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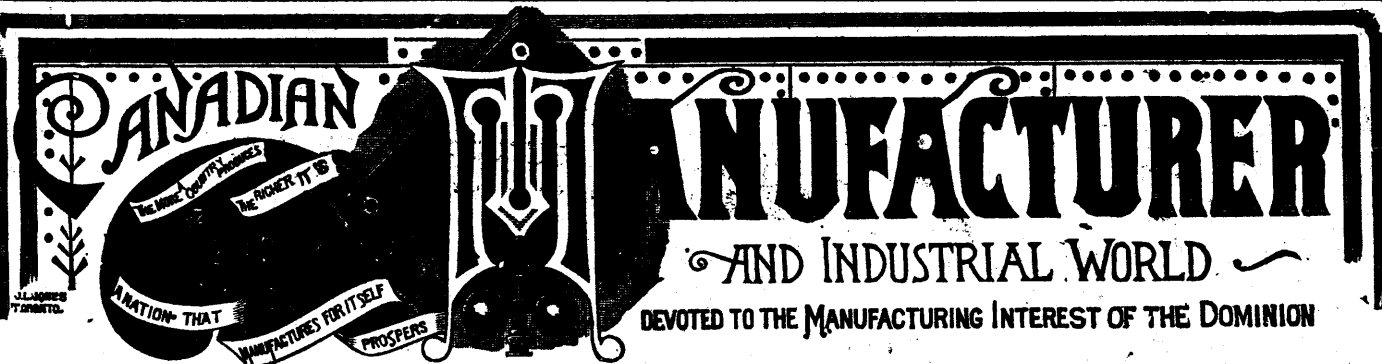
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Vol. 43.

TORONTO, NOVEMBER 1, 1901.

No. 9.

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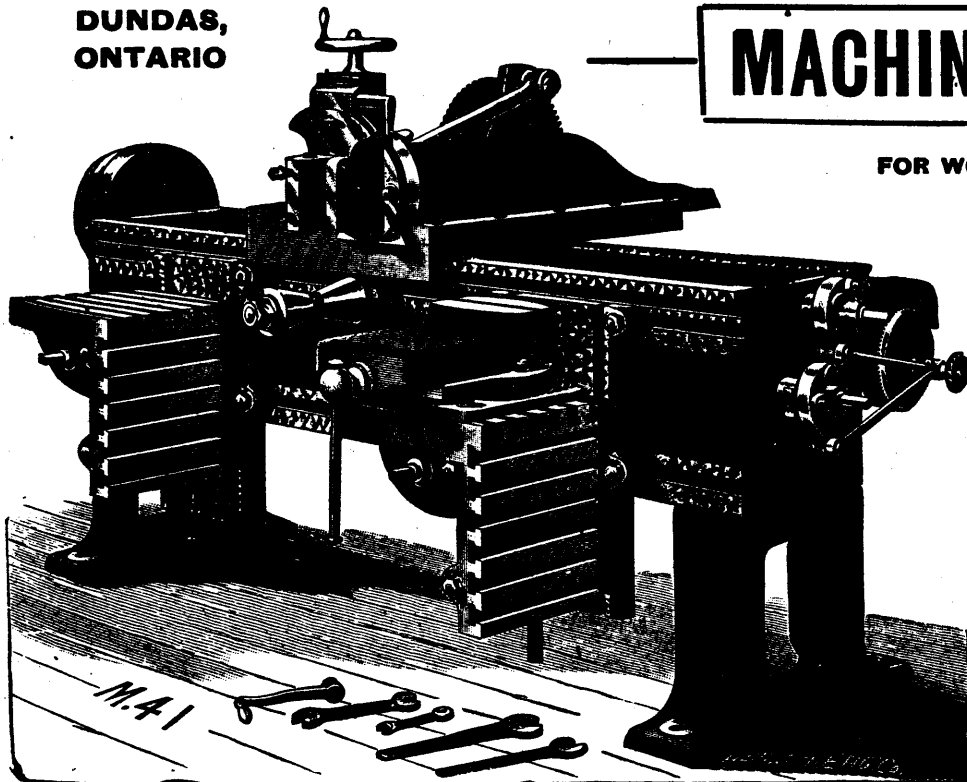
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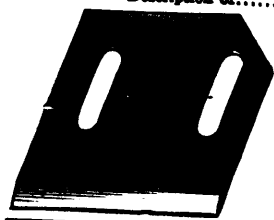
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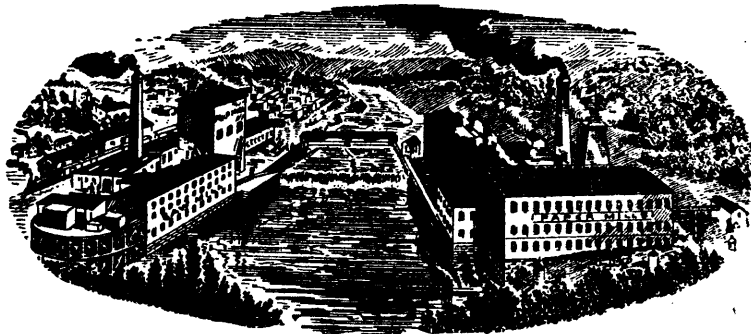
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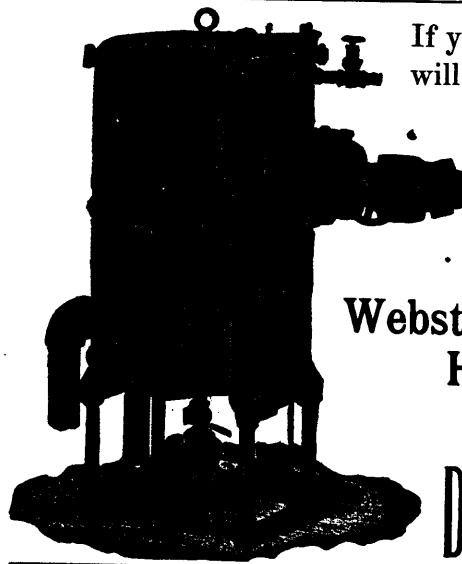
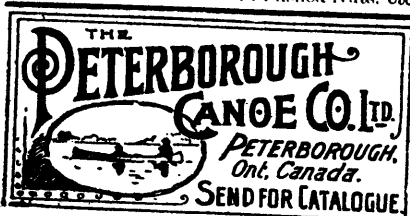
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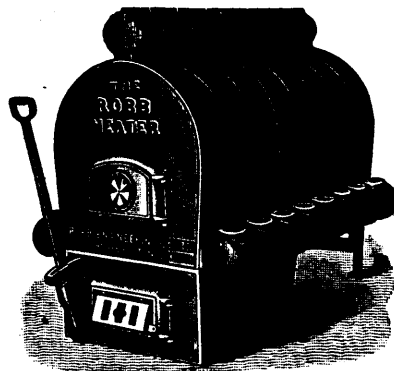
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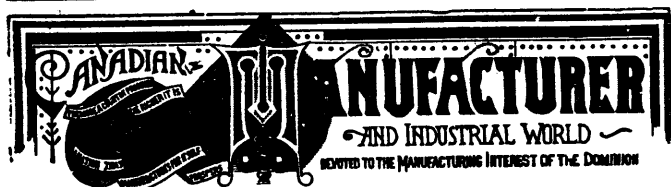
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ESTABLISHED IN 1890.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

The Canadian Manufacturer Publishing Co., Limited.McKinnon Building, Cor. Melinda and Jordan Sts., Toronto.
Cable address: "CANAMAN." Western Union Telegraphic Code used.**MESSRS. DAVISON & CO.,**134 Federal Street, Boston, Mass.
AGENTS FOR UNITED STATES.

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J. J. CASSIDEY, Editor and Manager

SOUTH AMERICAN MARKETS.

The efforts being made by Canadian manufacturers to cultivate trade with American countries south of the United States are deserving of all the success that may result therefrom, and it will interest them to learn somewhat of the similar efforts being made in that direction by their competitors in the United States, and of the difficulties they encounter. Great hopes have been entertained by them that one of the results to accrue from the Pan-American Exposition would be the enlargement of their export trade with their southern neighbors, and now that the Exposition has ceased to exist we find that a Pan-American conference has been opened in the city of Mexico, intended chiefly to carry on the work so auspiciously begun at Buffalo. Therefore the recent departure from Washington and other cities of the United States of numerous trains carrying delegates to the conference, lends interest to some figures relating to the commerce of the United States with the countries alluded to, which the Treasury Bureau of Statistics has compiled for the occasion; and it should be borne in mind that much of the information that is imparted in the document is of equal interest to Canadian as to American manufacturers. The figures given in it show that United States exports to the countries of Central and South America indicate a more tardy growth than to any other part of the world.

The commerce of the United States with the American countries lying south of her borders, says the circular, has long been an object of solicitude to her statesmen, economists, and business men. With the English speaking people of American territory lying to the north of her, commercial relations have rapidly grown and proved mutually satisfactory. To British North America the United States supplies 52 per cent. of the total imports for consumption; to Mexico, equally adjacent, but speaking another language, 40 per cent.; to the Central American States, next removed by distance, though readily reached by water, and now being tapped by railways, 35 per cent.; to Colombia, a trifle farther removed, but equally accessible by direct water route, 33 per cent.; to Venezuela, equally accessible, 27 per cent.; to the West Indies, which lie in close proximity, but which have been up to the present time controlled by commercial nations whose policy in many cases has been to retain their commerce for their own people, 20 per cent.; to the Guianas, also readily reached by water, 25 per cent. of the imports of British

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.

Guiana, 1 per cent. of those of Dutch Guiana, and but less than 6 per cent. of those of French Guiana.

Up to this point the study of the growth of commerce between the United States and other American countries is fairly satisfactory. Beginning with 52 per cent. of the import trade of Canada, 40 per cent. of that of Mexico, and ranging downward along the Gulf of Mexico and Caribbean Sea, a fairly satisfactory share of the commerce of those countries is enjoyed by the people of the United States; though it will be conceded that her people have a right to expect a larger share of the commerce of the countries lying so near at hand, especially in view of the fact that their purchases from them are much larger than their sales to them. Even this somewhat unsatisfactory condition of trade with the countries bordering upon the Gulf of Mexico and the Caribbean Sea is, however, gratifying when compared with the traffic relations of the United States with the countries of South America bordering upon the Atlantic and Pacific oceans.

Of the total imports of all South America, 87 per cent. is taken by the countries bordering upon the two oceans, and but 13 per cent. by those upon the Caribbean Sea. On the eastern coast of South America we find Brazil importing in 1899 goods to the value of over \$105,000,000, of which the United States supplied about 10 per cent.; Uruguay and Paraguay, \$26,000,000, of which the American share was less than 7 per cent., and Argentine \$112,000,000, of which about 10 per cent. was from the United States; while a tour of the Pacific Coast shows imports into Chili of \$38,000,000; Peru, \$8,500,000; Bolivia, \$11,600,000, and Ecuador, \$7,000,000, the proportion from the United States averaging about 10 per cent. Thus the northern coast of South America, fronting on the Caribbean Sea, imports goods to the value of \$26,000,000, of which the United States supply an average of 25 per cent.; the eastern coast, fronting upon the Atlantic \$275,000,000, and the Pacific Coast, \$60,000,000, of which the American proportion is in each case about 10 per cent.

Nor can it be urged that this condition is a temporary one. While exports from the United States to Mexico have grown rapidly, especially since the opening of railway communication, and have experienced a moderate development in the case of the countries bordering upon the Caribbean, the total sales to the south have not grown with the rapidity which has characterized those to the world at large. In 1868 American sales to the countries lying south were 20 per cent. of the total exports; in 1878 a little less than 10 per cent.; in 1888

a fraction above 10 per. cent.; in 1898 but 7 per cent., and in 1901 about 9 per cent.

An examination of the list of United States purchases from Central and South America, seems to increase the anomaly presented by their small purchases from that country. Of Brazil it is by far the largest customer in her chief articles of export—coffee and rubber—while from Argentina and Chili purchases of wool and hides are also heavy; and for the tropical products of other countries of South America—sugar, spices, fruits, dyewoods, cabinet woods, textiles and chemicals—the United States offers a constant and rapidly increasing market. From the countries of South America the United States in 1901 purchased goods valued at \$110,329,667, while her sales to them in that year were but \$44,770,888.

A study of the map of the world seems to offer a partial explanation of the anomalous conditions with reference to the trade of all the countries lying south of the easternmost point of South America. The commerce of the world reaching Brazil (south of the Amazon), Uruguay, Paraguay and Argentina, on the Atlantic Coast, and Chili, Peru, Ecuador and the interior state of Bolivia, on the west, must reach them by water, and their sales of other parts of the world also go by water. It will be seen that the markets of Europe are practically as near to all South America fronting on the Atlantic and Pacific as those of the United States. An examination of the map, and of the distances actually travelled by the great steamships following the usual course of commerce sustains this assertion. The easternmost point of South America extends 2,600 miles farther east than New York, and the sailing distance from that point to New York is actually greater than to the cities of Southern Europe, and but slightly less than to the commercial cities of England and Germany. This fact alone places the United States upon an equal footing with Europe in the matter of distance, but in view of the fact that nearly all of the steamship lines entering South American ports are controlled by European capital and European interests, it is not surprising that a large share of the commerce of those countries should be diverted to Europe. Naturally, a considerable share of their exports go direct to Europe, and to that extent it would be quite reasonable to expect that their purchase would be from that part of the world.

The fact that exports from the United States to Europe greatly exceed her imports from Europe makes it practicable for the vessels which bring the rubber, coffee, hides and wool of South America to the United States to readily load at her ports with grain or provisions for Europe, and there load again with goods for the South American markets, thus making the tour of the triangle of which the line from New York to Liverpool forms the base, and the ports of Brazil and Argentina the apex. That this should occur under ordinary conditions would not be surprising, and that it should occur with lines of steamships controlled almost exclusively in the interests of European capital and European trade is to be expected. Added to this is the lack of banking and business facilities for direct intercommunication with the United States, neglect of American merchants closely to study the trade methods and requirements of the countries in question, the absence of direct solicitation of trade in the language of the country where business is sought, all of which are valuable aids in increasing the commercial relationship, and especially in increasing sales to the countries in question.

The values of Canada's imports from and exports to these southern countries in 1900, whose trade the United States is trying so hard to cultivate, is shown in the following:—

COUNTRIES.	IMPORTS.		EXPORTS.	
	Value.	Per cent.	Value.	Per cent.
British Guiana	\$85,306	0.04	\$282,161	0.15
British West Indies	878,617	0.46	1,698,957	0.89
Mexico	57,294	0.03	149,590	0.08
Central American States	48,112	0.02	25,554	0.01
Argentine Republic	571,269	0.30	473,395	0.25
Brazil	231,358	0.12	480,406	0.25
Chili	28,185	0.01	61,118	0.03
Peru	173	22,871	0.01
Colombia	3,935	39,060	0.02
Uruguay	22,016	0.01	50,458	0.03
Venezuela	68,291	0.04	21,298	0.01
Totals.....	\$1,994,556	1.03	\$3,304,868	1.73

The total value of imports into Canada in 1900 was \$189,622,513, and of exports \$191,894,723.

The values of Canada's imports from and exports to other countries in 1900, where the trade exceeded one million dollars, was as below:—

COUNTRIES.	IMPORTS.		EXPORTS.	
	Value.	Per cent.	Value.	Per cent.
Great Britain	\$45,472,294	23.98	\$107,736,368	56.14
United States	116,972,554	61.69	68,619,023	35.76
Germany	8,706,641	4.59	1,715,903	0.89
France	4,464,938	2.35	1,374,770	0.72
Belgium	3,301,751	1.74	1,197,798	0.62
British East Indies.....	1,318,673	0.70	41,568	0.02
British Africa	87,905	0.05	1,204,365	0.63
Newfoundland	660,230	0.35	2,144,720	1.12
Japan	1,762,534	0.93	112,308	0.06
Australasia	660,411	0.35	1,653,173	0.87
Totals.....	\$183,407,931	96.73	\$185,799,996	96.83

With the 11 countries enumerated in the first statement we do only 1 per cent. of our import business, and less than 2 per cent. of our export business, while with the 10 countries enumerated in the second statement we do more than 96 per cent. of both import and export business.

COMMERCIAL CONVENTIONS.

In December, 1899, President McKinley transmitted to the United States Senate, for its advice and consent, five commercial conventions signed by the respective plenipotentiaries of the United States and Great Britain as follows:—For the colonies of Barbados, British Guiana, Turks and Caicos islands, Jamaica and Bermuda, from which the injunction of secrecy has been removed. These conventions were signed on the part of the United States by virtue of the authority conferred by an Act of Congress, approved July 24, 1897, and are signed by John A. Kasson, on behalf of the United States, and Reginald Tower, on behalf of Great Britain. These conventions are substantially, though not absolutely, alike as regards all the colonies alluded to. Canada's import and export trade with the British West India islands in 1900 were valued at more than \$2,500,000, and as that trade may be more or less affected by these conventions, it is interesting to know the character of them. We illustrate with that for Barbados.

The following articles, the product of the soil or industry of Barbados imported into the United States, shall be admitted at a reduction of 12½ per cent. on the rates of duty as provided in the Tariff Act of the United States, approved July 24, 1897, viz., cane sugar and molasses, fresh fruit, fresh vegetables and asphalt. This is the full extent of the benefit Barbados gets out of the deal.

The following nineteen articles, the product of the soil or industry of the United States, shall be admitted into the said colony free of duty:—Bran, candles (tallow), carts and vehicles, clocks, corn brooms, corn, corn meal, cotton seed oil, cycles and parts, eggs, hay, horses, lamps, machinery for electric lighting, mules, pitch and tar, resin, tallow and wire fencing.

Also the following eight articles at a rate of duty not exceeding 5 per cent. on value:—Fruits and vegetables, fish (tinned or canned), clothing and wearing apparel of cotton, earthen and glassware, hardware and cutlery, furniture and upholstery, wooden and willow ware and wooden hoops.

Also the following twelve articles at rates of duty not exceeding the following:—Bread and biscuit, not fancy or in tins, 12 cents per 100 pounds; cheese, 96 cents per 100 pounds; flour of wheat, 60 cents per barrel; lard and its compounds and substitutes, 48 cents per 100 pounds; meats—ham, bacon, tongues, canned or preserved meat, 60 cents per 100 pounds; beef or pork, salted or pickled, 36 cents per 100 pounds; oil meal and cake, 12 cents per 100 pounds; oleo-margarine, 24 cents per 100 pounds; butter, 36 cents per 100 pounds; beer (lager only), 6 cents per gallon, 12 cents per dozen quarts; wines, 20 per cent. ad valorem; lumber, yellow pine, \$1.00 per thousand feet; tobacco, unmanufactured, in packages of not less than 50 pounds, 22 cents per pound.

Article 2 provides that the colony shall not, during the term of the convention, increase its duty upon oats, coal or shingles, being products of the United States; but upon other dutiable merchandise imported and not specially provided for, the colony reserves the right to increase the duties, not exceeding 50 per cent. thereof, without any discrimination thereby against exports of the United States; and that for the same period such articles as are admitted free of duty in the said colony, shall so remain, so far as the same are products of the United States. It is also understood that articles, the product of the colony, which are, by the United States tariff, admitted free of duty, shall so remain as far as the same are products of the colony; and that the duties imposed by said tariff, so far as the same are applicable to the products of the colony, shall not be increased during the continuance in force of the convention. It is also mutually understood that the usual and proper packages or coverings in which articles of merchandise are imported, shall be exempt from duty. It is further agreed that should the colony concede to any country a lower rate of duty than that stipulated for like products of the United States, such lower rates shall be immediately applied to the like products of the United States.

In return for the preferential rates of duty granted to the colony by the United States, it is agreed that the rates granted by the colony to the products of the United States shall continue, during the term of the convention, preferential in respect to all like imports from other countries, with the exception of Great Britain and British possessions, and of such other countries as shall be entitled, by convention with Great Britain, to the benefit of the most favored nations treatment.

The convention, it is stipulated, shall go into effect immediately after the exchange of ratifications, and shall continue in force for the term of five years from date of such exchange, and from year to year thereafter until the expiration of one year from the time when either of the contracting parties shall give notice to the other of its intention to terminate the same.

The annual meeting of the Canadian Manufacturers' Association will be held in Montreal on November 5 and 6.

EDITORIAL NOTES.

We are in receipt of a letter from Hon. O. P. Austin, Chief of the Bureau of Statistics of the United States Treasury Department, in which he says that he had had pleasure in reading the editorial in the October 18 issue of THE CANADIAN MANUFACTURER with reference to the imports of woolen goods into Canada, and the effect thereon of the preferential tariff, and that he would republish the same in his monthly Summary of Commerce and Finance.

To the Editor of THE CANADIAN MANUFACTURER:

SIR,—I beg to congratulate you on your figures in THE CANADIAN MANUFACTURER of October 18, showing the imports of woolen goods for the past six years. Your compilation is a very valuable one, and I shall have pleasure in referring to it as occasion may require.

To my mind the condition of our woolen industry is much more serious than appears on the surface. It is of the utmost importance that legislation in the interest of our woolen mills be had in the very near future, otherwise disastrous consequences must follow.

Yours truly,

PORT DOVER, Ont., Oct. 29.

JONATHAN ELLIS.

At a meeting of the Retail Boot and Shoe Section of the Retail Merchants' Association yesterday, Mr. E. M. Trowern, general secretary, read a paper upon the subject, "Can the retail trade be best conducted by individuals or through trusts?" which aroused considerable discussion. Mr. G. J. St. Leger was elected first vice-chairman, and the general secretary was delegated to visit Ottawa to wait upon the Minister of Customs and protest against any further increase in the duty on ladies' American made shoes, as proposed by the Canadian manufacturers. The retail men consider that the time is not opportune yet, and will not be until a greater variety of style and a higher finish is put upon Canadian made shoes.—Toronto Mail and Empire.

Is this the Mr. E. M. Trowern who was, a couple of years ago, employed by the Executive Committee of the Canadian Manufacturers' Association to visit Canadian manufacturers of shoes, etc., and induce them to become members? At that time, as now, Mr. Trowern was secretary of the Retail Merchants' Association; and here we find him delegated to protest to the Minister of Customs against the application of a large and influential body of manufacturers for relief against a condition ruinous to their interests. Is the Manufacturers' Association backing up their recent employe or is it doing anything to defeat his efforts to injure the shoe industry?

Mr. William Hutchison, Canadian Commissioner to the Pan-American Exhibition, Buffalo, arrived at Ottawa a few days ago, and was the bearer of a letter from the Philadelphia Commercial Museum authorities, asking the Dominion Minister of Agriculture to establish a permanent Canadian exhibit in that institution. The city of Philadelphia grants \$140,000 for the maintenance of this museum.

The Waterloo branch of the Canada Woolen Mills Co. is building an addition to the present factory 60x35 feet and two storeys high, and it is intended to proportionately increase the steam power. This does not look as if the woolen manufacture of the Dominion was ruined by the preferential tariff.—The Globe.

It may be taken for granted that the machinery to be placed in this enlargement of the Waterloo mill will be first-class and up-to-date in every respect.

Mr. Samuel S. Dale, editor of *The Textile World*, Boston, Mass., writes the editor of this journal that he had read with much interest the article in our October 18 issue re imports of woolen goods into Canada, and had in type a note in which attention is called to the matter, and to the effect which such a rate of importation per capita would have upon the United States. It would result, he says, in the importation of \$143,000,000 worth of woolen goods into that country, or three times the quantity imported under the disastrous Wilson tariff, which nearly destroyed the woolen industry of the United States. He says:—"The woolen manufacturers in Canada have our sincere sympathy in their present embarrassing position; and it is a matter of regret that a country with the great possibilities which Canada possesses, is not under the same influences which have brought about such a development on this side of the line."

We are in receipt of a note from Mr. James M. Swank, general manager of the American Iron and Steel Association, in which he informs us that he and his staff are all busily engaged in completing a new edition of the Association's Directory of the Iron and Steel Industries of the United States, and in preparing its new Annual Statistical Report, both of which, it is expected, will appear before the close of the year.

According to the assessors there has been during the past year a notable appreciation in the value of Toronto's real and personal property. The figures, it is true, have yet to undergo the sifting process, but, assuming that they will be somewhat reduced, they will still be sufficiently large to make a splendid showing for the city. The assessment indicates an increase for the year of \$7,609,877. It is significant that the principal part of this expansion is due to the erection of new buildings, at a cost of \$4,917,049. Land values are assessed at \$1,017,723 more than they were last year, and personal property shows an addition of \$1,428,149. Altogether the assessed value of taxable property in Toronto is placed at \$136,564,021. These figures are, however, merely the official confirmation of a fact that has been apparent to us all. Every evidence that can be given shows that the city of Toronto has entered upon an era of substantial and permanent progress. As the commercial and railway centre of a large and populous province, as the headquarters for higher education, as the seat of provincial government, and the home of many great industries, Toronto stands in an unrivaled position in Central Canada. Hence, during the past year we have added a large town to our population. The assessors report an increase of 6,844.—*The Mail and Empire*.

Mr. John Maddocks, of Bradford, Eng., who is largely interested in the Vulite Syndicate, Limited, of London, was recently in Canada, and during his visit was in this office. He has been touring in both Canada and the United States, and expressed much pleasure at seeing the prosperous conditions of business, and at the delightful climate of this country. Mr. Maddock is booked to sail for England on the SS. *Campania*, which leaves New York November 2.

Recently in the discussion in the House of Representatives of the new Australian Parliament on the Post and Telegraph Bill, Mr. J. Thomas, member for a New South Wales district, to illustrate some of his points, said:—

I have a paper here called *Australasian Hardware and Machinery*, which seems to me to be a very good technical

paper. I should think there is fully four times as much space devoted to advertisements as to ordinary news matter, although that matter looks to me to be of a very good class. But I would point out that it is impossible to run a good technical paper unless the advertisements preponderate over the reading matter. If there is any class of newspapers that we require it is these journals of a technical character, because, whether we are free-traders or protectionists, we should aim at extending and improving the technical training of our artisans. I know that in the country and elsewhere these journals are extremely useful and are read with great interest, and I see no reason why a man in the back blocks who wants his trade or technical journal should not have it sent to him under the same conditions as newspapers which are of far less value to him. . . . At a later stage, when I have an opportunity, I propose to move that all periodicals, no matter what they are, shall be carried through the post as newspapers. If it is intended to carry newspapers free, these periodicals should be carried free, and if newspapers are to be charged for, the issues I have referred to should be dealt with on the same scale.

The *Toronto Globe* publishes another communication regarding the Canadian woolen industry. Here it is:—

To the Editor of *The Globe*: The attention of Mr. Russell, Secretary of the Canadian Manufacturers' Association, having been directed to the questions propounded to him in your issue of October 4, with reference to the position of the woolen industry under the preferential tariff, he explains them in his letter published in *The Globe* of October 19. He says that his reasons for separating such articles as shirts, blouses and ready-made clothing from the other items, as he did in his previous letter, was not to create a wrong impression, but that he might deal only with the figures relating to those branches that appealed to the Government last year for an increase in the tariff, whose position was therefore open for discussion. It is to be noticed, however, that while his first letter was in the nature of an answer to an item in *The Globe* of September 19, which dealt with the total imports of woolen goods, he eliminated from his consideration very important items, which included knit-goods, ready-made clothing, etc. He says:—"Had I presented the figures for the whole industry it would have made still more apparent the inroads that have been made by imported goods under the preferential tariff." Let us see.

Mr. Russell chooses to base his comparisons of the figures of 1897 with those of 1901, but the preferential tariff did not go into operation until April 23, 1897, only a few weeks before the close of the fiscal year, and the trade and navigation returns for that year do not separate the imports of goods coming in under the preferential tariff from those coming in under the general tariff, as is done in subsequent years. The separation was begun in 1898, with which year it is only fair that the comparisons with 1901 should be made.

The total imports of woolen goods into Canada in 1898 were valued at \$7,985,847, of which \$7,127,333, or about 89 per cent. came in under the preferential tariff, and \$858,514, or about 11 per cent. under the general tariff. The total imports in 1891 were valued at \$9,914,115, of which \$7,339,543, or about 73 per cent. came in under the preferential tariff, and \$2,604,572, or about 27 per cent., under the general tariff. The total increase of imports in 1901 above those of 1898 was \$1,958,268, of which \$212,210, or about 10 per cent., was under the preferential tariff, and \$1,746,658, or about 90 per cent., under the general tariff.

It does not seem, according to these figures, that "the inroads that have been made by imported goods" upon the Canadian industry have been caused by the preferential tariff, as Mr. Russell thinks, and he must go further for an explanation.

Toronto, Oct. 21.

INQUIRER.

CAPTAINS OF INDUSTRY.

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

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

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

The Toronto Electric Light Co. will erect a new office building 145x51 feet, four storeys high, to cost about \$30,000.

Messrs. Christie, Brown & Co., Toronto, biscuit manufacturers, are erecting an addition to their factory, 185x80 feet, five storeys high, at a cost of about \$50,000.

A beet sugar factory to cost about \$200,000 will be erected at Raymond, N.W.T., by a sugar manufacturer of Provo, Utah. Three thousand acres of land are being prepared for cultivation for beet production.

A Buffalo syndicate has purchased the Peterborough and Ashburnham Electric Railway for \$150,000. The railway is six miles in length, and was constructed as a model by the Canadian General Electric Co. The new purchasers will extend the line seven miles to Lakefield, and equip it with modern cars.

Walter Clendennan's portable sawmill at Wellandport, Ont., was destroyed by fire October 16.

The Canada Carriage Co., Brockville, Ont., are installing an electric light plant for lighting their factories.

The factory of the London Tobacco Co., London, Ont., was destroyed by fire October 26. Loss about \$30,000.

Another storey is being added to the Temple Building, Toronto, which will make eleven new suites of offices. They will be connected to the main building

by marble stairways. A third elevator will be constructed, which will be of the most modern description.

An explosion in the works of the Ottawa Carbide Co., Ottawa, did damage to the extent of about \$10,000.

The McClary Mfg. Co., London, Ont., who are among the largest producers of enameled ware in Canada, have recently installed what they claim to be the largest drawing press in America. The press, which was manufactured at Goppingen, Germany, weighs 90,000 pounds, and is mounted on a concrete foundation twenty-one feet square and eight feet deep, the whole foundation being twelve feet below the surface. The machine is used for drawing into shape the flat metal blanks before receiving the enameling coat. The press will form everything that is manufactured in the enameled ware trade, from a small cup 2½ inches in diameter to a tub two feet in diameter, and will draw sheet steel ranging from twenty-five gauge to ten gauge, the latter being required for sinks and other heavy articles.

A very attractive catalogue has recently been issued by the advertising department of the Joseph Dixon Crucible Co., Jersey City, N.J., having reference entirely to the graphite productions which form the bulk and volume of the products of the company. Characteristic of everything that emanates from this house, the pamphlet of seventy-eight pages is su-

perly illustrated with half-tones, the entire contents being printed on superior coated paper, making it a work of art throughout. The artistically designed cover is a pictorial gem in itself. Illustrations are given of the mechanical operations connected with the making of many of the products referred to, while the goods produced, many of which are extremely prosaic in character, are shown in artistic groups that indicate the taste and skill with which this pamphlet has been compiled. The line of articles to which reference is made is a lengthy one, too much so for us to make any extended reference to individual specialties. It's enough to say that everything relating to the graphite line or to the use to which this mineral may be applied, is embodied in its contents. No more instructive catalogue could be selected by the hardware dealer, and the application for it will be promptly responded to by the company, who desire to see it widely distributed.—Hardware.

The Peterborough Canoe Co., Peterborough, Ont., have recently made shipments of canoes to Siam, Asia; Ivory Coast of Africa, and Bermuda, W.I. The canoes for Siam go west via Vancouver and Hong Kong. The canoes for Africa go east via Liverpool, and those for Bermuda south from Halifax, and so canoes radiate from Peterborough to all parts of the earth. The canoes that were used by the Duke of York and the Governor-General for their duck shooting at Poplar Point in the North-West, were built by the Peterborough Canoe Co., and shipped out there some time ago, and thus the name of Peterborough and the Peterborough canoes is made known over all the earth.

Messrs. Chandler & Co., Owen Sound, Ont., recently received 100,000 bushels of corn from Chicago. The firm has taken over the million-bushel elevator from the Canadian Pacific Railway, and converted it into a monster corn mill, which will run day and night throughout the year.

The Imperial Engine Co., Woodstock, Ont., has been incorporated with a capital of \$600,000, to manufacture engines, automobiles, locomobiles, etc. The provisional directors include W. H. Laurie, Montreal, Dr. W. O. Taylor, Princeton, Ont., and R. N. Ball, Woodstock, Ont.

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Boring Machine,
Flue Cutters,
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Jacks,
Paint Spreaders,
Bolt Nippers.

The Dominion Iron & Steel Co., Sydney, C.B., have shipped 2,000 tons of pig iron to the United States.

The Wire & Cable Co., Montreal, will erect a large factory for the manufacture of wire cable.

The Canada Sugar Refining Co., Montreal, will erect an immense refinery at Baden, Ont.

The Canada Wood Specialty Co., Orillia, Ont., will erect two new buildings in connection with their present factory.

The Toronto City Treasurer has received a cheque for \$12,754.25 as the city's share of the Toronto Street Railway Co's earnings for September, which was the greatest month in the company's history. The September receipts in the past four years, and the city's percentage of the same have been:—

	Receipts.	Percentage.
1898....	\$136,254.72	\$10,900.37
1899....	140,279.67	11,222.37
1900....	149,386.33	11,950.91
1901....	159,428.12	12,754.25

The machinery for the manufacture of steel shells has arrived at Quebec and will be placed in position immediately in the Government factory, which will commence at once to manufacture steel shells.

The directors of Belmont gold mine, near Madoc, Ont., will develop the water power owned by the company. An immense air compressor will be installed at the dam and compressed air will be conveyed to the mine in iron pipes.

The Cordova Mining & Exploration Co., owners of the Belmont gold mine in Hastings county, will increase their mill of 30 stamps to a capacity of 100 stamps.

The Mica Boiler Covering Co., Montreal, inform us that they have lately been appointed sole agents for Canada for the sale of Straus' Boiler Compound, "Boilerine," which, they believe, will be a valuable addition to their mill supply department. They will keep a quantity of Boilerine in stock in convenient size packages and will therefore be able to fill orders promptly.

A track-laying machine, which can lay one mile of ties and rails per hour, recently built at the Canadian Northern Railway shops in Winnipeg, Man., at a cost of about \$4,000, is the invention of Hugh Mann, the well-known contractor.

It has been working very satisfactorily in the laying of the tracks for the new Canadian Pacific Railway yards at Fort Rouge.

The new flour mills of the Clergue syndicate at Sault Ste. Marie, Ont., will have a capacity of 4,000 barrels per day. It is expected that the output will be shipped directly to England in the vessels belonging to the syndicate.

Ludlam's sash and door factory, Leamington, Ont., was destroyed by fire October 16. Loss about \$10,000.

The Canada Atlantic Railway Co. will erect next year a steel grain elevator at Depot Harbor, Ont., with a capacity of 2,000,000 bushels, at an estimated cost of \$500,000.

The spice mill of Dalton Bros., Toronto, was badly damaged by fire October 17. Loss about \$8,000.

Prof. R. A. Smart has resigned his position in the department of experimental engineering of Purdue University at LaFayette, Ind., and connected himself with B. F. Sturtevant Co., Boston, Mass., with whom he will become the head of a department of experimental engineering which is being established for the purpose of investigating all problems relating to blower practice and of developing new and more efficient applications of the fan blower in all lines of industry.

The Standard White Lime Co., Toronto, has been incorporated with a capital of \$300,000, to manufacture lime, sandstone, cement, etc. The provisional directors include D. D. Christie and R. E. Nelson, both of Guelph, Ont., and Thos. Christie, Toronto.

The Standard Vinegar Co., Toronto, has been incorporated with a capital of \$40,000, to manufacture vinegar, etc. The provisional directors include W. C. Mackenzie, Donald Fraser and W. A. Mackenzie, all of Toronto.

Alexander Main & Son's rope factory, Hamilton, Ont., was destroyed by fire October 22. Loss about \$15,000.

The Columbia Clay Co., Columbia, B.C., has been incorporated with a capital of \$50,000, to manufacture bricks, etc.

The British Columbia Pulp & Paper Co., Victoria, B.C., has been incorporated with a capital of \$500,000, to manufacture wood pulp and paper.

The Toronto Liquid Carbonate Co., Toronto, has been incorporated with a capital of \$100,000 to manufacture carbonic acid gas, etc. The provisional directors include Thomas Davies, T. A. Davies and Michael Herman, all of Toronto.

Work is now under way upon the foundations for the immense new plant of the B. F. Sturtevant Co., at Hyde Park, Mass. That the buildings can be completed none too soon for the urgent needs of the company is evidenced by the fact that their present plant at Jamaica Plain, Mass., is now taxed to the limit and that it has been necessary to run overtime, particularly in the engine and electrical departments.

The Canadian Skewer Co., Toronto, has been incorporated with a capital of \$50,000, to manufacture skewers, curtain poles, broom, spade and other handles, etc. The provisional directors include Fred. Mallison, R. D. Harling and Arthur Gate, all of Toronto.

The Globe Paint Co., Toronto, has been incorporated with a capital of \$40,000, to manufacture paints, oils, varnishes, etc. The provisional directors include Henry Coventry, J. E. Webb and J. R. L. Starr, all of Toronto.

The Ontario Type Machine Co., Toronto, has been incorporated with a capital of \$10,000, to manufacture machines for type-casting, type-composing, etc. The provisional directors include John Greer, G. L. Smith and R. H. Greer, all of Toronto.

Victoria Lake, Limited, Stratford, Ont., has been incorporated with a capital of \$30,000, to generate water power, etc. The provisional directors include G. G. McPherson and J. P. Woods, both of Stratford.

The modern up-to-date smith shop in a large manufacturing plant is something more than a mere collection of forges. As exemplified in recent important installations made by the B. F. Sturtevant Co., Boston, Mass., it includes not only the forges with the necessary hoods, but a pressure blower with the required blast piping to all of the forges and an exhaust fan for the removal of the smoke through another system of piping. This latter feature represents one of the latest improvements, the value of which is demonstrated by the clear, smokeless atmosphere

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AND PERMANENT OPALESCENT WINDOW SIGNS,

Guaranteed Quality.

TRADE MARKS, DECORATIONS, NAME PLATES, ETC.

For HARDWARE, BICYCLES, VEHICLES, POTTERY, FURNITURE, etc.

Sketches and samples submitted free of charge. Being American manufacturers enables us to make prompt delivery. Write us.

THE MEYERCORD CO., Inc., CHAMBER OF COMMERCE, - CHICAGO,

—MAIN OFFICE—

Largest Makers in the World of Guaranteed Decalcomania Transfers.

Canadian Travelling Representative,
CHAS. H. JAGGER, Hamilton, Ont.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

which is thus maintained within the shop. Complete equipments of this character have recently been introduced by the above-named company for the New York Shipbuilding Co., Camden, N.J.; Chicago & Great Western Railway, Owelwin, Ia.; H. K. Porter Co., Pittsburgh, Pa.; Colorado Southern Railway, Denver, Colo.; New York Navy Yard, Brooklyn, N.Y.; Hannibal & St. Joseph Railway, Hannibal, Mo., and the Wellman-Seaver Engineering Co., Cleveland, Ohio.

Capitalists from Utah are considering the erection of a sugar beet factory in the Mormon colony in Manitoba, the tests of the sugar beets grown in Southern Alberta have shown, it is stated, that the proportion of saccharine matter is twenty-five per cent. higher than in the beets grown in the vicinity of Salt Lake City.

The J. & J. Taylor Co., Toronto, recently made a consignment of vault material to Bermuda, to be used in a new bank at Hamilton, Bermuda. The contract was awarded in competition against

some of the largest firms in the United States.

Mr. James F. Robertson, St. John, N.B., has purchased the cotton mills of Wm. Parks & Co., that city, for \$145,000. The mills, when running full, employ between 500 and 600 hands. An export house has offered to take the entire output of the two mills for export.

A beet sugar factory with 600 tons daily capacity, and employing more than 200 hands, will be erected at Sandwich, Ont. The company is composed of English, American and Canadian financiers, and has a capital of \$600,000.

Extensive alterations and improvements will be made to the Toronto customs house, owing the large increase in the business of the express department. A recommendation has been sent to Ottawa for the erection of a new building.

Thomas Bros., Norwich, Ont., will erect a factory for the manufacture of woodenware at St. Thomas, Ont., having been granted a bonus of \$20,000.

The large wall-paper factory of Colin McArthur & Co., Montreal, was destroyed by fire October 28. Loss about \$50,000.

The St. Lawrence Electric Power Co., lighted the Cornwall canal from end to end October 25. The huge machines that are to produce 1,000 h.p. were started without a hitch. There are some 250 lights in use in the canal. The lamps are known as enclosed arc, and are of 2,000 c.p.

The Interior Construction Co. have received notice of the cancellation of their license of occupation in the Detroit River, by which they exported natural gas to Detroit. Their pipes must be removed from the property of the Crown without delay.

The Harvey, Norman Spice Co., Hamilton, Ont., has been incorporated with a capital of \$40,000, to manufacture spices, etc. The provisional directors include W. R. Harvey and Henry Norman, both of Hamilton and W. J. Barnhill, Norval, Ont.

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

THE STANDARD



GOLD WATER PAINT

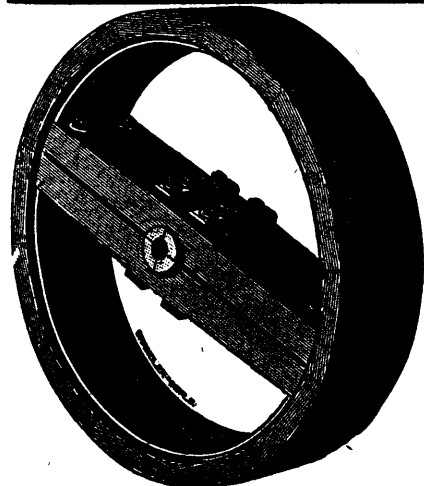
**WEATHER PROOF, FIRE PROOF
 WHITE AND COLORS.**

MILL SUPPLIES

**Lubricating Oils and Greases
 PAINT, PAINT OILS, ETC.**

W. A. FLEMING & CO.

Montreal and St. John, N.B.



“The Reeves”

A HIGH GRADE

Wood-Split

PULLEY

BUILT HONESTLY

BUILT RIGHT

It Does the Work.

No Trouble.

No Worry.

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REEVES PULLEY MANUFACTURING CO., Limited

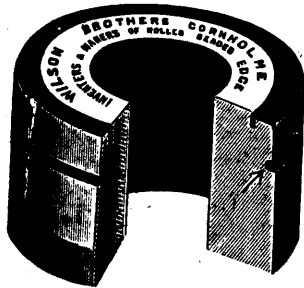
14 Pearl Street, - Toronto, Ont.

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The JAMES SMART MANUFACTURING Co. LIMITED

BROCKVILLE, ONT.

HARDWARE, Builders', House Furnishing, Cabinet Makers' and Carriage Makers'; Pumps and Plumbers' Goods; Wrought Steel Butts and Hinges; Cast Steel Hammers, Sledges, Hatchets and Axes; Clothes Wringers, Meat Choppers; Step Ladders; Blacksmiths' Tools and Jack Screws; Warehouse Trucks. Catalogues and all information furnished promptly.



ESTABLISHED 1823
WILSON BROS. BOBBIN CO. (1900) LIMITED

45 GOLD MEDALS AND DIPLOMAS
HIGH CLASS WORKMANSHIP.
SEVENTY YEARS' REPUTATION.

BOBBIN AND SHUTTLE MANUFACTURERS

Telegrams—"WILSONS, CORNHOLME, A B C AND A I CODES.

ADDRESS—

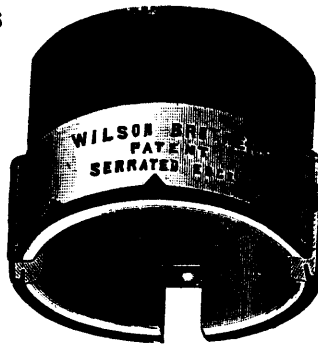
Cornholme Mills, - TODMORDEN.

BRANCH WORKS—

LIVERPOOL AND ST. HELENS

OFFICE AND SHOWROOMS—

14 Market Place, Manchester, Eng.



Since the outbreak of hostilities in South Africa the value of goods sent from Canada, on order for the Imperial authorities, exceeds in value \$1,250,000. These orders include saddlery of all kinds, hats and caps, wagons, etc.

The inspectors in the various districts are now collecting samples of the sugar beets planted this year for experimental purposes, and forwarding them to Guelph, Ont., where they will be analyzed by Prof. Shuttleworth.

Mr. E. R. C. Clarkson, Toronto, has been appointed interim liquidator of the Western Canada Woolen Mills Co., head office Toronto, and mill at Medicine Hat, N. W. T.

A wood working factory will be erected at Ottawa by S. L. Kyle.

Negotiations for the purchase of a large quantity of electric power have been going on between the Quebec Railway, the Light & Power Co., and the Canadian Electric Light Co., and a deal has been consummated whereby the company will lease 1,000 h.p. at a cost of about \$15,000. A part of the agreement is that the Canadian Electric Light Co. will not make any installation in the city of Quebec.

New Hamburg, Ont., will grant a bonus to the Hamburg Brass Mfg. Co.

The War Department of the British Government has awarded a contract to the Victoria Machinery Depot, Victoria, B.C., for the construction of two twin-screw steam launches for the sub-marine service in connection with the defences of the Esquimalt, at a cost of about \$50,000. Each will be fifty feet long between the perpendiculars, have a moulded breadth of thirteen feet, and have a depth of five feet nine inches. They will have a high speed, and will be specially fitted for the service into which they are to be placed.

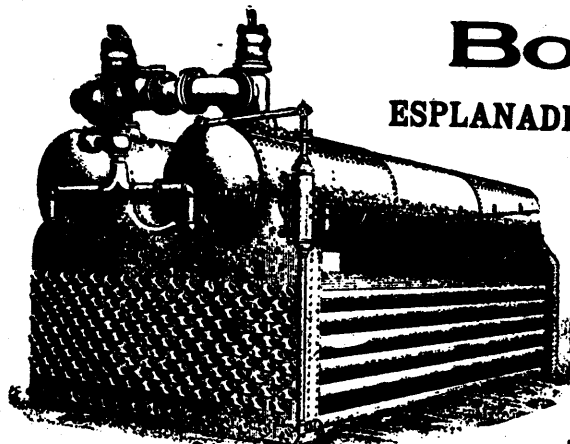
The Colonial Construction Co., Toronto, has been incorporated with a capital of \$100,000. The provisional directors include C. L. Higgins and J. J. Westgate, both of Montreal, and T. A. Hutchins, New York City.

Peat Industries, Limited, Toronto, has been incorporated with a capital of \$500,000, to manufacture peat, etc. The provisional directors include J. M. Shuttleworth, Brantford, Ont., J. L. Campbell, and Wellington Francis, both of Toronto.

The third furnace of the Dominion Iron & Steel Co., Sydney, C.B., was started last week, and when the fourth furnace is finished the plant will turn out 1,500 tons of pig iron a day. The manufacture of steel will be commenced about the beginning of next year. The expectation is that 400,000 tons of pig iron and about 70,000 tons of steel will be shipped to England in 1902.

The Canadian Heine Safety Boiler Co.

JOHN J. MAIN, MANAGER.



ESPLANADE (Opp. Sherbourne St.)

TORONTO

HIGH-CLASS
Water Tube Steam Boilers..

FOR ALL PRESSURES
DUTIES AND FUEL

From 75 to 600 H.P. Each

REFERENCES:

N.B.—We do not make small Boilers

The Toronto Electric Light Co., Limited; The T. Eaton Co., Limited; The Massey-Harris Co., Limited; The Gutta Percha Rubber & Mfg. Co.; The Wilson Publishing Co., Limited; Sunlight Soap Co., Dominion Radiator Co., Central Prison, Foresters' Temple, Toronto City Hall, Canada Biscuit Co., Confederation Life Co. (all of Toronto, where Boilers may be seen working), also Orillia Asylum, Orillia, Ont., and LaPresse Publishing Co., Montreal.

FOR SALE
CANADIAN PATENT No. 70,666
(Patented March 26, 1901)

Miller's Detachable Horse Shoe Calc.
Durable and cheap.
For full particulars address J. WALLACE MILLER,
Bernharts P.O., Berks Co., Penn.

Advertise in The Canadian Manufacturer.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Canadian Electrolytic Co., Montreal, has applied for incorporation with a capital of \$300,000, to manufacture salt, lime, soda, etc. The applicants include, Harry Bates, Boston, Mass., Walter Mitchell, and Beaumont Shepherd, both of Montreal.

E. F. Dey, Ottawa, is preparing plans for a new torpedo-boat for Prof. Emerson, It will be forty-five feet long, with a five foot beam and three feet deep. It will accommodate a 200 h.p. gasoline engine, which it is expected will enable it to run at the rate of forty miles an hour.

The gas well of J. J. White and Arthur Lamarsh, at Wheatley, Ont., was shot recently to increase its capacity. After the shot was made oil was seen to be shooting in a large stream from the well with the gas. Experts claim that the quality of the oil is far superior in its natural state to any produced in America and they say it can be put on the market as first-class lubricating oil without any refining whatever. They estimate the capacity of the well at fifty barrels daily. There is a steady pressure of about 350 pounds of gas.

The largest "Deviline" whistle ever manufactured has just been completed by the Northey Mfg. Co., Toronto. It is really an enlargement on the original deviline whistle introduced some years ago as a bicyclist's warning signal, but this particular deviline will be used as a fog horn at a dangerous point in the Gulf of St. Lawrence, and it was made on

order of the Marine Department. The horn is four feet in diameter and twelve feet long. It is controlled by clockwork, the latter in turn being controlled by a compressed air motor. By an ingenious arrangement of valves and discs, two sets of sounds are produced, one a deep roar, the other a weird shriek. The sounds can be heard at a distance of twelve to fifteen miles.

The Port Hope Natural Gas & Oil Co., Port Hope, Ont., have struck a good flow of gas at a depth of 570 feet.

AMERICAN STEAM GAUGE & VALVE MFG. CO.

One of the most prominent firms of the United States to receive a gold medal is the American Steam Gauge & Valve Mfg. Co., Boston, Mass., who are well and

favorably known as manufacturers of a fine line of steam gauges, pop safety valves, Thompson indicators, and engine and boiler fittings, which enjoy an extensive sale in this and other countries. Visitors to the Pan-American Exposition will, no doubt, remember, the display of this house, as it attracted universal attention and general approval. The firm is in a position to fill all orders entrusted to them and invite correspondence from all sections. Their steam gauges and engine fittings which won for them the above-mentioned medal are equal to any and superior to many products of similar houses, and we are sure that our readers not already familiar with the concern and their products will find it greatly to their advantage to place a trial order with them and thereby be convinced of the advantage of patronizing them in future.

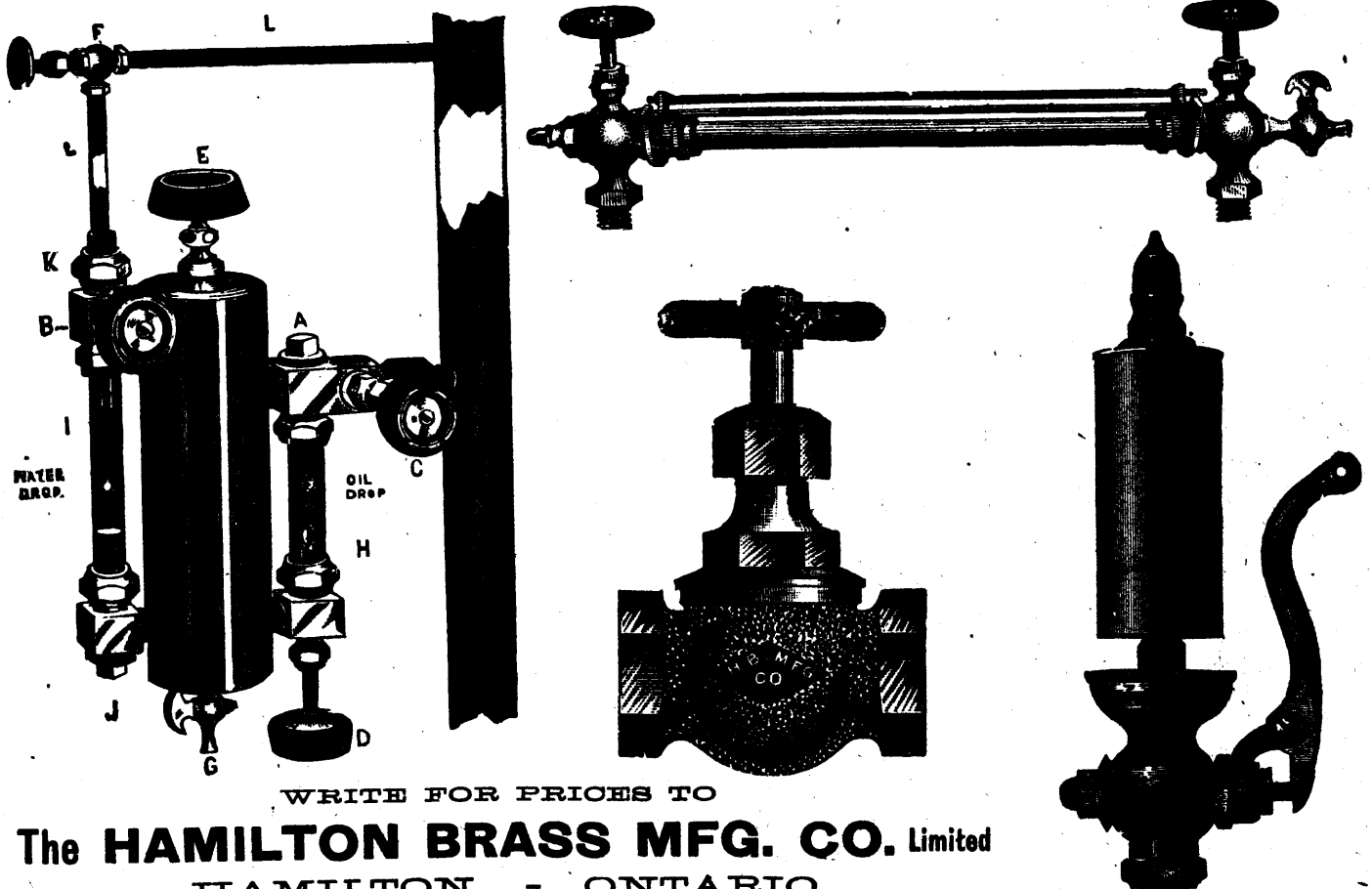
MICA BOILER COVERING CO.

Contractors to the Admiralty

LIMITED

The demand for **MICA COVERING** is largely increasing. It has been proved and tested in all kinds of service, and leads the market absolutely on its merits. Awarded the **Gold Medal** at the Pan-American ; Prize Winner at the Paris Exposition, etc. Its use in Great Britain and the United States extending. Some recent Canadian **repeat orders**. Write for full particulars from

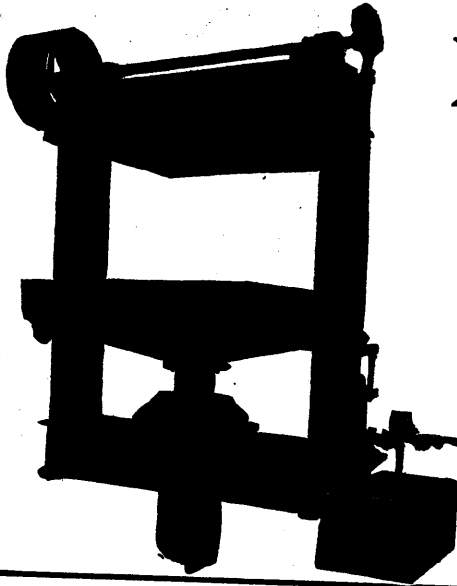
THE MICA BOILER COVERING CO. Limited, 86-92 Ann St., Montreal



WRITE FOR PRICES TO

The HAMILTON BRASS MFG. CO. Limited
HAMILTON, - ONTARIO

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Hydraulic **PRESSES**

We Build Presses
for...

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

SEND FOR
CATALOGUE
AND PRICES

William R. Perrin & Company
TORONTO, - CANADA

MINING CIRCULAR.

A new illustrated mining circular has been issued by the Sturtevant Mill Co., Boston, Mass., fully describing their well-known Roll Jaw Fine Crushers, which reduce the hardest ores to 1½ inch, without the use of screens. It also contains complete information regarding their powerful Centrifugal Crushing Rolls, which, they say, have three times the capacity of other rolls of equal dimensions. These with many other mining machines of their manufacture complete a circular which cannot fail to interest parties using this class of machinery. The company will be pleased to mail this circular to interested parties upon request.

DECALCOMANIA.

The Meyercord Co., Chicago, inform us that they are making a special drive on window signs by their decalcomania process, with which they are interesting some of the most conservative advertisers in the manufacturing line in Canada and the United States. As an evidence of this they show a letter received by them from the Elgin National Watch Co., Chicago, in which they say:

"Having spent some \$12,000 or \$15,000 with you for your opalescent decalcomania transfers for advertising purposes, we wish to say that we are well pleased with our investment.

"We are truly astonished with what eagerness our trade takes to your decalcomania. We have no difficulty in getting the dealers to permit us to put up our large decalcomania sign.

"Your sign is proving very lasting—window washing does not effect either the sign or the colors. We believe that by no other medium could we reach the same number of people so effectually and permanently as with your process signs.

"We will say in conclusion that the quality of your article, the ease of application of your signs, and the taking qualities with the dealer, meet our full approval, and we are well satisfied with the money expended with your firm."

CHICAGO PNEUMATIC TOOL CO.

The Chicago Pneumatic Tool Co., Chicago, Ill., with factories in Chicago, Detroit and Philadelphia, manufacturers of pneumatic tools and appliances for every purpose, have sent us a copy of their new No. 15 catalogue, having reference to their products, which is their latest production, and which they believe is the most complete catalogue of pneumatic appliances ever issued. The cuts showing tools in operation are new and are made from photographs taken from some of the most noted buildings and structural work ever undertaken.

Speaking of this really beautiful book,

in the introduction we are told that since it is impossible for mere description to convey to the mind the true magnitude of great things, it is fortunate that modern illustration, reaching the intellect through the eye, can be so successfully used to effect a much more complete understanding. The memory better records what has been seen than what has been heard. Therefore it is not the desire of the company to burden the volume with dry descriptions, but the illustrations in it are so numerous and varied that the usefulness and adaptability of different tools represented by them are apparent.

The long experience of the company in building the tools they are producing enables them to furnish machines containing the very best mechanical features, economical in the use of air, reliable, and easy to operate.

The company call attention to the fact that they received the only gold medal for pneumatic tools, and also a silver medal for their exhibit at the Pan-American Exposition at Buffalo.

Messrs. O. W. and K. Nordin, representing a wealthy French syndicate, who were recently in Montreal, intend to establish extensive pulp mills on the Saguenay.

The Central Milling Co., Peterborough, Ont., will erect an elevator of 50,000 bushels capacity.

CONTRACTORS, ATTENTION!

If you are excavating in stone, use

THE "LITTLE GIANT" ROCK DRILL

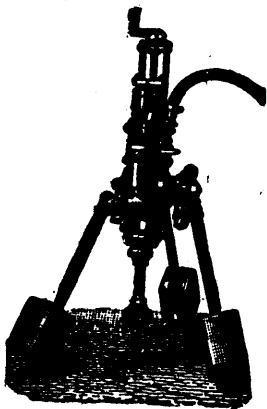
... NINE SIZES ...

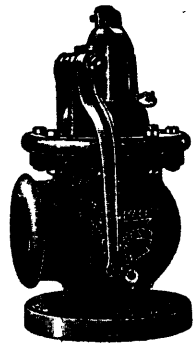
Adapted for Steam or Air

THE CANADIAN RAND DRILL COMPANY

SHERBROOKE, QUE.

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A VALVE YOU CAN RELY ON. SEND FOR PRICES.

CROSBY STEAM APPLIANCES EXCEL

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

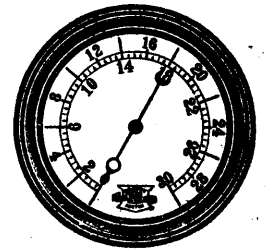


Stationary and Marine Valves.
Water Relief Valves.
Blow-off Valves.
Globe and Angle Valves.
Single Bell Chime Whistles.

SEND FOR CATALOGUE

CROSBY STEAM GAGE and VALVE CO.
BOSTON, NEW YORK, CHICAGO, LONDON

A TRUTHFUL GAGE IS THE ONLY GOOD GAGE



ABSOLUTE HONESTY IN BUSINESS.— A business that is to last must be based upon absolute honesty. It will not pay to put it on the grounds of policy; for a business based on the "honesty is the best policy" basis is always in danger. Parties participating in the business will be watching for whatever pays best. And there are those who think that what a great many people regard as dishonesty pays. John Adams showed a fine sense in regard to absolute honesty when he rebuked his son for taking government paper to write on. Of course he would never have allowed him to purloin postage stamps, envelopes, wax, rubber, etc. A speaker, at a large public meeting, a few days ago said the great need of this nation is honesty and truthfulness. Is that so? Are we less honest than others? Or, better, are we less regardful of the

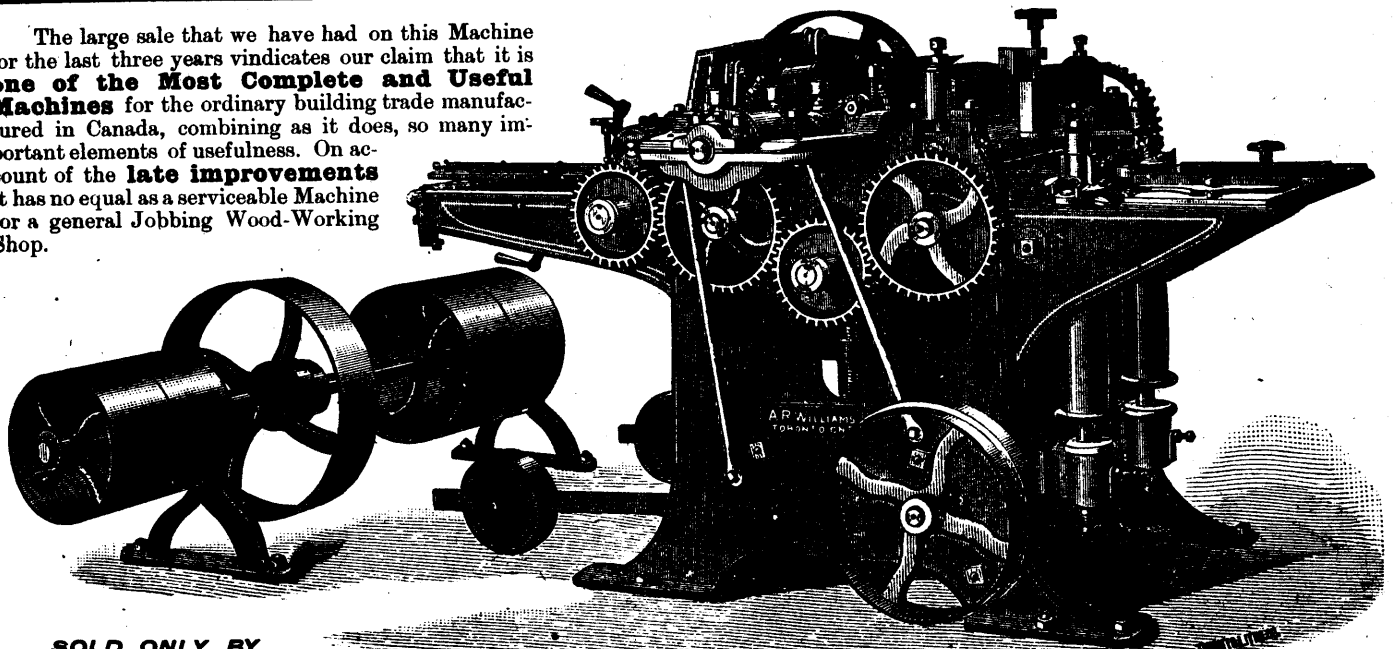
truth than we can or should be? Are white lies permissible? if yes, when? From the horse dealer to the preacher whose lips cry up a creed that his heart cries down, do we do more lying than is legitimate? Is any lying lawful? Does business bend, as so many suppose, beneath a burden of lying that would weigh down a world of Ananiases? Till Bismarck taught the world otherwise, building as he did upon truth, the world went on working out its diplomatic destiny on the Machiavellian-Metternichian basis that nothing pays in foreign politics like lying. Lies are posted all over the country. Hundreds, thousands, yes, millions of the claims put forth by papers, in paid ads are false. Some countries are seeking to suppress these falsehoods by punishing people for advertising anything but the truth.

Quite recently, in Europe, a firm had to pay fifty dollars fine for saying a hat was felt, when it wasn't. Is it wise to make laws to punish lying ads? Isn't that paternalism? What is to be done? Are the lies to go on and on till the whole life, the heart and head are sick of the false life? or are we to begin on a better basis, that of truth, for the truth's sake? If we are to be better we must begin at the base of the whole social system, in the school. The little ones must learn to love truth, to utter it always, to live it in their daily lives, to scorn falsehood.

ONTARIO AND PORTLAND CEMENT.— Keep your eye on cement. The cement era is close at hand. Portland cement is one of the most useful commodities in existence, and before long it will take rank with lumber, steel and iron in

IMPROVED "ECLIPSE" PLANER, MATCHER and MOULDER

The large sale that we have had on this Machine for the last three years vindicates our claim that it is **one of the Most Complete and Useful Machines** for the ordinary building trade manufactured in Canada, combining as it does, so many important elements of usefulness. On account of the **late improvements** it has no equal as a serviceable Machine for a general Jobbing Wood-Working Shop.



SOLD ONLY BY THE

A. R. WILLIAMS MACHINERY CO., Limited, Toronto

Manufacturers, Importers and Dealers in

ENGINES, BOILERS AND MILL MACHINERY SUPPLIES

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

general construction work. Portland cement is made of two simple materials, both of which are found in abundance in this country, and in Ontario especially. These materials are marl and clay. The mixing, drying and pulverizing processes in connection with the manufacture have, until recently, been expensive. The new process of manufacture effects great economies, and with our abundant supplies of the raw materials it cannot be long until the price of cement is reduced to such a figure as will greatly increase its consumption in a thousand and one different ways. Already it is said to be cheaper, as it certainly is more satisfactory, to build foundations and cellar walls of cement than of brick or stone. Cement can be moulded into blocks which can hardly be detected from stone and which are equally as suitable as and cheaper than stone for building purposes. Edison's prophecy that houses would soon be moulded from patterns like stoves seems likely to be fulfilled at an early date. Board walks in cities and towns will be universally displaced by cement or granolithic squares. All these and countless other uses for cement are coming, as soon as the price drops to the proper level, as it must do very shortly in the natural course of events. The days of \$3.50 and \$4 cement are over. The price has already come down almost to the \$2 level, and the tendency is still downwards. It is claimed by those who ought to know that Portland cement can be sold at a profit for \$1 per barrel, that

is, if it is manufactured on a sufficiently large scale to permit of all economies being taken advantage of. One district that is eminently qualified to excel in the cement industry is the County of Grey, where immense beds of clay and marl lie in juxtaposition, one above the other. In the immediate vicinity of Owen Sound there are four factories, three in operation and one under construction. The new factories have, of course, adopted the dry process, and will be able to effect the consequent economies. Fuel is a big item in the cost of manufacture, and if the discovery of natural gas at Hepworth fulfills the expectations of those who are developing the field, the district is bound to become the ideal one for the cement industry. But there are other favorable locations in Ontario for the manufacture of cement, and several factories are now in successful operation. Great strides will be made in the industry during the next year or two. Instead of importing Portland cement, Canada ought to become a large exporter, as she will as soon as she is able to meet her own demands.—Toronto World.

DEVELOPMENT OF TRADE.—Manufacturers must realize that this is the age of machinery and automatic and scientific application of machines where by the necessity for hand labor is lessened. The world is demanding greater facilities for rapid delivery, and appreciating more and more machines, tools, and appliances constructed on the

interchangeable principle. In order to secure accuracy of fit and to lessen hand fitting, better machinery is required. There is just now a keen race between manufacturers in America, Canada, and Great Britain in the production of machinery of the type best adapted to fulfil the requirements of the age. Germany produces many beautifully-finished machines, and runs us close in machine tools. There is no time for standing still, and those who would remain in the race must ever be on the alert to add any improvements, however slight, that may occur to them. In agricultural machinery there is a close contest; farmers are realizing the value of superior implements. The skilled laborer is difficult to attain, and demands wages the farmer cannot pay. The salvation lies in the use of good machines and effective cultivation of the land with a minimum amount of labor and with economical appliances. Those makers who bear these facts in mind are sure to be the most successful in floating new machinery, and in maintaining the hold they already have upon the public. It is not only the civilized portion of the world that is demanding mechanical help, but the larger and wider tracts of still uncultivated areas, and the cry for more machinery reaches us from far-off regions. The world at large is opening up to a full knowledge of the greater benefits of manufacturing with the aid of machinery and motive power. Those who until recently were content to go on in the old way of hand production

STOP!

ARE YOU INTERESTED IN

Engineers' Supplies?

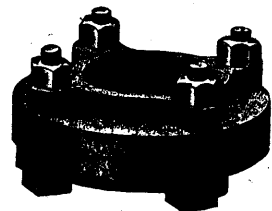
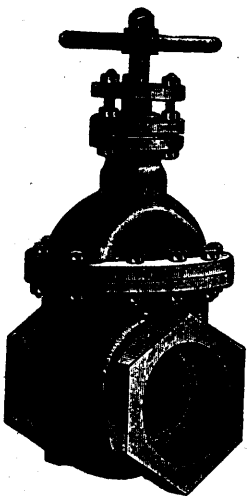
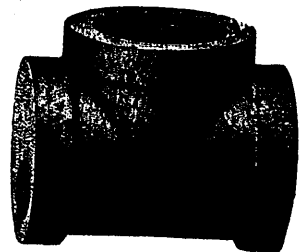
IF YOU ARE WE WOULD LIKE YOU TO GIVE US A TRIAL ORDER

WE KEEP A LARGE SUPPLY OF

**BLACK and GALVANIZED PIPE,
IRON and BRASS VALVES,
CAST and MALLEABLE FITTINGS,
STEAM TRAPS and RADIATOR VALVES,
SAFFORD STEAM and HOT WATER RADIATORS,
STEAM and HOT WATER BOILERS**

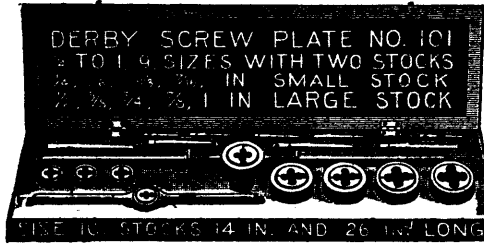
We can forward goods same day as we receive orders. Write for Latest Price List.

**THE DOMINION RADIATOR COMPANY, Limited,
TORONTO, ONT.**



When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The universal satisfaction given by our **DERBY and REECE SCREW PLATES**, cutting from 1/16 to 1/2 inch, including all the machine screw sizes, has created a demand for a plate made on the same principle, to cut bolts to 1 inch in diameter. To meet this demand we have brought out these sizes.



BICYCLE SCREW PLATES, REECE SCREW PLATES, DERBY SCREW PLATES, BLACKSMITH'S STOCKS AND DIES, BLACKSMITH'S IMPROVED SCREW PLATES, HAND TAPS, MACHINE TAPS, PIPE TAPS, EVERY KIND OF TAPS AND DIES.



BUTTERFIELD & CO., - Rock Island, Que.

now realize that personal ease, lighter hand service, and quicker production may be obtained by adopting the methods of the more advanced, and they are now eagerly anxious to try the more up-to-date plans. These signs of the times, coupled up with greater transit facilities, should encourage our manufacturers to develop their export trade and to adapt themselves to the needs of other countries, whose merchants are glad enough to buy, provided that the right article is offered them.—Ironmongers' Chronicle.

ONTARIO'S MINERAL EXHIBIT AT THE PAN-AMERICAN EXPOSITION.—The official list of awards obtained by the Ontario Mineral exhibit, made by the Bureau of Mines at the Pan-American Exposition, shows that the exhibit was not surpassed by any in the Mines Building, if, indeed, there were any which equaled it. Three gold medals, the highest honor conferred at the Exposition, were awarded the exhibit, while, with the exception of Mexico, which also received three, and Chili, which got two, no other state, foreign country or individual obtained more than one.

One of the gold medals was for the excellence of the exhibit as a whole, viewed as a collection of "the economic ores and minerals, maps and photographs illustrative of the mineral resources of Ontario," and one was for the "installation" of the exhibit, a term which includes the general plan and arrangement of the exhibit, the effectiveness of the display and decorations. The Ontario exhibit was the only one in the Mines

Building to receive this award, notwithstanding that equally elaborate and much more expensive schemes of installation were adopted by several other of the exhibiting states and countries. Maryland was the only State of the Union to be adjudged a gold medal for a similar collection of economic minerals, the remaining exhibitors who shared the honor being the Governments of Bolivia, Brazil, Chili and Mexico. The third gold medal granted in the Ontario section was to the Mica Boiler Covering Co., of Toronto and Montreal, on their mica covering to prevent the radiation of heat from boilers and steam pipes. The judges made the awards after a scrutiny of the results of the tests of mica for this purpose in comparison with magnesia and asbestos.

The next highest form of award was the silver medal, and of these no less than seven fell to the lot of Ontario, one to the Bureau of Mines itself and the others to individual companies, whose displays formed part of the collection. The very interesting and complete assemblage of gold and arsenic ores and products made by the Canadian Gold Fields, Deloro, Hastings County, was unique of its kind in the building, and was very properly granted a silver medal. The magnificent collection of copper-nickel ores and products shown by the Bureau of Mines, to which the Canadian Copper Co. and the Orford Copper Co. were the chief contributors, and which was probably the imposing exhibit of the kind ever made, some of the specimens of ore weighing as much as five tons—also won the silver medal. The Orford Copper Co's ex-

hibits of refined nickel and copper from Sudbury matte, as well as nickel goods and nickel-steel were very instructive, and the whole display was well calculated to draw attention to the nickel resources of Ontario. Other silver medals were awarded to the Canadian Corundum Co. for a comprehensive display of corundum ores and products, which well set out in its wealth of material the abundance of the newly-opened stores of this useful substance possessed by the province; to the Hamilton Steel & Iron Co. for iron and steel shapes, angles, bars, etc., with iron ores; to the Lake Superior Power Co., Sault Ste. Marie, for pig iron, iron ores, charts, and an electrically illuminated and very effective map of Northern Ontario; to the Milton Pressed Brick & Terra Cotta Co., Milton, for an exhibit of pressed brick and terra cotta, which took the form of an arch specially designed and manufactured, forming part of the scheme of installation; and to the Ontario Graphite Co., Ottawa, for the handsome exhibit of graphite, comprising blocks of unusually large size, and forming the shaft on which rests the emblematic statue of Canada, made by Mr. J. L. Banks, Toronto, the centre round which the whole Ontario collection was grouped.

Of bronze medals, the next highest form of award, six fell to Ontario's lot. One of these went to the Nickel-Copper Co., Hamilton, for an exhibit of ores and products illustrative of the various operations in the reduction of nickel and copper by the French process, an interesting and significant display; one to the Bureau of Mines, for an exhibit of raw mica, includ-

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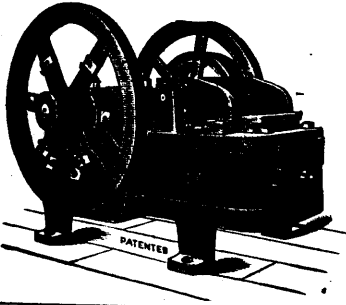
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ing muscovite, phlogopite and biotite; one to the Imperial Oil Co., Sarnia, for a display of Ontario petroleum and its products; a fourth to the Peat Development Syndicate, Toronto, for an exhibit of peat and its products, drawing attention to an industry which promises to become one of great importance to Ontario in the near future; a fifth to the Stewart Granite Works, Hamilton, for carved and polished syenite, a handsome block from a quarry near Gananoque; and a sixth to the Caledonia Springs Natural Mineral Water Co., for mineral waters.

On the honorable mention list were five of the exhibitors in the Ontario section. Dr. R. A. Pyne, M.P.P., Toronto, received this award for graphite and products, the output of a mine near Oliver's Ferry, on the Rideau Canal; James Richardson & Son, Kingston, for felspar, shown in immense blocks of fine quality; the Crown Corundum Co., Toronto, for corundum ores; the Queenston Quarry Co., St. David's, for cut limestone blocks for building purposes; and the Canada Iron Furnace Co., Midland, for iron ores and pig iron.

In addition to full recognition of the merits of the Ontario collection as a whole, the awards received covered almost every mineral product of importance in the display. Gold, arsenic, nickel (two awards); copper, iron, including ores and manufactures (three awards); corundum (two awards); pressed brick and terra cotta, graphite (two awards); mica (two awards); petroleum, peat, building stones (two awards), felspar and mineral water were singled out for awards of varying degree. In all, three gold medals, seven silver medals, six bronze

medals, and five honorable mentions were adjudged the exhibit, a total of twenty-one awards. Owing to the method of making and announcing the awards, it is hardly possible to institute comparisons with other exhibits, but an inspection of the list leads to the conclusion that Ontario has done very well indeed. Certainly no State of the Union fared better, and probably none as well.

CANADIAN RAILWAYS.—One of the features of the recent trip of the Royal party through Canada was the great part played by the railways.

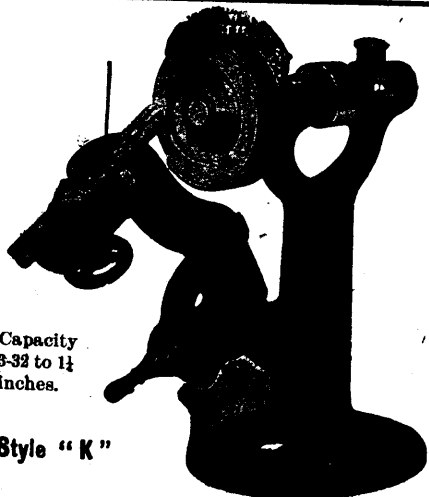
The Duke and Duchess of Cornwall and York were a month in Canada, and during nearly all that time lived on the railways. When they finished at Halifax they had travelled between seven and eight thousand miles on different lines of railway without an accident of any kind, and without any delay worthy of mention. Throughout the whole trip they travelled in the same train, a thing which would have been impossible in Australia, owing to the fact that every State there has at present a different railway gauge.

But even more creditable to the railways, perhaps, than the safe handling of the Royal train twice across the continent, was the way the crowds were handled who desired to see the occupants of the Royal train. In no place was this more fully exemplified than in Toronto, where, in addition to the largest crowd of sight-seers ever drawn to the city, the railways had to move seven or eight thousand soldiers and two thousand horses. Just when it would seem that every available coach was required for the regular traffic, coaches and horse cars and engines had to be secured to move

the soldiers. This was rendered all the more difficult in that, with the exception of London, Hamilton and Ottawa, the different corps had to be picked up at various points along the lines, often branch lines, with a company here and half-company there, and an officer's horse at every other station.

But besides these things, which could be thought out and arranged for beforehand, as it happened, a number of unexpected events occurred which rendered necessary the running of special trains and special sections of regular trains. No sooner was the Toronto review over than the horses of the Duke's military staff had to be sent on to Halifax to await the party there. The greatest precaution had to be taken to prevent delay to the Royal train, which was usually accomplished by stopping traffic on the lines for a couple of hours ahead, and yet, in spite of all these difficult conditions, the great crowds were handled in and out of Toronto and other points with apparently no more effort than on an ordinary holiday. The fact of the soldiers being taken directly to and from the Exhibition grounds relieved the Union Station of that much traffic, but the prompt despatch of trains all over the district earned for the railway companies the praise of all who knew the conditions; and that all this traffic was carried without an accident or a mishap speaks volumes for the perfection to which railway train despatching has been brought in Canada.

WINNIPEG AND WESTERN CANADA.—A special to the New York Tribune suggests that there is good reason to believe that Winnipeg will largely justify the hopes that are entertained concern-



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Does the Moon Revolve on its Axis?

It is said by some that the moon does not revolve upon its axis as the earth and other well-ordered planets do. The reason for this eccentric behavior is perhaps somewhat obscure, but whatever the reason may be I have not the slightest doubt that if it were connected up to a Laurie Corliss Engine of suitable size, by a good leather belt such as they supply at 321 St. James Street, Montreal, and the axis well greased with their special American grease, that the dear old moon could and would be got around and kept going at a good pace.

Have you ever seen a Laurie Corliss Engine working? If not, I would strongly advise you to go into some of the many factories and works where it is in use, in Sydney, Quebec, Montreal, Ottawa, Toronto, Winnipeg, Vancouver and other places, and just sit down for half an hour and see the wheels go around, take particular notice of the valve motion, look at the dash pots cutting off the supply of steam so quickly that it has barely time to add the smallest fraction of a cent to the fuel bill, listen to the silence of its running (if silence can be listened to), watch the crosshead glide in its bearings, and if you know of an easier, smoother running engine anywhere than the Laurie Corliss, just drop me a postcard and let me know where it is, for I would like to see it.

Some people have an idea that the Laurie Engine Company can only build big engines powerful enough to give the moon a start or to run an entire street railway system, but that is just where they make a mistake, for the Laurie Company can and do build a small engine to meet the needs of the man with a small saw mill or planing factory, cheese and butter factory, etc.

True, you may not have seen one of these engines in your section of the country. That may well be for they are quite new, only just out; their engineering and designing staff have for months past been studying how to turn out a small engine which will give perfect satisfaction, and yet be a low-priced engine, to suit the man who has small capital to invest in plant, and if you saw the result in their new engine, the "Rival" you would no longer be in doubt as to whether a company that can build a 10,000 h.p. engine can build a 10 h.p. engine or not.

If you are going to buy an engine, large or small, just ask for a catalogue of "Laurie Corliss," "High Speed," and "Rival" engines, and you will find precisely what you want. For your factory you will also want Woodworking Machinery, Saw Mills, Planers, Matchers, etc., and many other small supplies. A postcard will bring you a Machinery and Supply Catalogue of the Company, then when in town do not fail to look in at their Machinery Warehouse, 321 St. James street, near Victoria square, and, if you have time, go down to their works, 1012 St. Catherine street east, where you will see something worth seeing in the machinery line, after which you will not be surprised if some night you see the face of the "Man in the Moon" going round and round, for you will know the cause to be, not the drinking of bad water, but simply that a "Laurie Engine" has been hitched on.

Yours truly,

**The
Gastronomer**



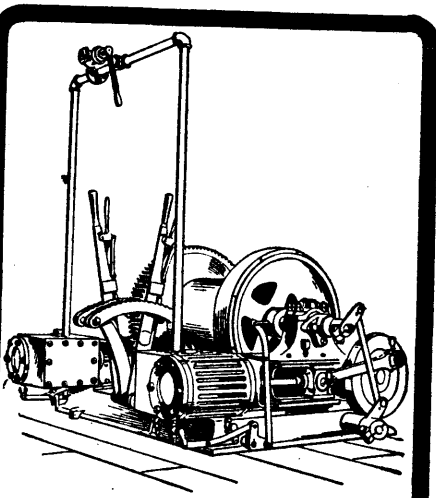
ing it. Indeed, it is doing so already. It is the natural metropolis of a great territory of inexhaustible fertility. It is not only the greatest grain market in Canada, but one of the greatest in the world. At present the grain storage capacity of Western Canada, of which

Winnipeg is the most important point, is 22,000,000 bushels. The daily milling capacity of Winnipeg is about 11,000 barrels, while its export of grain is already enormous and is increasing every year. In the territory contiguous to Winnipeg, Canada has a land to offer the new settler which in all probability can be beaten nowhere in productiveness and general desirability. Indeed, Canadians themselves know very little about these growing and prosperous provinces of Manitoba, Assiniboia, Alberta and British Columbia, and still less about the unorganized territories lying north of them, namely, Saskatchewan, with an area of 114,000 square miles; Athabasca, with an area of 198,300 square miles; Mackenzie, with an area of 565,000 square miles, and Keewatin, with an area of 756,000 square miles. The popular notion that these territories are semi-arctic in temperature is absurdly erroneous. A great part of their area would make finer wheat lands than any now known, besides being rich in minerals and admirably adapted for cattle-raising on account of the fine quality and abundance of the grass. Of all this great stretch of territory east of British Columbia, Winnipeg is the metropolis and trade centre—"The Heart City of Canada," as its enterprising merchants call it. In 1870, when Wolseley went there from Fort William, it was known as Fort Garry, and comprised only 215 souls. In 1874 it had risen to 3,000, and in 1885 to 22,515. Since the census of 1891 its percentage of gain has been sixty-eight, and the census just completed gives it a population of 42,336. It is situated at the junction of the Red and Assiniboine rivers, almost midway between the Atlantic and Pacific, forty miles south of Lake Winnipeg and sixty miles north of the international boundary line. Ten main or branch lines of railway radiate from it. Its business houses are large and handsome, and electric car lines traverse its streets.

LUBRICATION.—Mr. W. H. Edgar, president of the Dearborn Drug & Chemical Works, Chicago, in a recently published article on the subject of lubrication, says:

Among several conditions and requirements to be taken into consideration, in selecting or making a good cylinder oil may be included first the steam pressure; then the amount of moisture in the steam; sometimes the make or type of engine, and the lubricator that governs the cold test, which is quite essential in obtaining and maintaining a high flash and fire test sufficient to meet the demands in the cylinder. The temperature of the steam produces a very heavy gravity and thick oil which must also be capable of feeding at as low as about 40 degrees Fahr. to give a sufficient cold test.

We will treat of dry steam free from moisture. Steam pressure under 100 pounds should require a cylinder oil of not less than 590 fire test, nor more than 630. If under 590 it gradually volatilizes and passes away much quicker without rendering the wear and sufficient amount of lubrication. If over 630 it would not atomize freely, covering the surfaces, and



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instead of lubricating it would be more like a tar. Steam pressure of over 100, ranging from 110 up, say 140, 160, and 210, would require a cylinder oil of a fire test of about 645 to 660, which would maintain itself at this degree of temperature and give the proper amount of wear before volatilizing and gradually passing off. These oils, properly made, should have a corresponding flash test of forty to fifty degrees lower than the fire or burning test, to show that the physical properties in the make-up of the body of the oil are proper. These oils should carry a gravity of about 26.5 degrees for 600 fire test down to 24.5 degrees for 660 fire test. There should be a corresponding viscosity ranging from 175 degrees for 600 fire test to 205 degrees for 660 fire test. It is quite essential that each test have its corresponding figure and relative bearing on each of the other tests.

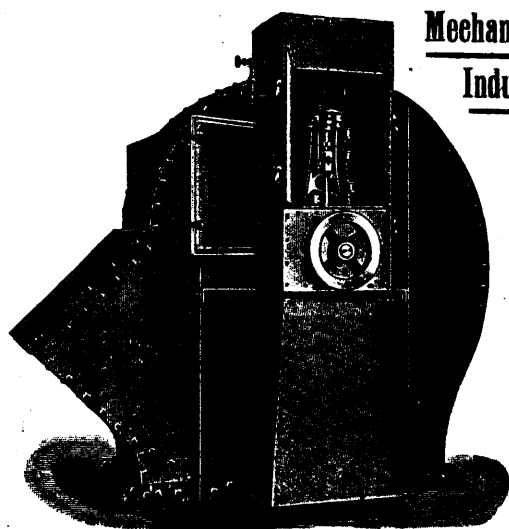
The straight mineral Pennsylvania stocks will give these results with dry steam. Vegetable oils are of no use in cylinder lubrication; they are worthless and reduce the quality of the cylinder oil when found present. Animal oils are not necessary, except in the presence of moisture and to take care of moisture. Of the different animal oils, tallow is the best and the only animal oil that should be used in a cylinder. Tallow oil should be used in most cylinder oils, as invariably most of the steam is moist, especially in compound and triple expansion engines where we get more or less moisture in the second and third cylinders. Tallow oil,

which is acidless and refined, should always be used in compounding; not over two to six per cent. in the high pressure oils and not over six to twelve per cent. in the low pressure oils—that is, temperatures of the steam as given.

When an oil smells rancid or you detect the strong odor of common lump tallow, it should be rejected. In such case it is evident that tallow has not only been used to take care of the moisture, but to build up artificially the viscosity of the oil and to cut the gummy residuum nature of the cylinder stock in an attempt to better what is a poor condition of the mineral oil to start with, so that virtually your lubrication would come from the tallow. Lump tallow contains acid. This acid eats the steel and iron, grooves the metal, bolts, etc., causes a charred, gummy substance to collect in the cylinder, is carried over and forms a heavy oil deposit in the boilers of condensing plants, and should not be used. Another deleterious substance quite commonly found in cheaper cylinder oils is degrass (wool fat), which is used to cut this same gummy, sticky condition, so as to give flow to the oil in a cold test, and so that it may be fed through the lubricators. This causes a separation and a thickening deposit in the bottom of the barrels and also a similar sticky, charred substance in the cylinder. Sometimes an engine requires a filtered cylinder oil or an oil thinned down with some fine engine oil. This is due to tight fitting of engine parts, but it is a condition seldom found.

All the better and high-priced oils come from Pennsylvania. There are of the very poor and consequently very cheap oils 1,000 tons of cylinder stock from Ohio to each one ton of Pennsylvania cylinder stock obtained in the general distillation and manufacture of petroleum products. Of course, the market is filled with cheap goods and every barrel is guaranteed by the man selling it to be Pennsylvania product. There is, therefore, but one course to take, and that is to thoroughly analyze and test all samples. In referring to this subject, I am sorry to make the statement that oils constitute one of the most corrupt markets in manufacturing lines.

Relative to engine, dynamo and other atmospheric surface lubrication, it may be stated that all journals, slides and machinery surfaces (considered high class or high duty lubrication) should be lubricated with straight mineral oils only, except in marine service or in plants where we come in contact with considerable water, the same as the engine pit, when it is quite advisable to use thirty to forty per cent. of lard oil properly mixed with the mineral oil. This lard oil has the physical quality of mixing with the water and furnishing the kind of lubrication required; it retards high efficiency in lubricating results as compared with the viscosity or co-efficiency of friction test of the straight mineral oil. Vegetable oils have no lubricating properties whatever and are readily oxidized and destroyed with a



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very small amount of heat, and when exposed to atmospheric action. Animal oils thicken in the same manner when subjected to the dry warmth of the bearings and become quite sticky and gummy when exposed to atmospheric action—gather dirt and retard lubrication. Never use an engine oil that shows the presence of animal or vegetable oils. Animal and vegetable oils are sometimes introduced for the purpose of raising the theoretical tests, such as the viscosity and fire tests, and are known as loaded oils. Paraffine oil should never be accepted. Paraffine is used on ball room floors for dancing. It is a resistant. It is a product taken from engine oils. An engine oil having a cold test of 25 degrees Fahr. has had all the paraffine obtainable taken from it. It is chilled and coagulated and the oil drawn off, leaving the paraffine.

First test for engine oil—Shake it with a little caustic soda or soda ash solution. If it clouds up like soap, the presence of animal oil is shown. Reject this at once. Second test—Take a bottle and place it in the ice cooler. The ice and water gives you 32 degrees Fahr. If this oil becomes cloudy we have proof that it is a common paraffine oil. There is no need of further test. Reject it at once. It will prove very expensive in the long run in the loss through filtering, and also in your bearings, as it will not stand the heat, and furthermore, it will not give you the lubrication.

In engine oils that have an opalescent green shading in the sunlight and that are not a clear yellow or red, we have plain indication of the presence of kerosene and the lighter volatile hydro-carbons, which are not lubricants, and which readily volatilize and pass off when brought in contact with the first heat units or warmer temperature of the bearing. There is quite a percentage of the lighter hydro-carbons so thoroughly intermixed—and a part of the heavier hydro-carbons—that it is impossible to drive off or get rid of them beforehand with heat in the stills. It is, therefore, necessary to have the absorption action of the atmosphere. This you would get with the bearings in your every-day lubrication and would consequently lose per volume. An engine oil should be perfectly clear and practically free from this opalescent green color, which shows that it has been debloomed. The oil should be run out into flat pans, open to the atmosphere (rain, sunshine and weather) and left there for some ten to fifteen days. The atmosphere will absorb and take the kerosene and lighter hydro-carbons from the main body of engine oil. The oil should then be drawn off and put through the filters and when clear can be returned to another still and distilled down to gravity. Besides this essential test we have the gravity test, the viscosity test and flash and fire tests. No one of these tests is of value except by relative comparison of any one with each of the other four.

Engine oils for high speed, high duty and heavy units, to properly and rapidly travel and to give the best results, should have a gravity of not over 31 nor under 28½ degrees; about 30 and a fraction will

give the best oil, provided the following tests are also present: Viscosity should not be under 160 and should range up to 190 at 70 degrees Fahr. This test is very essential when compared with the gravity and the others, but is dodged by most oil men because they cannot hold up. It is the indicative test of quality with comparisons. The flash test should not be under 390 nor over 430 degrees, and the fire test should range 50 degrees higher, that is, the fire test should be from 440 to 480 degrees and a cold test of 30 degrees.

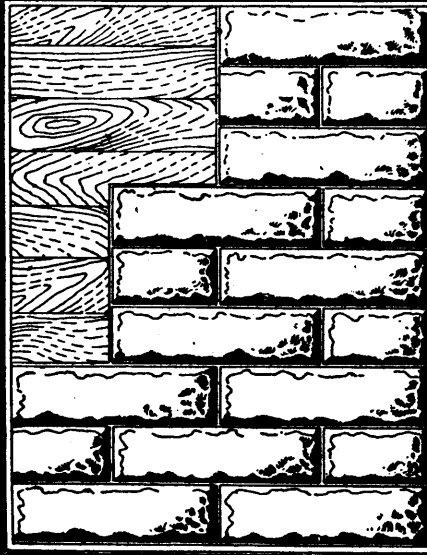
An oil comparing favorably with the above tests and also complying with the above statements in appearance will give perfect satisfaction and will prove more economical by the month than the cheaper oils on the market. To do this, you must have a good filter and collecting pans, etc. An oil of this quality can be used over and over again, as there is no disintegration, nothing to coagulate and no part to volatilize, and there is therefore no loss except what is spilled.

ELECTRIC BLEACHING.—The universal but inappropriate name of electric bleaching is generally understood to mean the bleaching of vegetable fibres by means of a solution of salt which has been or is being decomposed by a current of electricity. Rock salt is generally used instead of table salt, as the former is much the cheaper. The preliminary scouring of the cotton is the same in all bleaching processes. It is usually effected by circulating a caustic soda lye of 9° Tw., mixed with ten pounds of soda per 200 gallons of lye, at a pressure of thirty pounds, or by means of a four-hours' steaming at seven pounds pressure of the fabric, which has been previously soaked in caustic soda lye of 6° Tw. Therefore we need only compare electric bleaching with ordinary bleaching powder.

In bleaching with chloride of lime, the active substance is hypochlorite of calcium, and the value of the bleach is estimated by its contents in active chlorine. This should be about thirty-five per cent. on the average, but it often falls to twenty per cent., especially in summer and when the powder has long been exposed to the air. The bleach liquor used is a clear solution marking from 1° to 5° Tw., according to circumstances. As a rule from three to four pounds of chlorine per cubic foot is enough. When chloride of lime solution is decomposed with carbonate of soda the active chlorine remains in solution as sodium hypochlorite, while the lime is precipitated out as carbonate. If, for example, 100 pounds of bleaching powder are mixed with thirty gallons of cold water and then treated, a little at a time, with a solution of 100 pounds of carbonate of soda in thirty gallons of hot water, and with thirty gallons more cold water at the same time, a solution is obtained containing about three per cent. of active chlorine in the form of hypochlorite of sodium, and a little excess of sodium carbonate. With greater dilution the proportions of active chlorine will be greater, but this can be made up for by washing the precipitate obtained, as above directed, with water, and keeping

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the water to dissolve fresh lots of bleach. It is impossible to compare hypochlorite of sodium with bleaching powder by means of their respective contents of free chlorine. On the one hand the sodium salt costs twice as much as bleach, and on the other its chlorine is twice as energetic. Hence little advantage attends the use of sodium hypochlorite, except when a very soluble salt is needed—for example, in bleaching unspun cotton or yarn. The case would be very different, however, if sodium hypochlorite could be prepared as cheaply per unit as bleaching powder, and this can be done by means of electricity.

One advantage of electric bleaching is that the acid bath, indispensable for chloride of lime bleaching, is dispensed with, so that no weakening of the cotton is to be feared, a matter of great importance with cops and raw cotton. Hypochlorite prepared with carbonate of soda cannot be used without acid. An excess of the carbonate must be added to precipitate all the lime, and this excess will give a yellow color to the goods unless it is neutralized with acid. The absence of all precipitation in the electric process is also an advantage of great moment.

Special difficulties were found to occur at the outset in the preparation of the bleaching solutions. The strength of the solution of salt to be taken depends directly upon the strength of the required bleach, and inversely upon the voltage of the current, and the requisite strengths were at first hard to find. The construc-

tion of the apparatus offered even greater difficulties. The first electrodes used were made of platinum, and cost about £80 or £90. Lead and carbon, being cheaper, were consequently tried, and with success. Another trouble was the rapid destruction of the electrolytic cell itself in many forms of apparatus. In some cases four slates formed the sides and a fifth slate the bottom. An India rubber cement was used, and the whole was held up by a wooden frame bolted together. Such cells were ready to fall to pieces after a year's work, and as glass cells can now be had for about £3, and last forever, actual violence excepted, and are very easily cleaned, they are now used. The whole plant can be fitted up in the most satisfactory fashion for about £50. The best known apparatus for electric bleaching are those of Gebauer, of Charlottenburg, and Haas and Stahl.

The consumption of salt is reduced to a minimum by using the product of the cell, after it has done its work in bleaching, to dissolve more salt, and returning it to the electrolytic cell. As when used for bleaching, it still contains undecomposed salt; the loss of that substance is thus reduced to a minimum.

This so-called "electrical" bleaching—that is, the production by electricity of the bleaching agent—gives a substance which bleaches more cheaply, simply and safely than chloride of lime.—The Textile Mercury.

THE MANUFACTURE OF BRONZE POWD-

ER.—One of the most important and interesting of the special forms of manufacture, for the product of which the United States is dependent upon Germany, writes Consul-General Mason, is that of bronze powder, the shining metallic dust which is used for producing gilt and bronze effects in wall papers, letterpress printing, lithographing, mirror and picture frames, fresco painting, and the artistic decoration of a vast range of manufactured articles in wood, paper and various metals. For all these purposes, bronze powder offers the cheapest and most effective means of giving a surface effect of gilt or bronze, and its use has expanded with the rapidly increased production of articles of luxury and taste.

The principal seat of the bronze powder manufacture is the city and vicinity of Furth, in Bavaria, where the requisite water power and other conditions are favorable, and the industry is in the hands of an exceptionally intelligent and enterprising class of men, who have invented new machinery and improved methods until the whole process of manufacture is now mature, ably managed and successful. The material used is so-called Dutch metal, an alloy of copper and spelter, in which the relative proportions of these are varied to produce the different colors desired. The larger the percentage of spelter, the lighter or more yellowish will be the tint of the alloy. The manufacturing process divides itself into two stages or branches, which are usually carried on in different estab-

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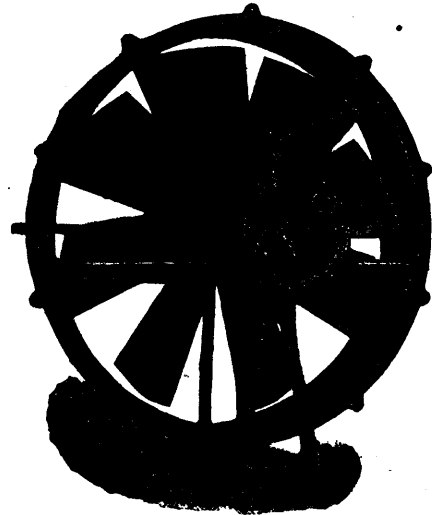
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ishments, viz., the preparation of leaf metal and the reduction of clippings of that material to the form of powder by milling.

The copper and spelter are smelted together in graphite crucibles, which are inserted in a large furnace heated by a strong coke fire. The crucibles contain about 400 pounds of metal, and when their contents are completely fused, they are run off into moulds, which form half-ground ingots two feet long by half an inch in thickness. After cooling, these ingots or rods are bound into bundles and sent to the rolling mill, where they are passed cold nine times through a double set of steel rolls under powerful pressure, by which they are flattened and drawn out into thin ribbons from fifty to sixty feet in length and something more than one inch in width. Cold rolling under such extreme pressure has the effect of rendering the metal brittle, and it therefore passes at this stage to the annealing furnace, which is heated by wood fire, as the sulphur in coal or coke would be injurious to the ribbons; which, having been softened and rendered ductile by annealing, are cleansed in an acid bath, cut into lengths of about three feet, and collected in bundles of forty or fifty strips each. They are now laid between sheets of zinc, which are fastened together and passed under slinging hammers worked by water or steam power, by which the metal strips are beaten to a thickness of tissue paper. This process includes six successive beatings, and requires great skill on the part of the operatives to produce a uniform and unbroken foil. After the third beating, the metal strips are taken from between the sheets of zinc, loosened from each other, and cleansed by immersion in a bath of tartrate of potassium. This cleansing is repeated after the sixth and last beating, and the sheets, thus cleansed from oxide and other impurities, are hung upon lines to dry. At the beginning, the rolled strips are of a dull-gray metallic color; at the fourth beating, the yellowish color begins to show; and after the sixth, they are clear and bright as gold.

In view of the great variety of purposes for which bronze powder is employed, it is graded in respect to color into seven qualities or tints, ranging from bright copper red to golden yellow. These successive tints are governed by the relative proportions of copper and spelter used in making the alloy.

In the foregoing description, the material had reached the condition of thin sheets of leaf metal, three feet in length, widened by hammering between zinc plates from one inch to an average width of eight inches. These, having been cleaned and dried, are carefully assorted, the defective leaves thrown out as waste or inferior material, and the perfect ones cut into small squares, which are laid together by hand in packets of several hundred each and inclosed within an envelope of sheet brass. Thus held together and protected, the packets are returned to the annealing furnace, where they are softened by heating and slow cooling, and then go to the beaters, where they are reduced, under flattening ham-

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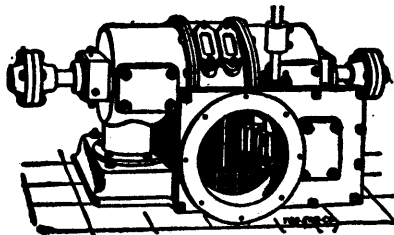
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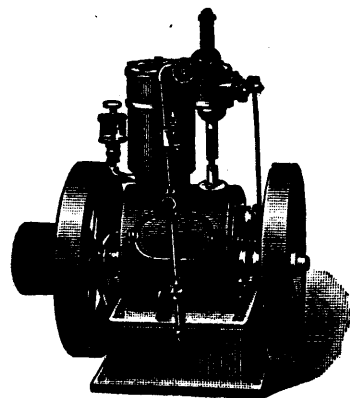
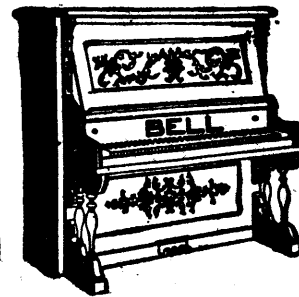
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mers, to the thinness of real gold leaf—so thin that it can be blown away by the breath. This completes the preparation of leaf metal, the finished material for bronze powder and other purposes, of which there are not less than a hundred manufacturers in the city and district of Furth. This part of the industry dates from the sixteenth century, and has been built up by many generations of patient and skilful beaters of gold, silver, copper and other malleable metals.

The manufacture of bronze powder consists in grading, clipping and pulverizing the various bronze foils to an even, impalpable powder, and is an industry of comparatively recent date. The present perfection of methods and product has only been attained during the past thirty years. It began as a means of using up and utilizing the imperfect leaves which came as waste from the beaters of gold, silver and bronze. These were cut by hand into fine clippings and then ground to powder in handmills of simple construction. With the lapse of time and the spread of artistic industries, the uses of bronze powder increased until the demand far outran the supply of waste, and the leaf metal is now made on a large scale, specially as a material for this purpose. The beating process flattens out a pound of copper and spelter alloy to an area of about 500 square feet, and in this condition the square sheets, as they come from the brass envelopes, are sheared into small fragments and rubbed with olive oil through a steel sieve having ten meshes to the inch, and then passed to the stamping and grinding machines, where they are pulverized by steam or water power to the bronze powder of commerce. The grinding occupies from one to four hours, according to the grade or quality of the powder to be produced, which is of four grades—from coarse to superfine. The superfluous oil is removed by heating under pressure, and the powder is then carried into centrifugal clarifiers, or grading machines, which, turning at a high speed, expel the powder through fine orifices in the form of dust, which settles on inclosed shelves, according to weight and fineness—the finer articles at the top, the coarser below—and in this way the powder is

divided into the several grades of fineness and consequent value.

ODD THINGS IN PENCILS.—Black lead pencils are of course the kind most commonly used, but colored lead pencils are in the aggregate sold in large numbers, and they are made in very great variety.

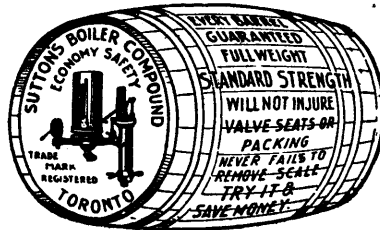
Artists' lead pencils are made in more than fifty, in perhaps as many as one hundred colors. In these pencils, with the lead in wood, the wood is finished of a color approximating as nearly as may be that of the lead. A tray of samples of

such pencils thus presents a very striking appearance, making more than a rainbow of color.

There are made, also, colored leads for use in pencils for moveable leads. These artists' pencils of one sort and another are used not alone by artists, but by architects, engineers, designers, draftsmen and others having occasion to use fine colored pencils.

Then there is a great variety of colored pencils for general use, for checking and marking and so on, in office and store, and library and factory, some of these being

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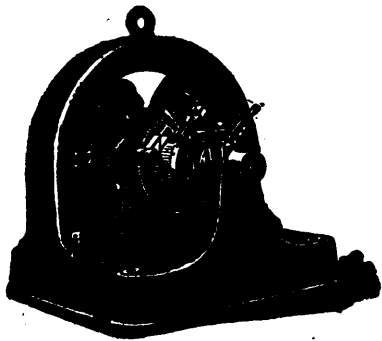
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sometimes used on textile fabrics, as well as on paper and wood.
 There are colored pencils, these also being made in various colors, that are especially designed for the use of lumbermen, as there are also pencils with leads of various colors made especially for the carpenters' use.

No doubt the common idea of a lead pencil is of something with which we mark on paper, although the use of pencils for marking on wood is familiar enough, as in a more limited way is their use for marking on fabrics, and so on. But there are various uses to which pencils are put that must be less familiar, if not, indeed, quite unknown to many.

There are, for example, pencils especially made for marking on glass, porcelain, polished metals, oil cloths, patent leather and other things upon which an ordinary pencil would not mark at all. The leads of these pencils are of course made of a material especially prepared for the purpose. With such pencils, marking is done easily on any of these hard polished surfaces, and the marks may be as easily rubbed off.

These pencils are in use in drug stores and hardware, glass and crockery stores, and so on. They are made with white and black leads and with leads in a variety of colors, the colored pencils being the more generally used, and the colors most commonly used being red, blue and yellow.

Another odd sort of pencil is one made for the use of surgeons for marking on the skin in surgical operations and for anatomical purposes. These are also colored pencils, and they are made in a variety of colors.

In fact, simple a thing as the lead pencil might seem to be, it is really something that is made in almost endless variety. But for all that, the pencil manufacturer gets, every now and then, from somebody, a demand for new pencils for some special use.—New York Sun.

ANOTHER WATER POWER CANAL.—
 F. H. Clergue has another projected water power canal that will mean the expenditure of upwards of a million dollars. This is the development of 20,000 horse power electrically in the rapids of St. Mary's River, opposite the ship canal. The St. Mary's Falls Power Co., organized a short time ago, has now made application to the Board of Supervisors, in accordance with the State statute, requesting permission to divert the waters of the river for the project. The plans contemplate the construction of two parallel dikes on the bed of the rapids, 150 feet west of the line of the International bridge that crosses the falls. These dikes, which will retain and convey the water from the upper level to a power building at the lower end of the canal, will each be 3,100 feet long. The fall of water is about eighteen feet, and the bed of the rapids is of stone, affording a firm foundation for the dikes and buildings. Power can be developed at a cost infinitely less than at Niagara. The company owns an island at the foot of the falls, which is adjacent to the mainland, and has also property above the falls. It is proposed

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the mainland on the American side above
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OPPORTUNITIES.

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ceived at the offices of the High Com-
missioner for Canada in London, and
at the Canadian Section of the Imperial
Institute, London, England.

NOTE.—Those who may wish to corre-
spond with any of those enquirers can
obtain the names and addresses by
applying to THE CANADIAN MANUFAC-
TURER, Toronto. No charge for giving
information. When writing refer to the
numerals opposite the enquiries.

583. A firm of whiskey distillers is
open to appoint a pushing firm as sole
purchasing agents in Canada for its brands
of Scotch whiskey.

584. A London house seeks a Canadian
agency in polished wood boxes, cane
cases, box wood acorns, brush backs and
similar lines.

585. A London firm of engineers, ma-
chinists and general contractors desire to
obtain the sole agency in Great Britain,
for any Canadian engineering or manu-
facturing firm of repute wishing to es-
tablish a connection with the principal
engineers, shipbuilders or railway com-
panies.

586. An agent in London, Eng., calling
upon wholesale ironmongers, builders,
merchants, and the iron trade generally,
is willing to represent any good Canadian
house requiring such services as he can
offer.

587. Inquiry comes from Havre, France,
for the names of Canadian exporters of
baled hay.

588. A gentleman in Glasgow con-
versant with the timber trade desires to
represent on commission several well-
established firms shipping Canadian yel-
low pine.

589. A German commission firm shortly
commencing in Berlin, ask to be placed
in communication with Canadian houses
requiring such representation as they can
offer.

590. The names of probable buyers in
Canada of hair felt, roofing, silicate cot-
ton, etc., are asked for by a London firm
manufacturing these goods.

591. A firm in the Midlands inquires
for addresses of several reliable patent
agents practicing in Canada.

592. Inquiry has been received from a
mineralogist in the province of Quebec
for names of firms in the United Kingdom
interested in graphite (plumbago) and
mica lands and mines.

593. A gentleman in Vancouver, B.C.,
is open to take the agency in British
Columbia for wholesale manufacturing
chemists and distillers of essential oils;
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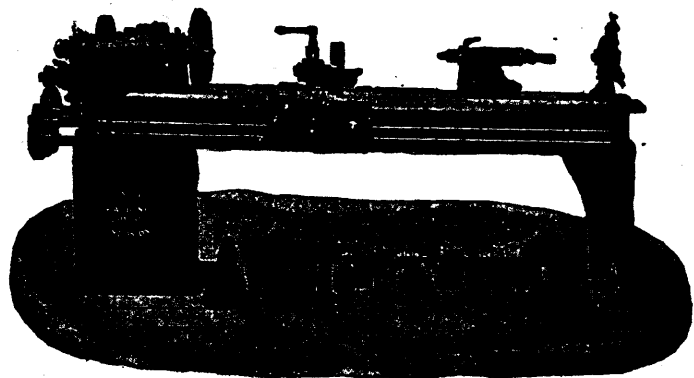
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MARGARET CARLYLE, Parliament Buildings, Toronto.

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.

MARKETS.

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 of 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, November 1.

Trade reports continue to show a satisfactory condition of affairs in all parts of the Dominion, and Toronto wholesalers are still busy on sorting orders for the current season. These orders are for the more expensive goods and indicate a larger purchasing power throughout the country. Northern distributing points are stocking up before the navigation season closes and letters from merchants convey the information that confidence is placed in the season's trade being profitable. The freer movement of grain has, of course, assisted materially in creating a demand for all lines of goods and country storekeepers are meeting their obligations to the satisfaction of wholesalers. The failures in the Dominion for last week were 29 against 29 the previous week and 31 in the corresponding week last year.

The money market continues firm. Banks are quoting 6 to 6½ per cent. for mercantile discounts and five per cent. for all loans. There is a fairly good demand for money.

Speculators in securities are watching closely the action of the London markets. In the old country there have been heavy withdrawals of gold for Paris and there are rumors that gold shipments will continue with the prospect that the Bank of England will advance its discount rate. In New York exchange rates are near the gold exporting point, and by leading financial men it is believed gold shipments could be made to Paris and Berlin without a loss. New York brokers still continue to send out the "old chestnut advice": "It is advisable to buy only on declines and to take moderate profits for the time being."

The aggregate bank clearings in the Dominion for last week were \$39,999,401 against \$34,688,690 the corresponding week last year. On the local market Dominion steel common is selling around 28½ and preferred at 80. In Montreal sales of preferred are reported at 79½ and 79¾. Bonds are selling at 80 with majority of holders asking 82.

A Pittsburg despatch says that members and officers of the steel rail pool are

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considering the calling of a meeting for the purpose of advancing the prices of rail for next year's delivery from \$28 to \$29 or \$30 per ton.

A change of importance to importers has been made in the express department of the Toronto Custom House and already there has been a marked improvement in the passing of goods. Previous to the recent difficulty, parcels by the Dominion and Canadian Express Companies were handled together. By the change an extra man has been placed in the express department, who looks after the parcels handled by the Dominion company. Those who have business with the department are pleased with the change and are wondering why the Government did not act earlier as numerous complaints have been previously sent to Ottawa. Every year the business in the express line is increasing and there is yet plenty of room for improvement in order to obtain prompt delivery of goods.

Collectors of customs have been notified that by an order in council it is provided that Dakota cotton wood or "Necklace Poplar" when shipped from and grown in Dakota or Minnesota may be admitted at the customs ports of Brandon and Winnipeg, Manitoba without fumigation.

The following is a complete list of the ports of entry at which raw leaf tobacco may be imported into Canada:—

Ontario—Barrie, Belleville, Berlin, Brantford, Brockville, Chatham, Cobourg, Guelph, Hamilton, Ingersoll, Kingston, Listowel, London, Niagara Falls, Owen Sound, Paris, Peterboro, Port Arthur, Port Colborne, Port Hope, Prescott, Preston, Sarnia, Saul Ste Marie, Simcoe, Stratford, St. Catharines, St. Thomas, Tilsonburg, Toronto, Walkerton, Windsor, Woodstock.

Quebec—Granby, Montreal, Quebec, Sherbrooke, St. Hyacinthe, St. Johns.

Nova Scotia—Halifax, Pictou, Sydney.

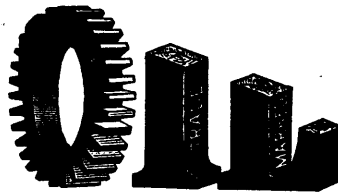
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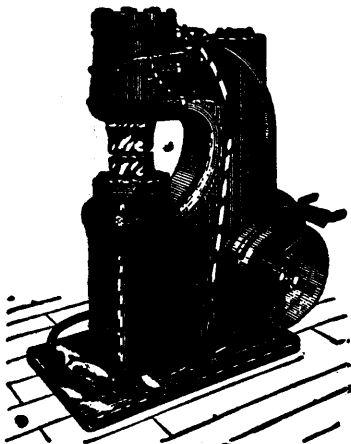
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SCHAEFFER RECORDING WATT METERS

ST. CATHARINES, - CANADA

New Brunswick—Miramichi, Moncton,
St. Andrew's, St. John.
Prince Edward Island—Charlottetown.
Manitoba—Brandon, Winnipeg.
British Columbia—Keslo, Nelson, Van-
couver, Victoria.

BUFFALO PIG IRON MARKET.—Office
of Rogers, Brown & Co., Buffalo, N. Y.,
Oct. 29, 1901.

The pig iron situation continues to be
of absorbing interest to those engaged in
the detail of supplying customers' wants.
There is an unprecedented melt in pro-
gress, as is evidenced by foundries al-
most without exception making larger
requisitions than ever before in their his-
tory.

This creates a temporary shortage of
iron, which is intensified by the curtail-
ment of product which some furnaces are
experiencing by reason of lack of coke.
This does not come from the inability of
coke makers to supply, but from railways
to transport.

We hear of several furnaces who some-
times market their product in this
district, banked for days at a time for
lack of fuel.

Nearly all foundry furnaces have now
sold their full output to January 1, and
there has been quite a large business for
the first half of next year, with some
sales running clear through to the end of
1902.

The foundry and forge iron market as
viewed from this standpoint, possesses all
the elements of strength and of confidence
in the future as well.

We quote below on the cash basis,
f.o.b. cars Toronto, in bond:

Lake Superior Charcoal	\$19 75
No. 1, X. Tonawanda Scotch iron	17 00
" 2, " " " "	16 50
" 1, " Niagara iron	17 00
" 2, " " " "	16 50
5% Silicon Mannie Charcoal softener	17 00
3% Silicon Mannie Charcoal softener	16 50
Connellsville 72 hour Foundry coke	4 85

BRITISH PIG IRON MARKET.—Messrs.
Wm. Jacks & Co., 49 Leadenhall street,
London, E.C., England, under date of
October 7, 1901, quote as follows:
"Since last writing you there has been
little or no change in our market, the
small stocks and reduced production
keeping prices steady.

Prices are as follows:—No. 1 Gart-
sherrie, 67/-f.o.b. Glasgow; No. 3 Gart-
sherrie, 56/-f.o.b. Glasgow; Nos. 1, 2
and 3 Cumberland Hematite, 67/-f.o.b.
Liverpool; Refined DTN Pig iron in
small pigs, 86/-f.o.b. Liverpool."

BETTER PRICES FOR CANADIAN PULP.
—Mr. C. E. Sontum, Canadian Com-
mercial Agent in Norway and Sweden has
sent a report to the Department of Trade
and Commerce, in which it is stated that
the scarcity of water in Scandinavia is
seriously curtailing the output of lumber.
So low are the rivers that logs cannot
be floated, and the saw mills have for
weeks been running on half-time. Simi-
lar reports of scarcity of water have

The Diamond Machine and Screw Co., Limited

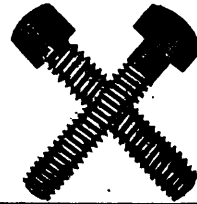


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THOROLD, - ONT.
Manufacturers of

Stove and Piano Trimmings and Novelties

Fine Grey Iron Castings a Specialty.

Nickel, Copper and Brass Electro Plating.
WRITE FOR PRICES.

reached the agent from Germany and Austria. As a result prices of pulp, especially, have advanced. As indicating the scarcity of pulp on the continent, Mr. Sontum cites a sale of 400 tons of moist at \$10 per ton, f.o.b., for delivery in Germany. The cellulose manufacturers of Europe have agreed to restrict the output. All these conditions promise better prices for Canadian pulp abroad.

THE AUSTRALIAN TARIFF.—The new Commonwealth tariff bill was introduced into the lower house of the Federal Parliament, October 8, by Mr. Kingston, the Minister of Trade and Commerce. In the course of the inductory speech Mr. Kingston explained that the new tariff would be on lines of moderate protection. It was proposed to raise the necessary revenue, £9,000,000, as follows: £2,100,000 from customs and excise duties on stimulants, and the remainder from import duties of three classes, fixed, composite and ad valorem. He estimated that £2,362,000 would be raised by ad valorem duties at an average rate of 18.7

per cent. It was also announced that the Government proposed to introduce a system of bonuses in order to encourage the establishment of new industries, especially in the case of locally smelted iron and locally made machinery. It was stated that the bonus in the case of pig iron would be 12s. per ton on pig iron from Australian ore and 8s. per ton on pig iron from other ore. The bonus on steel ingots containing fifty per cent. of pig iron made in Australia would be 12s. per ton. These bonuses will begin in July, 1902, and will be payable only to works capable of producing 100,000 tons annually. They will be limited to 150,000 tons. The bonus on machinery will be twenty-five per cent, and in the case of approved reapers and binders will begin immediately. The duties as far as they have as yet been cabled are stated to be as follows; the list of course being very incomplete: Agricultural machinery, fifteen per cent. ad valorem; corrugated and galvanized iron, 30s. per ton; sparkling wines, 12s. per gallon; other wines, bottled, 8s.; in bulk, 6s.;

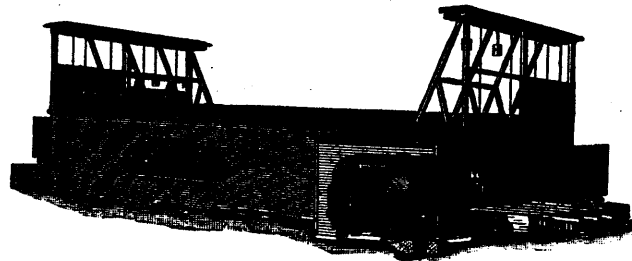
manufactured tobacco, 3s. 6d. per pound; imported leaf tobacco, 1s. 6d. per pound; excise, 1s.; cigars, 5s. 6d., plus fifteen per cent. ad valorem; cigarettes, 6s. 6d.; sugar, imported, £6 per ton; excise, £3, with a rebate of £2 if grown by white labor only; cottons and linens, ten and fifteen per cent. ad valorem; furniture, twenty per cent. ad valorem. London dispatches state that the bill has aroused strong opposition in commercial circles there, while it is stated that the Free Trade party in the Australian Parliament is determined to resist the passage of the bill, in its present form, to the utmost.

BRITISH CUSTOMS TARIFFS.—The following rates of duties on sugar and articles of cognate description imported into Great Britain, charged since April 19, 1901, are taken from the regulations issued by the British Commissioner of Customs:—

Sugar of a polarization exceeding 98 deg., per cwt., 4s. 2d.
Sugar of a polarization not exceeding 76 deg., per cwt., 2s.

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ANYTHING
WHATSOEVER IN
THE WAY
OF LUMBER**



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AUTOMATIC LOOMS
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FIRE
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TALISMANIC RUBBER FACING—For Rubber Belts
TALISMANIC ROPE PRESERVER

JOHN W. BOWDEN & CO.

330 Clinton Street.

Toronto, Ont.

And intermediate duties varying between 4s. 2d. and 2s. on sugar of a polarization not exceeding 98 deg., but exceeding 76 deg.

Molasses (except when cleared for use by a licensed distiller in the manufacture of spirits), and invert sugar and all other sugar and extracts from sugar which cannot be completely tested by the polariscope, and on which duty is not specially charged, if containing 70 per cent. or more of sweetening matter, per cwt., 2s. 9d. If containing less than 70 per cent., and more than 50 per cent. of sweetening matter, per cwt., 2s. If containing not more than 50 per cent. of sweetening matter, per cwt., 1s.

Glucose, solid, per cwt., 2s. 9d.; liquid, per cwt., 2s.

Saccharin (including substances of a like nature or use), per oz., 1s. 3d.

Sugar candy will be dealt with as sugar polarizing over 98 deg.

Blacking, solid, containing sugar or any other sweetening matter, per cwt., 1s.

Blacking, liquid, containing sugar or any other sweetening matter, per cwt., 1s. (Together with the duty on any spirit contained therein).

Candied and drained peel, per cwt., 3s.

Caramel, solid, per cwt., 4s. 2d.; liquid, per cwt., 3s.

Cattle foods containing molasses or other sweetening matter, per cwt., 1s.

Cherries, drained, imported in bulk, per cwt., 2s. 3d.

Chutney, per cwt., 2s.

Coco-nut, sugared, per cwt., 2s.

Confectionery containing chocolate, viz., when the chocolate exceeds 50 per cent. of the total net weight, per lb., 2d. When the chocolate does not exceed 50 per cent. of the total net weight, per lb., 1½d.

Confectionery made from sugar and containing no other ingredients, except flavoring, per cwt., 4s. 2d.

Confectionery, hard, such as sugared almonds, caraway seeds, etc., per cwt., 4s. 2d.

Confectionery, soft, viz., A. B. gums imported in bulk in barrels or cases, on the entry for which the importer has declared that duty on the combined quantity of sugar and glucose used in the manufacture of the goods did not exceed the rate of 2s. per cwt., per cwt., 2s. Other A. B. gums, caramels, chewing gums, jelly beans, Turkish delight, etc., per cwt., 3s.

Flowers, as violets and rose petals, etc., in crystallized sugar, as crystallized fruit, per cwt., 4s. 2d.

Fruit, canned and bottled, other than fruit liable to duty as such, preserved in thin syrup, per cwt., 1s.

Fruit, canned and bottled, other than fruit liable to duty as such, preserved in thick syrup, per cwt., 3s.

Fruit, crystallized, glace and metz, except fruit liable to duty as such, per cwt., 4s. 2d.

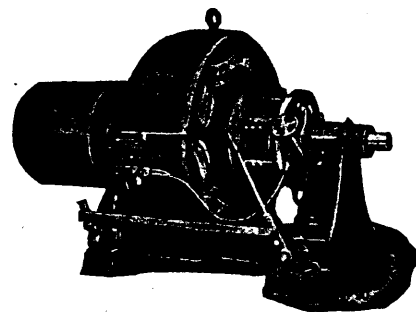
Fruit, imitation, crystallized (orange and lemon slices, etc.), per cwt., 4s. 2d.

Fruit, except currants, liable to duty as such, preserved in sugar, or otherwise, whether mixed with other fruits or not, per cwt., 7s.

Fruit pulp, excepting fruit pulp liable to duty as such, preserved in thin syrup, per cwt., 1s.

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DYNAMOS, TELEPHONES, SLOW
SPEED MOTORS, MOTORS, SUPPLIES,
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Advertise in Canadian Manufacturer,
Send for rates.

Fruit pulp, excepting fruit pulp liable to duty as such, preserved in thick syrup, as jam, per cwt., 3s.

Ginger, preserved in syrup or sugar, per cwt., 3s.

Marmalades, jams and fruit jellies, if not made from fruit liable to duty as such, per cwt., 3s.

Marzipan, per cwt., 2s. 6d.

Milk, condensed, sweetened, whole, per cwt., 1s. 8d.

Milk, condensed, sweetened, separated or skimmed, per cwt., 2s.

Nestle's milk food, per cwt., 1s. 3d.

Soy, when containing molasses or other sweetening matter, per cwt., 2s.

Tamarinds preserved in syrup, per cwt., 1s.

Sweetened spirits tested for strength, additional to the spirit duty, in respect of the sugar used therein, per proof gallon, 2d.

Notes.—An additional $\frac{1}{2}$ d. a lb. is chargeable in respect of any of the above articles in which spirit has been used in the manufacture.

Plums (including greengages), preserved in sugar or otherwise, are charged 7s. per cwt.

Tinned and bottled apricots, in syrup or water, and apricot pulp are not liable to duty as preserved plums. Duty, however, will be charged on any added sugar. Dried apricots pay 7s. per cwt.

The duty of 7s. per cwt. on figs is equally applicable to tinned figs and fig pulp.

Honey (pure) and milk sugar or lactose are not liable to sugar duty.

Saccharin must not be imported into Great Britain or Ireland except into ports approved by the Commissioners, at present London, Harwich, Dover, Folkestone, Newhaven and Southampton. Imported saccharin must be warehoused. Saccharin manufactured in Great Britain must be charged with duty in the custody or possession of the maker. It must not be imported otherwise than in packages containing not less than eleven pounds.

COPPER.—No reduction has yet been formally made in the official selling price of copper, and, in fact, the local prices

of lake copper have actually been advanced in price this week. There have been reports that the Amalgamated Copper Co. interest intended to make a radical cut, some accounts being that as low a price as twelve cents per pound might be established. It seems, however, that apart from the possibility that large consumers have been granted moderate concessions there has been no change, and that the expressions on the part of insiders at the firm maintenance of 16 $\frac{1}{2}$ to 17 cents as the price reflect the determination of the heads of the Amalgamated and its auxiliary, the United Metals Selling Co. On the other hand, the discussion as to copper-trade conditions and prospects has become rather general, and has been enlivened by some rather striking, not to say sensational, utterances by prominent speculators. The net result seems to have been to somewhat befog the public mind on the question, but the attacks on the Amalgamated, though productive of some depression in the market price of its shares, have also developed the fact that there is a large short interest.—Bradstreets'.

BUSINESS CHANGES.

FROM BRADSTREETS.

ONTARIO.

CONN—Wm. Foster, sawmill, etc., advertising business for sale.
 DRAYTON—John Clarke, mfr. brick, advertising plant, etc., for sale.
 HAMILTON—Commercial Oil Co., dissolved.
 Ernest Gosnay, mfr. mattresses, sold to C. S. Schmidt.
 Alex. Main & Son, mfr. rope, etc., burned out.
 LEAMINGTON—Canada Ladder Co., closing out.
 Arthur Ludlam, planing mill, burned out.
 LONDON—Wray Corset Co. (Estate of), stock sold.
 OTTAWA—Consumers' Electric Co., obtained charter.
 ST. THOMAS—Tilsonburg Oil & Gas Developing Co., obtained charter.
 SAULT STE. MARIE—Algoma Brewing Co., obtained charter.
 Standard Mining Co. of Algoma, obtained charter.
 TORONTO—Canadian Skewer Co., obtained charter.
 Globe Paint Co., obtained charter.
 Ontario Type Machine Co., obtained charter.
 Standard Vinegar Co., obtained charter.
 Standard White Lime Co., obtained charter.
 Toronto Liquid Carbonate Co., obtained charter.
 Belcher & Irwin, mfr. corsets, succeeded by Belcher & Snider.
 Dalton Bros., mfr. spices and soap, loss by fire.

Western Canada Woolen Mills Co., winding-up order granted, E. R. C. Clarkson appointed interim liquidator.
 WINCHESTER—B. C. Beach & Co., foundry, etc., premises damaged by fire.
 WOODSTOCK—Imperial Engine Co., obtained charter.

QUEBEC.

EASTMAN—Menosh & Welcome, tub factory, dissolved, new partnership registered.
 LEVIS—Colonial Window Blind Co. (T. G. Charland), ceased doing business under this style.
 MAISONNEUVE—Laniel & Cie, mfrs. boots and shoes, dissolved, new partnership registered.
 MONTREAL—A. A. Ayer & Co., cheese exporters, stock damaged by fire.
 Beaudoin Freres, mfrs. cigars, meeting of creditors.
 O. Vinette & Co., mfrs. boots and shoes, assigned.
 Beaver Oil Co., dissolved, Mrs. Malcolm McKenzie now registered.
 Z. Davis & Co., cigar mfrs., dissolved, David Davis now registered.
 Lefebvre, Ryan & Co., mfrs. vinegar, assignment filed.
 Seman Dry Powder Fire Extinguisher Co., Clara Bradshaw registered.
 R. Jellyman & Co., mfrs. paper boxes, Wilks & Michaud curators.
 Sunlight Gas Co., assets advertised for sale.
 Mace Perkins Brewing Co., J. M. M. Duff liquidator.
 Provost & Lacroix, bags, registered.
 Campbell Mfg. Co., mfrs. clothing, obtained charter.
 Canada Electric Co., applied for charter.
 Montreal Bottle Co., registered.
 Radford Paper Co., obtained charter.
 ROCK ISLAND—Crown Whip Co., dissolved, Edwin R. Lay now registered.
 ST. LAURENT—Doras & Sabourin, sash and door mfrs., registered.
 QUEBEC—Gingras, Morin & Cie, mfrs. shoes, registered.

NEW BRUNSWICK.

ST. JOHN—Wm. Parks & Son, mfrs., assets sold.

NOVA SCOTIA.

METEGHAN STATION—Blackadar & Co., lumber, sawmill at Hectanooga burned.
 PARRSBORO—Parrsboro Lumber Co., co-partnership registered.
 SYDNEY—Daniel McDonald, planing mill, sold out.

MANITOBA.

BOISSEYAIN—Great West Saddlery Co., sold to Thomas E. Scott.
 BRANDON—Brandon Binder Twine Co., incorporated.
 LA RIVIERE—La Riviere Farmers' Elevator Co., incorporated.
 WINNIPEG—J. H. Ashdown Hardware Co., applied for charter.

NORTH-WEST TERRITORIES.

PRINCE ALBERT—Prince Albert Elevator Co., incorporated.

BRITISH COLUMBIA.

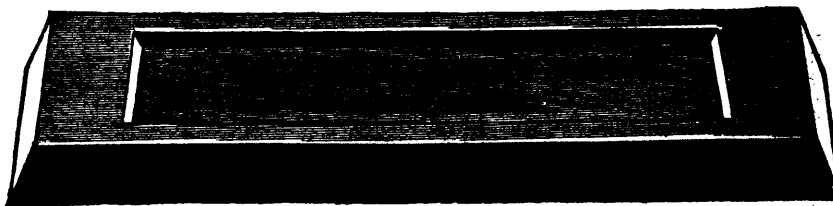
KAMLOOPS—Clawson & Pinnell, wall paper, etc., loss by fire.
 VANCOUVER—British Columbia Pulp & Paper Co., incorporated.
 Columbia Clay Co., incorporated.
 Columbia Packing Co., Michael Costello deceased.

THE BEST IS NONE TOO GOOD.

The largest machinery builders in Canada and United States use our Babbitt Metal.
 Is this not sufficient proof of its superiority over other anti-friction metals?
 If the largest users are satisfied with our Babbitt Metals, why should it not suit you?
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BEATS
 THEM ALL

HARDWARE, METALS, PAINTS and OILS

Current Prices, Revised to November 1, 1901.

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

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

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

<p>ADZES.—Duty 30%. \$13 to \$20 per doz.</p> <p>AMMUNITION.—Duty 30%. Caps, Gun, 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 Sporting, Amer., add 5% to list. Cartridges, Central Fire, Military and Sporting, 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% discount. Cartridges, Rim Fire, pistol, Dom., 50 & 5% discount. Powder, sporting, Can., \$4.50 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, \$8.62½ 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.</p> <p>ANCHORS. Small, 30 to 50 lbs., \$7.00 per 100 lbs. 100 lbs. and larger, \$5.00 per 100 lbs.</p> <p>ANVILS.—Duty 30%. Boker & Co., 12 to 15 cents per lb. Brook's, 10 to 13 cents per lb. Peter Wright's, 12 to 15 cents per lb.</p> <p>AUGERS.—Duty 30%. Eye Augers, 60% discount. Forstner's, 20 Gilmore's, 50 " " Irwin's, 30 " " Jenning's, 30 " " Nut Augers, 60 " " Ship Augers, 10 " "</p> <p>AXES.—Duty 25%. Bench, \$6.50 to \$14 per doz. Broad, \$28.25 to \$40 per doz. Double-bitted, \$11 to \$13 per doz. Handled, \$6.50 to \$12 per doz. Regular, \$6 to \$10 per doz. Ship Carpenters, \$22 to 25 per doz.</p> <p>AXLE GREASE.—Duty 25%. Ordinary, box, \$5.75 to \$6 per gross.</p> <p>AXLES.—Duty 35%. Half patent, short beds, 60% discount per set. " long " 60% " "</p> <p>BAGS.—Duty 20%. Cotton, seamless, \$14 @ \$24.50 per 100. Jute, \$7.75 @ \$9 per 100.</p> <p>BANDS.—Duty 30%. Carriage Hub, 2" x12", \$13.00 per set. " " 2" x12", 14.00 " " " " 2" x12", 15.00 " " " " 2" x12", 16.00 " " " " 2" x12", 17.00 " " " " 2" x12", 18.00 " " " " 2" x12", 19.00 " " " " 2" x12", 20.00 " " " " 3" x12", 21.00 " " " " 3" x12", 24.00 " " " " 3" x12", 25.00 " " " " 3" x12", 26.00 " " " " 3" x12", 27.00 " " " " 3" x12", 28.00 " " " " 3" x12", 29.00 " " " " 3" x12", 30.00 " " " " 4" x12", 31.00 " "</p>	<p>BARROWS.—Duty 30%. See Wheelbarrows.</p> <p>BELLS.—Duty 30%. Church, 35 cents per lb. Cow, 60% discount. Door, \$3.50 to \$12 per doz. Farm, \$1.75 to \$4.50 each.</p> <p>BELLOWS.—Duty 25%. Blacksmiths', Canadian, 10% discount; Amer., 50% discount. Moulders', \$9.50 to \$15 per doz.</p> <p>BELTING (Leather).—Duty 20%. Amer., Hoyt's, regular, 35% discount. Canadian, 55% discount.</p> <p>BELTING (Rubber).—Duty 20%. 50 to 60% discount.</p> <p>BITS.—Duty 30%. Boker's Center, 75 cents to \$2.60 per doz. Countersink, \$1.50 per doz. Gimlet, U.S., \$1 per doz. Marple's Centre, \$1.30 to \$4.50 per doz. Reamer, \$1.50 per doz. Morse, blacksmiths', 45% discount. Morse, straight shank, 45 " " Morse, taper shank, 45 " " Morse Bit Stock, 50 " "</p> <p>BLANKETS.—Duty 35%. Horse, \$18 to \$36 per doz.</p> <p>BLOCKS.—Duty 30%. Gin, \$3.50 to \$5 each. Hyper Acme, 15% discount. Weston Chain, 25 " " Wood Pulley, 60% discount. Wrought Iron, 25 " "</p> <p>BLUE STONE. Cask lots, for spraying, 7 cents per lb. 100-lb. lots, for spraying, 7½ cents per lb.</p> <p>BOLTS.—Duty ½ cents lb., & 25%. Bolt Ends, 62½% discount. Carriage, 60 " " Coach Screws, 70 " " Elevator Bolts, 45% discount. Machine, 60 " " Plow, 60 " " Shaft, 45 " " Sink, 50 " " Sleigh Shoe, 72½ " " Stove, 60 " " Tire, 55 " "</p> <p>BOOT, CAULKS.—Duty 20%. Small or Medium, ball, \$4.25 per M. Heal, \$4.50 per M.</p> <p>BOOT HEELS or Lifts (Leather).—Duty 25%. Large Size, \$1.15 doz. pairs. Medium Size, \$1.05 doz. pairs.</p> <p>BOOT HEELS (Rubber).—Duty 35%. Sizes 6 to 11 (Men's), \$3.50 doz. pairs. " 4 to 5 (Boy's), \$3.35 " " " 0 to 3 (Women's), \$3.25 doz. pair.</p> <p>BOOT SOLES (Leather).—Duty 25%. Heavy, \$3.60 doz. pairs. Medium, \$2.90 " "</p> <p>BORAX. Lump, 8 cents per lb. Powdered, 10 cents per lb.</p> <p>BRACES AND BITS (Carpenters).—Duty 30%. Barber's best, 70 and 10% discount. Spofford's, 50 and 5% discount. Improved, 50 and 5% discount.</p> <p>BRICK (Fire).—Duty 20%. Circular, \$35 per M. Square, \$30 per M.</p> <p>BRUSHES.—Duty 25%. Canadian list, 50% discount.</p>	<p>BUCKLES.—Duty 30%. Double Grip Trace, three loop, tinned and janned, put up a dozen in a box, 1½", 55 cents per doz.; 1½", 65 cents per doz. Harness, janned or tinned, 12 cents per lb. Shoe, janned or tinned, 12 cents per lb.</p> <p>BUTTS.—Duty 30%. Cast Butts, 60% discount. Loose Pin, Bronze, 60 cents to \$2 per pair. Loose Pin, B. Bronze, 30 cents to \$1 per pair. Loose Pin, wrought, 50% discount. Wrought Brass, 50 " " Wrought Iron, 60 " "</p> <p>CANT DOGS.—Duty 30%. \$10 per doz.</p> <p>CARBIDE, Bicycle.—Duty 25%. In Cases containing 2 doz. 1 lb. cans, \$1.75. " " " 2 " " 2.75. " " " 5 " " 3.00. In Cans " 100 lbs., \$3.25.</p> <p>CASTINGS (Iron).—Duty 30%. Carriage, in 5 ton lots, 5 cents per lb. " 3 " 54 " " " 2 " 54 " " " 1 " 54 " " " ½ " 54 " "</p> <p>CASTINGS (Brass).—Duty 20%. 21 to 25 cents per lb.</p> <p>CASTINGS (Phosphor Bronze).—Duty 20%. 22 cents per lb.</p> <p>CASTORS.—Duty 30%. Bed, 55% discount. Plate, 55 " " Truck, Payson's, 60% discount.</p> <p>CEMENT.—Duty 12½ cents per 100 lbs. Belgian, Portland, \$2.50 to \$2.75. Canadian, hydraulic, \$1.25 to \$1.50. Canadian, Portland: Rathbun's, "Star," \$2.35 to \$2.75. " "Beaver," \$2.10 to \$2.50. " "Ensign," \$1.90 to \$2.30. The smaller figures represent car load lots, and the larger less than car loads, f.o.b., Toronto. English, Portland, \$3.</p> <p>CHALK. Carpenters', colored, 45 to 75 cents per gross. Crayon, 14 to 18 cents per gross. Red, 5 to 6 cents per lb. White Lump, 60 to 65 cents per 100 lbs.</p> <p>CHAIN.—Duty 5%. Brass, Jack, 30% discount. Coll, 3-16, \$11.00 per 100 lb.; ½, \$8.75 per 100 lbs.; 5-16, \$5.50 per 100 lbs.; ¾, \$4.90 per 100 lbs.; ¾, \$4.40 per 100 lbs.; ¾, \$4.00 per 100 lbs.; ¾, \$3.90 per 100 lbs. Iron, Jack, 25% discount. Safety, 55 " "</p> <p>CHISELS.—Duty 30%. Calking, Socket, Framing and Firmer. P.S. & W. Extra, 60, 10 & 5% discount. Warnock's, 70% discount.</p> <p>CLEAVISES.—Duty 30%. Screw, \$2.50 per doz.</p> <p>COLORS.—In oil, see Paints. " —Dry, see Paints.</p> <p>CORD.—Duty 25%. Sash, Silver Lake (A), 50 cents per lb.; (B), 40 cents per lb. Baltic, 25 cents per lb. Hercules, 30 cents per lb.</p> <p>COTTON DUCK.—Duty 22½%. 36 in. wide, 38 cents per yd. 48 in. wide, 45 cents per yd. 60 in. wide, 57 cents per yd.</p>
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When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

CROW BARS.—Duty 30%.
5 cents per lb.

CRUCIBLES.
Dixon's, 7 cents per number.

DRILLS.—Duty 25%.
Blacksmiths' \$6 to \$15 each.
Jardine's, \$7.50 to \$20 each.

DYES (Aniline).

DYNAMITE.
30 to 50 cents per lb.

EMERY.
Coarse, 7 cents per lb.
Fine, 5 cents per lb.

EMERY CLOTH.—Duty 25%.
Beadler & Adamson, 40% discount.

EMERY HONES.—Duty 25%.
\$3 to \$5 per doz.

EMERY STEELS.—Duty 25%.
\$2 per doz.

EMERY WHEELS.—Duty 25%.
65% discount.

EXPANDERS.—Duty 30%.
Tube, Dudgeon, 33 1/4% discount.

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

FENCING.
Barb Wire, \$3.05 per 100 lbs.

FENCING (Wire).—Duty 15%.
Galvanized, barb, f.o.b. Toronto, \$3.05.
Galvanized, plain twist, f.o.b. Toronto, \$3.05.
Galvanized, barb, f.o.b. Cleveland, \$2.82 1/2 in less than car lots, and \$2.70 in car lots.
Mesh, 5 1/2 x 10 1/2, 20 rod rolls 55% discount, Can. list.
" 4 x 6, 20 " 50 & 5% " "
" 3 x 6, 20 " 55 & 5% " "

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

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

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

FLUE SCRAPERS.—Duty 30%.
Engineers' Favorite, 40% discount.
Inglis, 20% discount.
Wire, 50

FORKS, HOES AND RAKES.—Duty 25%.
50, 10 and 5% discount.

FUSE.
Blasting, Single tape, \$3.75 per M ft.
" Double tape, \$5 per M ft.

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

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

GAUGES.—Duty 30%.
Steam, 50% discount.

GLASS—Duty 20%. (Window—Box Price).
Star, under 26 in., \$2.15 per 50 ft., \$4.15 per 100 ft.; 26 to 40 in., \$2.30 per 50 ft., \$4.45 per 100 ft.; 41 to 50 in., \$4.85 per 100 ft.; 51 to 60 in., \$5.15 per 100 ft.; 61 to 70 in., \$5.50 per 100 ft.; 71 to 80 in., \$6 per 100 ft.; 81 to 85 in., \$6.50 per 100 ft.

D. Diamond, under 26 in., \$6 per 100 ft.; 26 to 40 in., \$6.65 per 100 ft.; 41 to 50 in., \$7.50 per 100 ft.; 51 to 60 in., \$8.50 per 100 ft.; 61 to 70 in., \$9.50 per 100 ft.; 71 to 80 in., \$10.50 per 100 ft.; 81 to 85 in., \$11.70 per 100 ft.; 86 to 90 in., \$14 per 100 ft.; 91 to 95 in., \$15.50 per 100 ft.; 96 to 100 in., \$18 per 100 ft.

Glass Demijohns or carboys, empty or filled, bottles, decanters, flasks, phials, glass jars, lamp chimneys, glass shades or globes, cut, pressed or moulded crystal or glass tableware, decorated or not, and blown glass tableware—Duty 30%.

GLASS LAMP CHIMNEYS.—Duty 30%.
Common Crimp, per doz. O, 43 cents.
" " " " A, 45 " "
" " " " B, 65 " "
" " " " A, 50 " "
" " " " B, 75 " "

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

GLUE.—Duty 25%.
Cabinet, sheet, 12 to 13 cents per lb.
Common, 8 1/2 to 9 cents per lb.
Coopers', 19 to 20 cents per lb.
French Medal, 14 to 14 1/2 cents per lb.
Gelatine, 22 to 30 cents per lb.
Huttner, 18 cents per lb.
Strip, 18 to 20 cents per lb.
White, extra, 18 to 20 cents per lb.
LaPage's, 25% discount.
Progressive, 25

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

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

GRAIN CRADLES.—Duty 25%.
With Scythes complete \$33 per doz.
Without scythes, \$18.50.

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

HALTER MOUNTINGS.—Duty 30%.
1x1 1/2 inch, 10c. per lb.
(Evans), 1x1 1/2 in., doz. set packages, \$8.00 per gross.

HALTERS.—Duty 30%.
Leather, 1 in. strap, \$3.87 1/2 to \$4 per doz.
Leather, 1 1/2 in. strap, \$5.15 to \$5.20 per doz.
Rope, 1, \$9 per gross.
Rope, 1 to 1 1/2, \$14 per gross.
Web, \$1.87 to \$2.45 per doz.

HAMMERS.—Duty 30%.
Blacksmiths', 10 cents per lb.
Carpenters', Madoles', \$6.40 to \$8.75 per doz.
Carpenters', Warnock's, \$4 to \$7.50 per doz.
Machinists', 22 cents per lb.
Sledge, 10 cents per lb.
Tack, 60 cents to \$1.20 per doz.
Tinners', \$4 to \$6.50 per doz.

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

HANGERS.—Duty 30%.
Barn Door, round groove, \$4.50 to \$6.50 per doz.
Lanes, \$6.75 to \$12 per doz.
Parlor door, \$3 to \$6 per set.
Stearns, \$5.50 to \$8.50 per doz.

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

HATCHETS.—Duty 30%.
Canadian, 40 to 42 1/2% discount.

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

HINGES.—Duty 1 cents per lb., & 25%.
Blind, Parker's, 50 & 10 to 60% discount.
Heavy T and strap, 4 in., 6 1/2 cents per lb.
" " " 5 in., 6 1/2 " "
" " " 6 in., 6 " "
" " " 8 in., 5 1/2 " "
" " " 10 in., 5 1/2 " "
Light T and strap, 65 & 5 off.
Screw hook and hinge, 6 to 12 in., \$4.50 per 100 lbs.; 14 in. up, \$3.50.
Spring, \$12 per gross pairs.

HOES.—Duty 25%.
Grub, \$5 to \$6 per doz.

HOOBS.—Duty 30%.
Brush, \$7.50 to \$9.
Reaping, 50, 10 and 5% discount.
Chain, wrought, round or grab, \$3 & \$4.50 per doz.
Lumber Piling, \$7 to \$19 per doz.
Malleable, wardrobe, \$1.50 to \$2.50 per gross.
Wire, \$1.25 to \$2

HORSE NAILS.—Duty 30%.—See Nails.

HORSE SHOES.—Duty 30%.
Lt. Med. & H., \$3.40 per keg.
Snow, \$3.95 per keg.
Steel, \$3.80 to \$5.25 per keg.
Toe weight steel, \$6.15 per keg.

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

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

IRON.—See Metals.

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

KEYS.—Duty 30%.
Carpenter, 50 cents to \$1.25 per doz.
Desk, 25 to 35 cents per doz.
Mortise Lock, 25 cents to \$1 per doz.
Padlock, 25 to 35 cents per doz.
Rim Lock, 25 cents to \$1 per doz.

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

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

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

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

LAND ROLLERS.—Duty 20%.
\$12 to \$15 each.

LANTERNS.—Duty 30%.
Cold Blast, \$7 per doz.
Dashboard, cold blast, \$9 per doz.
Japanned, 50 cents per doz. extra.
No. 0, \$5.75 per doz.
No. 3 "Wright's," \$8.50 per doz.
Ordinary, with O burner, \$4 per doz.

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

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

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

LINES (Cotton).—Duty 25%.
Chalk, \$2 to \$3.50 per gross.
Wire, clothes, \$2.50 to \$4.50 per M ft.

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

MALLEABLES.—Duty 30%. See Castings.

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

MATTOCKS.—Duty 30%.
Canadian, \$5.50 to \$6.50 per doz.

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

METALS.
Ingots.—Aluminium, 35 to 50 cents per lb.
Antimony (Cookson's), 10 1/2 to 11 cents per lb.
" Copper, "English," 18 cents per lb.
" " Bar, 25 cents per lb.
" Tin, "Lamb & Flag," 32 cents per lb.
" " Straits, 32 cents per lb.
" Zinc, 6 to 6 1/2 cents per lb.; sheets, 7 cents per lb.
Babbit Metal (duty 10%).
Lewis, 7 to 10 cents per lb.
Magnolia, 25 cents per lb.
Post's Zero, 25 cents per lb.
Spooner's Copperine, No. 2, 12 1/2 cents per lb., finest, 25 cents per lb.
Syracuse Smelting Works, dynamo, 29 cents per lb.; special, 25 cents per lb.
Sheets, Black, Duty \$7 per ton.
" 10—\$2.65, 100 lbs.
" 12—\$2.75, " "
" 14—\$3.10, " "
Sheets, Black, Duty 5%.
" 17—\$3.10, 100 lbs.
" 18—\$3.20, " "
" 20—\$3.25, " "
" 22—\$3.30, " "
" 24—\$3.50, " "
" 26—\$3.75, " "
" 28—\$4.00, " "
Sheets, Tinned—7 1/2 cents per lb., Base price.

METALS—Continued.

Sheets, Galvanized Iron.
17—\$3.80 per 100 lbs.
18—\$3.90
20—\$3.90
22 to 24—\$4.10 per 100 lb.
18 to 24—\$4.50
26—\$4.25 per 100 lb.
28—\$4.50
16—(Queen Head), \$3.90 per 100 lb.
18-22-24—(Queen's Head), \$4.15 per 100 lb.
26—\$4.40 per 100 lb.
28—\$4.65
Sheets, Corrugated—Galv., \$4.50 per 100 sq. ft.
Shafting, Bright Steel.—\$3.50 per 100 lb.
Shingles, Galv. Iron, Ordinary, \$4.90 per sq.
Medium, \$5.45
Best, \$5.80
Painted Steel, Ordinary, \$3.15 per sq.
Medium, \$3.35
Best, \$5.80
Iron (duty \$7 per ton).
Angle.—\$2.75 per 100 lb.
Bar (Common),—\$1.95 @ \$2.05.
Bar, "Swedes."—\$4.50 per 100 lb.
Lowmoor.—\$6.50 per 100 lb.
Refined Bar.—\$2.60 per 100 lb.
Iron, Plashed Sheet (duty 5%)
"A"—\$6.00 per 100.
"B"—\$5.00
Russia—\$10.00 per 100 lb.
Iron, Galv. Sheet, see Sheets.
and Corrugated, see Sheets.
Pig Lead (duty 15%).—Domestic, \$3.75 per 100
lb.; pigs, imported, \$4.25 per 100 lb.; bars, \$5
per 100 lb.; sheets, \$5.50 per 100 lb.
Solder bar (duty 25%).—1st, refined, 18 cents per
lb.; half-and-half, 18 cents per lb.
Iron, Pig (duty \$2.50 per net ton). \$16.50 @ \$17
per ton.
Iron, English Horse Shoe.—\$2.85 per 100 lb.
Iron, Band.—\$2.05 per 100 lb.
Iron, Hoop.—\$2.90 per 100 lb.
Beams, Steel.—\$3 per 100 lb.
Rods.—Brass, 24 cents per lb., base price; hard
sheets, 20 to 30 cents per lb.; soft sheets,
20 to 30 cents per lb.
Rails, Small Steel.—\$3 per 100 lb.
Steel, Cultivator.—\$4.50 per 100 lb.
Channel.—\$3 to \$4 per 100 lb.
"Firths"—12 cents per lb.
"Crescent"—9 cents per lb.
Cant Hook.—7 cents per lb.
Machinery (in the rough).—\$2.25 per 100 lb.
Machinery.—\$2.75 per 100 lb.
Mild.—\$1.90 per 100 lb.
Sleigh Shoe.—\$1.90 per 100 lb.
Spring.—\$3.00 per 100.
Tire.—\$2.05 per lb.
Toe Caulk.—\$2.20 per 100 lb.
Steel, Cast.—Firth's, 12 cents per lb.
Jessop's, 14 cents per lb.
Black Diamond, 12 cents per lb.
Silver, 15 cents per lb.
Mushets.—55 cents per lb.
Steel, Blister.—12½ cents per lb.
Steel, Hammer.—7 cents per lb.
Steel, Decarbonized Sheet—7 cents per lb., base.
Steel, Black Sheet, Duty \$7 per ton.
10—\$2.65, 100 lbs.
12—\$2.75
14—\$3.10
Sheets, Black, Duty 5%.
17—\$3.10, 100 lbs.
18—\$3.20
20—\$3.25
22—\$3.30
24—\$3.50
26—\$3.75
28—\$4.00
Tank Steel Plate (duty \$7 per ton).—3-16, \$2.60 per
100 lb.
Plates, Steel Boiler (duty 10%).—1 and larger,
\$2.50 per 100 lb.
Steel Boiler Heads (duty 10%).—\$2.60 per 100 lb.
Canadian Plates.—All dull, 52 sheets, \$2.90;
half polished, \$3.
MOPS.—\$1 per doz.
NAIL PULLERS.—Duty 30%.
German and American, \$1.85 to \$3.50 each.
NAILS.—Duty, cut, ½ cent per lb.; wire, 3-5 cent
per lb.
Chair nails, 35% discount.
Clout nails, blued, 65 and 5% discount.
Coopers', 35% discount.
Copper nails, 52½% discount.
Cut, 2d \$3.65; 3d, \$3.30; 4 & 5d, \$3.65; 6 & 7d,
\$2.95; 8 & 9d, \$2.90; 10 & 12d, \$2.75; 16 &
20d, \$2.70; 30, 40, 50 & 60d (base), \$2.65.
Flour barrel nails, 30% discount.
Galvanizing, 2 cents per lb. net, extra.
Horse (C brand), 50 & 7½% discount.
M brand, 50 & 10% discount.
Steel cut nails, 10 cents extra.
Trunk nails, black, 65 and 5% discount.
Trunk nails, tinned, 65 and 10% discount.
Wire, 2d \$3.85; 3d, \$3.50; 4 & 5d, \$3.25; 6
& 7d, \$3.15; 8 & 9d, \$3; 10 & 12d, \$2.95; 16 &
20d, \$2.90; 30, 40, 50 & 60d (base), \$2.85; fine,
3d, \$3.85.
Wire nails in car lots, \$2.77½.
Miscellaneous wire nails, 70 & 10% discount.
NAIL SETS—Duty 30%.
Assorted sizes, \$1.20 per doz.

NETTING—Wire.—Duty 30%.

Galvanized, 50% discount.
Green wire, \$1.50 per 100 sq. ft.
Poultry, 2x2 mesh, 150 ft. roll, 55 off Canadian
List.

NOZZLES.—Duty 30%.

Hose (Brass), \$3.50 to \$5 per doz.

NUTS.—Duty ½ cent per lb. & 25%.

Finished, tapped, 25% discount.
Rough, square head, 4 cents per lb. from list.
Rough, hexagon head, 4½ cents lb. from list.
Semi-finished, tapped, 25% discount.

OAKUM.

Navy, \$7.80 per 100 lb.
Spun, \$9.30 per 100 lb.

OIL.—Duty 25%.

Boiled Linseed Oil bbls., 86 cents per gal.
Cylinder Oil, from 40 cents up.
Lard Oil, bbls., 90 cents per gal.
Machine.
Prime White (Can.), 14 cents per gal.
Prime White (U.S.), 15½ cents per gal.
Raw Linseed Oil, bbls., 83 cents per gal.
Sperm Oil, bbls., \$1.75 per gal.
Water White (Can.), 15 cents per gal.
Water White (U.S.), 16½ cents per gal.

OILERS.—Duty 30%.

\$1 per doz. up.

PACKING.—Duty 35%.

Rubber Insertion, 60 cents per lb.
Rubber Sheet, 22 cents per lb.

PACKING.—Duty 25%.

Asbestos, 35 cents per lb.
Flax, 35 cents per lb.
Hemp, 12½ cents per lb.
Jute, 8 cents per lb.

PAILS.—Duty 25%.

Galvanized Iron, \$2.50 to \$3.50 per doz.

PAINTS.—Duty 25%.

Elephant Snow White, 8 to 9 cents per lb.
Pure White Zinc, 8 to 9 cents per lb.
No. 1, 6 to 7½ cents per lb.
No. 2, 5 to 6½ cents per lb.
Prepared, in 1, ½ and 1-gallon tins, \$1.25 per gal.
Barn, in barrels, 75 to 85 cents per gal.
Canada Paint Co's Pure, \$1.25 per gal.
Second qualities, \$1.10 per gal.
Sherwin-Williams Paints, \$1.45 per gal.
Toronto Lead & Color Co's Pure, \$1.25 per gal.
Zanzibar, all colors, 75 cents per gal., f.o.b. Tor-
onto or Windsor.

PAINTS.—Duty 30%.

Copper, \$3.50 per gal.

LEAD, DRY WHITE.—Duty 5%.

Pure, in casks, \$5.75 per cwt.
Pure, in kegs, \$6.25 per cwt.
No. 1, in casks, \$5.50 per cwt.
No. 1, in kegs, \$5 per cwt.

LEAD, WHITE.

Pure, \$6.37 per 100 lb.
No. 1, pure, \$6 per 100 lb.
No. 2, pure, \$5.62½ per 100 lb.
No. 3, pure, \$5.25 per 100 lb.
No. 4, pure, \$4.87½ per 100 lb.
Elephant and Decorators' Pure, \$7.12½ per 100 lb.
Brandram's B.B. Genuine, \$9 per 100 lb.
Decorative, \$7.55 per 100 lb.
No. 1, \$6.85 per 100 lb.
No. 2, \$6 per 100 lb.

LEAD, RED.—Duty 5%.

Genuine, 560 lb. casks, \$5.50 per cwt.
Genuine, 100 lb. kegs, \$5.75 per cwt.
No. 1, 560 lb. casks, \$5.25 per cwt.
No. 1, 100 lb. kegs, \$5 per cwt.

COLORS (Dry).—Duty 25%.

American Oxides, \$1.75 to \$2 per 100 lb.
Brussels Ochre, \$2 per 100 lb.
Burnt Sienna, pure, 10 cents per lb.
Umber, pure, 10 cents per lb.
Raw, 9 cents per lb.
Canadian Oxides, \$1.75 to \$2 per 100 lb.
Chrome Greens, pure, 12 cents per lb.
Chrome Yellows, pure, 18 cents per lb.
Drop Black, pure, 9 cents per lb.
English Oxides, \$3 to \$3.25 per 100 lb.
English Vermillion, 80 cents.
Fire Proof Mineral, \$1 per 100 lb.
Genuine English Litharge, 7 cents per lb.
Golden Ochre, 3½ cents per lb.
Mortar Color, \$1.25 per 100 lb.
Pure Indian Red, No. 45, 90 cents per lb.
Super Magnetic Oxides, \$2 to \$2.25 per 100 lb.
* Ultramarine Blue, in 28-lb. boxes, 8 to 24 cents
per lb.
Venetian Red (best), \$1.80 to \$1.90 per 100 lb.
Whiting, 12 cents.
Yellow Ochre (J.C.), bbls., \$1.35 to \$1.40 per 100 lb.
Yellow Ochre (J.F.L.S.), bbls., \$2.75 per 100 lb.
Yellow Ochre (Royal), \$1.10 to \$1.15 per 100 lb.

COLORS (In Oil).—Duty 25%.

25 lb. tins, Standard Quality.
Chrome Green, 8 cents per lb.
Chrome Yellow, 11 cents per lb.
French Imperial Green, 10½ cents per lb.
French Ochre, 5 cents per lb.
Golden Ochre, 6 cents per lb.
Marine Black, 9 cents per lb.
Marine Green, 9 cents per lb.
Venetian Red, 5 cents per lb.

PAPER.—Duty 25%.

Brown Wrapping, 2½ to 4 cents per lb.
Manilla Wrapping, No. 1, 4 cents per lb.
No. 2, 5½
Carpet Felt, \$45 per ton.
Plain building, 35 cents per roll.
Tarred lining, 45 cents per roll.
Tarred roofing, \$1.65 per 100 lbs.

PEAVEYS.—Duty 30%.

Round and Duck bill, \$2.50 and \$13 per doz.

PIKE POLES.—Duty 30%

\$10.50 per doz.

PICKS.—Duty 30%.

\$4.50 to \$7 per doz.

PITCH.

85 cents 100 lbs.

PIPE.—Duty, \$8 per ton.

Cast Iron Soil, Medium and Heavy, 65% discount
Light, 60% discount.

PIPE.

Brass, 25 to 35 cents per lb., base price.
Copper, 25 cents per lb., base price.

PIPE.—Duty 30%.

Galvanized Iron.
½, \$5.15 per 100 ft.; ¾, \$5.50 per 100 ft.; 1, \$7.95 per
100 ft.; 1½, \$10.80 per 100 ft.; 2, \$12.95 per
100 ft.; 3, \$17.35 per 100 ft.

PIPE, BLACK IRON.—Duty 30%.

¾, \$4.65 per 100 ft.; 1, \$3.40 per 100 ft.; 1½, \$3.45 per
100 ft.; 2, \$3.30 per 100 ft.; 3, \$3.75 per
100 ft.; 4, \$5.25 per 100 ft.; 5, \$7.40 per 100 ft.; 6, \$7.40 per
100 ft.; 7, \$9.30 per 100 ft.; 8, \$12.75 per 100 ft.; 9, \$22.75 per
100 ft.; 10, \$30.00 per 100 ft.; 11, \$37.50 per 100 ft.; 12, \$42.75 per
100 ft.; 13, \$47.75 per 100 ft.; 14, \$51.50
per 100 ft.; 15, \$57.50 per 100 ft.; 16, \$74.50 per
100 ft.

PIPE.—Duty 30%.

Wrought Iron, 1 inch, per ft. 16½ cents.

PIPES.—Duty 30%.

Stove, 5 and 6 in., \$7 per 100 lengths.
7 in., \$7.50 per 100 lengths.

PLANES.—Duty 30%.

Bailey's, 40% discount.
Canadian wood, 25% discount.
Mathieson wood, 20%

PLUMBERS' BRASS GOODS.—Duty 30%.

Check Valves, 60% discount.
Compression Cocks, 50% discount.
Gate Valves, 55% discount.
Genuine Jenkins' Valves, 45
Imitation Jenkins' Valves, 55
Radiator Valves, 55% discount.
Standard Angle Valves, 65% discount.
Standard Globe Valves, 65
Stop Cocks, 65% discount.

POLISH.—Duty 25%.

Liquid Stove, \$5 per gross.
Paste, \$5 per gross.

PULLEYS.—Duty 25%.

Awning, 25 to 80 cents per doz.
Clothes Line, 50 cents per doz.
Dodge wood split, 50% discount.
Sash, 25 to 27 cents per doz.

PUMP CYLINDERS.—Duty 25%.

Regular patterns, 65% discount.

PUMPS.—Duty 25%.

Cistern, 50% discount.
Force, 50

PUNCHES (centre)—Duty 30%.

Assorted sizes, \$1.90 per doz.

PUTTY.—Duty 20%.

In bbls. (Bladders), \$2.10 per 100 lbs.
In kegs, boxes or loose, \$2.25 per 100 lbs.
In 25-lb. tins, \$2.35 per 100 lbs.
In 12½-lb. tins, \$2.65 per 100 lbs.
In bulk or tins less than 100 lb., \$2.90 per 100 lbs.
Bulk, in bbls., \$1.90 per 100 lbs.
In less quantity, \$2.05 per 100 lbs.

RASPS.—Duty 30%.

Blacksmiths, Woodworkers, etc., see Files.

REGISTERS.—Duty 30%.

Floor and Wall, 50% discount.

RIVET SETS.—Duty 30%.

Canadian, 35 to 37½% discount.

RIVETS AND BURRS.—Duty 30%.
 Copper Rivets and Burrs, 35 & 5 off; cartoons, 1 cent per lb. extra.
 Extras on Iron Rivets in 1-lb. cartoons, 1 cent per lb.
 Extras on Iron Rivets in 1-lb. cartoons, 1 cent per lb.
 Extras on Tinned or Coppered Rivets, 1-lb. cartoons, 1 cent per lb.
 Iron Rivets, black and tinned, 60 & 10% discount.
 Iron Burrs, 55% discount.

ROPE, ETC.—Duty 25%.
 Cotton, 3-16 in. and larger, 16 cents per lb.
 " 5-32 in., 21 cents per lb.
 " 1/2 in., 22 1/2 cents per lb.
 Crucible Steel Rope, 25% discount.
 Galvanized Wire Rope, 25% discount.
 Jute, 8 cents per lb.
 Lath Yarn, 94 cents per lb.
 Manila, 7-16 in. and larger, 13 1/2 cents per lb.
 " 1/2 in., 14 1/2 cents per lb.
 " 1/4 and 5-16 in., 15 1/2 cents per lb.
 New Zealand Rope, 10 cents per lb.
 Russia Deep Sea, lines 1 1/2 cents per lb.
 Sisal, 7-16 in. and larger, 10 cents per lb.
 " 1/2 in., 11 cents per lb.

RUBBER.
 Reclaimed.

RULES.—Duty 30%.
 Boxwood, 75 and 10% discount.
 Ivory, 37 1/2 to 40% discount.
 Lumbermen's.

SAD IRONS.—Duty 30%.
 Mrs. Potts', No. 55, polished, 62 1/2 cents per set.
 " No. 50, nickel-plated, 67 1/2 cents set.
 "Sensible," 55 and 60 cents set.
 "Toy," \$13.00 gross.

SAND AND EMERY PAPER.—Duty 25%.
 B. & A. Sand, 40 & 5% discount.
 Garnet, 5 to 10% advance of list.

SAP SPOUTS.—Duty 30%.
 Bronzed iron, with hooks, \$9.50 per 1,000.

SASH WEIGHTS.—Duty 25%.
 Sectional, \$2.75 to \$3 per 100 lb.
 Solid, \$1.25 to \$2.25 per 100 lb.

SAWS.—Duty 30%.
 Crosscut, Disston's, 35 to 55 cents per foot.
 Hack, complete, 75 cents to \$2.75 each.
 Hack, frame only, 75 cents each.
 Hand, Disston's, 12 1/2% discount.
 S. & D., 40% discount.
 S. & D., 35 off on Nos. 2 and 3.

SCALES.—Duty 30%.
 Champion, 60% discount.
 Gurney's, 40 " "
 Troenmer's, 30 " Canadian list.

SCREEN'S.—Duty 30%.
 Door, \$7.50 to \$12 doz.
 Window, \$1.75 to \$2.75 doz.

SCREWS.—Duty 35%.
 Bench, iron, \$4.25 to \$5.75 per doz.
 " wood, \$3.25 to \$4 per doz.
 Drive Screws, 87 1/2 & 10% discount.
 Hexagon Cap, 45 " "
 Set, case-hardened, 60 " "
 Square Cap, 50 & 5 " "
 Wood, F. H., bright and steel, 87 1/2 & 10% discount.
 " R. H., bright, 82 1/2 & 10% discount.
 " F. H., brass, 80 & 10 " "
 " R. H., brass, 75 & 10 " "
 " F. H., bronze, 75 " "
 " R. H., bronze, 70 " "

SCREWS, (Machine, Iron and Brass)—Duty 35%.
 Flat head, 25% discount.
 Round head, 20 " "

SCYTHES.—Duty 25%.
 Grass, \$8 to \$10.
 Grain, \$12 to \$14.

SHEARS.—Duty 30%.
 Tailors, 30% discount Amer. list.

SHELLS (Cartridge).—See Ammunition.

SHOT, See Ammunition.

SHOVELS AND SPADES.—Duty 35%.
 Burns', 40 and 5% discount.
 Ely's, " "
 Gray's, " "
 Jones', " "
 Steel, Snow, \$2.45 @ \$2.60 per doz.
 Wood, " "

SKATES.—Duty 35%.
 American Hockey, " "
 Canadian, 40 cents to \$2.50 pair.

SNAPS.—Duty 30%.
 Harness, 40% discount.

SNATHS.—Duty 25%.
 Sythe, \$5.25 to \$8 per doz.

SOLDER (Plumbers').—See Metals.

SOLDERING IRONS.—Duty 30%.
 20 to 90 cents each.

SPIKES.—Duty 1 cent per lb.
 Rail, 20% discount.
 Ship, \$5 per 100 lb.

SPRINGS.—Duty 35%.
 Bright Carriage, 64 per lb. net.

STAPLES.—Duty 30%.
 Barb wire, \$3.75 per 100 lb.
 Bed, 50% discount.
 Blind, 25 " "
 Wrought iron, 75% discount.

STEEL—see Metals.

STOCKS AND DIES.—Duty 30%.
 Blacksmiths', Lightning, 25% discount.
 " Green River, 25 " "
 " Reece, 30% discount.
 " Jardine, 35% " "
 Pipe, Solid, 70 & 10% discount.
 " Duplex, 33 1/2% discount.
 " Jarecki, 33 1/2% " "
 " Oster, 30% " "
 " Armstrong, 35% " "
 Wiley & Russell's, 25% discount, Canadian list.

STONES.—Duty 30%.
 Arkansas, \$1.50 per lb.
 Hindostan, 6 to 7 cents per lb.
 slip, 9 cents per lb.
 Labrador, 13 cents per lb.
 " axe, 15 cents per lb.
 Scythe, \$3.50 to \$5 per gross.
 Turkey, 50 cents per lb.
 Washita, 28 to 60 cents per lb.
 Water-of-Ayr, 10 cents per lb.

TACKS, BRADS, etc.—Duty 35%.
 Carpet tacks, blued, 80 & 15% discount.
 " " tinned, 80 & 20 " "
 " " in kegs, 40% discount.
 Cheese-box tacks, blued, 85 & 12 1/2% discount.
 Copper tacks, 50% discount.
 Cut tacks, blued, in dozens only, 80% discount.
 " " weights, 60% discount.
 Fine finishing, 40% discount.
 Leather carpet tacks, 55% discount.
 Lining tacks, in papers, 10% discount.
 Patent brads, 40% discount.
 Picture frame points, 10% discount.
 Strawberry box tacks, bulk, 75 & 10% discount.
 Swedes, cut tacks, blued and tinned, in bulk, 80 & 10% discount; in dozens, 75% discount.
 Swedes, upholsterers', bulk, 85, 12 1/2 & 12 1/2% dis.
 " brush, blued and tinned, bulk, 70% dis.
 " gimps, blued, tinned and japanned, 75 & 12 1/2% discount.
 Trunk tack, black and tinned, 85% discount.
 Zinc tacks, 35% discount.

TAGS.—Duty 25%.
 Shipping, 50 @ 70 cents per M.

TAR.
 Coal \$2.75 bbl.
 Refined, \$4 per bbl.

TENTS.—Duty 30%.
 Canadian list, 20% discount.

TONGS.—Duty 30%.
 Ice, \$9 per doz.
 Pipe, " Brown's," net.
 " " Brock's," 25% discount.
 " " Trimo," 25 " "

TRAPS.—Duty 30%.
 " Hawley & Norton's," 65% discount.
 " Newhouse," 45% discount.
 " Victor," 75% discount.

TRUCKS.—Duty 30%.
 1, \$3.75; 2, \$5; 3, \$6.75 each.
 " Handy" Canadian, \$16 to \$18.

TUBES FOR BOILERS.
 1 1/2, 1 3/4, 2, 2 1/4, 2 1/2, 3, 3 1/4, 4
 15, 12, 12, 10 1/2, 13, 14, 14 1/2, 15 1/2, 24 1/2 ft.

TURNBUCKLES.—Duty, 1 cent per lb., 25%; 33 1/2% discount.

TURPENTINE.—Duty 5%.
 55 cents per gal.

TWINES.—Duty 25%.
 Bag twine, 3-ply, 20 cents per lb.
 " 4-ply, 20 cents per lb.
 Binding, 12 1/2 cents per lb.
 Colored, 27 cents per lb.
 Cotton bag, 30 cents per lb.
 Cotton, White, 20 to 30 cents per lb.
 " Colored, 30 to 40 " "
 Hemp, 20 cents per lb. " "
 Jute, 20 cents per lb. " "
 Mattress, 45 cents per lb.
 Sewing, 45 cents per lb.

TWINE—Continued.
 Tarred Lath, 11 cts.
 Wrapping, 22 to 27 cts.

VARNISHES.—Duty 20 cents per gal.
 20% off 5-gal. lots.
 Black Japan, \$2 per gal.
 " No. 1, 75 cents to \$1.50 per gal.
 Brown Japan, \$1.50 to \$2.50 per gal.
 Carriage, No. 1, \$2 to \$3 per gal.
 " body, \$4 to \$6 per gal.
 " rubbing, \$2.50 to \$4 per gal.
 Demar, \$2 to \$2.50 per gal.
 Elastic Oak, \$1.50 to \$2.50 per gal.
 Furniture Brown Japan, \$1.25 to \$2 per gal.
 Furniture, extra, \$2 to \$2.50 per gal.
 " No. 1, 75 cents to \$1.50 per gal.
 Gold Size, Japan, \$1.50 to \$2.50 per gal.
 Hard Oil Finish, \$1.50 to \$2.50 per gal.
 Light Oil Finish, \$1.50 to \$2.50 per gal.
 Shellac, orange, \$2 to \$2.50 per gal.
 " white, \$2 to \$2.50 per gal.

VICES.—Duty 30%.
 Amer., 13 1/2 cents per lb.
 Brooks', 13 1/2 cents per lb.
 Peter Wright's, 15 cents per lb.

WASHERS.—Duty 1 cent per lb., 25%.
 Buggy, 75% discount.
 Wrought iron, 40% discount.

WASHING MACHINES.—Duty 35%.
 Re-acting square, \$51.00 per doz.
 " Round, \$48.00 " "
 Rocker, \$48.00 per doz.
 Popular Brands, \$30.00 to \$42.00 per doz.
 Downswell, \$3.75 each.
 Re-acting (Downswell), \$5 each.

WIRE.
 Barbed Wire, see Fencing.
 Brass Wire, (duty 10%), 50 to 50 & 2 1/2% discount.
 Copper Wire, (duty 15%), 45 & 10% discount net cash 30 days, f.o.b. factory.
 Smooth Steel Wire, (duty 20%), is quoted at the following net selling prices:
 No. 6 to 8 gauge, \$2.90 per 100 lbs.
 " 9 " 2.80 " "
 " 10 " 2.87 " "
 " 11 " 2.90 " "
 " 12 " 2.95 " "
 " 13 " 3.15 " "
 " 14 " 3.37 " "
 " 15 " 3.50 " "
 " 16 " 3.65 " "

Other sizes of plain wire outside of Nos. 9, 10, 11, 12 and 13, and other varieties of plain wire remain at \$2.80, base, with extras as before. The prices for Nos. 9 to 13 include the charge of 10 cents for oiling. Extras net per 100 lb.: coppered wire, 60 cents; tinned wire, \$2; oiling, 10 cents; special hay-baling wire, 30 cents; spring wire, \$1; best steel wire, 75 cents; bright soft drawn, 15 cents; in 50 and 100-lb. bundles net, 10 cents; in 25-lb. bundles net, 15 cents; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

Fine Steel Wire, 17 1/2 off. List of extras, in 100 lb. lots, No. 17, \$5; No. 18, \$5.50; No. 19, \$6; No. 20, \$6.65; No. 21, \$7; No. 22, \$7.30; No. 23, \$7.65; No. 24, \$8; No. 25, \$9; No. 26, \$9.50; No. 27, \$10; No. 28, \$11; No. 29, \$12; No. 30, \$13; No. 31, \$14; No. 32, \$15; No. 33, \$16; No. 34, \$17. Extras net: tinned wire, Nos. 17-25, \$2; Nos. 26-31, \$4; Nos. 32-34, \$6; coppered, 5 cents; oiling, 10 cents; in 25-lb. bundles, 15 cents; in 5 and 10-lb. bundles, 25 cents; in 1-lb. hanks, 50 cents; in 1/2-lb. hanks, 75 cents; in 1/4-lb. hanks, \$1; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

Galvanized Wire, per 100 lb.: Nos. 6, 7, 8, \$3.50 to \$3.85; No. 9, \$2.85 to \$3.15; No. 10, \$3.00 to \$3.95; No. 11, \$3.70 to \$4.10; No. 12, \$3 to \$3.50; No. 13, \$3.10 to \$3.40; No. 14, \$4.10 to \$4.50; No. 15, \$4.00 to \$5.05; No. 16, \$4.85 to \$5.85. Base sizes, Nos. 6 to 9, \$2.57 1/2 f.o.b. Cleveland.

Clothes Line Wire, solid 7 strand, No. 17, \$4.25; No. 18, \$2.65; No. 19, \$2.35; f.o.b. Toronto, Hamilton and Montreal.

WASTE (Cotton).
 Colored, \$5.50 to \$6 per 100 lb.
 White, \$7.75 per 100 lbs.
 " extra, \$8 per 100 lb.

WHEELBARROWS.—Duty 30%.
 Garden, \$2 to \$4.50 each.
 Navy, \$18 per doz.
 " Iron wheel, \$22.50 per doz.
 Steel tubular, \$7.50 to \$10.50 each.

WRENCHES.—Duty 30%.
 Agricultural, 60% discount.
 Alligator, 50 " "
 Coes, 30 " "
 P. S. & W., 30 " "
 Stillson's, 25 " "
 Trimo, pipe, 25 " "

WRINGERS (Clothes).—Duty 35%.
 Ajax, \$66 per doz.
 Canadian, \$26 to \$30 per doz.
 Crescent, \$17.50 to \$20 per doz.
 Leader, \$30 per doz.
 Novelty, \$23 to \$27 per doz.
 Popular Brands, \$16.50 to \$22 per doz.
 Royal American, \$26 to \$30 per doz.
 Royal Canadian, \$26 to \$30 per doz.

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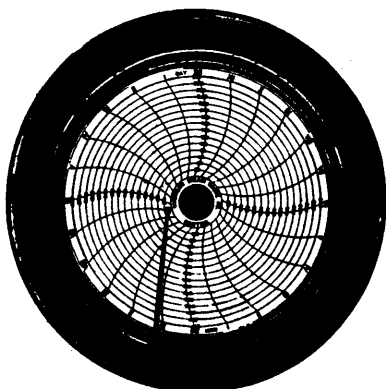
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ifcinside front cover.

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obc.....outside back cover.



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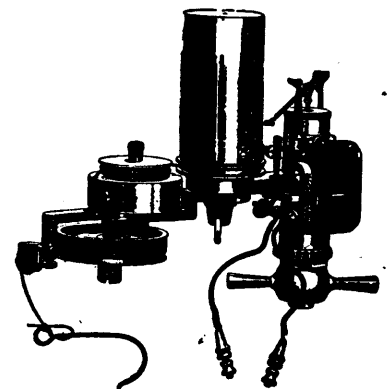
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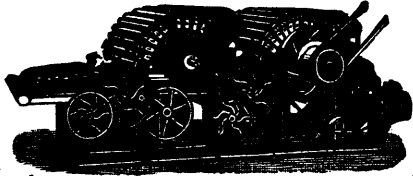


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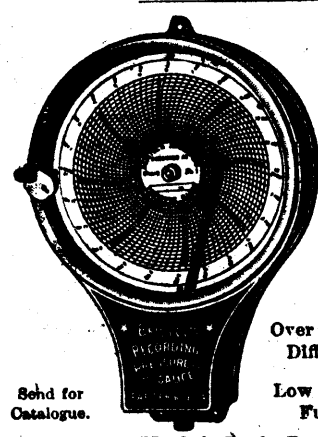
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