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Vol. 45.

TORONTO, JULY 4, 1902.

No. 1

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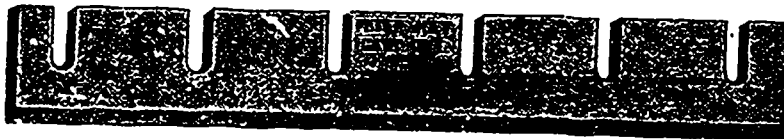
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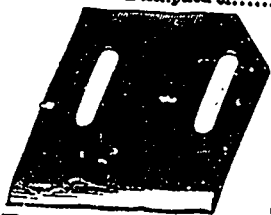
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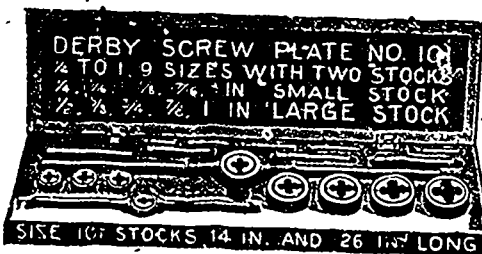


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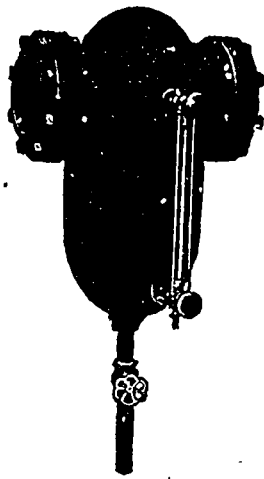
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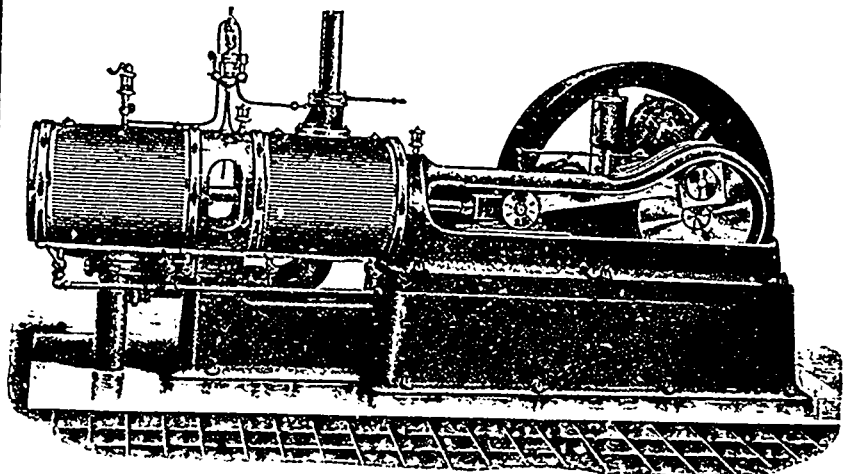
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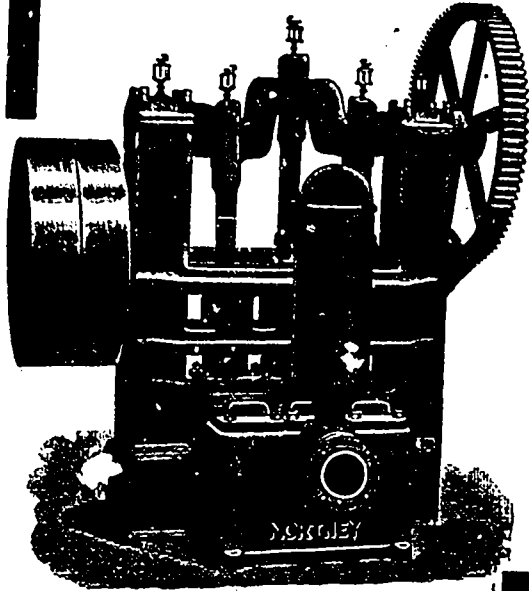
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PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

The Canadian Manufacturer Publishing Co., Limited.

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MESSRS. DAVISON &amp; CO.,

164 Federal Street, - Boston, Mass.  
AGENTS FOR UNITED STATES.

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J. J. CASSIDY, - - - Editor and Manager.

## ALL GIVE AND NO TAKE.

What those who are set on getting a preference in the British market are prepared to give in return has never been clearly stated by any of them. Sir Wilfrid Laurier endeavored to gather the views of some of the members of the delegation from the Boards of Trade. The class which is most interested in the maintenance of duties in Canada is the manufacturers. The Premier, therefore, questioned Mr. Munro, a member of the delegation, and President of the Canadian Manufacturers' Association. The Premier asked how far the interests represented by the Canadian Manufacturers' Association would be inclined to go in reciprocating anything that the British Government would be inclined to do. "Can you, Mr. Munro, give me any information?" the Premier said. Mr. Munro replied:—"Not very definitely, sir. The feeling, I think, prevails pretty generally that if there was a higher tariff we should thereby be able to give a much larger preference to Britain."

We commend this reply to those who are sincerely desirous of making some return to the mother country if she takes the revolutionary step of favoring colonial imports as against foreign imports. The meaning of Mr. Munro's reply is that he would increase the present duties, and then increase the rebate allowed on British goods from 33 1-3 per cent., which it is now, to 50 per cent., or, in other words, that while there would be a juggle in the tariff, the Britisher desirous of selling his goods in this country would be virtually no nearer the mark. If we added 16 2-3 per cent. to all the items of the tariff, and then took off 50 per cent., the English manufacturer would be not a bit better off than he is now. What would be thought of us if we made a hocus-pocus offer of this kind? The fact is that many who are making a great deal of noise about preferential trade, and are trying to persuade themselves that they are more than commonly desirous of strengthening the regard that exists between the mother land and her colonies are in reality determined that British goods shall get no easier entrance to Canada than they have now.—The Toronto Globe.

Sir Wilfrid Laurier questioned Mr. Munro how far the interests represented by Canadian manufacturers would be inclined to go in reciprocating anything that Great Britain might be inclined to do in the way of taking a "revolutionary step" in favor of colonial imports against foreign imports, but he had evidently lost sight of the fact that Canada is already giving a rebate of one-third off the duties imposed under the general tariff in favor of British goods. How much more would Great Britain desire? Canada imposes a duty upon imports because the amount derived therefrom is necessary for meeting the requirements of the country; and, for love of Great Britain, we have already reduced the duty on goods coming from that country. This reduction is proving to be the ruination of our Canadian textile industries, and it is

## The Canadian Manufacturer

Reaches all the Blast Furnaces, Iron and Steel Works, Rolling Mills, Manufacturers of Iron and Wood-Working Machinery, Steam Engines and Boilers, Pumping and Mining Machinery, Electric Machinery and Appliances, Machinery Dealers and Steam Fitters' Supplies, all Hardware Dealers, Cotton, Woolen, Knitting and Yarn Mills, Pulp and Paper Mills, etc., in Canada.

quite fair to enquire why, in our love for British textile manufacturers, we should destroy our Canadian textile industries. Is it necessary that Canadian capital should be sacrificed, Canadian mills closed, and Canadian labor be deprived of employment to the end that British interests should prosper? If a further sacrifice is required why not at once place British textile goods on the free list?

As we understand it, Mr. Munro's argument is that the tariff as it now is is too low—that it sacrifices important Canadian manufacturing industries; that in most lines other than textiles, it does not benefit Great Britain, but induces and encourages importations from other countries to the great detriment of similar Canadian industries; that in justice to these latter the tariff should be increased, and that if this were done further concessions could be made to British goods, the result of which would preserve the present status as to them. If our present concessions to Great Britain indicate the extent to which we can possibly go; and if we observe those conditions under any changes of the tariff that might be made, what more could Great Britain ask?

The Globe advances the idea that Great Britain can never entertain the idea of imposing duties upon imports from foreign countries, even if by so doing the bonds of Empire might be greatly strengthened. She is quite willing that Canada should extend a large and valuable preference in her favor, but reciprocity in that direction is entirely out of the question.

## IRON AND STEEL IN CANADA.

Mr. George Johnson, Dominion Statistician, in the Statistical Year Book of Canada for 1901, gives some exceedingly interesting facts regarding the iron and steel industry in this country, from which we obtain most of the facts here alluded to. Those which relate to the imports from Great Britain and the United States possess much interest in that they show that dutiable imports from Great Britain pay only two thirds the duty imposed upon imports from the United States, and that the volume of trade with the mother country is very much less than with our American neighbor.

The iron ores of the Dominion have a wide range, both geographically and geologically. From Vancouver Island in the west to Cape Breton Island in the east they occur at varied intervals. Sir William Fairbairn, in "Iron, its History, Properties and Processes of Manufacture," says: "In the Mineral and Geological Department of the Exhibition of 1862 were exhibited striking specimens of iron ore from the colon-

ios, among which was the remarkable collection from Canada, consisting of oxide, red hematite and bog ores. The thickness of some of the beds from which the specimens were taken is worthy of notice. In Nova Scotia some of the richest ores yet discovered occur in boundless abundance. The iron manufactured from them is of the very best quality, and is equal to the finest Swedish metal." In the same province the iron ore, the coal and the flux lie in close contiguity to each other, and are within a comparatively short distance from fine ship harbors, making that province one of the best regions in the world for the seat of iron and steel ship building on a large scale.

Magnetic ores occur abundantly throughout several counties of Ontario. An important deposit in the township of South Crosby has been worked for years. A very fine and valuable ore exists as a large deposit in North Crosby. The contiguous townships of Madoc, Marmora, Belmont and Seymour contain several beds of magnetic iron ore. In the region west of Lake Superior, the province of Ontario has a country rich in iron ore. In the province of Quebec there are large and valuable deposits of magnetic ore. In the county of Beauce a bed of granular iron ore, about two-thirds magnetic with a vein of 45 feet wide, occurs in serpentine.

Hematite iron ores are found in all parts of Canada. One of the most valuable deposits of Quebec province is near Hull—opposite Ottawa—a specular ore, assaying from 64 to 68 per cent. of metallic iron. In New Brunswick large deposits of hematite ore are found near Woodstock. Limonite and bog ores are widely distributed.

Chromic iron.—During the year 1895 large deposits of chromic iron were found in Coleraine, province of Quebec. The ore averaged over 50 per cent. of metal, is easily mined and finds a ready market in the United States.

The Dominion Parliament in 1883, authorized the payment of a bounty of \$1.50 a ton upon all pig-iron manufactured in Canada. This bounty was continued until July 1, 1899, when the rate was made \$1 a ton. A further change was made on July 1, 1892, when the rate was increased to \$2 a ton until July 1, 1897.

In the session of 1894 an Act was passed providing that the Governor-in-Council may authorize the payment of a bounty of \$2 per ton on all pig iron made in Canada from Canadian ore, or a bounty of \$2 per ton on all puddled bars made in Canada from Canadian pig iron made from Canadian ore, and a bounty of \$2 per ton on all steel billets manufactured in Canada from Canadian pig iron, and such other ingredients as are necessary and usual in the manufacture of steel billets. These bounties were applicable till March 26, 1899, in the case of furnaces in operation on March 27, 1894, and in the case of furnaces commencing operations subsequent to that date, but before March 27, 1899, for five years from the date of commencing.

This Act was repealed by Chap. 6 of the Acts of 1897 which authorized the Governor General to give (1) a bounty of \$3 per ton on steel ingots manufactured from ingredients of which not less than 50 per cent. of their weight consists of pig iron made in Canada, (2) a bounty of \$3 per ton on puddled iron bars made from Canadian made pig iron, (3) a bounty on pig iron manufactured from ore, of \$3 per ton on the proportion produced from Canadian ore and \$2 on the proportion produced from foreign ore.

An Act of 1898 provides that the provisions of the Act are to be held to have come into force on April 23, 1897. An Act of 1899 provides that these bounties shall continue to be paid to June 30, 1907, at a yearly diminishing rate from 1902; 90

per cent. of the bounties to be paid in 1902-3; 75 per cent. in 1903-4; 55 per cent. in 1904-5; 35 per cent. in 1905-6 and 20 per cent. in 1906-7.

The Legislature of Ontario passed an Act in the session of 1894 appropriating the sum of \$125,000 to be known as the Iron Mining Fund. Out of this fund the treasurer is authorized to pay \$1 per ton of pig metal product of iron ores raised or mined and smelted in the province of Ontario, the amount so paid not to exceed in any one year \$25,000. Under this Act the sum of \$59,741 has been earned to October 31, 1901.

The annual consumption of iron and steel and their products in Canada is between 800,000 tons and 820,000 tons.

The active works in Canada in 1901, were:

1. The Nova Scotia Steel Co., blast furnace at Ferrona, N.S.
2. The Hamilton Steel & Iron Co., Hamilton, Ont.
3. The Canada Iron Furnace Co., Midland, Ont.
4. The Dominion Iron & Steel Co., furnaces at Sydney, N.S.
5. The Deseronto Iron Co., Deseronto, Ont.
6. The Canada Iron Furnace Co., Radnor, Que.
7. The Drummondville Furnaces, Drummondville, Que.,

The last three are charcoal furnaces.

The annual aggregate capacity of all the completed and unfinished furnaces is nearly 1,100,000 gross tons. The Lake Superior Power Co., are building at Sault Ste. Marie, Ont., a very extensive plant for the manufacture of pig iron, steel and steel rails, the latter the first established in Canada.

The united investment at Sydney, Hamilton, Deseronto, Midland, New Glasgow, Radnor, Drummondville and Ferrona amounts to \$24,500,000, which will be increased to \$35,000,000, by new plant now building. Within five or six years the total investment will aggregate, approximately, \$50,000,000.

The production of pig iron in the Dominion of Canada, as ascertained from the manufacturers by circular, amounted in the calendar year 1901 to 244,978 gross tons, as compared with 86,900 tons in 1900; 94,077 tons in 1899 and 68,755 tons in 1898; 53,796 tons in 1897; 60,030 tons in 1896; and 37,829 tons in 1895. Of the production last year 228,893 tons were made with coke, and 16,085 tons with charcoal. The production of Bessemer pig iron included above amounted to 29,577 tons. Neither spiegal nor ferro-manganese was made.

On December 31, 1901, the unsold stocks of pig iron, in Canada amounted to 59,472 gross tons, as compared with 12,465 tons at the close of 1900. Of the unsold iron on hand on December 31, 1901, 54,572 tons were coke pig iron and 4,900 tons were charcoal pig iron. On December 31, 1901, there were 12 completed furnaces in Canada and four furnaces were in course of construction. Of the completed furnaces, seven were in blast and five were idle on the date named. During 1901, four furnaces were erected by the Dominion Iron & Steel Co., at Sydney, Cape Breton, Nova Scotia, three of which were blown in in 1901. The fourth furnace was put in blast in January 1902. Of the 12 completed furnaces, seven were equipped to use coke for fuel, three charcoal, and two charcoal and coke.

The following table gives first, the annual production of pig iron in Canada, ended with June 30, in the years indicated, showing that made from foreign ore and domestic ore respectively; second, the importation of pig, kentledge and cast scrap iron for home consumption, the three columns showing the total consumption; and third, the percentage of home manufactured pig to the total consumption:

Year.	Foreign Ore, net tons.	Domestic Ore, net tons.	Imports, net tons.	Total Consumption, net tons.	Per Cent.
1898.....	53,463	19,576	40,995	114,035	63.1
1899.....	46,186	31,861	48,594	126,641	61.6
1900.....	62,221	34,618	65,330	167,169	60.9
1901.....	50,581	99,758	40,282	190,621	78.9

Previous to 1898 no foreign ore was used in the manufacture of pig iron in Canada.

Following are the amounts of bounty which have been paid by the Dominion Government upon the production of pig iron in Canada :

Fiscal Year.	Amount.	Fiscal Year.	Amount.
1884.....	\$44,090	1893.....	\$93,896
1885.....	38,655	1894.....	125,044
1886.....	39,270	1895.....	63,384
1887.....	59,576	1896.....	104,105
1888.....	33,314	1897.....	66,509
1889.....	37,234	1898.....	165,654
1890.....	25,697	1899.....	187,954
1891.....	20,153	1900.....	238,296
1892.....	30,294	1901.....	351,259

From 1884 to 1889, both years included, the bounty paid was at the rate of \$1.50 per net ton ; from 1890 to 1892, at the rate of \$1.00 per ton ; from 1893 to 1897 at the rate of \$2.00 per ton, and from 1898 to 1901 the rate paid has been \$3.00 per ton on iron made from Canadian ore, and \$2.00 per ton on iron made from foreign ore.

The following table shows the quantities and amount of bounties paid by the Dominion Government on steel ingots, steel billets and puddled bars in the years indicated :

Fiscal Year.	Steel Ingots.		Steel Billets.		Puddled Bars.	
	Net tons.	Bounty.	Net tons.	Bounty.	Net tons.	Bounty.
1896... ..			29,749	\$59,498	2,806	\$5,611
1897... ..			8,683	17,366	1,509	3,019
1898... 18,137	\$54,412	*4,912	*13,042	2,615	7,706	
1899... 24,881	74,644	†	†	5,837	17,511	
1900... 21,453	64,360	†	†	3,374	10,121	
1901... 33,352	100,058	†	†	5,568	16,703	

\*Made in 1896-97 and bounty paid in 1897-98.

†No bounty paid on steel billets after June 30, 1897.

The following shows the value of the exports of iron and steel goods manufactured in Canada in the fiscal years named, which includes pig and scrap iron, stoves, castings, rolled iron and hardware, steel and manufactures of, sewing machines and machinery :

1898.....	\$606,082
1899.....	706,411
1900.....	1,425,163
1901.....	1,432,961

The value of the imports of iron and steel, and manufactures thereof, into Canada, dutiable and free, in the fiscal years named, was as follows :

	Dutiable.	Free.	Total.
1898.....	\$12,691,772	\$3,864,989	\$16,556,761
1899.....	15,621,346	4,147,379	19,768,725
1900.....	22,169,913	7,130,160	29,300,073
1901.....	18,738,135	8,042,323	26,780,458

The above does not include the value of imports of ships' boilers, fish hooks, printing presses, surgical and dental instruments, and tin plates and sheets.

The imports of iron and steel into Canada may be divided as follows :

1. Interchangeable mechanism, the manufacture of which requires the highest skill and workmanship, in which is included sewing machines, fire arms, locomotive engines and agricultural implements.
2. Hardware, cutlery and edged tools.
3. Machinery.
4. Castings and forgings.
5. Rails and railway supplies.
6. Other forms of iron and steel.
7. Pig Iron.

Classes 6 and 7 include, first, pig iron, the basis of all the iron and steel industries, and second, other forms of iron and steel, in the making of which skilled labor enters to a limited

extent. They constitute the raw materials entering into the manufacture of articles of iron and steel by Canadian workmen, and are, in addition to pig iron, bar iron rolled or hammered, boiler plates, steel bloom ends, rolled iron for horseshoe nails, steel for skates, files and saws, wrought scrap iron, etc., and parts of articles in other respects manufactured in Canada.

Taking the above divisions and applying them to our imports from Great Britain and the United States during the years 1899, 1900 and 1901, we obtain the following results :

	1899.	1900.	1901.
<b>1. Interchangeable Mechanism.</b>			
Imports, Great Britain.....	\$34,009	\$59,765	\$87,893
" United States.....	2,214,861	2,731,592	2,938,480
Proportion, Great Britain....	1.5 p.c.	2.11 p.c.	2.86 p.c.
" United States....	98.5 p.c.	96.62 p.c.	95.46 p.c.
<b>2. Hardware, etc.:</b>			
Imports, Great Britain.....	\$591,647	\$606,292	\$611,088
" United States.....	2,676,566	3,263,574	2,810,317
Proportion, Great Britain....	18.1 p.c.	14.85 p.c.	16.92 p.c.
" United States....	81.9 p.c.	79.92 p.c.	77.82 p.c.
<b>3. Machinery :</b>			
Imports, Great Britain.....	\$466,567	\$712,046	\$576,300
" United States.....	2,763,700	4,234,737	5,311,612
Proportion, Great Britain....	14.4 p.c.	14.3 p.c.	9.72 p.c.
" United States....	85.6 p.c.	85.06 p.c.	89.54 p.c.
<b>4. Castings, etc.:</b>			
Imports, Great Britain.....	\$15,543	\$14,058	\$17,037
" United States.....	600,375	823,849	656,080
Proportion, Great Britain....	2.5 p.c.	1.68 p.c.	2.52 p.c.
" United States....	97.5 p.c.	98.28 p.c.	97.23 p.c.
<b>5. Railway supplies :</b>			
Imports, Great Britain.....	\$126,578	\$914,820	\$446,664
" United States.....	1,826,794	2,292,751	3,169,192
Proportion, Great Britain....	6.5 p.c.	27.92 p.c.	11.99 p.c.
" United States....	93.5 p.c.	69.99 p.c.	85.06 p.c.
<b>6. Other forms of iron and steel :</b>			
Imports, Great Britain....	\$2,371,709	\$4,801,522	\$2,919,042
" United States.....	6,514,224	9,133,856	7,561,806
Proportion, Great Britain....	26.7 p.c.	33.77 p.c.	27.12 p.c.
" United States....	73.3 p.c.	64.23 p.c.	70.26 p.c.
<b>7. Pig Iron :</b>			
Imports, Great Britain.....	\$38,005	\$235,670	\$121,180
" United States.....	456,372	732,073	478,776
Proportion, Great Britain....	8.0 p.c.	23.55 p.c.	19.99 p.c.
" United States....	92.0 p.c.	73.14 p.c.	78.98 p.c.

### IMPERIAL COMMERCIAL FEDERATION.

The British Trade Journal thinks that Imperial commercial federation is in sight. Speaking of the presence in London during the Coronation functions of the Prime Ministers of the self-governing Colonies, and the discussions to be had with Lord Salisbury and the chiefs of the British Government in which the subject of Imperial commercial federation will occupy so important a place, our contemporary points to the fact that the inauguration of the Canadian preferential tariff was a precursor of that which now seems to be inevitable. Australia and New Zealand, it says, having expressed their willingness to adopt a similar principle, one of the questions at the Conference will be, How can the Mother Country recognize the goodwill thus shown by her daughter lands? Although it will be found that the proportion which falls to the United Kingdom of the trade of nearly every British colony is many times greater than the share which falls to any other country, the English people are not satisfied that they are obtaining a fair return for the enormous sums spent for the defence of the Colonies. The competition of foreigners has led to a diminution of profits; and it is this stress of competition which promises to be modified by preferential tariff treatment. On

the other hand, Colonial producers meet with equally severe competition in the home country in raw materials and food products; and they naturally argue that as they assist the Mother Country by preferential tariff treatment, they in their turn should obtain a quid pro quo in the form of differential duties in the United Kingdom. Among people generally in this country there is a feeling that the Colonies are of such importance to the United Kingdom that some discrimination in favor of their trade might well be made by the English Government. If the Colonies are a part of this country, being, so to speak, only so many portions of its land situated at a distance, it is desirable that they be treated as a component part. From an agricultural and man-raising view, Canada, Australia, New Zealand and South Africa have, to a large extent, taken the place of the populous agricultural districts which used to exist in England and Scotland. Our farms and homesteads and our rural population are in those Colonies; our great towns and manufactures are in England and Scotland. What can be more natural, therefore, than an interchange of commodities between them on terms such as those which would exist between London and Yorkshire?

To provide a differential set of duties, it is argued, would increase the price of the necessaries of life and restrict our market for cheap raw material; and it is urged on this account, that to discriminate in favor of the Colonies would be tantamount to industrial suicide. Even Lord Brassey, in the lecture on Imperial Trade, recently delivered under the auspices of the Australasian Chamber of Commerce in London adopted this one-sided argument, though he advocated that the Australasian Colonies might follow the example of Canada by adopting a preferential tariff in favor of the Mother Country. They should, however, he seemed to think, rest satisfied with the present arrangement of duties in the United Kingdom. He pointed to the expansion of Canadian exports as the result of granting exceptionally good terms to British goods in Canada. The statistics of Australian trade, he urged, do not point to preferential tariffs as needed in the interests of the Mother Country—a statement which is difficult to reconcile with the wish that the Canadian example might be followed elsewhere. No one can deny the existence of a widespread feeling throughout Australasia that some distinction should be made in the trade relations between the Mother Country and the Colonies. The Colonies, on their part, see their way clear to adopt duties more favorable to British shipping and British manufactured goods than to those of foreign countries.

Such a system would be an outward and visible sign, more appreciated than any oratory, that the Mother Country is prepared to accord the same favors commercially to the Colonies as the Colonies have accorded to the United Kingdom. The changes in the duties would encourage the colonial producer to develop the Colonies, and ensure better markets than those presented in foreign states. It is one of the advantages of the Colonial trade that it requires a class of goods more akin to those manufactured for use at home, and it is far more steady than foreign trade; there are the same weights and measures and money values, and the community of ideas which comes from racial sympathy. Such a change would not only strengthen materially the position of the Colonies, but also those invisible bonds which bind them to us.

The reasons for the imposition of duties on cereals and flour can now be seen. Apart from a scheme of preferential tariffs, the new duties would be fiscally and politically a puzzle. In connection with such a scheme, however, they

form the corner-stone of the edifice of commercial federation between all parts of the British Empire. About one-sixth of our total importations of wheat, wheat flour and meal, oats, and maize are, as the accompanying table shows, received from British possessions.

#### Imports into the United Kingdom, 1901.

	From Foreign Countries. cwts.	From British Possessions. cwts.
Wheat .....	52,635,700	16,859,010
Flour .....	20,368,440	1,358,100
Oats .....	17,052,600	1,159,800
Maize .....	47,905,900	2,085,600
	137,962,640	21,462,510

A remission of the new duties on these would, therefore, have no appreciable effect on the revenue; nor would it at first have any appreciable effect on prices. But it would show the Colonies that the Mother Country is not irrevocably welded to a fiscal system which they one and all repudiate; and it would be to some extent a recognition of the great services which the Colonies have rendered the Mother Country, and assist them in developing their resources and in paying the interest on the heavy burden of debt which they carry. The remission of the duties on Colonial-grown grain and flour will not benefit, as is generally supposed, Canada alone. It would be, in the case of wheat, quite as important to Australia and New Zealand as to the Dominion. As regards wheatmeal and flour Canada will be almost exclusively the gainer; and so, too, as regards oats and maize. On the other hand, the countries on whose produce the duties would remain would be chiefly the United States, the Argentine, and Russia in the case of wheat; the United States as regards wheatmeal and flour; Russia, Roumania, Turkey and the United States as regards barley; Russia and the United States as regards oats; and the United States, the Argentine, and Roumania as regards maize or India corn. The political results of such an arrangement may ultimately be far-reaching. One of the most important may be the adhesion to the customs union of the United States, which may, perhaps, before long find it advantageous to reduce their tariff on British manufactures that they may stand on the same footing as Canada in the British markets. On the other hand, the manufacturers of the United Kingdom will find improving markets in the Colonies, and that without any falling off in their sales to foreign countries, which have for years purchased only such commodities as coal, machinery, and partly manufactured textiles absolutely necessary to their industries. Of manufactured goods the tendency in those markets is to buy less and less. Canada, New Zealand, and Australia have already given their adhesion to the principle of preferential tariffs for the products of the United Kingdom; and manufacturers now look to the Government to bring about a similar arrangement in the South African markets, where their claims on account of recent sacrifices are even stronger than in other parts of the British possessions.

#### TRADE OF JAMAICA.

Although Jamaica made no decided progress towards prosperity in the year 1900-1, the annual report of the Governor shows that there was no further decline. The total exports were valued at £1,797,076, of which island products amounted to £1,733,523, as against £1,868,079 and £1,797,996 respectively in the previous year. The following table shows the values of the ten principal exports:

	1899-1900.	1900-1901.
Bananas.....	£603,480	£618,636
Sugar.....	195,107	165,941
Coffea.....	142,130	157,485
Rum.....	130,766	152,244
Oranges.....	145,050	115,273
Pimento.....	173,562	110,602
Logwood.....	77,971	98,618
Ginger.....	60,615	66,324
Cocoa.....	60,123	64,438
Cocoanuts.....	54,035	41,345

Imports were valued at a total of £1,652,677, those for home consumption amounting to £1,621,794, a decrease, compared with the previous year, of £111,872. Decreases occurred under all heads of any importance, the principal being in manufactured articles (£97,540, or 10 per cent.). On raw materials the shrinkage was £7,820, or 10 per cent., and on live animals, food, etc., £6,514, or 1 per cent. All kinds of alcoholic beverages, except whisky, show a falling-off, as did bread, biscuit, butter and butter substitutes, corn, provisions, and flour. The decrease in the value of flour by £18,683 was, however, accompanied by an increase in quantity of 4,276 pounds. Salted beef, pork, and fish of all descriptions showed an increase in value by about £15,000, due generally to higher prices. Condensed milk and rice rose in value by £6,708 and £3,269 respectively. The steady increase for many years past in importations of condensed milk in a country so favorable for milch cattle is not a satisfactory sign. Importations of chemical and natural manures appreciably increased, the latter totalling £6,628. Among the manufactured articles, the greatest decreases in textiles are on wearing apparel and slops £12,036, cotton piece goods £20,543, and woolen unmixed £13,990, the last being partially set off by mixed woollens, £10,499. Boots and shoes show a decline of £10,168, and wooden building materials, both lumber and shingles, of £10,593. There has been a very noticeable curtailment in building operations in the island within the last two or three years. The imports of agricultural machinery show a satisfactory increase of £21,318.

#### THE CAPE TOWN EXHIBITION.

The Dominion Department of Agriculture has been notified that the South African, British and Colonial Industrial Exhibition will be held at Cape Town from November, 1903, to February, 1904, under the patronage of Lord Milner. Canada is asked to make a display, and it is almost certain that the invitation will be accepted. The exhibition is to be restricted to the products of Great Britain and the colonies, and it will be an excellent opportunity for Canada to show what she can do. A direct steamship line from Canada to South Africa should be in operation by that time. Associated with Lord Milner in giving eclat to the enterprise are, Prime Minister Sprigg of Cape Colony, and many influential corporations and individuals of Cape Town, also by Lord Strathcona, the Lord Mayors of Manchester and Liverpool, and many important commercial men of Great Britain. The General Manager is announced as A. P. Baker, F.R.C.I., P.O. Box 950, Cape Town, and the English agent is Seymour Grove, Manchester. Speaking of this exhibition the British and South African Export Gazette says:

The scheme for holding a British and Colonial Exhibition at Cape Town for a period of four months from November, 1903, to February, 1904, is, we are happy to learn, making definite progress. The objections which were at first raised to such a scheme, if it were not generally supported both here and in South Africa, have now been removed, for the patronage of His Excellency Lord Milner, the High Commissioner for South Africa, has been secured, while other distinguished men and

public bodies whose support has been enlisted are the Right Hon. Sir J. Gordon Sprigg, Prime Minister of Cape Colony; the Mayor and Corporation of Cape Town; the Chamber of Commerce of Cape Town; Sir Frederick Young, vice-President of the Royal Colonial Institute, and others. The reception accorded to the project by the mercantile community in South Africa is evidenced by, in the first place, the support of the Cape Town Chamber, while similar support, or promises of support, have been received from other Chambers and merchants in the main cities of the several South African Colonies. A like cordial reception has, we understand, been met with in this country and even in our most distant Colonies, the fact of the Exhibition being confined to exhibits from the British Empire proving one of its chief attractions. Indeed, the view of South African merchants has been expressed that it is only reasonable and fair that an industrial display which will inevitably tend to increase the commercial relations between the South African Colonies and the various participants should be confined to those who had come to their help in the recent desperate struggle for their existence as a British community.

Although adherence to the objects of the Exhibition have poured in in vast numbers and from every corner of the Empire, the necessary labors for so large an undertaking as this, on a completely successful scale, have not been found possible of being advanced so far as to at present print the prospectus and the plans, but it is expected they will be issued shortly. It has, however, been arranged that at a later date the Chamber of Commerce and the Town Council of Cape Town, representing the leading merchants and business men at the Cape, shall appoint an Advisory Board, in order to forward the arrangements and interest of manufacturers participating in the Exhibition. This step is very necessary, as, although the entertainment, social and show parts proper of all exhibitions are usually very essential and profitable, the main object of this Exhibition more particularly is to bring the machinery and industrial products generally of Great Britain and the Empire before the South African consuming public.

The site upon which the Exhibition is to be held has already been chosen. It adjoins the Botanical Gardens and is within five minutes walk of the Town Hall. The contract for the construction of the necessary buildings has also already been signed. The promoter and general manager of the Exhibition, Mr. A. P. Baker, who is now in England, having just completed a six months' tour on behalf of the Exhibition throughout the South African Colonies, returns to South Africa in November, when the preliminary works will have made considerable progress. The number of applications for space from British and Colonial exhibitors is already large, and probably before his return the whole of the available space will have been applied for. Manufacturers, therefore, desirous of participating in a scheme which offers so unique an opportunity of bringing their products and wares before the South African public should hasten their applications for space. Personally, and in view of the inroads made by foreign competitors in the South African market by utilizing such local exhibitions and agricultural shows held periodically in the sub-Continent, we are loth to see the word "limited" applied in connection with excluding any British or Imperial exhibits, but of course in mundane matters the objectionable word must always find a place.

The time fixed for the holding of the Exhibition is certainly very opportune. The various paralysed industries, and especially those of farming, dairying, wine growing, will then be busy in schemes for a fresh start, and the tangible and visible exhibition of the latest and most up-to-date appliances, tools, mechanism and machinery, cannot but lead to very extensive and profitable dealings, and the opening, doubtless, of new and permanent trade outlets for Imperial manufactures. The general public of South Africa are according the scheme a hearty reception, and public bodies like the Railway Administrations of the Cape Colony and Natal—and doubtless those of the Orange River Colony, the Transvaal and Rhodesia will follow suit—have promised special railway rates and facilities to secure the largest attendance of visitors. Everything, therefore, appears to point to the British and Colonial Industrial Exhibition proving a big success, its actual outcome in the increase of Imperial trade depending, of course, on the proper recognition of their unique opportunity by British and Imperial manufacturers.



## EDITORIAL NOTES.

God save our Gracious King,  
 Long live our Noble King,  
 God save the King.  
 Send him victorious,  
 Happy and glorious,  
 Long to reign over us—  
 God save the King!

\* \* \* \* \*  
 Thy choicest gifts in store  
 On him be pleased to pour—  
 Long may he reign.  
 May he defend our laws  
 And ever give us cause  
 To sing with heart and voice  
 God save the King.

Mr. James M. Swank, general manager of the American Iron and Steel Association, Philadelphia, Pa., has sent us a copy of the Annual Statistical Report of the Association for 1901, which embraces all the leading features of previous reports and also many new features. The tables relating to the production of pig iron in the United States have been greatly extended and now embody many technical details that have never before been published. A careful enquiry has been made concerning the per capita consumption of pig iron in the United States in the decennial periods from 1850 to 1900, and the results of the enquiry are given. The recent rapid development of the iron and steel industries of Canada has justified an exhaustive enquiry into the present statistical position of these industries, and the results of this enquiry occupy several pages. The report closes with a fresh study of the world's production of iron and steel and iron ore and coal in 1899 and 1900, the last two years of the nineteenth century, and with British and German statistics for all these products for 1901. Full statistics are given of Bessemer, open-hearth, crucible, and miscellaneous steel castings, and of the production of tinplates from the beginning of the industry in that country.

From Industrial Canada of August, 1901, page 7 :

As our readers will notice, the present issue is marked by a new edition in the form of a cover. The design for this was chosen from a number submitted to the committee having the conduct of Industrial Canada in charge, and the design of Mr. John Russell, of New York, was awarded the prize of \$50.

From Industrial Canada of June, 1902, page 353 :

We go to press this month with a Canadian cover, Canadian paper, Canadian type, Canadian ink and Canadian ideas.

The design of the cover of Industrial Canada for June, 1902, is identically the same as that of August, 1901, for which a foreigner was paid \$50, all Canadian competitors being ignored. As to the type with which Industrial Canada is printed, there is no type foundry in Canada which produces any such type, nor has there been for ten years or more. Accuracy should be observed when broad claims are being made.

The demand for the imposition of a customs revenue duty on foreign goods competing with British articles seems to be much more popular than most people suppose. Twenty-two petitions, signed by 197,175 persons in all, have been presented to the House of Commons in the last few weeks asking for such a tax—in other words, advocating a return to protection. The gist of the petitions is that if a customs revenue duty were imposed upon foreign goods entering the United Kingdom a great part of the tax would be paid by the foreigner, who at present contributes nothing to the revenue of this country for

the benefit he derives from the use of its markets. It is also pointed out that a revenue duty upon imported goods (many of them luxuries) would furnish the exchequer with a very substantial revenue, and would at the same time give greatly needed assistance to our hard pressed and decaying industries. —The Ironmonger, London, England.

The Montreal, Ottawa and Georgian Bay Canal project has been reported upon favorably by a committee of the Canadian Parliament. The estimated cost is \$80,000,000, and time of completion 1910. As described in the report submitted by the committee, the surface water in Georgian Bay is about 564 feet above the St. Lawrence at Montreal. It is proposed to raise the water in Lake Nipissing 66 feet above Georgian Bay, making a total fall of 630 feet from the summit level. The aggregate lift of all the locks will be about 650 feet. Three locks would be used to reach Lake Nipissing from the Bay, and the summit level will be sixty-nine miles long, through a chain of connected lakes. From the east end of this level to the junction of the Mattawa with the Ottawa, there will be a fall of 137 feet, and five locks in the 14½ miles. From the junction named to Fort William the fall is 145 feet in 81 miles, requiring seven locks. From Fort William to the head of Lake des Chats, 56 miles, the fall is 115 feet and five locks are required. To Lake Deschenes, 47 miles, there is a fall of 55 feet, and two locks at the Chats Falls, then to the level river below Ottawa there is a fall of 72 feet, requiring four locks. In the Greenville canal there is a fall of 41 feet and three locks; in the Carillon canal, 20 feet and one lock; at St. Anne's there will be a lock with a three-foot lift, and in the Lachine canal there is a fall of 45 feet, requiring three locks. The total distance from Georgian Bay to Montreal is 425 miles by this route, of which four miles will be taken up by locks, 40 miles will be canal, 22 feet deep and 100 feet wide on bottom, 74 miles will be in improved river channel, 300 feet wide on bottom, and 307 miles will be in open lake and river suitable for 20-foot navigation without further improvement. George Y. Wisner, M. Am. Soc. C. E., is the engineer making the report, and in this report he shows that the project simply restores old conditions—when the outlet of Lakes Superior, Michigan and Huron was by way of the route proposed to the valley of the Ottawa river. The canal would bring Lake Huron and Georgian Bay ports 400 miles nearer Montreal than by the St. Lawrence.

We have recently been inclined to feel that there is not enough interest taken among Canadians in foreign countries and the markets they afford to Canadian producers. The press of the country is perhaps to blame in not making more of a study of the possibilities that exist abroad. Under the direction of the Government much interest has been awakened in the British market, and we know that of late years there has been a deeper interest taken in the West Indies, and there is some interest springing up also in Australia. This may be just a beginning. Perhaps with the knowledge we are acquiring now-a-days we may be induced as a people to dip more deeply into the matter and broaden ourselves both in the way of general culture and for business purposes. We have been accustomed to cail the Briton insular; but he has until recently taken a deeper interest in the commerce of other countries than even the people of the United States. At least we are led to judge so from the appearance of the papers which he reads, for the representative British papers report more extensively on such things than do American or Canadian papers, and at the same time are less concerned with local gossip. Of course until recently the policy of the United States has been to scorn foreign trade and foster home trade alone, and the same has been true to some extent of Canada. In both cases this course has been found to be a mistake, the reason being simply that it is narrow, and everything narrow is a mistake. Both the United States and Canada to-day are profiting by taking a wider interest in the trade affairs of the great world. We hope that there will be an increase in this tendency in Canada, and we would suggest that the press of the country commence to take a deeper interest in such matters and school the Canadian public up to it.—The Maritime Merchant.

## CAPTAINS OF INDUSTRY.

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

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

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

The Winnipeg Elevator Co., has erected a new 27,000 bushel elevator at Gainesboro, N.W.T.

The T. H. Taylor Co., Chatham, Ont., is erecting a new flour mill there, with a capacity of 1,000 barrels daily.

The Stratford Mill Building Co., Stratford, Ont., has recently taken contracts for a 150 barrel mill at Cardston, N.W.T., for the Farmer's Electric & Water Power Co., 125 barrel mill at Collingwood, Ont., for Stewart & Co., and 125 barrel mill at Alexander, Ont., for the Tavistock Milling Co.

The Winnipeg Elevator Co., is erecting a 40,000 bushel elevator at Milestone, N.W.T.

The Canadian Northern Railway Co., will build a 1,700,000 bushel elevator at Port Arthur, Ont.

The Lake of the Woods Milling Co., will erect an elevator at Yellow Grass, N.W.T.

The Parkinson Cereal Co., Thornbury, Ont., has been organized and will operate the oatmeal mills formerly owned by W. N. Andrews & Co., of that place.

The Canadian Pacific Railway Co., have decided to locate their new cleaning elevator at Port Arthur, Ont.

A. B. Ellis, Minneapolis, Minn., and W. S. McLaughlin, will establish six new elevators in the Canadian West this summer, at Whitewood and Sinaluta.

W. J. Lindsay, Brandon, Man., will erect a 35,000 bushel elevator at Beresford, Man.

The citizens of Raymond, N.W.T., will erect a flour mill and elevator at a cost of about \$24,000.

Messrs. Alexander & Law Bros., Brandon, Man., are building a 300 barrel mill and a 50,000 bushel elevator at that place.

The Montreal Silcate Brick Co., Montreal, has been incorporated with a capital stock of \$100,000, to manufacture bricks, etc. The charter members include G. J. Sheppard, John McLean and C. W. Trenholme, all of Montreal.

The Nova Scotia Steel & Coal Co., New Glasgow, N.S., has received an order from the Canadian Pacific Railway Co., for 1,000 steel car axles.

The Dunwich Gas & Oil Co., St. Thomas, Ont., has been incorporated with a capital stock of \$100,000. The provisional directors include F. O. Lawrence, W. R. Jackson and G. T. Kennedy, all of St. Thomas.

The Alpha Paving Co., Toronto, has been incorporated with a capital stock of \$50,000, to construct roadways, pavements, etc. The provisional directors include R. C. LeVesconte, W. J. O'Neil and F. J. Buller, all of Toronto.

The Northern Elevator Co's elevator at Pipestone, Man., was destroyed by fire recently.

The Bracebridge Brilliant Light Mfg. Co., Bracebridge, Ont., has been incorporated with a capital stock of \$20,000, to manufacture Mundy's acetylene gas machines. The provisional directors include W. J. Mundy, Stouffville, Ont.; J. W. Bettes and A. C. Salmon, both of Bracebridge.

The Excelsior Shoe Co., Toronto, has been incorporated with a capital stock of \$50,000, to manufacture boots, shoes, leather, etc. The provisional directors include H. B. McCarthy, John Stewart and C. E. Culbertson, all of Toronto.

Trussler Bros., Limited, Trout Creek, Ont., have been incorporated with a capital stock of \$500,000, to manufacture lumber, laths, shingles, pulpwood, sashes, doors, etc. The provisional directors include James Trussler, Gilbert Trussler and Morley Myers, all of Trout Creek.

The Tudhope Carriage Co., Orillia, Ont., will erect two brick factory buildings, one 150x50 feet, and the other 110x70 feet.

The Roman Catholic Institute, near St. Hilaire, Que., was destroyed by fire June 23. Loss about \$15,000.

The retail hardware merchants of Toronto, at a meeting a few days ago, decided to affiliate with the Retail Merchants' Association of Canada, of which they will form a section. They will participate in the convention of the latter body, to be held in Toronto on September 9 and 10.

A. A. Sammy, High street, San Fernando, Trinidad, W.I., contemplates building a small mill to make paper out of the tuft of sugar cane, rice straw, bamboo leaves, and wood, and he wants information concerning machinery and appliances. He has already made some paper in a small way, and is confident that he can produce it from the materials named.

The Union Furniture & Merchandise Co., Bass River, N.S., have shipped a repeat order of 2,000 chairs for Belfast, Ireland. The company contemplate considerable enlargement of their output and are about erecting a new building 100x40 feet, four stories high, for a paint shop and warehouse.

## 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-  
chinalists, Boiler  
Makers, Stone-  
cutters and  
Marble Works.  
Calking and Drill-  
ing, Air Brushes

### INGERSOLL-SERGEANT

PISTON INLET AIR COMPRESSORS FOR ALL DUTIES

THE JAMES COOPER MFG. CO. LIMITED

299 St. James St., Montreal

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

Pneumatic  
Augers,  
Cunches,  
Hammers,  
Rammers,  
Rotary Drills,  
and Augers.  
Reversible  
Spring Machine,  
Flue Cutters,  
Rollers and  
Welders,  
Air Lift Pumps,  
Jacks,  
Paint Spreaders,  
Bolt Nippers.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



The Dowd Milling Co., Quyon, Que., will increase the capacity of their Pak-enham mills to 400 barrels, and will erect a 50,000 bushel elevator.

The Winnipeg Elevator Co., is erecting an elevator at Yellow Grass, N.W.T.

The new colliery at Big Pond, Sydney Mines, N.S., which is being opened up by the Nova Scotia Steel & Coal Co., is to have features that will mark an innovation in the equipment of collieries in Nova Scotia. This pit, which is to be known as Sydney No. 3, will be the banner colliery at Sydney Mines. From it the company expect the largest output and with this object in view, are introducing in its equipment the most modern devices known to coal mining. Sydney No. 3, will be a smokeless colliery. Electricity will be used entirely. The hoisting of the coal, and the pumping of the water will all be done by electricity. Electric motors below ground will haul the coal along the levels. The coal cutting machines will be of an improved type of chain cutters, which will carry with them their own electric engine, and which will propel the machines from one room to another, and which will also move automatically from side to side of the underholing. The electricity to run all the machinery at the colliery will be generated at the blast furnaces a mile distant from the pit head. The steam for the generators will be made from the waste gas of the furnaces and the coke ovens. All the motive power will be supplied by electricity.

Though the seam lies at a very slight angle yet it is contemplated to work back balances. Of course this cannot be done by gravitation. At the head of each balance will be a small engine run by compressed air. By its aid the empty boxes will be taken to the working places, and the full ones lowered down. No. 3 slope will extend down about seven hundred feet, and will be ready to operate next year.

McGregor & McIntyre, Limited, Toronto, have been incorporated with \$100,000 capital stock, to manufacture structural and ornamental iron work, etc. The provisional directors include J. H. McGregor and R. L. McIntyre, both of Toronto.

The ratepayers of Cornwall, Ont., have voted favorably on two by-laws, one to raise \$11,000 to put in a new hydraulic plant, and the other to raise \$10,000 for extensions to waterworks system.

The Union Furniture & Merchandise Co., Bass River, N.S., will erect a new building 100x40 feet, four stories high.

R. J. Whitla & Co., Winnipeg, Man., will erect an addition to their factory.

The Frost & Wood Co., Smith's Falls, Ont., will erect a large brick addition to their works.

The Hastings Arsenic Co., Belleville, Ont., has applied for incorporation with \$1,000,000 capital stock. The interests of the Atlas Arsenic and Ohio Gold & Arsenic Co's will be amalgamated.

The Reese-Hammond Fire Brick Co., Bolivar, Pa., have sent us the third of the series of Indian calendars. This one shows the Indian with his horse at a watering place, and is a very beautiful and artistic picture.

The saw factory of Shurley & Dietrich, Galt, Ont., was destroyed by fire June 21. Loss about \$75,000.

The Haines Piano Co., Rochester, N.Y., will erect a large factory at Toronto Junction, for the manufacture of pianos. The Judd Harness Mfg. Co., Toronto, will occupy a portion of the building, to manufacture harness, etc., employing about fifty hands.

R. G. Struthers, spice and food specialty manufacturer, will erect a 60x30 foot factory, two stories high, at Galt, Ont.

The American Air-Compressor Works, 26 Cortlandt Street, New York City, have sent us their illustrated and descriptive booklet, relating to the air compressors manufactured by them. Among others noticed are the American single air-compressors, American duplex and American belt air compressors. The company also manufacture a full line of gas pumps, vacuum pumps, tar pumps, air receivers, air hoists, and compressed air tools and appliances of all descriptions.

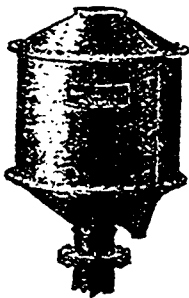
The Collingwood Dry-Dock Co., Collingwood, Ont., has received the contract from the Midland Navigation Co., for a 400 foot freighter, with a capacity of 5,400 tons.

## A QUIETUS ON THE EXHAUST PIPE

A Burt Exhaust Head stops the noise, but more than that, it stops the damage to roofs, walls and adjoining buildings, caused by dripping exhaust pipes. The

### Burt Exhaust Head

is the one you want. Built right to work right and last a long lifetime.



COLBY ROLLER MILL,  
COLBY, WIS., Jan. 24, 1902.  
THE BURT MFG. CO.,  
AKRON, OHIO.

GENTLEMEN,—I am more than satisfied with the exhaust head that you sent me five weeks ago. It catches all the water that goes through the exhaust pipe, so that the roof and around the building is fine and dry.

Respectfully,  
J. LUCKOWICZ & Co.

Write for the 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 VENTILATORS

IMPROVED  
FOR  
SCHOOLS, CHURCHES, FACTORIES, FOUNDRIES  
AND ALL INDUSTRIAL BUILDINGS



Impure Air, Smoke, Steam and Gases rapidly  
and constantly withdrawn.

**BUFFALO FORGE COMPANY,**  
BUFFALO, N.Y.

The question as to how much the recent strike cost the Toronto Railway Co. is exciting considerable interest. The share holders of the company are anxiously awaiting a statement regarding the affair. Of course they understand the city pays the expenses of all the troops that were brought into the city in connection with the strike. According to the Mail and Empire a director of the company states that the whole affair would only cost the company about \$3,000 above what they had figured. He stated that the directors had decided to give their employees an increase in wages before there was any mention of a strike. The schedule approved of by the men meant only \$3,000 above what the company was willing to give them.

Judge Desnoyers, of Montreal, has decided that on the expiration of the Auer light patents the name "Auer Light" became public property. The judgment was given in a prosecution, not for infringement of patent, but for infringement of trade mark. The judge quotes

authority for the general principal that where an article has been introduced as new and first manufactured under patent, the property in the name ceases with the expiry of the patent. There must be a great many articles of which the patents have expired, and the legal ownership of the names of which is now vested in the public.

The Cramp Steel Co. have opened a natural gas well within a mile of their new plant at Collingwood, Ont., with a daily flow of 250,000 cubic feet. The two large open-hearth furnaces of the company will be operated entirely by the use of this gas as fuel, a move which must be looked upon as purely experimental, but which, if successful, will effect a great saving in the matter of fuel. The region is very rich in natural gas, and the wells in the vicinity have been continuous in their yield. The company's prospectors are still in the field, and it is hoped that an ample supply of gas will be found to operate the entire smelting plant.

The Dominion Motor & Machine Co., 50 Esplanade Street East, Toronto, are making a specialty of gasoline engines, and the members of the company deserve the success which has attended their efforts in placing an engine, which stands pre-eminent in simplicity of construction upon the market. The company have also placed upon the market a portable gasoline engine, which is said to be a great boon to the agricultural classes. For information regarding prices, and a description of the machines, write the Dominion Motor & Machine Co., 50 Esplanade Street East, Toronto.

Messrs. F. C. Hirsch & Co., 228 St. James Street, Montreal, representing a nucleus of capitalists, are proposing a long-looked for improvement in sanitary arrangements in office buildings, residences, public buildings, etc. Mr. Wilkes, the head of the firm, should have no difficulties or obstacles put in his way in obtaining all the privileges he requires from municipal authorities, as the scheme will benefit the community at large.

**CAMEL BRAND**  
**BALATA**  
**RUBBER**

**BELTING**

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.

"RATHBUN'S  
 STAR."

**Portland Cement**

"BEAVER"  
 BRAND

MANUFACTURED BY

**THE CANADIAN PORTLAND CEMENT CO.**

LIMITED

Capacity of Works—500,000 Barrels per Year.

THE RATHBUN COMPANY,  
 310-312 Front Street West,

SALES  
 AGENTS

ST. LAWRENCE PORTLAND CEMENT CO.,  
 2664 Notre Dame St. W.

Telephone Main 1379.

TORONTO, ONT.

Telephone Main 3987.

MONTREAL, QUE.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Lotbiniere Lumber Co., Lyster, Que., has applied for incorporation, with a capital stock of \$100,000 to manufacture lumber, etc. The applicants include E. W. Tobin, Brompton Falls, Que., Frank McCrea, Sherbrooke, Que., and J. A. Bejin, Windsor Mills, Que.

The McClary Mfg. Co., London, Ont., will erect a new 300x125 foot moulding shop.

The Muskoka Wood Mfg. Co., will erect a factory at Huntsville, Ont.

The Dowd Milling Co., Quyon, Que., has increased its capital stock from \$100,000 to \$500,000.

The flour mill of the Wolverton Milling Co., Wolverton Ont., was destroyed by fire July 1. Loss about \$25,000.

The recent arrival on the Clyde of cargoes of Canadian pig iron draws attention to the export trade of Canadian pig iron to our market. The trade during the present year has increased enormously in comparison with other years. The Canadian trade returns show that for the nine months ending March, our total imports were 70,554 tons, valued at £138,000, or about 39s. a ton. In 1901 the quantity of Canadian pig iron imported during the same nine months was only 1,524 tons. The Canadian exports for the same period to all countries have very much increased also. To the United States, for example, 5,109 tons were exported, against 418 tons for the same period last year. The total Canadian ex-

ports for the nine months ending March to all countries were 76,276 tons, compared with 2,958 tons for the same period in 1901. It is significant that the exports of pig iron to Great Britain alone during the past nine months were in excess of the total production of pig iron in Canada in 1898.—London Iron and Coal Trades Review.

W. G. Dunn & Co., Hamilton, Ont., have been incorporated with a capital stock of \$20,000, to manufacture spices, etc. The provisional directors include T. B. Greening, G. S. Dunn, both of Hamilton, and J. F. Kavanagh, Toronto.

United States Consul L. E. Dudley reports from Vancouver, B.C.:—There seems to be an opening for a manufactory of mill saws in this city. The demand would be large if the saws manufactured were of approved quality. It is said that Canadian saws are not satisfactory, and that the United States product is imported, although some of them cost \$24 each, and there is a duty of \$8. At this price there would be a large profit for any manufacturer who would take the trouble to invest here. I shall be glad to procure further information for any person who may desire to consider the subject.

The Grand River Metal Works Co., West Lorne, Ont., has started a factory at Galt, Ont., to manufacture hasps, staples, hooks, chest handles, shell brackets, etc.

The legislative assembly of British

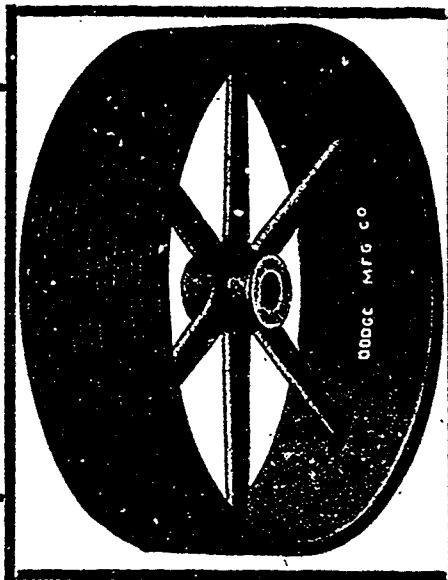
Columbia has appropriated \$15,000 for the construction and maintenance of a sockeye-salmon hatchery on the Fraser river, at the outlet of Seton lake, in Lillooet district, the establishment to have a hatching capacity of 25,000,000 sockeye eggs.

The shops of the Canadian Pacific Railway Co., have already turned out a considerable portion of the large order placed six months ago for new equipment. The shops at Perth, Ont., continue to turn out ten cars a day and have to manufacture 800 of the total number of 2,300 box cars. When this order is completed the Canadian Pacific Railway will have over 25,000 freight cars in commission. At the Farnham, Que., shops, 30 of the 50 vans have been completed and work has been commenced on the 17 express cars ordered. Of the 46 first-class coaches ordered, 16 have been nearly completed. They are the standard Canadian Pacific coaches finished in mahogany. The only new feature in them is that in 20 of these cars the smoking room is about double the size of those ordinarily in use. The two diners, the Westminster and the Warwick, have been added to the Imperial Limited. They are 75 feet long. Of the 12 sleeping cars ordered, the Radnor and Satsuma have left the shops. Of the 68 additional locomotives ordered 68 are freight and 15 passenger.

Windsor, Ont., will have a new city hall, at a cost of about \$45,000.

# 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..**

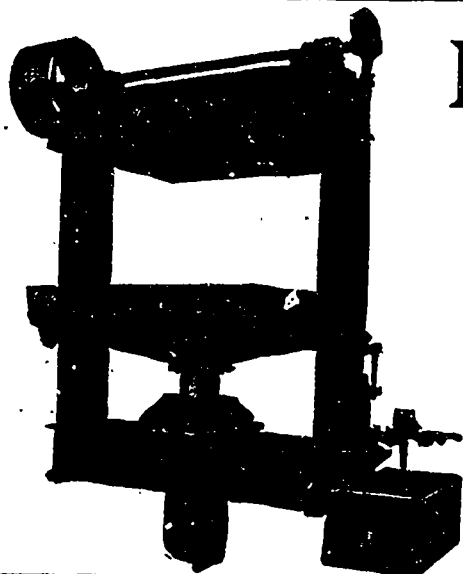
DROP AND POST, SAFETY COLLARS, ETC.

**Power Transmission Machinery. GRAIN HANDLING MACHINERY.**

SEND FOR CATALOGUE.

**DODGE MANUFACTURING CO., - TORONTO, ONT.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



# Hydraulic **PRESSES**

We Build Presses  
for...

**PRESSING VENEERS**

**TANNERS' USES**

**BALING, Etc.**

SEND FOR  
CATALOGUE  
AND PRICES

## William R. Perrin & Company

TORONTO, - CANADA

"Be sure you're right and then persist" is a safe advertising rule.

The Colonial Weaving Co., Toronto, has been incorporated with a capital stock of \$60,000, to manufacture silk, cotton, wool, paper, etc. The provisional directors include W. C. McBurney, Toronto, F. J. Jameson and R. M. Glover, both of Peterborough, Ont.

The Globe-Wernicke Co., Stratford, Ont., has been incorporated with \$100,000 capital stock, to manufacture furniture, office specialties, etc. The provisional directors include J. J. Mason, George McLagan and A. J. McPherson, all of Stratford.

The Citizens' Water, Gas & Electric Co., Strathroy, Ont., has been incorporated with \$50,000 capital stock, to construct works for supplying water, gas, etc. The provisional directors include S. M. Smyth, R. M. Pincombe and J. W. Cameron, all of Strathroy.

The Hanover Specialty Co., Hanover, Ont., has been incorporated with \$40,000 capital stock, to manufacture furniture, woodenware, etc. The provisional directors include J. S. Knechtel, I. M. Knechtel and Ephriam Knechtel, all of Hanover.

The New Davis Dental Mfg. Co., Toronto, has been incorporated with \$100,000 capital stock, to manufacture dental

supplies, etc. The provisional directors include W. A. Lawson, W. S. Plews and W. C. Trotter, all of Toronto.

The Toronto Junction Lumber Co., Toronto Junction, Ont., has been incorporated with \$25,000 capital stock, to manufacture lumber, cement, lime, tiles, etc. The provisional directors include W. C. Irvine, R. L. McCormack, both of Toronto Junction and R. E. Gibson, Toronto.

C. W. Lindsay, Limited, Montreal, has applied for incorporation with \$400,000 capital stock, to manufacture pianos, etc. The applicants include C. W. Lindsay, Montreal, John Raper, Ottawa and J. A. Ethier, Quebec City.

The Locomotive & Machine Co., Montreal, has been incorporated with \$1,000,000 capital stock, to manufacture tools, machines, conveyances, locomotive engines, motors, pumping machinery, etc. The provisional directors include M. J. Haney, Toronto, J. T. Davis, Montreal, and G. P. Brophy, Ottawa.

The Department of Public Works, Ottawa, has awarded the contract for the construction of the new astronomical observatory there to Messrs. Viau & Lachance, Hull, Que. The structure will be erected at the experimental farm at a cost of about \$75,000. It will be two stories high and fireproof throughout.

### THE MCEACHERN PRESSURE BLOWER.

The McEachren Heating & Ventilating Co., Galt, Ont., are in receipt of the following letter from Mr. Alfred Hawthorn, manager of the Merchants Cotton Co., Montreal, which explains itself:

MONTREAL, June 11, 1902.

MESSRS. THE MCEACHERN HEATING & VENTILATING Co., Galt, Ont.

GENTLEMEN,—Re yours of the 10th inst., I promised some time ago that I would make an exhaustive report with regard to the economy in the use of your fans. Let me say now that I have not yet been able to go into the matter as exhaustively as I would like, but I shall be able to give you correct figures a little later. However, I will say right here, and now, that your fans are, in use, a great saving, and enable us to hold steam on our engines that are loaded to their full capacity, with very little variation through the whole length of the ten hours. In the 3,000 h.p. upon which we are using your two fans I have no hesitation in saying that we should save this year at least 3,500 tons of coal for the year, over and above what we have been burning on the same power in years past.

This is not the only advantage. One

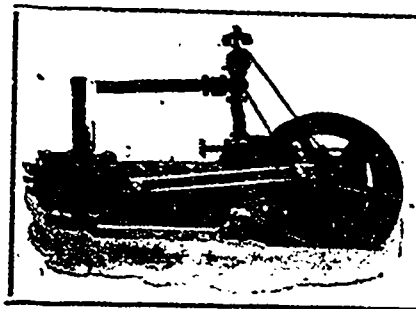
## BOILER, RAILWAY and MACHINE SHOPS CONTEMPLATING THE USE OF PNEUMATIC TOOLS

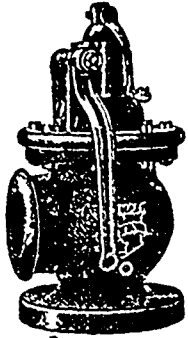
WILL DO WELL TO COMMUNICATE WITH US BEFORE INSTALLING PLANT

SEND FOR OUR CATALOGUE OF **AIR COMPRESSORS** ALL STYLES AND SIZES

**CANADIAN RAND DRILL CO.** Montreal and Sherbrooke

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.

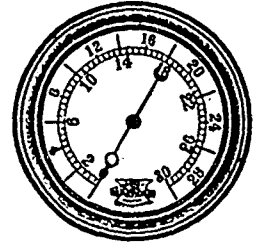


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almost equal to it is that we can carry our speed up to its maximum capacity, thereby allowing us to produce a much greater quantity of goods per pound of coal. More than this, there is the economy in the matter of stokers. We are running both our plants with much less labor than before installing your fans, and altogether I cannot speak too highly of the results obtained, but I cannot give the definite figures just now.

### THE CRAMP STEEL CO.

The following facts are gleaned from the report of the directors of the Cramp Steel Co., made at the recent annual meeting of the company held at Collingwood, Ont.

The assets of the company are: 1,350 acres of ore lands in the Nipissing district of Ontario, held under Government patent, producing iron ore of high bessemer grade; 15 square miles of coal lands in West Virginia, estimated to contain in two seams opened 147,000,000 tons of coking coal; a limestone quarry at Collingwood, available for fluxing material and producing stone marketable for building purposes; a steel plant and 104 acres of water-front property at Collingwood. Liabilities are: Authorized \$2,000,000 of 7 per cent. cumulative preferred and \$3,000,000 common stock. There is no bonded or floating debt.

Stock issued consists of \$600,000 preferred, with which half as much common has been given as a bonus. Eighty-four acres of land, including half a mile of water-front, and a cash bonus of \$115,000 were given to the company by the town of Collingwood. The property is tax-free. Twenty-four acres, with the quarries, were bought for \$4,500. All the buildings are of stone.

The mills will start with a capacity of 250 tons per day, increasing to 900. The rail product is sold ahead for 18 months. The Government will pay a bounty of \$5.40 per ton on all steel manufactured up to June 30, 1903, which will be reduced on a sliding scale till 1907, when it ceases. The company estimates that it will earn an average of \$297,000 per annum in bounties up to June 30, 1907.

### THE MCKINNON DASH AND METAL WORKS CO.

In our last issue was shown a view of the new works of the McKinnon Dash & Metal Works Co., at St. Catharines, Ont., which gave a good and not over-drawn idea of one of the most complete and up-to-date manufacturing plants in Canada. In putting the matter in type the printer, (who has since been duly killed), followed copy correctly, but in making up the page form transposed a line, thereby destroying the sense of the

item. What we intended to say was as follows:

Besides making a large line of carriage and saddlery hardware, they (the company) are prepared to supply malleable iron and brass castings in the rough or finished, also suspender buckles and special metal stampings.

Besides the factory at St. Catharines, they operate four large establishments in the United States, and control, they say, 90 per cent. of the dash business in America.

It is an evidence of the confidence manufacturers are placing in the future of this country to see a plant of such magnitude established in Canada. We refer our readers to page 21 of our issue of June 6, in which we mentioned and gave a view of their old factory which they are now offering to lease at a price that will cost less than the power can be produced by steam for.

Factory has a floor space of 10,000 feet. Buildings are in good repair, and water power can be used night and day.

### THE NATIONAL POLICY.

United States Consul Gunsaulus at Toronto, writing to his Government re the investment of United States capital in Ontario, says:

The already large list of American concerns having branch establishments in

## The A. R. Williams Machinery Co., LIMITED, MANUFACTURERS IMPORTERS AND DEALERS

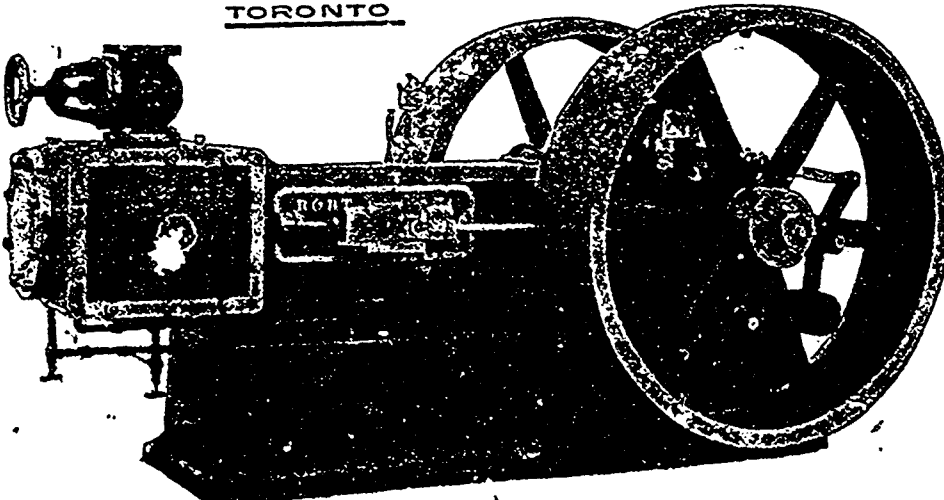
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—Are Manufactured by—

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Write for Catalogue 27.

BRIDGEPORT, CONN., U.S.A.

Canada is constantly receiving additions. The American Wire & Steel Co. has been incorporated in this country under the title of the Canadian Wire & Steel Co.; it has arranged for temporary factory buildings at Hamilton, Ont., and is now running three machines with a capacity of 35 tons daily.

H. R. Lamb, of Michigan, has just established a factory for woven-wire fencing at London, Ont. The Port Huron Engine & Thresher Co., of Michigan, has located a branch factory at Sarnia, Ont., and will employ \$500,000 capital in the Canadian and export trade. The plant of the John Abell Threshing Machine & Agricultural Works, Toronto, has been purchased by the Advance Thresher Works, Battle Creek, Mich. This establishment is said to be the largest of the kind in the Dominion, and has for years supplied many of the machines for Manitoba and the great wheat region of the Canadian North-West. The object of Americans in operating these factories is to avoid the duty, which is so high as to allow little profit on machinery when sent across the boundary line.

**BE YE ALSO READY.**—Peace in Africa means a revival of business and on a large scale, and it behooves all concerned to see to it that the opportunity does not catch them napping and repeating the parable of the ten foolish virgins, suggests the Age of Steel. South Africa is the great consuming section of the continent. For the past two years it has been in the throes of a death struggle. Britain and Boer have had each other by the throat. Railway, mining and other enterprises have been sternly throttled, and industrial idleness put its cold veto on a multitude of plans for the improvement of the country. These conditions are now no longer dominant. Peace has rolled the stone from the mouth of the sepulchre, and a dead Lazarus has returned to life. For such a result the world of trade has been waiting, and also getting ready. Engineering, electrical, and mining concerns have been on a silent scout for the inevitable. Machinery of all kinds has been boxed and warehoused, and cargoes for swift going steamships have been waiting on the docks for the red curtain of war to be lifted. The carmine rag has now gone

into the peddler's wagon, and the road to the South African market is without a dynamited bridge, or a broken gun-carriage to block the way. The next war will have no blood on its hands, it will be commercial, and in honest but determined rivalry. A commission of experts from the United Kingdom has been authorized to tour the country and report the new and special requirements of South African trade. Other countries will follow suit, or forfeit the golden apple.

Africa has ceased to be a blank in the geography of the trade. The commerce of the continent in 1901 amounted to over \$700,000,000, of which \$429,000,000 was the value of imports. According to a monogram entitled "Commercial Africa," issued by the Treasury Bureau of Statistics, imports were distributed as follows: British territory, \$157,575,000; French territory, \$92,004,000; German territory, \$8,336,000; Portuguese territory, \$20,795,000; the Congo Free State, \$4,722,000; and Turkish territory, \$77,787,000. Of this importation 5 per cent. was furnished by the United States, the total for 1901 being \$25,554,618.

Railway development has been rapid. Roads ran north from Cape Colony about 1,500 miles, and south from Cairo about 1,200 miles, Egyptian railroads have a 1,500 mileage, and Portuguese Africa and the Transvaal 1,000 miles. The total length of all African railways is about 12,500 miles or half the distance round the earth.

Mining enterprise has been as keen and swift-footed. The gold production of the Rand since 1884, has been over \$300,000,000. The diamond mines at Kimberley, that have been in operation for only 50 years have had an output of stones in the rough estimated at \$350,000,000, worth double that sum after cutting. Rhodesia made a turn out of gold last year valued at \$1,500,000. From these figures it is evident that South Africa for years to come, will be the largest gold producing field in the world.

American machinery is already much in evidence in the mining districts and the American engineer is a familiar figure. There is a wide room for enterprise in all directions, but there must be no dilly-dallying or hesitancy in taking time by the forelock.

**SOUTH AFRICA.**—There will be no lack of competition in the South African market if present indications are realized. Not only are American and British firms making exceptional efforts to be in a favorable position at the earliest possible date, but German firms have long been maturing plans with the same object, and it is now announced that the Austrian manufacturers are to do their utmost to increase their present share in this important market. The Austro-Hungarian Export Association is to send commissions representing syndicates of Austrian manufacturers to South Africa to study conditions and requirements there, while the Austrian Lloyd is contemplating the dispatch of a regular steamer from Trieste to South Africa direct, thus rendering the local manufacturers independent of the Hamburg route. Complete statistics for the first quarter are not yet available for all of the South African colonies, but the returns already to hand indicate an immense expansion of the import trade. Imports into Cape Colony increased from £5,225,575 for the first quarter of last year to £7,458,971, a gain of £2,333,396. Imports into the Transvaal for the first two months of 1902 aggregated £1,223,888, as compared with £244,181 for the corresponding period last year.—Dun's Review.

**A BAD PRACTISE.**—Mill-owners might well address themselves to a resolute effort to break up the very general practice of compelling the people from whom they purchase materials to pay tribute to the persons with whom they deal in the mill. It is a well-known fact that a man who has supplies of certain kinds to sell cannot hope to find a purchaser in many cases unless he is willing to pay a tip or a commission or some other kind of a dividend to the mill-hand who does the buying. In other words, the person who is charged with the duty of buying for his employer blackmails the man from whom he buys. The results are several and they are serious. In one way or another the commission paid to the buyer comes out of the pocket of the employer. Either he pays more than a fair price for good quality, or the quality is degraded to even the thing up. The dealer who wants to serve the employer fairly is denied the

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**MACHINIST TOOLS, PIPE FITTINGS,** **Bar Iron, Steel, Boiler Plate Tubes**  
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Electrical Fittings, Arc Lamps, Telephone Bells, Et.

chance to do so. The temptation to wastefulness in the use of the purchased material is great, for the more that can be got rid of the more frequent the opportunity of the buyer to pocket tips. The evidence is abundant that this kind of rascality—for it is nothing else—goes on in many establishments without any suspicion of the truth reaching the minds of the employers who are being robbed. Some of the unsuspecting manufacturers who read these lines may perhaps open the way to surprises if they will suddenly begin an enquiry into the condition of their purchasing department.—The Textile Record.

AUSTRALIAN TRADE CONDITIONS.—In a letter to the Department of Trade and Commerce under date of Sydney, May 19, Mr. J. S. Larke, Commercial Agent for Canada, gives a rather gloomy account of trade conditions in Australia. The unsettled tariff and the increasing drought are still the serious obstacles to business. The Commonwealth tariff has passed its

second reading in the Senate, and is now in committee, and is likely to remain there for some time to come. The drought is increasing in its disastrous consequences, as the rainless days increase in number. There is scarcely a district in New South Wales where sheep were not being fed with forage obtained now only at a high figure. In most districts rain if it came would be of little value, as it has become too cold for growth. The pastoral districts of Queensland are in a worse plight even than those of New South Wales. For the first time in its history mail coaches have stopped running, as the company which has done this work for nearly half a century has found it impossible to carry on the work. Parts of Victoria, South Australia and Western Australia are also suffering. Tasmania and New Zealand are much better circumstanced. There have been no large failures so far, and the decline in trade is not so great as the situation might lead one to expect. The reasons for this are that prices of wool and produce are good, the output of gold increasing, and the coal

trade of New South Wales, owing to low rates of freight obtainable, is brisk. The worst effect of the drought is yet to be felt, but as there has not been much overtrading and values of real estate and stocks have not been made abnormally high by speculation it is to be hoped that anything like a panic will be avoided.

Mr. Larke states that in consideration of the Government of New Zealand having acceded to certain cable arrangements, the Government of Australia has agreed to deliver letters from New Zealand having only a penny stamp without further surcharge. He communicated with the Postmaster-General, asking for a like concession for Canadian letters. In reply he received a letter that the Australian Government's decision was to receive, subject to the approval of the country of origin, letters prepaid at one penny from all parts of the British Empire where that rate obtains, as fully prepaid. This was wired to the Imperial Postmaster-General for communication to all countries concerned, but has been objected to by the Imperial authorities as interfering with the postal revenue of Great Britain. There seems to be good reason to hope, says Mr. Larke, that the Government of Canada can secure this privilege by negotiating with the Commonwealth and Imperial Governments. If so, it would relieve business with Canada from one of the annoyances it now suffers. Nearly one half of the letters from Canada bear a two cent stamp only, and the recipients are required to pay three pence additional before obtaining them.

The circumstances of the time being considered, Mr. Larke says, the orders sent to Canada are very good. In some lines they are much in advance of the same period of last year. It is probable that for the remainder of the year they will not be so good. A number of Australian business men, who have gone to England this year, have arranged to return through Canada. Some of them are cash buyers and others are commission agents of a specially good class, and there is every possibility that practical results must follow from their interviews with Canadian firms. There is a steady increase in the number of the Canadian firms shipping satisfactory goods, but improvement is still needed on the part of some shippers. Mr. Larke also enjoins prompt attention to correspondence.

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A SPECIALTY.

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TORONTO

**TORONTO STRIKE SETTLED.**—Toronto is to be congratulated on the prompt settlement of the street car strike which caused such serious complications and inconvenience. The agreement is a substantial concession of the claims of the men, whose demand for increased wages, and a grievance committee will be allowed, though the union is not recognized in the matter.

The fact that the trouble was so readily closed, is pretty strong evidence that with a little more of a policy of conciliation on the part of the company, it need never have begun. Unfortunate incidents of the Toronto strike, as of so many others, were the accompanying outbreaks of violence. And, while deploring any action of the employes which may have transgressed the law, it is not amiss to remember that beneath illegal acts on the part of one element often exists unjust provocation on that of another.

If the company and the men were so near together in their ideas concerning what the employes wanted and what the corporation could accord, as is indicated by the speedy solution of the difficulty, why was it needful for the company to maintain such an attitude that the strike was precipitated?

If among employes it is often found that some are too aggressive, it must also be admitted that monopolies have the unfortunate habit of exhibiting an obstinate, unbending and unapproachable spirit.

When such is the case, and matters are forced to a direct issue, the worst sufferer is apt to be the people, without whose consent the monopoly could not even exist.

**MUST BE MADE IN CANADA.**—United States Consul Dale, at Coaticook, Que., in response to a number of letters asking the cause of the decadence of United States trade in certain lines in the province of Quebec, submits as follows:

This country has been slow in adopting the finer qualities of machinery, vehicles, and especially farming implements; but it is making progress in this direction. Dealers say that they are prevented from ordering from the United States by the high rate of duty. From my observation, I believe that there is a decline in the sale of American goods, though perhaps this is not true of all parts of the Dominion. Dealers are buying in the interior and west of Canada wagons, carriages, plows, and many farming implements, as well as pianos, etc. One can not fail to be impressed, in going through the establishments here, with the scarcity of American goods. Beside the tariff, another great hindrance to our trade is the lack of energy in keeping it up. To do this, and to introduce anything new, requires persistent and intelligent efforts.

**WAGONS AND SHINGLES IN BRITISH COLUMBIA.**—A company has been formed in Vancouver, B.C., for the purpose of manufacturing wagons. Heretofore, there have been very few wagons made in Vancouver, and all the higher class vehicles have been bought either in the United States or in eastern Canada. Recently, \$2,000 was raised by subscription to purchase a new ambulance for the city's use,

and it was found necessary to place the order with an Ohio dealer.

The recent placing of an export tax on cedar logs by British Columbia has resulted in the establishment of several new shingle mills in the vicinity of Vancouver, and in an increased output from the mills already in existence. A very large proportion of the shingles manufactured there

is shipped to the United States. This duty on cedar logs has to some extent handicapped the manufacture of shingles in the State of Washington, and has greatly stimulated the local industry.

**PLATINUM MINING IN BRITISH COLUMBIA.**—Platinum has long been mined in the Similkameen, about 150 miles east

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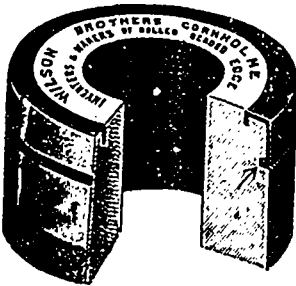
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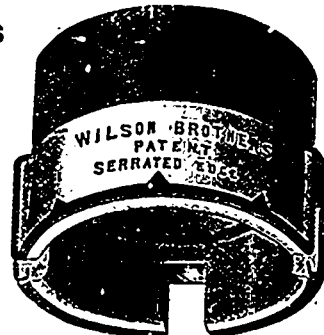
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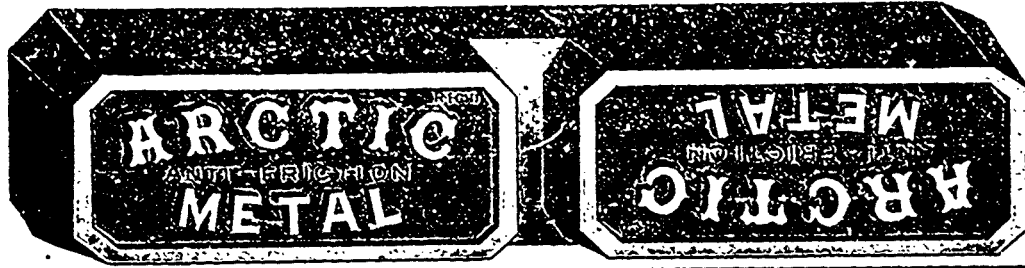
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of Vancouver, B.C. It is said that Chinamen have been earning living wages for the past fifteen years by recovering platinum from the placer deposits of the Tulameen River, and also of Granite Creek. Local newspapers announce that a company has just been formed to develop the platinum claims in that vicinity, and that it will begin operations at once. The name of this organization is the Slate Creek Hydraulic Co., and it is understood that a considerable amount of capital is interested in it, largely from the city of Seattle, Wash. It is proposed to work a tract of 320 acres on Slate Creek. Slate Creek is just over the divide of the Similkameen River, on the United States side, but operations will be extended into British Columbia territory also. It is asserted that the company is very sanguine of success. In that case, there will undoubtedly be a rush of miners to the Similkameen district.

The fact that the creeks in that region have all along been producing more or less platinum will doubtless lead many

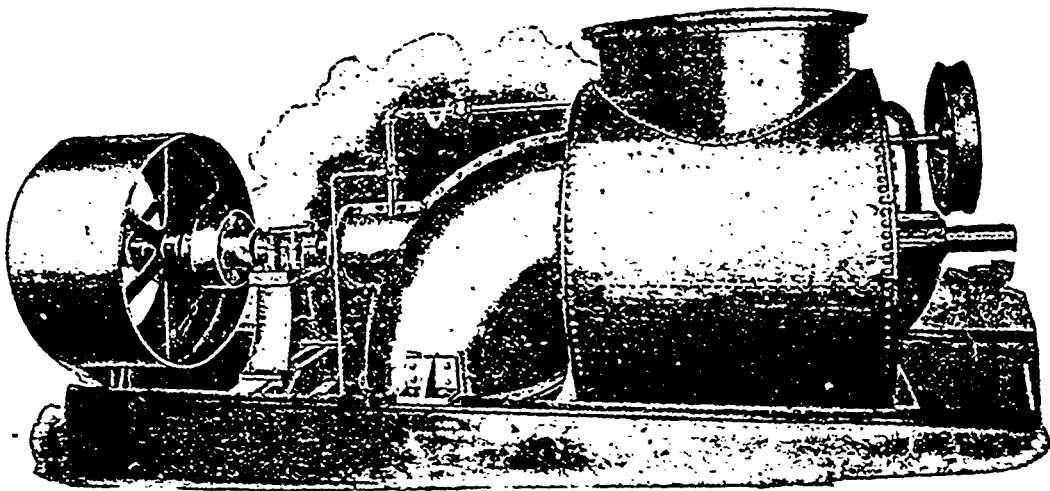
others to begin prospecting. The proportion of precious metals in the gravel, as shown by hundreds of assays made by the Slate Creek Hydraulic Co., is about two-thirds gold to one-third coarse platinum. Some of the nuggets are as large as the little finger of a man's hand. The gravel runs 25 cents to the yard in platinum and gold. It is believed, however, that somewhere in the 320 acres of the company's claim, the old bed of the creek will be crossed and that much richer gravel will then be found.

Another deposit of platinum is also said to have been discovered in Kennedy Mountain, near Princeton, B.C. Samples of the gravel have been sent east for assay, and the tests have proved so satisfactory that capitalists have become interested and are enquiring as to the probable amount of platinum available.

**SHIPBUILDING IN BRITISH COLUMBIA.**  
—The British Columbia Marine Railways Co., which has works at Vancouver, Victoria and Esquimalt, has been favored

with a very large business of late. The head office is at Victoria, under Mr. Wm. F. Bullen, who is managing director of the company. Esquimalt and Victoria are handled by the same staff. Operations at Vancouver are under the direction of Mr. George G. Bushby. At Esquimalt the company carries on most of its repair work in the large government graving dock. They are building there for the Canadian Pacific Navigation Co., a wooden vessel, for which they received a contract some time ago and have lately installed a large jig saw and complete equipment of pneumatic tools for wood and iron work, together with shears, rolls, angle iron cutters, punches, benders, etc., as well as a new lathe, radicals, and an electric-driven, flexible-shaft, portable drill for repair work. A shop in Vancouver is being built on the same lines.

There seems to be a good deal of activity on this coast in shipping, numerous small vessels having been built on this side of the line, and many more in Ballard, Port Blakely, Seattle, etc. Messrs. Moran



The above engraving represents a style of setting sometimes adopted in connection with our

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Bros., Seattle, are going in for things rather heavily. They are building a covered building slip for the new battleship, and have all their tools well distributed, in order to facilitate work.

There is a movement on foot here to build four-masted lumber carriers, but nothing has come of it as yet. The British Columbia company intends to lay one down upon completion of the Canadian Pacific Navigation Co's vessel, if no other contract offers.

**VALUE OF WASTE PRODUCTS.**—There are many instances of experiments in the utilization of waste which read as if they were intended to be facetious, although the investigators may be in earnest, says Bradstreets'. One chemist, writes Professor Peter F. Austen in the Forum, made a wine jelly out of old boots, and was enthusiastic about it, more so, probably, than those who partook of it and did not learn the fact until later. Another converts old shirts into glucose, ferments it, distills off the alcohol, colors and flavors it, and produces a fine grade of whisky. Still another scientific experimenter feeds his whole family with cakes containing a large amount of powdered sawdust and is pleased to find that the diet is relished and digested.

Speaking of sawdust it is a singular fact that in the United States this waste has been allowed to accumulate in various places until it has become a nuisance, especially when it has been allowed to run into rivers and choke up the channels,

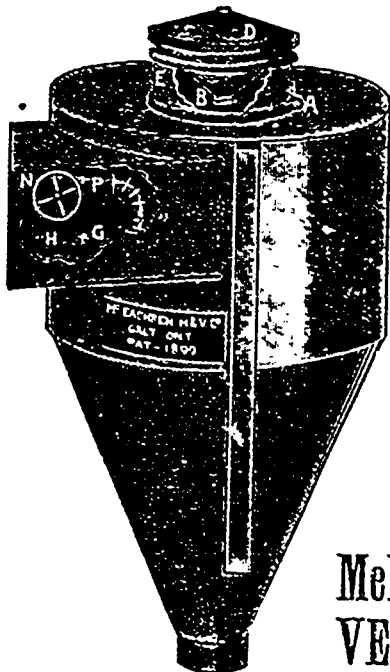
disfigure the shores and in other ways make trouble. Although there are not a few methods of utilizing sawdust, but little attempt seems to have been made in this country. The amount of sawdust produced has been reduced by the displacement of the circular saw by the band saw, which makes much less dust. There is, however, plenty of sawdust produced, and as a rule it does not find any application. In view of this state of affairs, a brief mention of some of the utilizations of sawdust will be of interest.

The first use, as would naturally occur to anyone, is to burn it. Several special forms of furnaces have been invented to do this efficiently. In some cases the sawdust is dried before it is burnt, while in others it is dried in the furnace in which it is burnt. It can also be mixed with coal slack, spent dyewood, turf, peat, etc., and compressed into briquettes, which allows it to be sold for use in place of coal. As coal is often very highly priced in regions where sawdust is produced, there is an opportunity for a large profit. By the dry distillation of sawdust all the distillation products of wood are obtained, and this manufacture can be conducted as an adjunct to the working of wood in a way to insure a profit. The products obtained are gas, wood, alcohol, acetic acid, tar and oils. From the tar there have been obtained benzole, toluole, zymole, cumole, paraffine, naphthalene and hydrocarbons, which are used in the manufacture of aniline colors. Carbolic acid and creosote are also obtained. As

a last product charcoal is left in the retorts.

By sieving out the coarser particles, mixing the remainder with various fillers and agglutinants, compressing and heating, some very interesting materials have been made in the way of artificial wood, plastic masses, etc. Such a material was brought out by Latry in Paris, and was made from prepared sawdust and blood. It formed a hard, black substance, which could be tooled and machined like wood. It took a high polish, and could be glued, lacquered and gilded. Imitation marbles have also been made from the fine dust of certain woods and the dust of ivory and similar waste. A mixture of sawdust and phosphate of lime with a binder, has been used as a material for taking casts of sculptures, and has been called "Similibois." Slabs for parquet floors have also been made from sawdust, as well as plates for bas-reliefs, art-castings, panels and decorations. Terra-cotta lumber and artificial lumber are both instances of the utilization of sawdust.

Mr. Seefield, Ninga, Man., has the cellar excavated, and the stones are now being placed on the ground for the erection of his beet sugar factory; work will be shoved as quickly as possible, and be in readiness to handle this year's crop of sugar beets. Mr. Seefield has been three or four years experimenting and perfecting his process of manufacture. This will be the first factory of the kind in the province.



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**GREAT RESOURCES OF NORTHERN QUEBEC.**—At a banquet held by the Montreal Branch of the Canadian Manufacturer's Association in May one of the principal speakers was Mr. W. A. Weir, M.L.A. who spoke upon the subject of Northern Quebec, its resources and development. In introducing his subject Mr. Weir referred to the famous advice which Socrates gave to his pupils: Know thyself.

This motto, said the speaker, is deserving of being inscribed on the national banner or Coat of Arms of Canada. We are sometimes amused by the laughable misconceptions of strangers as regards our country, but, relatively, we are almost as ignorant. Within the memory of those sitting around this table, how often have our conceptions of Manitoba, the North-West, and British Columbia been changed in ever broadening views of the wealth and the possibilities of these great regions. Five years ago, we thought of the Yukon territory only as an icebound Arctic district; and yet last year it produced over \$20,000,000 of gold, and enlarged the bounds of our trade by millions more. The hope of Ontario to-day lies in what were considered its wildernesses, and which are now dignified by the title of New Ontario. The enterprise of Mr. Clergue and his associates, at Sault Ste. Marie, is producing, and will produce, millions of wealth from the regions north of Lakes Superior and Huron, where only the daring huntsman travelled a few years ago. A new belt of white pine, thousands of square miles in area, has recently been discovered in New Ontario beyond Lake

Abitibi. Last year, the Sudbury region produced over 8,000,000 pounds of nickel ore, which was all exported to the United States, and there is good reason to believe that the same vein of ore extends into the undeveloped regions of the province of Quebec.

It is only a few years ago since some barren hills were sold for a few hundred dollars in Thetford, in the heart of the Eastern Townships. To-day 5,000 people are located there, producing superb asbestos and chrome iron. What was possible then, may as easily happen in any of our northern districts.

After referring at length to the Lake St. John district, the speaker said: Four years ago, the province of Quebec, by agreement with the Dominion Government, added 156,656 square miles to its limits. We took in a territory almost as large as France, and more than 3½ times the size of the State of New York.

Our northern boundaries now stretch from James Bay to Hamilton Inlet, on the Labrador coast, and reach as high as the 54th degree of latitude.

Roughly speaking, the province covers nine degrees of latitude, and 22½ degrees of longitude. Of this new territory it is well to remember that it is all below the latitudes of Belfast, Edinburgh, Newcastle, Hamburg and Berlin. I have carefully read the reports of the surveyors, geological and other explorers, and have no doubt that it will add to the mineral, lumbering, fur, fishery, and agricultural resources of our province.

One of our misconceptions of this Northern region is as regards the tempera-

ture. The average temperature for the six months of summer, May to October, inclusive, is one degree warmer at Moose Factory, on James Bay, than at Dalhousie, in New Brunswick; and 21 degrees warmer than at Rimouski, on the St. Lawrence.

Abitibi, although situated nearer the height of land, is seven degrees warmer than Moose Factory, eight degrees warmer than Dalhousie, one degree warmer than Port Arthur, and 28 degrees warmer than Rimouski. For the whole year round Chicoutimi has a warmer temperature than Winnipeg, and is only 6.8 degrees lower than the average temperature of Montreal. The average temperature of Roberval is 35.9 degrees, about four degrees higher than Winnipeg, and only 3.3 degrees lower than Montreal. In the matter of snowfall Abitibi has 105.5 inches in the year, Chicoutimi, 66.9 and Montreal 139.2 inches.

Mr. Weir, in referring to the mineral wealth of the province, said, the total mineral output of the province in 1901 represents \$3,000,000, or an increase of half a million over the previous year. The most of this product comes from the district south of the St. Lawrence, but there has been considerable development also in the north.

On the north shore of the St. Lawrence near Seven Islands Bay, there exist miles of what is known as magnetic iron sands.

The Seven Islands mine of magnetic iron is situated two miles from the Bay of Seven Islands, and has millions of tons of ore in sight.

The Kerroganie Iron Mine is situated

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in Lake St. John county. It also has immense deposits, but last year only ten car-loads were shipped.

The Radnor Forges on the St. Maurice river are also well known, as is the Scott iron mine at Hull.

Iron in good quantities is also reported by the surveyors in the James Bay region.

The pulp wood of our North is practically inexhaustible. There are thousands of square miles of spruce, enough for over a hundred years of much greater consumption than exists at present, and in that period the major part of the exhausted territory could be re-covered with spruce forests several times over.

**CANADIAN IRON ORE DEPOSITS.**—At a recent meeting of the Canadian Mining Institute, W. Blakemore, Esq., M.E., stated that Canada's great iron ore deposits so far as discovered were:

1. The mines of the Dominion Iron & Steel Co. in Newfoundland.
2. The mines of the Nova Scotia Steel Co. in Newfoundland.
3. The Clergue (or Helen) mine on the northeast shore of Lake Superior.
4. The Mattawin and Atik-Okan ranges on the Canadian Northern Railway west of Port Arthur, Ont.
5. The Kitchener iron deposit in East Kootenay, B.C., 100 miles west of the Crow's Nest Pass coal mines.
6. The iron deposits on the east coast of Vancouver Island.

Speaking of the Kitchener deposit in British Columbia, Mr. Blakemore said:

These deposits consist of a series of parallel veins of hematite iron ore running continuously for a distance of ten miles, the full length of a solitary mountain known as the Iron Ridge, and situated at its nearest point, a distance of three miles west of Kitchener station on the Crow's Nest Pass Railway. Kitchener is twenty miles east of Kootenay Lake, seventy miles east of Nelson, which is the centre of the smelting industry of West Kootenay, and 120 miles west of the extensive coal fields of the Crow's Nest Pass Coal Co. at Fernie. The mountain is peculiar in formation, being entirely separate from the other ranges in the district, and presenting the appearance of an inverted boat. It starts from the level of the railway and Goat River 2,400 feet above sea level, rises gradually to an altitude of nearly 6,000 feet in a distance of two miles, continues with slight variations at this level for six miles and then dips down again at the extreme north end at about the same angle as at the south. The main direction of the mountain is 20 deg. W. of N., and upon the east side Goat River flows parallel to it. At its base on the west side is a large creek known as Arrow Creek, and around the north end is a pass connecting the two. The original survey for the Crow's Nest line was around this pass, and it was only abandoned because it involved a detour of twenty miles. The possibility of constructing a railway of easy grade all around the mountain was demonstrated by the survey referred to. The character of the ore is chiefly hematite, and upon a few claims this has been found to be

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slightly magnetic, but over the bulk of the property it is pure hematite.

"The occurrence is in a large body of quartzite approximately 500 feet in width, running longitudinally with the mountain; and along the eastern side co-extensive with the quartzite is a greenstone dyke of gabbro-diorite. The property consists at the present of 50 claims, each 1,500 feet square, upon which the ore has been located, an area which embraces practically the whole summit of the mountain. The property has been held for some years as a copper proposition, and probably from \$10,000 to \$12,000 was expended in prospecting for that mineral. In the spring of 1901, however, the iron ore attracted attention, and for the first time the holders began to realize that it might possess an economic value. It came under my control last May, and from then until November 1, I expended about \$30,000 in prospecting and proving the property, the result being that the capitalists whom I represented have purchased twenty claims, and hold an option on the remainder. Our season's work has proved that the ore is of the highest quality, that there is sufficient to constitute an important property and that the surrounding conditions are favorable to

development. There still remains to prove the actual extent of the ore, as development work would not justify a calculation of tonnage at present, but everything points to an enormous deposit.

With reference to the quality, this is so surprising that I have some diffidence in placing the figures before you, but still they speak for themselves, and are the result of assays made by five or six independent authorities, including McGill University, Mr. Milton Hersey, of Montreal, and Mr. Robert W. Hunt, of Chicago; they have also been verified by practical tests made at the works of the Dominion Iron & Steel Co., and as they are the results of bulk assays and not selected samples, it is believed that the ore is one of the purest and highest grade bessemer ores to be found anywhere. More than 100 assays were made; of those 60 were taken from the veins, and, taking those only into account, excluding float, we got an average of 60 per cent. of metallic iron 5 per cent. silica, 0.10 sulphur and 0.03 phosphorous.

The question of interest in connection with this matter is the future of the property and its value to British Columbia. Of this it may safely be said that sufficient iron has already been discovered to deter-

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mine the existence of a first-class fluxing proposition, and even for this purpose the property will in the future be valuable. But unless all expectations are baseless, we have here a property which when thoroughly proved will be shown to contain such an extensive body of hematite ore of the highest quality that it will be possible whenever the province is ripe to establish a large iron and steel making industry in the West which will compare not unfavorably with that of the East. All the local conditions for cheap manufacture are favorable. The ore can be mined and shipped for \$2 a ton. There is abundant limestone in the neighborhood upon the west side of Kootenay Lake, which can be delivered to a smelter at 50 cents a ton. The high grade coal and coke of the Crow's Nest Pass is only 120 miles away, and can be brought to Kitchener at a cost of \$3 for coal and \$5 for coke. Allowing for the higher rate of wages prevailing in the West, pig iron can be made on this property at a cost not exceeding \$10 a ton, and this iron can be delivered at a cost of \$13 to \$15 at the coast. At the present time pig iron delivered at any of the coast cities is worth \$22 a ton, and even ad-

mitting that prices are above the normal, there would still be a wide margin in favor of the local product.

**A WONDERFUL IRON MOUNTAIN.**—There is, in Styria, a justly renowned source of iron ore, called the Erzberg, or Ore Mountain, situated between Vordenberg and Eisenerz. This mountain consists of a bedded mass of spathic iron ore, which rests below on schists believed to be of Devonian age.

The mountain itself is conical, with a rounded summit, and reaches a height of nearly 4,800 feet above sea level, and about 3,000 feet above the small town of Eisenerz. It is surrounded by lofty mountains, most of which exceed 6,000 feet in height, and presents a very imposing and picturesque appearance. Iron ore has been quarried from the mountain from the very earliest antiquity, for it is believed that the "Norie Iron" of Tacitus, Ovid and Horace, was made from the ore quarried on the face of the Erzberg, or its immediate neighborhood. Erzberg belonged to the Roman province of Noricum, and the ore is known to have been quarried by the Romans. The works have

been in operation ever since, and the mountains appear to be still full of inexhaustible treasure.

Unfortunately, a fire which occurred in Eisenerz in 1618 destroyed valuable documents, carrying back the history of the manufacture to A.D. 712; the records now in existence only go back to the twelfth century, which, early as it is, must still be regarded as late in the history of Erzberg.

The lowest ores on the mountain are somewhat more silicious, and so less valuable, while those higher up are of special purity. Usually the ore is basic in character, and contains in the raw state upwards of 40 per cent. of iron, 2 per cent. of manganese, about 3 per cent. of magnesia, and a little lime. The quantity of sulphur and phosphorus is extremely small.

The ore, after being brought from the quarries, or mines, is calcined in kilns with the waste heat from the blast furnace. Much of the carbon dioxide is thus eliminated, and the iron is almost entirely oxidized to the ferric condition. It is then smelted in small blast furnaces the fuel used being entirely charcoal.

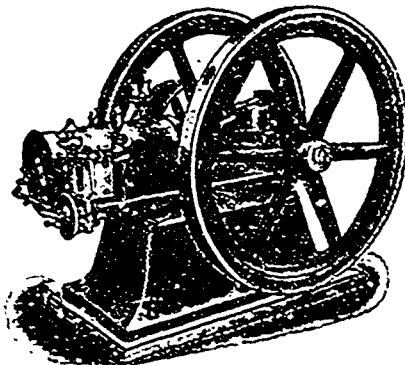
It is from this ore that the wonderful Styrian steel is made.

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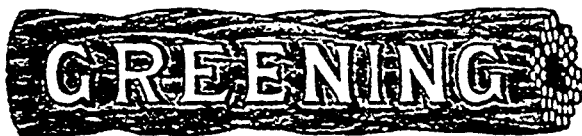
The Dominion Motor & Machine Co.,  
50 Esplanade St. East,  
TORONTO.



**ELECTRICITY IN CANADA.**—Mr. George Johnson, Dominion statistician, in his annual summary of the use of electricity in Canada, says the number of lighting companies has increased from 259 in 1898 to 306 in 1901. The arc lights in use increased from 10,359 to 12,800, and the incandescent lamps from 463,615 to 815,676. The use of electricity for lighting purposes has risen 60 per cent.

Of the total 306 companies, the Province of Ontario has 196, or 64 per cent.; Quebec has 50, Nova Scotia 21, British

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Columbia 14, New Brunswick 11, Manitoba 6, North-West Territories 5, and Prince Edward Island 3.

Ontario cities, towns, and villages have availed themselves of electricity for lighting purposes to a very great extent. There are 78 of them which have either municipal plants or are supplied by companies; some have more than one plant. In Quebec, 42 cities have electric-light plants; in Nova Scotia, 20; and in New Brunswick, 10.

Should the electric railway charters which the legislature has been asked to pass this year be granted, and should all the lines projected be constructed, no less than 1,046 miles will be added to the rural electric railway mileage of the Province of Ontario. Twelve companies figure in the applications, the territory in which they are interested extending from Cornwall to Windsor; and if the tracks were laid, there would be a continuous line between those two points, with the exception of a short hiatus from Glencoe to Tecumseh; while to the north, another system will reach from London to Owen Sound, skirting the shore of Lake Huron.

These railways would revolutionize transportation in the country districts and give remote sections market facilities which would greatly enhance the value of farm products. Many of the lines tap territory not conveniently served by present railways. It is stated that American capital is behind the roads projected to radiate from Hamilton to Toronto, Guelph and Waterloo.

Many of the electric railway charters passed in recent years have contained special clauses restricting the passenger rates.

In the Province of Quebec, a number of electric railway companies have recently been chartered by the provincial legislature, and it is expected that 50 miles will be constructed during the coming summer.

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**OPPORTUNITIES.**

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

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

815. A firm of wholesale and export stationers is prepared to appoint suitable Canadian resident agent.

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817. A London house wishes to hear from Canadian producers of pine wool and also of excelsior with samples and prices.



# 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, July 4, 1902.

The settlement of the street railway strike in Toronto is one of the most important labor subjects of the day. Both the company and union made concessions and are all satisfied with the agreement drawn up by the Board of Trade committee and the union's representatives. The Board of Trade committee, through whose kind offices the settlement was reached, was composed of Messrs. A. F. Ames, J. W. Flavelle, J. D. Allan and Secretary Jarvis, and the thanks of the citizens of Toronto is extended to them for their efforts in bringing the company and men together. While the strike lasted only three days, the rioting on the second day predicted further disturbances if the

company attempted to operate the service and continue the fight with the strikers. Anticipating trouble, 1,400 of the volunteer soldiers were called out, but when they appeared in the city a settlement had been arrived at.

The leading machinists of the city report an unusually busy season, many being unable to fill the orders received. During the past few months many new shops have been opened, and all appear to be receiving plenty of work. The majority of the new concerns are controlled by young men, who are enthusiastic over the business already received, and speak hopefully of the future. Among the new concerns which are meeting with success is that controlled by Mr. Holden,

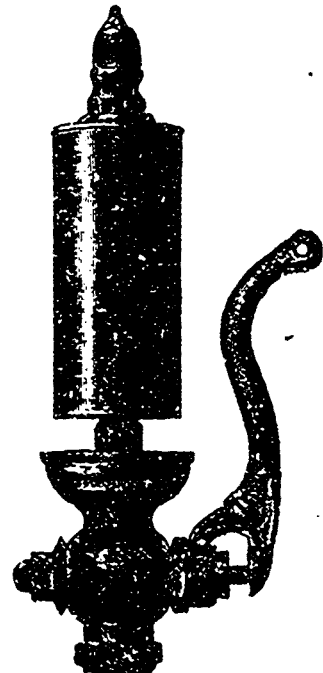
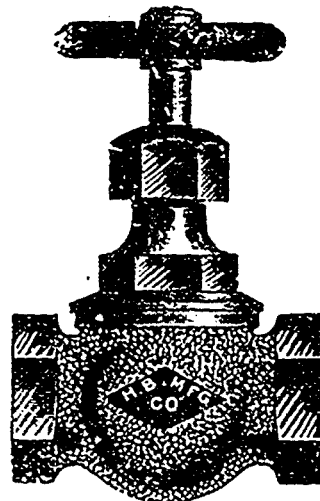
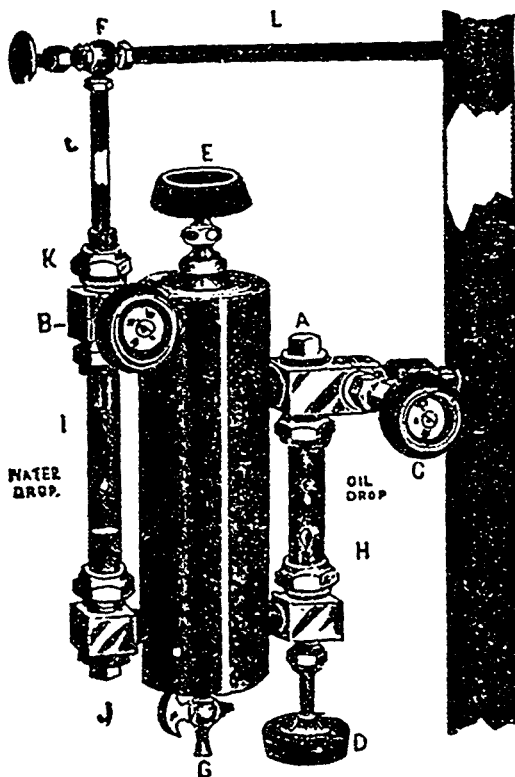
of Sheppard street, a young, enterprising and expert mechanic, who will in the near future have one of the largest shops in the city.

The first half of the year has passed.

The month of June marked the close of six months of prosperity as great as this country has ever known. It has been a time for the exploitation of new plans; new enterprises have been born, new business ventures undertaken; while in the old established lines there has been a general expansion. It has been a period of commercial aggressiveness, of easy money affording opportunity for the development of new country, the enlarging of industrial plants, for betterments by the railroads.

Railroad earnings during the time have shown increases really surprising, and especially so to the many who in their most sanguine view had not hoped that the roads would do much more than maintain the high figures of the preceding year. The first four months were strikingly free from anything of an adverse nature, present or prospective, nor was there any change until the growing feeling of dissatisfaction on the part of the labor element began to cloud the industrial sky.

Two things there are in sight, either of which by a decided change for the worse, could bring on a general setback. One is the coal strike, the other the crop promise. The sixth week of the strike has passed without a change in the situation. There is as yet no prospect of



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a satisfactory settlement. In the possibility of the spread of this trouble to other large trades, and to the railroads, lies the danger. The other, the crop danger, is always to be reckoned with at this time. Eliminate these two factors, and there is nothing discernible that can work adversely, there is an outlook as favorable as could well be desired. There is no reason to look for anything bad. These two things stand as factors that might possibly develop into influences for evil, and are only worthy of consideration in this way in any attempt to set forth an extremely conservative view of the situation. There is hope for a satisfactory adjustment of the labor trouble; the crop outlook is at present very satisfactory.

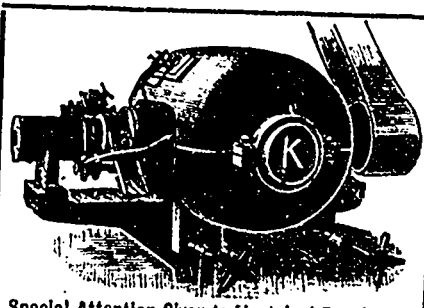
The shock following the sudden announcement of the serious illness of the King threw the financial world into a state of great nervous tension. This found reflection in New York, where the stock market gave way by moderate declines under the pressure of liquidation. Recoveries were made later on a general return of confidence. The absence of an active outside speculative interest cuts the volume of New York bank clearings every week, the best report showing a decrease of 13.1 per cent.

Commodity prices have been irregular. This is ordinarily a dull period of the year, yet the volume of trade in general merchandise holds up well. Iron and steel prices are as firm as ever with demand pressing, and business still being booked into next year. The cold and rainy weather has been a drawback to retail trade at country points.

Rev. A. E. Henderson, a Toronto clergyman, has invented a roller bearing, which is claimed to be the most perfect bearing of the age. The parts are so adjusted and retained that there is the least possible amount of friction, while the weaknesses which have characterized other roller bearings have been successfully overcome. It can be adapted for light or heavy work, for stationary shaftings, bicycles, carriages, automobiles, street cars and locomotives. A company has been formed, known as the Toronto Roller Bearing Co., with offices in the Temple Building, and a factory on Shepard street. The bearing has already been well tested, but several other tests have been arranged, among them being one in connection with the Grand Trunk.

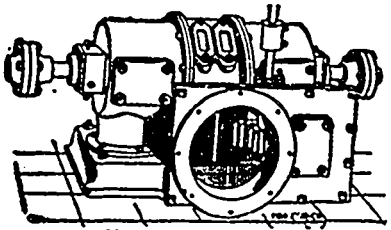
Rev. Mr. Henderson is a native of Bruce county, and comes from near the village of Tara. He is enthusiastic as to the future possibilities of the invention. The International Sprinkler Co., of Philadelphia, have placed on the Canadian market an automatic fire extinguishing apparatus, which has already been adopted by many Canadian firms. W. J. McGuire & Co., Toronto, are the Canadian agents.

The Grant Hamilton Oil Co., who are now in their new premises on Strachan Avenue, Toronto, report a good demand for lubricating oil, with refined quiet. The firm handles the Cling-Surface Mfg. Co's commodity, a belt filler and preservative which has received the endorsement of the leading Ontario manufacturers.



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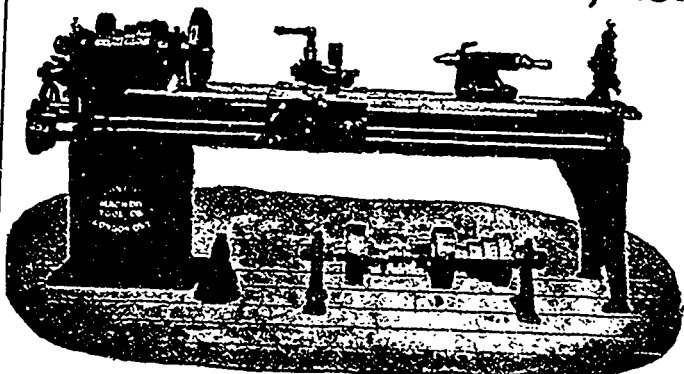
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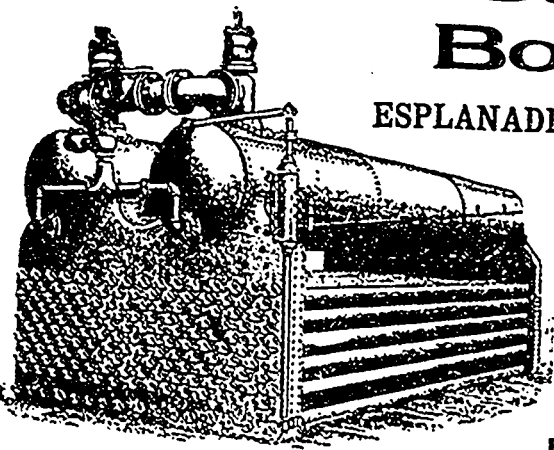
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**KELLY'S DIRECTORY**  
OF THE

**MERCHANTS, MANUFACTURERS and  
SHIPPERS of the World.**

(Endorsed by the British Government).

The 17th edition of which is being prepared. In addition to the Classified Trade Lists of the Importers and Exporters, Merchants and Manufacturers of the United Kingdom and all principal trading centres of the World, it gives the Customs Tariffs for every country and all classes of goods. The work contains over 4,000 pages, and gives more information than any other work published.

Highest Award, Gold Medal, Paris, 1900  
For further particulars, apply.

Kelly's Directories Limited (London, Eng.)

Dominion Branch—71 Victoria St., Toronto, Ont.  
W. P. DENT, - Manager.

Branches in Great Britain—Glasgow, Liverpool, Manchester, Birmingham, Leeds, Sheffield, Nottingham; also Paris, Hamburg, New York, Bombay, Calcutta, Cape Town, Melbourne, Sydney, Duncedin, Buenos Ayres, etc.

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. 12th, 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 Callao.

"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 Cadiz.

"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 Returns, 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. V. C. Thorshavn.

"It is a Directory which is very often consulted by the Merchants of our town."—B. V. C. Dedea-natch, Turkey.

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

What is spoken of by many exhibitors, manufacturers, and others, as the most absurd of propositions, is that of Mayor Howland to postpone the Industrial Fair. When the matter came before the Board of Control, the architects on the new buildings declared that their buildings would be completed this year. The Exhibition Board representatives had a conference with the municipal authorities, and as a result the Fair will take place as advertised.

The Atlantic Refining Co. will in the near future be known as the Union Petroleum Co. of Canada. The directorate is practically unchanged.

COMMERCE OF TORONTO.—From the statement appended a splendid idea of the growth of Toronto's trade can be obtained, the figures showing a wonderful expansion:

Duty for year ending	Amt.	Increase over 1881.	Increase over 1891.	Increase over 1901.
June 30, '81	\$3,143,700			
June 30, '91	4,090,705	\$947,005		
June 30, '01	5,310,985	2,167,285	\$1,220,280	
June 30, '02	6,000,000	2,856,300	1,909,205	\$1,680,015

\* Estimated.

The following table shows the increase in percentages:

1891 over 1881	31.23
1901 " 1891	28.62
1901 " 1881	68.93
1902 " 1901	12.97
1902 " 1881	90.95

The trade for 1902 was nearly double that of the year 1881.

BUFFALO PIG IRON MARKET.—Office of Rogers, Brown & Co., Buffalo, N. Y., July 1, 1902.

There is a growing interest in the matter of supply for the first half of next year, enquiries are frequent and a number of good sized orders have been placed.

The curtailment of production in the Pennsylvania districts owing to the lack of fuel, caused by the strikes in the coal fields, has been severely felt throughout this section. Those who have been affected by this shortage are doubly unfortunate on account of the great difficulty in obtaining iron for early shipment from other sources.

The market in general continues very strong and consumption goes on at a rapid rate.

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.

PIG IRON.—Transactions the past week have been confined almost entirely to foundry iron for next year, and even such business has not been very large. Most of this business is going at \$21 to \$21.50, Pittsburg, for No. 2, while for any delivery this year prices range from \$22.50 to \$22.75 with some furnaces asking \$23. In Bessemer the market is stagnant, and the position is summed up in the statement that odd lots may possibly be picked up at \$21, valley furnace, for delivery in the fourth quarter, or \$21.50 for nearby shipment, with very little

iron to be had. Gray Forge, which suffered something of a setback, is very steady at \$20 to \$20.50 Pittsburg, for any delivery this year.

Sales are reported of No. 2 foundry at Birmingham for prompt delivery at \$19 per ton and \$20 has been bid for No. 1 for nearby delivery. Although iron can be bought from Southern furnaces for 1903 delivery, sellers are rather shy on account of threatened labor troubles.

The iron trade has entered upon a period of extreme dullness, which many good judges expect will be prolonged until September, when heavy buying for next year in finished materials may be looked for. Transactions in all lines except structural material and rails have dropped to insignificant proportions, the buying in structural and rails for next year, and being forced by the fact that owing to the sold up condition of mills consumers who would put off might fail in getting the material at all. Probably close to a third of the total prospective rail production of 1903 is already covered and as structural mills are entirely filled for this year the necessity of buying now is apparent.

The present dullness is not due to any restriction of consumption, which is quite heavy, but is due to the combined facts that orders were placed earlier in the year than usual, and mills are now fully sold up for months to come, and deliveries in most lines are far behind. The prospects for continued prosperity in the iron trade are extremely bright.

TIN PLATES.—The effect of the control of the market by the American Tinplate Co. continues to be absence of fluctuation in prices, which continue unchanged as they have been for over a year now.

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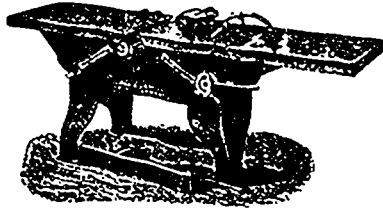
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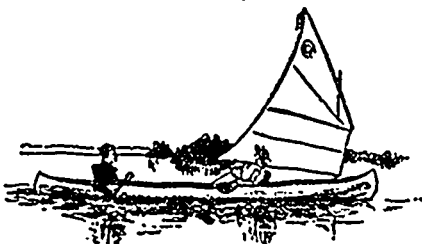
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**CANOE AND SKIFFS.** Best Quality. Lowest Prices. Send for Catalogue J.

The canning season's prospect have been greatly improved by the late rains. New business, however, seems very dull, but the mills are busy on old orders.

**LEAD.**—Market unchanged at 4.15 for spot delivery in car load lots.

**SHEET ZINC.**—Owing to the advance of spelter of almost 3c. per pound over prices ruling a month ago the large sheet zinc manufacturers have put up the price of sheet zinc to 6½c. basis at mill with usual discount for cash and carload lots, etc., this is equal to an advance of ½c. per pound.

**SPELTER.**—The spelter market is very firm: sales of several carloads of spot at 5c.

**QUICKSILVER.**—The quotation in New York is \$48 per flask for large orders. The London quotation is £8 15/0 per flask.

**NICKEL.**—The prices for nickel are: In large lots, 50c. per pound; in 1,000 pound lots, 52c. per pound; in 100 pound lots, 60c. per pound.

**BINDER TWINE.**—The Dominion Government has 70 tons of binder twine for sale at the Kingston Penitentiary, and the following prices have been fixed for different brands:

Monarch (Manila), (600 feet to the pound)—In less than ton lots, 10½c.; in ton lots and less than carloads, 10½c.; in carload lots, 10c. Sixty pine (sisal), (500 feet to the pound)—In less than ton lots, 9½c.; in ton lots and less than carloads, 9½c.; in carload lots, 9c.

To secure the advantage of cheap twine from the Government factory farmers should send in their orders now, stating the quantity and grade. The Government does not pay the freight in any case but will ship by the cheapest route.

**VANCOUVER ASSAY OFFICE.**—The Canadian Assay Office on the Pacific coast is once more busy with the inflow of gold from the north. Notwithstanding the fact that the plant has been increased to three times the size of last year, the manager thinks it will be impossible to handle all the gold offering this season. A number of the British Columbia mining companies that formerly shipped their gold to New York are dealing with the office in Vancouver.

**PEACE AND THE CANNED MEAT TRADE.**—Mr. Wm. Cragin, of the Armour Packing Co., speaking to the New York Journal of Commerce, said there had been no changes in canned meats or other provisions of importance the past week and no special activity, only a moderate routine trade. The effect of the end of the Boer war would probably be to reduce the abnormal demand for South Africa by the English Government, which would now reduce the garrisons it had been compelled to establish along the lines of railroads in that country. But trade will go back into its old channels before the war and be done by the large English houses

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

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**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.

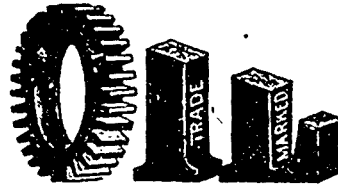
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It's giving satisfaction to  
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in Canada.

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at the Cape which supplied the Transvaal with these goods in time of peace. These houses are still strong, their credit is good, and they will do a bigger business than before the war, as soon as the country is settled up and work resumed at the mines, only a part of which at Johannesburg have yet been reopened. When this is done South Africa will develop more rapidly than ever and become a greater market for our foodstuffs than she was before the war.

THEN AND NOW.—President Buffington, of the Illinois Steel Co. declares that the day of petty economies has passed. "A man advertises for an office boy," he says. "His choice finally rests between two bright youngsters, and as the supreme test he asks that they open some packages lying on a table. This is easy for Charlie. Charlie takes up a package, unties four hard knots, unwinds the string, rolls it up around his fingers, ties it into a loop, and lays the string in a safe place. Then, unwrapping the package, he folds the paper up neatly and lays it on a shelf. By that time Willie, with his pocket knife, has slashed the strings on seven packages, ripped the paper off, and piled the whole mass of rubbish in the waste basket. Forty years ago, of course, Charlie would have got the job, now, however, Willie is business manager for the house." Small economies must be scientific economies. The days of saving wrapping and twine are gone.

KELLY'S DIRECTORY.—Of all the books prepared for the benefit of commercial men, there is none that ranks higher in point of utility than "Kelly's Directory of Merchants, Manufacturers and Shippers of the World." It furnishes not only the names of the manufacturers, merchants, exporters, etc., of the United Kingdom trading with the colonies and abroad, but also those of all the more important foreign merchants (export and import), as well as the manufacturers of the principal goods imported into the United Kingdom. It thus forms a comprehensive guide to the import and export trades of the world. In addition to the directory itself, the carefully prepared statistical information as to the trade of the various countries is most useful, while the Customs Tariffs of all nations, which occupy nearly 500 pages, are of the greatest possible value. No up-to-date mercantile office is complete without this directory, a reference to which would frequently reduce correspondence, thus effecting a saving of time and money; indeed, British consuls in different parts of the world, who have expressed high opinions as to the utility of the directory, have also intimated that many of the enquiries sent to them could have been readily answered by consulting its pages.

THE GREAT OCEAN CABLE.—The British Government will begin this year to lay the cable that is to connect Canada with Australia and New Zealand. The manufacture of the cable is now in progress, and a gigantic cable-laying steamer, the largest afloat of its kind, is building.

## CANADIAN MANUFACTURERS

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Chamber of Commerce, Incp.).  
Etc., Etc.

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The longest span of the cable will be from Vancouver Island to Fanning Island, a distance of 3,500 miles. The whole length of the cable will be about 8,000 miles. It will touch the Fiji Islands and Norfolk Island, and will reach Australia near Brisbane. From Brisbane it will extend to New Zealand.

**INCREASE IN THE WORLD'S COPPER PRODUCTION.**—In the annual statistics of the world's principal copper supplies issued by Henry R. Merton & Co., London, England, a general increase of production abroad is noted for 1901, while in the United States a slight decline is shown. The latter can be accounted for by the curtailment of operations due to litigation and to accidents, says the Iron Age. The total increase for 1901 above 1900 was 26,092 tons. In the matter of increase Canada is foremost, with 10,300 tons beyond the figures of the year previous. Australia increased almost 8,000 tons, and Chili went 4,300 tons higher than in 1900. Practically all other producing countries increased, with the exception of the United States, where a decrease of 1,317 tons is noted. The table shows that in the United States there was a 1,000-ton reduction in the case of Calumet & Hecla, but other lake producers gained 2,899 tons. The Montana district lost 8,787 tons, and Arizona gained 4,803 tons. Other States lost 1,292 tons, as compared with the year previous.

Below we give a summary of the table

showing the totals for the last three years : In tons of 2,240 pounds.

	1901.	1900.	1899.
United States...	267,410	268,787	262,206
Canada .....	18,800	8,500	6,730
Spain and Portugal.....	53,621	52,872	52,168
Chile.....	30,000	25,700	25,000
Japan.....	27,475	27,840	28,310
Germany.....	21,720	20,410	23,460
Mexico.....	23,795	22,050	19,335
Australia.....	30,875	23,000	20,750
Cape of Good Hope.....	6,400	6,720	6,490
Russia.....	8,000	8,000	7,210
All other countries.....	24,030	22,160	20,351
Totals. ....	512,131	486,039	472,244

The figures for the United States, says the Iron Age, should be received with reserve, since they are not official.

**JOINT STOCK COMPANIES' FEES.**—The Dominion Government has passed an order in Council establishing the following tariff of fees upon applications for the incorporation of joint stock companies by letters patent, under the act passed at the recent session of Parliament. When the proposed capital stock of the company is \$20,000 or less than \$20,000, \$50; \$20,000 and less than \$50,000, \$150; \$50,000 and upwards and less than \$100,000, \$200; \$100,000 or upwards and less than \$150,000, \$225; \$150,000 or

upwards and less than \$200,000, \$250; \$200,000 or upwards and less than \$300,000, \$300; \$300,000 or upwards and less than \$400,000, \$325; \$400,000 or upwards and less than \$500,000, \$350; \$500,000 or upwards and less than \$600,000, \$375; \$600,000 or upwards and less than \$700,000, \$400; \$700,000 or upwards and less than \$800,000, \$425; \$800,000 or upwards and less than \$900,000, \$450; \$900,000 or upwards and less than \$1,000,000, \$475; for \$1,000,000, \$500. For every additional million dollars of capital stock or fractional part thereof, \$100. For supplementary letters patent to increase the capital stock of a company the fee to be according to the above tariff, but on the increase only. For supplementary letters patent for any purpose other than an increase of capital, a fee of \$100.

**HEAVY CONSUMPTION OF COPPER.**—Few people in the trade realize the enormous consumption of copper which is going on at the present time. Two of the best posted authorities in the trade, very conservative men without speculative bias, whose opinions carry great weight, estimate that present rate of consumption is from 45,000,000 pounds, 20,000 gross tons to 50,000,000 pounds, 22,300 gross tons monthly. If we accept the lower of the two estimates we find that we are consuming at the rate of about 81 per cent. of our production taking that of April as a basis. We are aware that many in the trade will cavil

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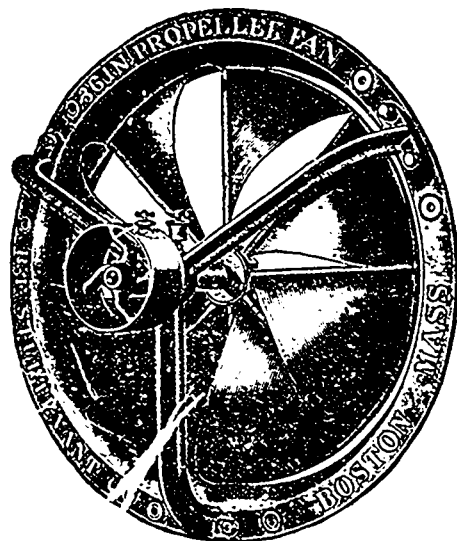
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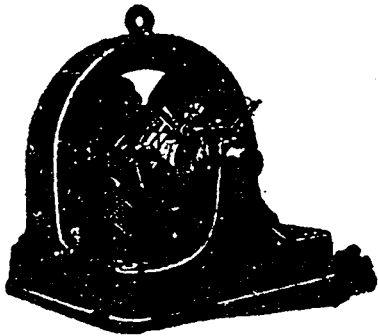
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Superior Building SEND FOR CLEVELAND, O. CATALOGUE

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HAMILTON, ONT.  
FILE and RASP MANUFACTURERS AND RE-CUTTERS.  
A trial order solicited. Write for terms.  
C. P. MOORE, PROPRIETOR.

at these estimates and pronounce them exaggerated, they may be, but in view of the heavy increase in the consumption of iron and its products of finished steel and iron, which are matters of absolute proof, it would be very strange if the consumption of copper had not greatly increased, especially as it has had the stimulus of abnormally low prices.

Conservative estimates of consumption of copper for the first four months of this year are made at the rate of 18,000 tons per month, a total of say 72,000 tons, exports have been 67,650 tons, making a total of 139,650 tons against which we have produced 87,945 tons showing a deficiency of 51,705 tons. Exact figures of imports for the first four months of this year are not yet available, but assuming them to have been at the same rate as those of last year, we should have received in the four months of this year about 24,958 tons. These figures would show that accumulated stocks have been depleted this year 26,747 tons. Accumulated stocks have doubtless decreased very much more than this quantity, some estimate it at double that amount.

A large amount, however, has probably changed ownership, going from the possession of former holders into warehouses of consumers.—American Metal Market.

KEEP YOUR BOOKS STRAIGHT.—Messrs. Neff & Postlethwaite, chartered accountants, Toronto, have sent us a circular in which they call attention to the facts that since forming a partnership in January last they have found their previous offices in the Freehold or Home Life Building too small for their increasing needs and have now secured better accommodation with good vaults, in the North British and Mercantile Chambers at 26 Wellington street east, next door to the Ontario Bank, where they are giving special attention to expert investigation and audits. Kindly note the address.

STEEL BOUNTIES DISPUTE.—The Dominion Government has granted the Dominion Iron & Steel Co. leave to bring a petition of right in the Exchequer Court to recover \$196,000 of iron and steel bounties. The point turns on a dispute between the Trade and Commerce Department and the Auditor-General. The former has reported in favor of paying the bounties on the steel as it leaves the furnace. The Auditor-General refuses payment on the ground that the bounties should be computed on the weight of "cold bar." The Exchequer Court will decide what amount is legally due to the company.

## BUSINESS CHANGES.

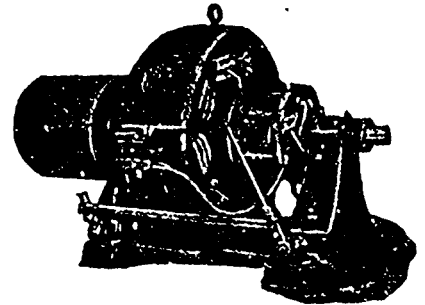
FROM BRADSTREETS.

### ONTARIO.

GALT—Shurley & Dietrich, mfr. saws & iron & brass bedsteads, saw works burned  
HANOVER—Hanover Specialty Co., obtained charter.  
LONDON—American Fluff Rug Co., mfrs., business for sale.  
MONCKLAND STATION—J. B. Coulthart, mfr. cheese boxes, assigned to J. G. Harkness, Cornwall.

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ELECTRICAL CONTRACTORS.



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

JOHN A. FULTON, Gen'l Manager Eastern Canada, MONTREAL.

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**NEW HAMBURG**—Hamburg-American Wagon Co., obtained charter.  
**OTTAWA**—E. N. Hurtubise & Co., sawmill, stock sold.  
 Wright Mfg. Co., harness, etc., assets sold at auction.  
**PAISLEY**—W. S. Greensides, mfr. hoops, burned out.  
**PETERBORO**—Colonial Typewriter Co., obtained charter.  
**STRATHROY**—Globo-Wernicke Co., obtained charter.  
**STRATHROY**—Citizens' Water, Gas & Electric Co., obtained charter.  
**TORONTO**—Colonial Weaving Co., obtained charter.  
 Crown Corundum Co., sold out to the Sapphire Corundum & Mica Co.  
 Enterprise Specialty Co., winding up order granted. H. Barber appointed interim liquidator.  
 McGregor & McIntyre, obtained charter.  
 New Davis Dental Mfg. Co., obtained charter.  
 Standard Electric Co., assigned to D. A. McDonald, meeting of creditors.  
**TORONTO**—Woolen Machinery Co., dissolved.  
**TORONTO JUNCTION**—Toronto Junction Lumber Co., obtained charter.  
**WARWICK**—Thos. W. Mitchell, sawmill & mfr. staves, adv. business for sale.

**QUEBEC.**

**LYSTER**—Lotbiniere Lumber Co., applied for charter.  
**MONTREAL**—Beaver Window Shade Co., blinds, etc., registered.  
 Beo Starch Co., dissolved.  
 Dominion Hat & Cap Mfg. Co., registered.  
 Excelsior Cloak Co., mfrs., registered.  
 Montreal Silicate Brick Co., registered.  
 Hiram L. Piper Co., registered.  
 Waldron, Drouin Co., hats, etc., registered.  
**QUYON**—Dowd Milling Co., capital increased to \$500,000.  
**ROCK ISLAND**—Rock Island Milling Co., Oscar F. Caswell registered.  
**St. FELIX**—Denis Gauthier, sawmill, assigned to V. E. Parulla.  
**VICTORIAVILLE**—Gagnon, Achille & Co., tanners, electric light, etc., consent of assignment filed.

**NEW BRUNSWICK.**

**HAMPTON**—Hammond River Lumber Co., incorporated.  
**St. JOHN**—Carleton Foundry Co., applying for incorporation.

**NOVA SCOTIA.**

**HALIFAX**—E. B. Eddy Co., mfrs., opened branch here.  
**NOTRE DAME**—Parrsboro Lumber Co., mill burned, loss about \$1,000.

**MANITOBA.**

**PIPESTONE**—Northern Elevator Co., elevator burned.  
**WINNIPEG**—Burrige Co. mfrs. agents, succeeded by Burrige & Cooper.

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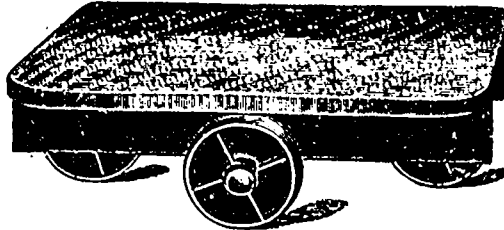
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 WITHOUT  
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 RUNNING  
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 THOROUGHLY  
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# HARDWARE, METALS, PAINTS and OILS

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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.

## ADZES.—Duty 30%.

\$13 to \$20 per doz.

## AMMUNITION.—Duty 30%.

Caps, Gun, gross.

Cartridges, B.B. Cap, Dom., 50 & 5% discount,

Can. list.

Cartridges, B.B. Cap, Amer., 40% discount,

Amer. list.

Cartridges, Central Fire, Military and Sport-

ing, Amer., add 5% to list.

Cartridges, Central Fire, Military and Sport-

ing, Dom., 15 & 5% discount.

Cartridges, Central Fire, pistol size, Dom., 30%

discount.

Cartridges, Central Fire, pistol size, Amer., 10%

discount.

Cartridges, Central Fire, rifle size, Amer., 10%

discount.

Cartridges, Rim Fire, pistol, Amer., 40% dis-

count.

Cartridges, Rim Fire, pistol, Dom., 50 & 5% dis-

count.

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.

Rival and Nitro, net.

Shot, Buck, Seal or Ball, \$6.02½ per 100 lb. net.

(duty 35%).

Chilled, \$6 per 100 lb. net.

Common, \$5.50 per 100 lb. net.

Prices are f.o.b. Toronto, Hamilton, Montreal,

St. John and Halifax. Terms 3% cash,

freights equalized.

## ANCHORS.

Small, 30 to 50 lbs., \$7.00 per 100 lbs).

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## 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.

## AUGERS.—Duty 30%.

Eye Augers, 60% discount.

Nut Augers, 60

Ship Augers, 10

## AXES.—Duty 25%.

Bench, \$6.50 to \$14 per doz.

Broad, \$26.25 to \$10 per doz.

Double-bit, \$11 to \$13 per doz.

Handled, \$8.50 to \$12 per doz.

Regular, \$6 to \$10 per doz.

Ship Carpenters, \$22 to 25 per doz.

## AXLE GREASE.—Duty 25%.

Ordinary, box, \$5.75 to \$6 per gross.

## AXLES.—Duty 35%.

Half patent, short beds, 60% discount per set.

long .. 50%

## BAGS.—Duty 2%.

Cotton, seamless, \$14 @ \$21.50 per 100.

Jute, \$7.75 @ \$9 per 100.

## BANDS.—Duty 30%.

Carriage Hub, 2" x 13", \$13.00 per set.

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" " 4" x 13" 17.00 "

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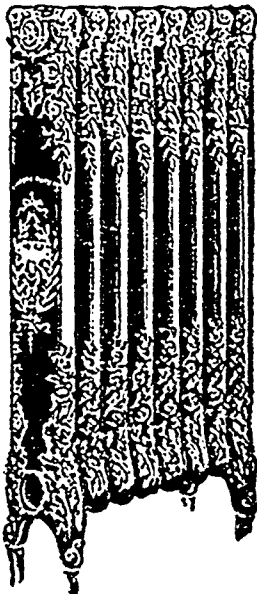
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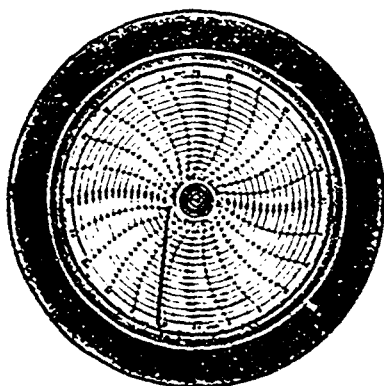
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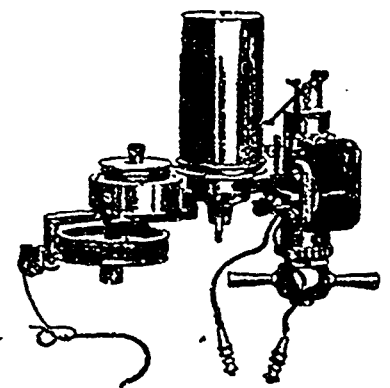
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