.

ON H. M. GOVERNMENT'S LISTS.

Vulite Syndicate, Limited

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Wanted—An Active Representative for Canada



NOTICE—The following are the Factory Inspectors for the Province of Ontario:

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JAS. R. BROWN, Parliament Buildings, Toronto.
MARGARET CARLYLE, Parliament Buildings, Toronto.

O. A. ROCQUE, Orleans, Ont.

Persons having business with any of the Inspectors will find them at the above address.

JOHN DRYDEN, Minister of Agriculture.

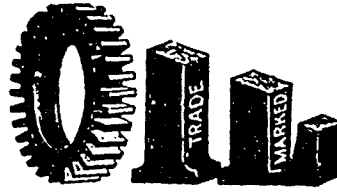
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"RENOVN" ENGINE

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RELIABLE WELL-KNOWN BRAND

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BARE and INSULATED ELECTRIC WIRE

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INCANDESCENT AND FLEXIBLE CORDS,

RAILWAY FEEDER and TROLLEY WIRE

RUBBER-COVERED, MAGNET, OFFICE AND
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CABLES FOR AERIAL and UNDERGROUND USE.

TYPE G. SCHEEFFER RECORDING WATT METER

MADE IN CANADA.

We have just issued a bulletin describing this new meter and will take pleasure in sending it to you upon request.

Like all Packard products this new meter is in advance of anything on the market to-day.

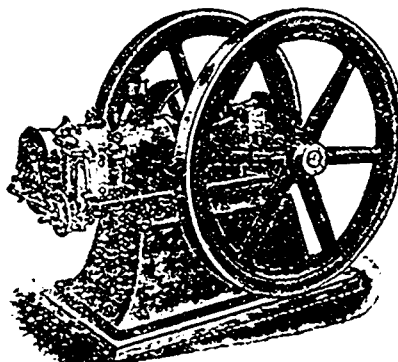
THE PACKARD ELECTRIC CO., Limited,
ST. CATHARINES, ONT.

GASOLINE ENGINES

3 to 21 Horse Power.

Write for prices and descriptive matter

The Dominion Motor & Machine Co.
50 Esplanade St. East,
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material, agricultural implements, galvanized iron roofing, hardware and cutlery, furniture and upholstery, building material, paints, varnishes, window glass, cement, textiles, boots and shoes, and beer, spirits, etc. At all leading commercial centres there is a great deal of new building, but at Cape Town, Johannesburg and Pretoria there is exceptional activity, new and comparatively costly structures going up in every direction. The recent destructive fire in the heart of Cape Town will also, no doubt, result in additional new buildings not previously contemplated. Aside from the usual run of mining machinery orders, a large share of which are coming to this country, there is an exceptional activity in the demand for pumping machinery, piping, etc., for municipal waterworks, sewerage plants, etc. At Bloemfontein some \$650,000 are to be expended for new waterworks, the plant including a pump capable of delivering 600,000 gallons per day. At Johannesburg an extensive sewerage scheme is in the hands of the engineers and large orders are impending for piping, etc. Other municipalities are also interested in projects of the same kind, and the value of the orders in this line is likely to be considerable for several years to come. In general merchandise the demand for floor coverings is especially noteworthy, including carpets, rugs, linoleums, etc., while there is also a brisk enquiry for curtains, bed linens and similar supplies. Boots and shoes are in strong demand and American firms are reported to be making unusual efforts to secure a larger share of this trade.

A NEW STEEL MOULDING PROCESS.—United States patents were recently issued to Frederick Baldt, Sr., general manager of the Pennsylvania Steel Castings Works, Chester, Pa., that will materially simplify the moulding of steel. The method consists in first making a master mould from any pattern and then casting from this as many fusible patterns as may be required. This fusible pattern is then put into an iron box of suitable size, after which, by means of compressed air, the box is filled with moulding sand. The box is then run into the drying oven, where the fusible pattern is melted out. The casting is then made from the dried mould.

An important feature of this process is that it does away with skilled labor, the sand being conducted and driven by compressed air into all parts of the box and fusible pattern by either boys or laboring men. Since the castings are absolutely seamless and without fins no chipping is required afterward. The process is also particularly applicable to the casting of chains and similar interlocked articles. By this process it is also practicable to produce articles in exact duplicate and in any number.

BUSINESS IN THE TRANSVAAL.—Speaking of the conditions of business in South Africa, the Johannesburg correspondent of the London Times says that the settlement of the country is being taken in hand with all possible despatch, but it cannot be expected that progress will be recorded by specific landmarks every day

of the week. Each department of state is working at full pressure. The amount of work to be done is enormous, and the obstacles are removable only gradually. In the Public Works Department things are almost at a standstill owing to the difficulty of procuring goods from the coast. There is not only about twenty years' arrears of work to catch up, but also the destruction of the last three years to make good. Hospitals, asylums and gaols are waiting to be built or to be provided with increased accommodation and public offices of such towns as Ermelo and Caralua, Southeastern Transvaal, have to be rebuilt. The material needed for all these purposes would, at the present rate, take several years to carry from the coast, and little can be done until more rolling stock is procured.

PETROLEUM THE NEW FUEL.—An expenditure of some \$20,000 is now being made by the Navy Department in experiments to determine the value of petroleum for fuel on war ships. Tests of oils and of burners are being made at Washington, and it has been found that when a forced air draft of one inch was used the oil gave results about 33 per cent. better than the best Pocahontas coal. It was particularly noticeable that uniform results were obtained.

At the same time that experiments are being made by the U.S. Government, we learn that the Norwegian navy also is experimenting along this line. On the success of these tests depends largely the

general adoption of oil as fuel by the navies of the world. Over 90 per cent. of the petroleum now imported into Norway now comes from the United States.

As to the superiority of oil as fuel on ocean-going steamships there can be no question. It has been repeatedly demonstrated to be better and cheaper than coal and in every way more desirable. One of the most conspicuous instances of oil adaptation is that of the steamer Mariposa, of the Oceanic Steamship Co's coast fleet.

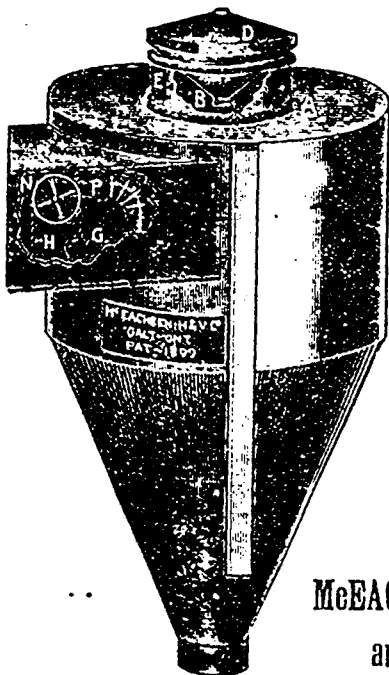
The Mariposa has been especially fitted up to ply between San Francisco and Tahiti and return, a distance of 7,316 nautical miles. As there is no fuel oil at present at Tahiti, it is necessary to carry 6,500 barrels of fuel supply for the round trip. This oil is carried in six compartments, in very strongly braced steel bulkheads, which extend right across the ship; a fore-and-aft bulkhead dividing them amidships. At each end of the fuel oil tanks a watertight collar dam of two frame spaces has been fitted, so as to obviate any possible danger of oil leaking into the ship's bilges or freight spaces. An expansion trunk has been fitted to each compartment, so as to allow for any increase in bulk of the oil, due to the variation of temperature during the ship's voyage through the tropics. A very efficient system of ventilation has been fitted to every compartment where oil is carried, and no one aboard could detect the odor of oil in any part of the ship.

The trial trip of this steamship, which was made July 5 off San Francisco harbor, demonstrated that the substitution of oil for coal as fuel will result in a great saving, not only in the cost of the fuel, but in the labor employed.

UNIVERSAL PIG IRON PRODUCTION.—The Commercial Intelligence presents a table showing the production of pig iron in the United States, United Kingdom, Germany and all other countries. Beginning with 1865 the figures are given at intervals of every five years up to and including the year 1900. The figures for 1901 are also given. This table shows that in 1865 the United States produced 832,000 tons, the United Kingdom 4,819,000, Germany 760,000, and all other countries 2,339,000. In 1901 the figures were: United States, 15,878,000; the United Kingdom, 7,750,000; Germany, 7,737,000; all other countries, 9,042,000. The figures for the United States are the only ones which show an increase in 1901 over 1900. In the latter year, 1900, the other nations reached their high-water mark. The figures for that year are: United States, 13,789,000; United Kingdom, 8,960,000; Germany, 8,386,000; all other countries, 9,265,000. It will be observed that in 1865 the United Kingdom produced more than all the rest of the world put together, and over three times as much as Germany and the United States combined. This country in that year led Germany by the narrow margin of 72,000 tons. In 1901 the

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FOR WOOD REFUSE



The air carrying the refuse enters the separator at the top and whirls around inside. The shavings being heavier than the air are carried by centrifugal force to the outer shell of the separator and they then take up a spiral path for the outlet at the bottom, the air passing out of the opening at the top.

Write us for prices and particulars of Separators, Fans, Etc.

McEACHREN HEATING and VENTILATING CO.

GALT, - ONT., - CANADA

THE CHIMNEY MUST GO

MECHANICAL DRAFT

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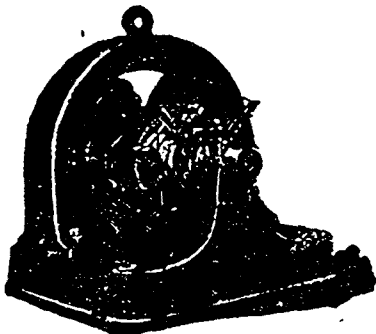
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 Have First-Class facilities for handling any business entrusted to them.
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MODERATE and SLOW SPEED OF HIGH EFFICIENCY.
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ALL FURNACE MATERIAL
 Superior Building | SEND FOR
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FILE and RASP MANUFACTURERS
 AND RE-CUTTERS.

A trial order solicited. Write for terms.
 C. P. MOORE, PROPRIETOR.

United Kingdom is still ahead of Germany, but by only 13,000 tons, the Kaiser's country showing a steady gain on her. The United States, however, produced last year more than both the United Kingdom and Germany combined.

THE DOMINION COAL Co.—The month of July was a record-breaker for the Dominion Coal Co. The following is the output of the various collieries for that month:—

Dominion No. 1	61,416 tons
Dominion No. 2	44,678 tons
Dominion No. 3	39,549 tons
Caledonia	62,967 tons
Reserve	77,973 tons
International (Bridgeport)....	21,607 tons

Total output.....308,190 tons

The output of sales show an increase, the output for July being 35,000 tons in excess of that of June, and over 63,000 tons in excess of the output of the month of July, 1901.—Montreal Star.

NEW AMERICAN BLAST FURNACES.—The Bulletin of the American Iron and Steel Association says that on June 30 there were twenty-eight blast furnaces in course of erection in the United States, of which twenty-four will use coke for fuel when completed, two will use anthracite coal and coke mixed, and two will use charcoal. A few of these furnaces will be completed and blown in before the close of 1902, but the majority will not be ready for blast until 1903. In addition to the new furnaces enumerated above several coke furnaces are projected and a number of old furnaces are to be rebuilt during 1902 and 1903.

BRITISH IRONS.—A comparison of prices: The following table shows the prices compared with those of the corresponding period of last year:

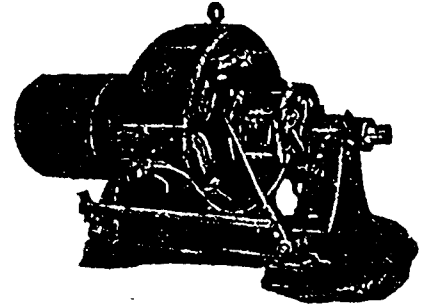
	July 3, 1902.		July 4, 1901.	
	£	s. d.	£	s. d.
No. 3 Foundry, pig, Middleborough.....	50	3	44	3
Scotch Warrants, Glasgow.....	53	5	51	11
Hematite Warrants, West Coast.....	60	0	57	0
Cold Blast, foundry, s. Staffs.....	105	0	115	0
Welsh Hematite, Cardiff.....	63	0	57	6
Marked bars, S. Staffordshire.....	8	10	8	10
Common Bars.....	6	10	7	0
Steel Rails, Middleborough.....	5	10	5	10
" West Coast.....	5	10	5	5
" Cardiff.....	5	10	5	5
Steel angles (eng.) Middleborough.....	5	17	6	6
Steel angles (eng.) Glasgow.....	5	7	6	5
Timplates, I.C. cokes, South Wales.....	0	13	9	0

AMERICAN IRON.—A comparison of prices:

	July 10, 1902.		July 10, 1901.	
	Foundry, pig, No. 2, Philadelphia.....	\$22	75	\$15
Foundry No. 2, Southern Clin.....	21	25	13	00
Foundry No. 2, Local Chicago.....	21	50	15	00
Bessemer Pig, Pittsburg.....	21	75	16	00
Gray Forge, Pittsburg.....	20	50	13	50
Lako Superior Charcoal, Chicago.....	25	00	17	00
Steel Billets, Pittsburg.....	33	00	24	00
Steel Billets, Philadelphia.....	32	00	27	00
Wire Rods, Mill.....	36	50	39	00
Refined Iron Bars, Philadelphia.....	1	95	1	45
Common Iron Bars, Pittsburg.....	1	75	1	45
Steel Bars, Pittsburg.....	1	60	1	40
Tank Plates, Pittsburg, nominal.....	1	75	1	60
Sheets, No. 27, Pittsburg.....	2	90	3	20
Cut Nails, Mill.....	2	05	2	00
Barb Wire, f.o.b., Pittsburg.....	2	90	2	00
Wire Nails, f.o.b., Pittsburg.....	2	05	2	30

MONTREAL PRICES.—The Star quotes as follows:
 So far as changes in prices are con-

The Jones & Moore
ELECTRIC CO.
ELECTRICAL CONTRACTORS



DYNAMOS, TELEPHONES, SLOW SPEED MOTORS, MOTORS, SUPPLIES, DIRECT CONNECTED DYNAMOS.
 We manufacture Direct Current Machinery in all sizes and for any purpose.
20 and 22 ADELAIDE W., TORONTO.

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"COPPER-ALLOY"
DISC VALVES

ARE THE BEST

—FOR—

HIGH STEAM

ASK YOUR DEALER FOR THEM.
 CATALOGUE SENT ON APPLICATION.

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 WALKERVILLE, - ONTARIO

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Established 1849.

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 Capital and Surplus, \$1,500,000

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EXECUTIVE OFFICES,
346 & 348 Broadway, New York City, U.S.A.

CORRESPONDENCE INVITED.

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 Vancouver, B.C. Winnipeg, Man.

THOMAS C. IRVING, Gen'l Manager Western Canada, TORONTO.

cerned, staple lines of hardware were very quiet during the past week. In horse nails, C brand has advanced in price, or, in other words, the discount has been reduced, being from 40 per cent. to 7½ per cent., instead of from 50 per cent. to 7½ per cent., as before. Wholesale dealers report trade somewhat quiet, though it exceeds in volume that of previous years. Travellers are working on sorting up orders principally, but they are also doing a fair trade in fall orders. The old difficulty in obtaining prompt shipment of orders is still being experienced, and is likely to exist for some time to come.

Following are the quotations on the principal lines, corrected to date:

Bar Iron—Merchants' bar, \$1.95 per 100 lbs., in small quantities.

Black Sheets—\$2.45 for 8 and 16 gauge, per 100 lbs.

Galvanized Iron—No. 28, Queen's Head, \$4.40; Apollo, 10½ oz., \$4.40, and Comet, \$4.25, with 25c. extra in less than case lots.

Ingot Tin—33c. a lb.

Lead—\$3.25 per 100 lbs.

Terne Plates—\$7.50 a box.

Lead Pipe—7c. for ordinary, and 8c. for composition waste, with 37½ per cent. off.

Iron Pipe—Black pipe, ¼, \$2.40 per 100 feet; ½, \$2.65; ¾, \$3; 1, \$3.70; 1 inch, \$5.25; 1½, \$7.40; 2, \$8.90; 2 inches, \$12.40; galvanized, ¼, \$4; ½, \$5.05; 1 inch, \$7.25; 1½, \$10.10; 2, \$12.15; 2 inches, \$16.70.

Coil Chain—No. 6, 12½c.; No. 5, 10½c.; No. 4, 10c.; No. 3, 9½c.; ½ in., 7½c. per lb.; 5-16, \$5.05; 3-5, \$4.40; 7-16, \$4.20; ½, \$4; 9-16, \$3.95; ¾, \$3.70; 1, \$3.65; 1½, \$3.65; 2, \$3.65. In carload lots an allowance of 10c. is made.

Sheet Zinc—In cask lots, \$5.50; in less, \$5.75.

Antimony—10c. a lb.

Tinplates—\$4.25 for coke; \$4.75 to \$5.25 for charcoal.

Canada Plates—52's, \$2.70 to \$2.80; 60's, \$2.85 to \$2.90; 75's, \$2.80 to \$2.85; full polished, \$3.75; and galvanized, \$4.25 to \$4.35.

Tool Steel—Black Diamond, 8c.; Jessops, 13c. a lb.

Steel—Sleighshoe, \$2.20; tire, \$2.30; spring, \$2.85; reel machinery, \$2.85, and toe calk, \$2.90.

Barbed Wire—\$3 f.o.b. Montreal in less than car lots.

Horseshoes—Iron shoes, light and medium patterns, No. 2 and larger, \$3.35; No. 1 and smaller, \$3.60; snowshoes, No. 2 and larger, \$3.60; No. 1 and smaller, \$3.85; X.L. steel shoes, all sizes, 1 to 5. No. 2 and larger, \$3.45; No. 1 and smaller, \$3.70; featherweight, all sizes, \$5; toe weight steel shoes, all sizes, \$6.25 f.o.b.

Horse Nails—Discount of 60 per cent. on oval heads, and 70 per cent. on countersunk heads; C brand, discount of 40 and 7½ per cent.

Wire Nails—\$2.55 in small lots, and \$2.50 for car lots, f.o.b. Montreal.

Cut Nails—\$2.45 for small lots, and \$2.37½ for car lots.

Building Paper—Tarred felt, \$1.70 per 100 lbs.; 2-ply ready roofing, 85c. per

Main Factory—BRADFORD, ENG.

Main Showrooms—LONDON, ENG.

The Largest Truck Establishment in the World.

H. C. SLINGSBY for Canada, Factory—MONTREAL—Office

We manufacture Hand Trucks for every imaginable purpose, all on the famous Slingsby patent sliding wheel system. Simply tell us what you need.

We make every truck that leaves our factory advertise us.

SPINS LIKE A TOP. RUNS EITHER WAY. WITH OR WITHOUT RUBBER TIRES. EASIEST RUNNING TRUCK IN EXISTENCE.

End Wheels Slide on Axle.

Established 1834.

Incorporated 1900.

The J. A. Gowdey Reed and Harness Mfg. Co.

Manufacturers of

LOOM REEDS FOR SILK, COTTON, WOOL AND LINEN WEAVING,

Metal Reeds a Specialty.

Reeds for Carpet Weaving.

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40 CLIFFORD STREET, PROVIDENCE, R.I.

DIXON'S DOES TWO THINGS AND DOES THEM THOROUGHLY STOPS THE BELT FROM SLIPPING. PLEASES THE MAN WHO USES IT.

SOLID Belt Dressing.

NOTHING EQUALS IT... SAMPLE SENT FREE. SEND FOR ONE. JOSEPH DIXON CRUCIBLE CO., JERSEY CITY, N.J. U.S.A.

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Manufacturers

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SOLE ADVT. CONTRACTORS FOR H. M. Board of Trade "Labor Gazette." (Official Organ Labor Department, Board of Trade). "London Chamber of Commerce Journal." (Official Organ London Chamber of Commerce, Incp.), Etc., Etc.

All interested in South and Central American Trade should read

THE SOUTH AMERICAN JOURNAL

Founded 1863

The recognized organ of South American interests and business in the Anglo-Saxon World.

SUBSCRIPTION . . . 25s. PER ANNUM.

Specimen copy post free; also the pamphlet, "South America as a Field for Enterprise," giving much information with regard to the countries, moneys, weights, measures, mails, etc.

OFFICES

DASHWOOD HOUSE, New Broad Street, LONDON, E.C.; ENG.

roll; 3-ply, \$1.10 per roll; carpet felt, \$2.25 per 100 lbs.; dry sheathing, 35c. per roll; tar sheathing, 45c. per roll; dry fibre, 50c. per roll; tarred fibre, 60c. per roll; O.K. and I.X.L., 65c. per roll; heavy straw sheathing, \$30 per ton; slaters' felt, 60c. per roll.

Cordage—Manila, 15c. per lb. for 7-16 and large; sisal, 12½c. per lb., and lath-yarn, 11c. per lb.

Scythes—Cast steel, \$5; Clipper, \$6; Climax, \$6.50; coneave, \$7; grain, \$10; bush, \$6.

Galvanized Wire—Nos. 6, 7 and 8 gauge, \$3.45; No. 9, \$2.80; No. 10, \$3.55; No. 11, \$3.65; No. 12, \$2.95; No. 13, \$3.05; No. 14, \$4.05; No. 15, \$4.55; No. 16, \$4.80; No. 17, \$5.20; No. 18, \$5.45.

Smooth Steel Wire—Bright iron and annealed on a base of \$2.60 per 100 lbs., f.o.b. Montreal, Toronto, Halifax, London, Hamilton and St. John. Net extras per 100 lbs. are as follows:—Coppered wire, 60c.; tinned wire, \$2; oiling, 10c.; spring wire, \$1.25; best steel wire, 75c.; bright, soft drawn, 15c.; special hay-baling wire, 30c.

Fine Wire—The discount is 22½ per cent.

Brass and Copper Wire—Discount, 60 per cent.

Fence Staples—Bright staples sell for \$2.90 per 100 lbs. keg, and galvanized at \$3.25, with an extra of 25c. for 25 and 50 lb. packages.

THE BELLEVILLE ASSAY OFFICE.—The report of the Ontario Government Assay Office, at Belleville, Ont., which is just

published, shows that during the past seven months 1,500 samples of ores have been received for identification and examination as to commercial value. The cost of the assay averaged \$20.34 each, done in duplicate. Nominal fees aggregating \$1,220 were collected. The cost of running the laboratory for seven months was \$2,000. Machinery and new apparatus to the value of \$10,000 have been added recently.

DYNAMITE IN SOUTH AFRICA.—United States Consular Agent Gordon telegraphs from Johannesburg, that a majority of the chamber of mines there favors the imposition of a coast duty of \$1.80 per case on dynamite, to protect local factories. A strong minority desires free trade. The annual consumption is 300,000 cases. Mr. Gordon thinks United States factories should compete for this trade, and requests cable quotations from manufacturers for blasting gelatin and No. 1 dynamite, 30,000 cases yearly, five-year contract, delivered at an African port. These figures, he adds, apply to one group of mines only.

BUSINESS CHANGES.

FROM BRADSTREETS.

ONTARIO.

DUNDAS—Canadian Cotton Batting Co., loss by fire.

LONDON—London Rolling Mills Co., obtained charter.

MATTAWA—Edmond C. Leblanc, saw mill, burnt out.

NEUSTADT—Binkley Bros., saw mill & foundry, burned out.

NEW HAMBURG—I. M. Clemens & Co., millers, burned out.

PARIS—Paris Plow Co., obtained charter.

ST. THOMAS—J. M. Green & Sons, obtained charter.

TORONTO—Allen Mfg. Co., obtained charter.

Cerberle Co., obtained charter.

Enterprise Specialty Co., mfrs. carpet cleaner, etc., stock sold.

John Hillock & Co., planing mill, etc., burned out.

W. Mathieson, hardware & mfrs. bicycles, loss by fire.

Hugh C. McLean Co., Corporate named changed to The Dyas Publishing Co.

National Box Co., loss by fire.

QUEBEC.

DRUMMONDVILLE—Compagnie J. A. Gosselin, foundry, etc., obtained charter.

MONTMAGNY—Compagnie Industrielle de Montmagny, obtained charter.

MONTREAL—Imperial Refining Co., registered.

Montreal Carriage Works registered.

F. Tremblay & Cie., lumber sash & door mfrs., registered.

QUEBEC—A. Rochon & Cie, mfrs. brooms, registered.

RIMOUSKI—Price Porritt Pulp & Paper Co., applied for charter.

ST. FRANCOIS XAVIER DE BRAMPTON—George Allaire, sawmill, assigned, J. P. Royer, curator.

SHERBROOKE—Lotbiniere Lumber Co., obtained charter.

NEW BRUNSWICK.

MONCTON—Bay of Fundy Oil Co., incorporated.

ST. JOHN—Carleton Foundry Co., incorporated.

Maritime Casket & Woodworking Co., meeting of directors.

NOVA SCOTIA.

HALIFAX—Peoples' Heat & Light Co., property, plant, etc., sold.

MANITOBA.

WINNIPEG—Gibbs & Liscum, planing mill, loss by fire.

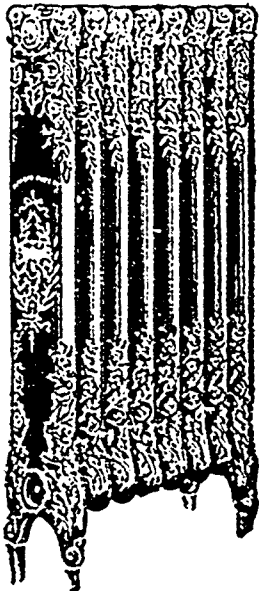
BRITISH COLUMBIA.

FERNIK—A. D. McRae Lumber Co., incorporated.

LANGLEY PRAIRIE—Smith & McDonald, sawmill, dissolved, Wm. McDonald continues.

SICAMOTSE—Shuswap Shingle & Lumber Co., incorporating.

VANCOUVER—British Columbia Fish Glue & Oil Co., meeting of creditors held.



WARM UP YOUR

Buildings

WITH

“Safford Radiators”

They are the triumph of the century.
In demand the world over.

Made in countless sizes and every possible shape, and in a variety of styles, plain and ornamental, sufficient to suit the most exacting.

Send for Catalogue on
up-to-date Heating.

THE DOMINION RADIATOR CO., Limited,

TORONTO

HEAD OFFICE, - - DUFFERIN STREET

HARDWARE, METALS, PAINTS and OILS

Current Prices, Revised to August 15, 1902.

The following quotations represent the prices current in the market, as obtainable by the trade, whether from the manufacturers or the jobbers. Small orders and broken packages usually command higher prices, while lower prices are usually given to larger buyers.

The Canadian Customs Duties imposed upon all imported articles enumerated in these lists are published in full in the 1900 Tariff Edition of THE CANADIAN MANUFACTURER. Price 50 cents per copy.

The publishers request the trade to suggest any changes and improvements which might be made in these lists, with a view to rendering quotations as correct and useful as possible.

<p>ADZES.—Duty 30%. \$13 to \$20 per doz.</p> <p>AMMUNITION.—Duty 30%. Caps, Gun. Cartridges, B.B. Cap, Dom., 50 & 5% discount, Can. list. Cartridges, B.P. Cap, Amer., 40% discount, Amer. list. Cartridges, Central Fire, Military and Sporting, Amer., add 5% to list. Cartridges, Central Fire, Military and Sporting, Dom., 15 & 5% discount. Powder, sporting, Can., \$1.50 per keg 25 lbs. " " Eng., " " Amer., \$5.50 per keg 25 lbs. " " blasting, \$2.50 per keg. Primers, Dom., 30% discount. Shells, Brass, Shot, 55% discount. " " Trap, loaded or empty, 25% discount. Shot, duty 35%. Buck, \$6.00 per 100 lb. net. " " Chilled, \$6 per 100 lb. net. " " Common, \$3.50 per 100 lb. net.</p> <p>ANCHORS. Small, 30 to 50 lbs., \$7.00 per 100 lbs). 100 lbs. and larger, \$5.00 per 100 lbs).</p> <p>ANVILS.—Duty 30%. Baker & Co., 12 to 15 cents per lb. Brook's, 10 to 13 cents per lb. Peter Wright's, 12 to 15 cents per lb.</p> <p>AUGERS.—Duty 30%. Eye and Nut Augers, 60% discount.</p> <p>ANES.—Duty 25%. Bench, \$6.50 to \$11 per doz. Broad, \$25.25 to \$40 per doz. Double-bitted, \$11 to \$13 per doz. Handled, \$3.50 to \$12 per doz. Regular, \$6 to \$10 per doz. Ship Carpenters, \$2 to 25 per doz.</p>	<p>AXLES.—Duty 35%. Half patent, short and long beds, 60% discount per set.</p> <p>BAGS.—Duty 20%. Cotton, seamless, \$14 to \$21.50 per 100. Jute, \$7.75 to \$9 per 100.</p> <p>BELLS.—Duty 30%. Church, 35 cents per lb. Cow, 60% discount. Door, \$3.50 to \$12 per doz. Farm, \$1.75 to \$1.50 each.</p> <p>BELLOWS.—Duty 25%. Blacksmiths', Canadian, 10% discount; Amer., 50% discount. Moulders', \$9.50 to \$15 per doz.</p> <p>BELTING (Leather).—Duty 20%. Amer. Hoyt's, regular, 35% discount. Canadian, 55% discount.</p> <p>BELTING (Rubber).—Duty 20%. 50 to 60% discount.</p> <p>BITS.—Duty 30%. Countersink, \$1.50 per doz. Gimlet, U.S., \$1 per doz. Reamer, \$1.50 per doz.</p> <p>BOLTS.—Duty 1 cent lb., & 25%. Bolt Ends, 62% CARRIAGE, 50 to 55, Coach Screws, 66% Elevator Bolts, 50% Machine, 50 and 55, Plow, 60% Shaft, 45% Sink, 50% Sleigh Shoe, 72% Stove, 60% Tiro, 55% discount.</p> <p>BOOT CAULKS.—Duty 20%. Small or Medium, ball, \$1.25 per M. Heel, \$1.50 per M.</p> <p>BOOT HEELS or Lifts (Leather).—Duty 25%. Large Size, \$1.15 doz. pairs. Medium Size, \$1.00 doz. pairs.</p>	<p>BOOT HEELS (Rubber).—Duty 35%. Sizes 6 to 11 (Men's), \$3.50 doz. pairs. Sizes 4 to 5 (Boys'), \$3.35 doz. pairs. Sizes 0 to 3 (Women's), \$3.25 doz. pair.</p> <p>BOOT SOLES (Leather).—Duty 25%. Heavy, \$3.60 doz. pairs. Medium, \$2.90</p> <p>BRACES AND BITS (Carpenters).—Duty 30%. Barber's best, 70 and 10% discount. Spofford's, 50 and 5% discount. " " Improved, 50 and 5% discount.</p> <p>BRICK (Fire).—Duty 20%. Circular, \$35 per M. Square, \$30 per M.</p> <p>BUCKLES.—Duty 30%. Double Grip Trace, three loop, tinned and japanned, put up a dozen in a box, 1 1/2, 55 cents per doz.; 1 1/4, 65 cents per doz. Harness, japanned or tinned, 12 cents per lb. Shoe, japanned or tinned, 12 cents per lb.</p> <p>BUTTS.—Duty 30%. Cast Butts, 60% discount. Loose Pin, Bronze, 60 cents to \$2 per pair. Loose Pin, B. Bronze, 30 cents to \$1 per pair. Loose Pin, wrought, 50% discount. Wrought Brass, 50 " " Wrought Iron, 60 " "</p> <p>CANT DOGS.—Duty 30%. \$10 per doz.</p> <p>CASTINGS (Iron).—Duty 30%. CARRIAGE, in 5 ton lots, 5 cents per lb. " " 3 " " 51 " " " " 1 " " 51 " " " " 1 " " 51 " " " " 1 " " 51 " "</p>
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Zanzibar Paints Made in all Colors

<p>Rust Proof. Decay Proof. Fire Proof.</p> <p>Absolutely will not Blister, Peel Off or Chalk.</p>	<p>FOR</p> <p>Bridges, Roofs, Factory Buildings, Structural Iron Work, Warehouses, Etc.</p>	<p>USE</p> <p>Zanzibar Crucible Black For Smoke Stacks, Boilers, Steam Pipes Furnace Cupolas, Etc.</p> <p>Extraordinary High Fire Test. Elastic and Durable.</p>
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Manufactured by

THE ZANZIBAR PAINT CO., Limited, TORONTO, CANADA.



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.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

CASTINGS (Brass)—Duty 20%.
21 to 25 cents per lb.

CASTINGS (Phosphor Bronze)—Duty 20%.
25 cents per lb.

CASTORS—Duty 30%.
Bed, 55% discount.
Plate, 55
Truck, Payson's, 60% discount.

CEMENT—Duty 12% cents per 100 lbs.
Belgian, Portland, \$2.50 to \$2.75.
Canadian, hydraulic, \$1.33 to \$1.60.
Canadian, Portland:
Hathbun's, "Star," \$2.35 to \$2.75.
"Beaver," \$2.10 to \$2.50.
"Ensign," \$1.90 to \$2.30.
The smaller figures represent car load lots, and the larger less than car loads, f.o.b., Toronto.
English, Portland, \$3.

CHALK.
Carpenters', colored, 45 to 75 cents per gross.
Crayon, 14 to 18 cents per gross.
Red, 5 to 6 cents per lb.
White Lump, 60 to 65 cents per 100 lbs.

CHAIN—Duty 5%.
Brass, Jack, 30% discount.
Iron, Jack, 25% discount.
Safety, 55

CHISELS—Duty 30%.
Calking, Socket, Framing and Firmer.
P. S. & W. Extra, 60, 10 & 5% discount.
Wormock's, 70% discount.

CLEAVISES—Duty 30%.
Screw, \$2.50 per doz.

CORD—Duty 25%.
Sash, Silver Lake (A), 50 cents per lb. (B),
cents per lb.
Baltic, 25 cents per lb.
Hercules, 30 cents per lb.

COTTON DUCK—Duty 22%.
36 in. wide, 35 cents per yd.
48 in. wide, 45 cents per yd.
60 in. wide, 57 cents per yd.

CROW BARS—Duty 30%.
5 cents per lb.

CRUCIBLES.
Dixon's, 7 cents per number.

DRILLS—Duty 25%.
Blacksmiths' \$6 to \$15 each.
Jardine's, \$7.50 to \$30 each.

DYNAMITE.
30 to 50 cents per lb.

EMERY.
Coarse, 5 cents per lb. Fine, 7 cents per lb.
Emery Cloth.—Duty 25%. Beader & Adamson,
40% discount. Emery Bones.—Duty 25%.
\$3 to \$5 per doz. Emery Steels.—Duty 25%.
\$2 per doz. Emery Wheels.—Duty 25%. 65%
discount.

FAUCETS—Duty 30%.
Brass, \$2.50 to \$5 per doz.
Wood, 60c. to \$1.00 per doz.

FENCING.
Barb Wire, \$3.00 per 100 lbs.

FENCING (Wire)—Duty 15%.
Galvanized, barb, f.o.b. Toronto, \$3.05.
Galvanized, plain twist, f.o.b. Toronto, \$3.05.
Mesh, 54x10, 30 rod rolls 55% discount, Can. list.
" 4 x 8, 20 " 50 & 5% " "
" 3 x 6, 20 " 55 & 5% " "

FERRULES—Duty 30%.
Tool handle, 5c. & 6c. per lb.

FILES—Duty 30%.
Black Diamond, 50 and 10% discount.
Globe, 70% discount.
Grobet, net.
Jowitz's, 25% discount.
Nicholson, 50 & 10% discount.
Stubbs', 15% discount.

FITTINGS (Pipe)—Duty 30%.
Flashing, 55% discount.
Cast Iron, 55% discount.
Cocks, 60
Elbows, tees, crosses, couplings, lock nuts, re-
turn bends, 50% discount.
Flanges, 55% discount. Nipples, 55%. Plugs, 55%.
Unions, 55%. Wrought Iron, 50% discount.

FLUE SCRAPER—Duty 30%.
Engineers' Favorite, 40% discount.

FUSE.
Blasting. Single tape, \$2.75 per M ft.
Double tape, \$5 per M ft.

GASKETS—Duty 35%.
Rubber Insertion, 60 cents lb.

GAUGE GLASSES—Duty 30%.
Water, 25% discount.

GAUGES—Duty 30%.
Steam, 50% discount.

GLASS—Duty 20%. (Window).

GLASS LAMP CHIMNEYS—Duty 30%.
Common Crimp, per doz. 0.43 cents.
" A, 45 " "
" B, 65 " "
" C, 50 " "
" Lead Glass, " B, 75 " "

FRUIT JARS—Duty 30%.
Standard pints, \$7.25 per gross.
" quarts, \$7.75 per gross.
" half gal., \$10.00 per gross.
Imperial pints, \$7.75 per gross.
" quarts, \$8.75 per gross.
" half gal., \$12.00 per gross.

GLUE—Duty 25%.
Cabinet, sheet, 12 to 13 cents per lb.
Common, \$4 to 9 cents per lb.
Gelatin, 25 to 30 cents per lb.
Strip, 18 to 20 cents per lb.
White, extra, 18 to 20 cents per lb.

GOVERNORS—Duty 25%.
Gardiners', 25% discount.

GRANITEWARE—Duty 35%.
First, 50% discount.

GRINDSTONES—Duty 25%.
Large, \$1.75 per 100 lbs.
Mounted, \$3 to \$3.50 each.
Small, \$1.50 per 100 lbs.

HALTERS—Duty 30%.
Leather, 1 in. strap, \$3.57 to \$4 per doz.
Leather, 1 1/2 in. strap, \$5.15 to \$5.50 per doz.
Rope, 1/2 to 3/4, \$9 per gross.
Rope, 1/2 to 3/4, \$11 per gross.
Web, \$1.87 to \$2.45 per doz.

HAMMERS—Duty 30%.
Blacksmiths', 10 cents per lb.
Carpenters', Madoles, \$6.40 to \$8.75 per doz.
Carpenters', Wormock's, \$4 to \$7.50 per doz.
Machinists', 22 cents per lb.
Sledge, 10 cents per lb.
Tack, 60 cents to \$1.50 per doz.
Tinner's, \$4 to \$6.50 per doz.

HANDLES—Duty 25%.
Axe, \$1.50 to \$2.50 per doz.
Chisel, \$3.50 to \$5 per gross.
Cross-cut saw, \$2 to \$3 per doz.
File, \$2 to \$2.50 per gross.
Hammer, 50 cents to \$2 per doz.
Pick, \$1.50 to \$2.50 per doz.
Plane, \$3.50 per gross.

HANGERS—Duty 30%.
Barn Door, round groove, \$4.50 to \$6.50 per doz.
Parlor door, \$3 to \$6 per set.

HARVEST TOOLS—Duty 25%.
Forks, 50 & 10% discount.
Rakes, 50 & 10
Hoos, etc., 50 & 10 "

HATCHETS—Duty 30%.
Canadian, 40 to 42% discount.

HAY KNIVES—Duty 25%.
50, 10 and 5% discount.

HINGES—Duty 1 cent per lb., & 25%.
Heavy T and strap, 4 in., 61 cents per lb.
" " 5 in., 61 " "
" " 6 in., 6 " "
" " 8 in., 51 " "
" " 10 in., 51 " "
Light T and strap, 65 & 5 off.
Screw hook and hinge, 6 to 12 in., \$1.50 per 100
lbs.; 14 in. up, \$3.50.
Spring, \$12 per gross pairs.

HOOES—Duty 30%.
Brush, \$7.50 to \$9.
Reaping, 50, 10 and 5% discount.
Malleable, wardrobe, \$1.50 to \$2.50 per gross.
Wire, \$1.25 to \$2

HORSE NAILS—Duty 30%.—See Nails

HORSE SHOES—Duty 30%.
Lt. Med. & H., \$3.40 per keg.
Snow, \$3.95 per keg.
Steel, \$3.50 to \$5.25 per keg.
Too weight steel, \$4.15 per keg.

HOSE—Duty 35%.
City Standard, 70% discount.
Phoenix, 60% discount.

INJECTORS—Duty 30%.
Pemberthy, 65% discount.
L. J. C., 65% discount.

IRON—See Metals.

JACKS—Duty 30%.
Lifting, 40% discount.

KNIVES—Duty 30%.
Butcher, \$2 to \$5 per doz.
Pocket, \$1 to \$4 per doz.

KNOBES—Duty 30%.
Door, Bronze, \$7 to \$12 per doz.
" White Porcelain, 90 cents per doz.
" Wood, \$4.50 per doz.

LACING—Duty 15%.
Belt (Raw Hide Cuts), \$1 per lb.
" (Leather Side Cuts), 75 cents per lb.

LADDERS—Duty 25%.
Step, 10 cents per foot.
Itung, 10 cents per foot.

LANTERNS—Duty 30%.
Cold Blast, \$7 per doz.
Dashboard, cold blast, \$9 per doz.

LAWN MOWERS—Duty 35%.
Pennsylvania, 50% discount.
Stearns, 50
Woodruff, 40

LEAD (Bar and Strip)—Duty 25%.—See Metals.

LEAD—Duty 5%.
Red and White, dry.—See Paints.

LINES (Cotton)—Duty 25%.
Chalk, \$2 to \$3.50 per gross.
Wire, clothes, \$2.60 to \$1.50 per M ft.

LOCKS—Duty 30%.
Cupboard, \$1.50 per doz. up.
Desk, \$1.50 per doz. up.
Drawer, \$1 per doz. up.
Padlocks, 75 cents per doz. up.
Rim and Mortise, Peterboro, \$1.50 per doz. up.

MALLETS—Duty 30%.
Carpenters', Hickory, \$1.25 to \$3.75 per doz.
Caulking, 60 cents to \$2 each.
Lignum Vitae, \$3.85 to \$5 per doz.
Tinsmiths', \$1.25 to \$1.50 per doz.

MEAT CUTTERS—Duty 30%.
Amer., 25 to 30% discount.
German, 15% discount.

METALS.
Ingots.—Aluminum, 35 to 50 cents per lb.
" Antimony, \$19.50 per 100 lbs.
" Copper, " English, " 18 cents per lb.
" " Bar, 25 cents per lb.
" Tin, " Lamb & Flag, " 32 cents per lb.
" " Strata, 32 cents per lb.
" " Bar, 33 cents per lb.
Zinc, 6 to 6 1/2 cents per lb.; sheets, 7
cents per lb.
Babbit Metal (duty 10%).
Lewis, 7 to 10 cents per lb.
Magnolia, 25 cents per lb.
Spooners' Copperine, No. 2, 12 1/2 cents per lb.,
finest, 25 cents per lb.
Syracuse Smelting Works, dynamo, 20 cents
per lb.; special, 25 cents per lb.

Sheets, Black, Duty \$7 per ton.
" 10—\$2.65, 100 lbs.
" 12—\$2.75, " "
" 14—\$3.10, " "

Sheets, Black, Duty 5%.
" 17—\$3.10, 100 lbs.
" 18—\$3.20, " "
" 20—\$3.25, " "
" 22—\$3.30, " "
" 24—\$3.50, " "
" 26—\$3.75, " "
" 28—\$1.60, " "

Sheets, Tinned—7 1/2 cents per lb., Base price.
Sheets, Galvanized Iron.
" 17—\$3.80 per 100 lbs.
" 18—\$3.90 " "
" 20—\$3.90 " "
" 22 to 24—\$4.10 per 100 lb.
" 18 to 24—\$4.50 " "
" 26—\$1.25 per 100 lb.
" 28—\$1.50 " "
" 16—(Queen Head), \$3.90 per 100 lb.
" 18 to 24—(Queen's Head), \$4.15 per 100 lb.
" 26—\$1.40 per 100 lb.
" 28—\$1.65 " "

Sheets, Corrugated—Galv., \$1.50 per 100 sq. ft.
Shafting, Bright Steel.—\$3.50 per 100 lb.
Shingles, Galv. Iron, Ordinary, \$1.90 per sq.
" " Medium, \$5.45 " "
" " Best, \$5.30 " "
" Painted Steel, Ordinary, \$3.15 per sq.
" " Medium, \$3.35 " "
" " Best, \$5.30 " "

Iron (duty \$7 per ton).
" Bar (Common).—\$1.95 @ \$2.05.
" Bar, " Swede. —\$1.50 per 100 lb.
" Refined Bar.—\$2.00 per 100 lb.
Iron, Platinized Sheet (duty 5%).
" " A—\$6.00 per 100.
" " B—\$5.00 " "
" Russia—\$10.00 per 100 lb.
Pig Lead (duty 15%).—Domestic, \$3.75 per 100
lb.; pigs, imported, \$4.25 per 100 lb.; bars, \$5
per 100 lb.; sheets, \$5.50 per 100 lb.
Solder bar (duty 25%).—1st, refined, 18 cents per
lb.; half-and-half, 18 cents per lb.
Iron, Pig (duty \$2.50 per net ton). No. 1 foundry
track, Toronto, \$21, No. 2, \$20.50.
Iron, English Horse Shoe.—\$2.65 per 100 lb.
Iron, Band.—\$2.65 per 100 lb.
Iron, Hoop.—\$2.50 per 100 lb.
Booms, Steel.—\$2.75 per 100 lb.
Rods.—Brass, 21 cents per lb., base price.
Rails, Small Steel.—\$3 per 100 lb.
Steel, Cultivator.—\$4.50 per 100 lb.
" Channel.—\$3 to \$4 per 100 lb.
" " Firths.—12 cents per lb.
" " Crescent.—9 cents per lb.
" Cant Hook.—7 1/2 cents per lb.
" Machinery (in the rough).—\$2.25 per 100 lb.
" Machinery.—\$2.75 per 100 lb.
" Mild.—\$1.90 per 100 lb.
" Sleigh Shoe.—\$1.90 per 100 lb.
" Spring.—\$3.00 per 100.
" Tire.—\$2.65 per lb.
" Too Caulk.—\$2.20 per 100 lb.
Steel, Millster.—12 1/2 cents per lb.
Steel, Hammer.—7 cents per lb.
Steel, Decarbonized Sheet.—7 cents per lb., base
price.
Tank Steel Plate (duty \$7 per ton).—\$16, \$2.00 per
100 lb.
Plate, Steel Boiler (duty 10%).—1 and larger,
\$2.50 per 100 lb.
Steel Boiler Heads (duty 10%).—\$2.00 per 100 lb.
Canadian Plates.—All dull, 52 sheets, \$3
half polished, \$3.10.

NAIL PULLERS—Duty 30%.
German and American, \$1.55 to \$3.50 each.

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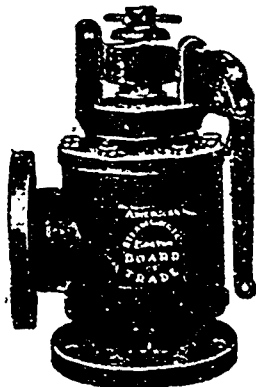
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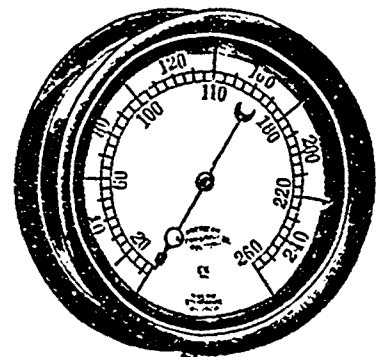
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