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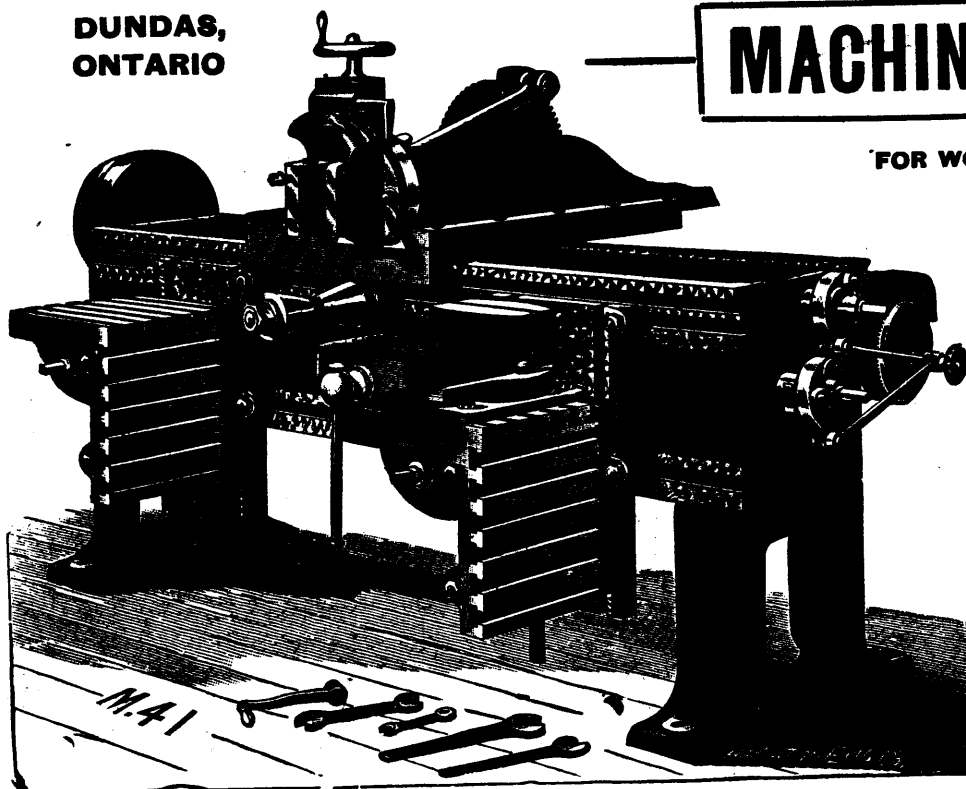
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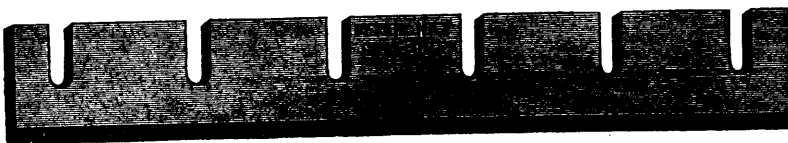
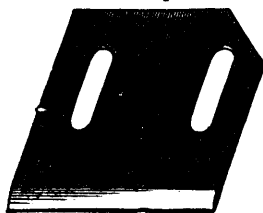
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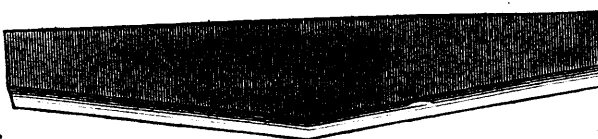
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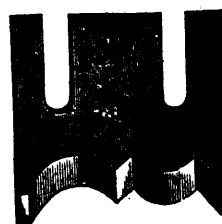
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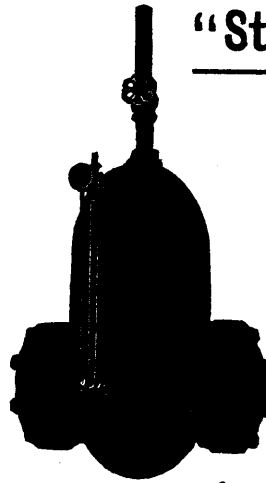
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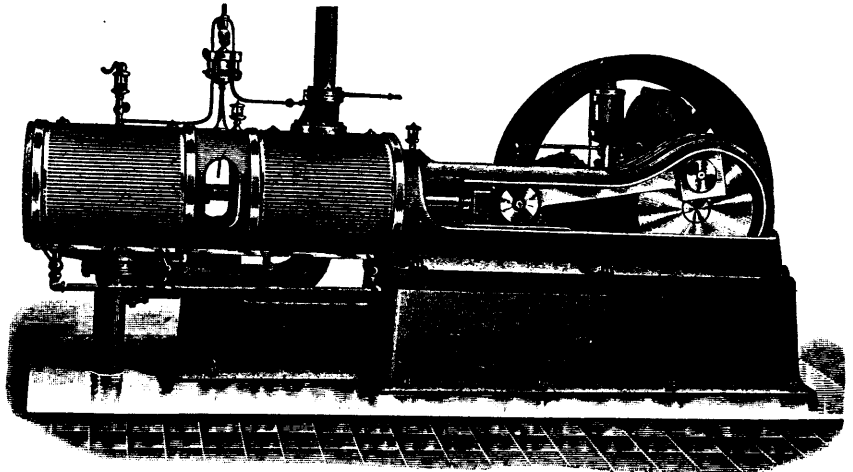
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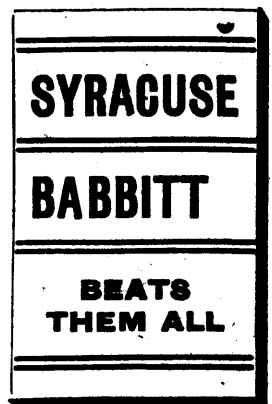
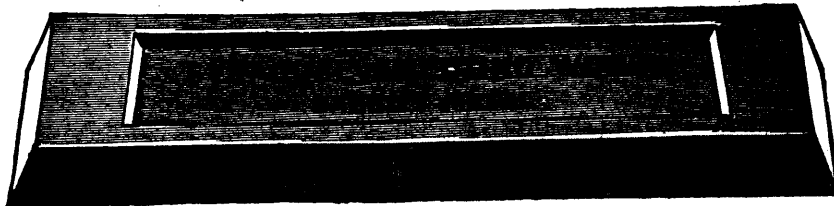
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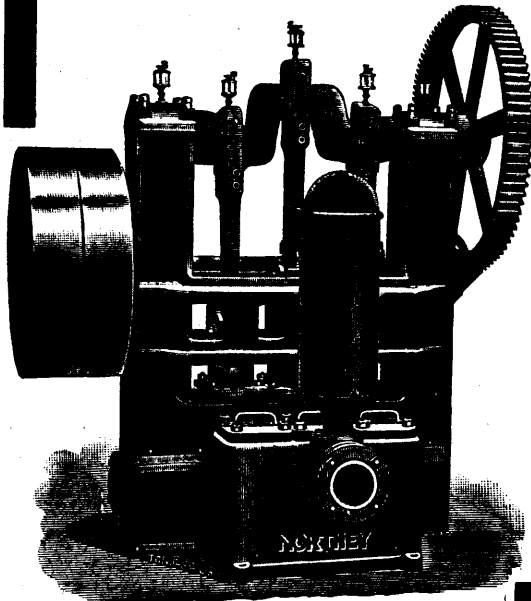
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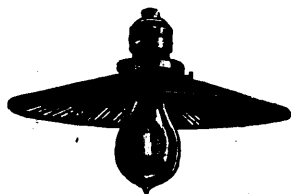
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Index to AdvertisersPage 42

J. J. CASSIDY, Editor and Manager

BRITISH PREFERENCE FIFTY PER CENT. OFF.

A joint deputation from the Boards of Trade of Toronto, Montreal, and Ottawa waited upon Sir Wilfrid Laurier, the Premier, last week, and presented to him the resolutions passed at the convention of Canadian Boards of Trade held in Toronto a few days before. Among the delegates was Mr. Robert Munro, treasurer of the Montreal Board of Trade, who is also president of the Canadian Manufacturers' Association.

According to the report of the interview, published in The Globe of June 12, after discussing some of the other resolutions, Sir Wilfrid drew attention to the resolution in favor of appointing a commission to enquire into and report upon preferential trade, and quoted the text of the motion. He went on to say:—"It is asked in this resolution that a commission be appointed. That seems to be not unreasonable, but it would have been expected—in Great Britain at all events—that some information should be given as to corresponding concessions which Canada would be prepared to make. It is urged here that trade in Canada would be stimulated by a preference on the part of Great Britain but I see no reference as to what Canada is prepared to do in that direction. I would like to know how far the Canadian people, represented especially by the Manufacturers' Association, would be prepared to go in that direction. Can you, Mr. Munro, give me any information?"

Mr. Munro, who is President of the Canadian Manufacturers' Association, in answer to the Premier, said:—"Not very definitely, sir. The feeling, I think, prevails pretty generally that if there was a higher tariff we should thereby be able to give a much larger preference to Britain."

Sir Wilfrid—If the British Government give us a preference, to what extent would the Canadian people or the Manufacturers' Association be disposed to forego the customs duties that we levy against British goods? That is the question which may be asked of me.

Mr. Munro—Say probably 50 per cent. upon our tariff, whatever it may be. A tariff to suit the wants of Canada, and probably give the British community one-half.

Sir Wilfrid—Do I understand, then, that you would not give tariff for tariff? I do not think the British people are ready to adopt a customs tariff of 50 per cent., or anything like it. If you have 50 per cent. you cannot expect them to adopt 50 per cent. upon your account.

Mr. Munro—I am sure the Canadians are not yet prepared for tariff for tariff.

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Sir Wilfrid—Well, I am very glad to know that. I will know where we are when discussing these questions.

From this conversation between the Premier and Mr. Munro it would seem that the Canadian Manufacturers' Association is pledged to a 50 per cent. reduction in duties on British goods coming into Canada, instead of only one third off as heretofore. In justice to Mr. Munro it should be explained that his idea is that the tariff should be so increased that a discount of 50 per cent. from whatever it might be would show no greater preference to Great Britain than that which is already shown.

PREFERENTIAL TRADE WITHIN THE EMPIRE.

Speaking of some of the subjects discussed at the recent Toronto meeting of delegates of the Boards of Trade of Canada, the Toronto Globe says:

Trade within the Empire naturally occupied a large part of the time of the conference. The conclusion arrived at was that it was advisable for Great Britain to give a preference on food and other colonial products. Mr. Sanford Evans, Winnipeg, Man., was of the opinion that the element of reciprocity should be more clearly apparent, and we rather think that this will prove to be a defect in the resolutions that were adopted. If we go to Great Britain asking for a preference, we are pretty sure to be asked what concessions we are willing to give by way of admitting British manufactures free, or at greatly reduced rates of duty. Remember that the whole basis of the preferential trade movement is a belief that other nations are commercially hostile to Great Britain, and are disposed to exclude her products. The preferential trader says in effect:—"Cease to depend on the foreigner; cultivate the markets in your own colonies, sell your manufactures in them, and buy your food in them." Now, unless we are willing to buy the manufactures, half the plan falls to the ground, and the more important half, so far as the United Kingdom is concerned. It is said that it will be an immense advantage to her to have her food supply from her own friends. But we have seen no disposition on the part of the United States or any other country to refuse to sell food to Great Britain, while they have shown a decided inclination to exclude British manufactures. Any of them would gladly accept a preference in the British market at the expense of their rivals, but would be disposed to hesitate when it came to throwing their own markets open. We must contrive in some way to strike out a line different from that of foreign nations, and, so far, the only instance of such action is the preference granted by the present Government and Parliament to British imports. It has been suggested that in recognition of this Great Britain might exempt colonial imports from the general taxes on grain and flour. This would be quite reasonable. If it is intended to ask for anything more, we must be prepared to say how much further we are ready to reduce the duties on woolens, cottons and other articles, in which the British manufacturers could greatly increase their sales in this country.

In considering the question of reciprocal preferential trade within the Empire The Globe seems to forget that which it is of importance that we all should remember that the established policy of Canada is to maintain a tariff that is strongly flavored with protection. In the opinion of many the customs duties now imposed are too low to effect the greatest benefit to the country; and it is because of unnecessarily low duties that many millions of dollars worth of merchandise is imported, the like of which could, to good advantage, and without undue enhancement of price, have been made in Canada. As low as our duties are the Government saw proper to make a further reduction in favor of British goods; and it would be practically impossible to go any further in that direction under any circumstances; and this should be an answer to The Globe's suggestion that Great Britain would be sure to ask what further concessions we might be willing to give for a tariff preference in that market. If Great Britain cannot at this day, considering the circumstances which environ her, comprehend why it would be to her advantage to cease to depend upon not over friendly foreign nations for her breadstuffs; to cultivate the markets of her own colonies; sell her manufactures in them and buy her food in them, her case is a hopeless one.

A RECIPROCITY LEAGUE.

Representatives of sixty leading manufacturing and other industrial establishments of the United States, recently met in Chicago, and organized the National Reciprocity League, of which W. E. Stanley, Governor of Kansas, was elected president. The object of the organization is to wage a campaign of education concerning the "urgent need of reciprocal trade relations with foreign nations." In a word, the organization says that the manufacturers are manufacturing in excess of the consumption of the home market. They want the United States Government to establish trade relations with other countries that will throw open the markets of the world for the disposal of their goods.

We notice that included in the list of names of these ardent advocates for reciprocity are a number of concerns who desire to dispose of their products in Canada, and who cannot do so to as good advantage as they might if the Canadian market were thrown open to them; and this is noticeable as regards agricultural machinery. It is also noticeable that there is a constant transference of works producing such and other articles, or branches of them, from the United States to Canada; and these are the concerns who, however much they may desire to see our Canadian tariff reduced to a merely revenue basis, do not believe it will soon occur, even as a result of the "campaign of education" which the National Reciprocity League are inaugurating.

The National Reciprocity Convention which was held at Washington in November last, at the instigation of the National Association of Manufacturers, passed a resolution recommending to the United States Congress the maintenance of the principle of tariff protection for the home market, and to open up by reciprocity opportunities for increased foreign trade by modifications of the tariff in special cases, but only where it can be done without injury to any home interests of manufacturing, commerce or farming; and this resolution was most emphatically reaffirmed at the recent Indianapolis convention of that Association.

Our American friends are, in this matter of reciprocity, exceedingly kind—to themselves. They would like to have some sort of reciprocity with Canada which would give them

free entry to our markets, but it should not in the least degree unfavorably affect any of their manufacturing, commercial or farming interests, but they overlook the fact that Canada's prosperity depends upon our manufacturing, commercial and farming interests. Canada does not desire, nor will she entertain any propositions looking to any such jug-handled fiscal arrangement.

SOUTH AFRICA.

The report of the Special Canadian Trade Commissioner sent to South Africa some time ago furnishes considerable valuable information regarding present conditions in that country, and many suggestions as to lines in which trade can be extended there. While prepared primarily for Canadian producers, the ideas presented may in many instances be valuable to manufacturers and exporters in other countries as well.

Although not designed by nature to be a great farming country, owing especially to the absence of water through irregular rainfall, South Africa produces a variety of agricultural products, notably potatoes, corn, wheat, vegetables, apples, pears and grapes, and in some districts of Cape Colony, sugar, pineapples and tea are raised to some extent. Irrigation is possible, although difficult, and will no doubt be employed to extend the area of arable soil at an early date. It is important for manufacturers intending to ship to this market to bear in mind the fact that oxen are largely used as draught animals; that the farm hands are usually ignorant natives or East Indians, and that the soil is rough and hilly and often baked hard, owing to lack of rains. Implements to meet such conditions should be strong, easily controlled, not liable to get out of order and capable of being readily repaired. The Commissioner emphasizes the importance of local agencies or travelling agents visiting each city so as to keep in touch with the dealers, and also to learn the actual working of the implements on the veldt. Plows, harrows, seeders, cultivators, mowers and rakes, are sure to be in demand at once in connection with the re-stocking of the farms. Windmills and pumping machinery are already considerably used in South Africa, and the demand for them is certain to extend as more territory is reclaimed from the veldt. At present the bulk of this trade, as well as that in agricultural implements, is enjoyed by American manufacturers. There will also be a large demand for barbed wire fencing in all parts of South Africa. The American Consul-General reported two years ago that the fences were down, and the period that has since elapsed has no doubt completed their destruction. Another article likely to be in great demand is artificial fertilizer. The soil of South Africa is deficient in lime, and it is necessary to use fertilizers for many crops.

The Commissioner remarks that the people of South Africa are musical, and that nearly every house, particularly in the Transvaal, had a musical instrument of some kind. Medium-priced pianos and organs will be in demand. Aside from the timber imported for the mines, most of which is pine from Southern United States, there will be a heavy demand for lumber in more or less finished forms for building farmhouses, etc. In general, the South African trade prefers material dressed as much as possible so that an ordinary carpenter can work it up. Red pine and spruce, dressed and undressed, 12 to 25 feet in length, and $\frac{3}{4}$ in. to 2 in thick, and 6 in. to 11 in. wide, are in steady demand. Cedar and Oregon pine are also imported, and there is a growing demand for finished white pine doors and trimmings. There is some trade also in

ready-made boxes, these being imported flat, ready to be put together on arrival. Wooden ceilings are considerably used, owing to the scarcity of lime for plastering. There is also a great demand for metal ceilings for offices and finer houses, and for galvanized iron sheathing for exteriors. Portland cement is imported in increasing quantities, and the demand for this material is certain to be exceptionally large for the next few years. In general, South Africa is poorly supplied with all building materials, being comparatively treeless, and having little building stone, lime or clay, and consequently most of these materials will have to be imported. Similarly, all furniture in use in South Africa is as a rule imported, and there will be an extraordinary demand for house, church, school and office furniture during the period of reconstruction now beginning. Furniture should as a rule be shipped knocked-down and packed securely. Much Austrian and British furniture is used at present, but there is a strong likelihood that American and Canadian goods will hold this market when once they have been effectively introduced.

AFRICAN COMMERCE.

The declaration of peace in South Africa, followed by the reopening of the greatest gold-producing mines in the world, and by a general revival of business in that greatest consuming section of Africa, lends especial interest to a monograph entitled "Commercial Africa in 1901," just issued by the United States Treasury Bureau of Statistics.

The commerce of Africa, according to this publication, amounts to over \$700,000,000, of which \$429,000,000 represented the value of the imports. Necessarily in so large an area with so many tribes and people who keep no records of their transactions, a considerable amount of commerce must pass without being recorded in any way. The total imports at the ports where records are kept amounted in the latest available year to \$429,461,000, and the exports to \$263,907,000.

A very large proportion of the trade of Africa is with England. There are numerous reasons for this, the most important, however, being that her colonies—Cape Colony and Natal—on the south, are the avenues through which pass most of the goods for that section, and that a very large share of the growing trade is also carried by British vessels, while the bulk of the mining, as well as the stock raising and general development of that section, is in the hands of the British colonists or capitalists. In the north, a large share of the trade of Egypt is given to Great Britain, whose influence in the management of Egyptian affairs is well recognized, while in Algeria, which has a large trade, a very large proportion is with France, the governing country.

The total recorded imports into Africa were distributed as follows:—Into British territory, \$157,575,000; French territory, \$92,004,000; Turkish territory, \$77,787,000; Portuguese territory, \$20,795,000; German territory, \$8,336,000, and into the Congo Free State, \$4,722,000.

Of this importation of \$429,461,000, about five per cent. was furnished by the United States, the total for 1901 being \$25,542,618. The total exports of that country to Africa have grown from \$6,377,842 in 1895, to \$18,594,424 in 1899, and \$25,542,618 in 1901.

That the gold and diamond mines of South Africa have been and still are wonderfully profitable is beyond question. The Kimberley diamond mines, about 600 miles from Cape Town, now supply 98 per cent. of the diamonds of commerce, although their existence was unknown prior to 1867, and the

mines have thus been in operation about 30 years. It is estimated that \$350,000,000 worth of rough diamonds, worth double that sum after cutting, have been produced from the Kimberley mines since their opening in 1868-69, and this enormous production would have been greatly increased but for the fact that the owners of the various mines there, formed an agreement to limit the output so as not to materially exceed the world's annual consumption.

Equally wonderful and promising are the great "Witwatersrand" gold fields of South Africa, better known as the "Johannesburg" mines. Gold was discovered there in 1883, and in 1884 the value of the gold product was about \$50,000. It increased with startling rapidity, the product of 1888 being about \$5,000,000; that of 1890, \$10,000,000; 1892, over \$20,000,000; 1895, over \$40,000,000; and 1897 and 1898, about \$55,000,000. Work in these mines has been practically suspended during the war in progress in that section within the past two years. The gold production of the "Rand" since 1884 has been over \$300,000,000, and careful surveys of the field by experts show beyond question that the "gold in sight" probably amounts to \$3,500,000,000, while the large number of mines in adjacent territory, particularly those of Rhodesia, whose output was valued at over \$4,500,000 last year, gives promise of additional supplies, so that it seems probable that South Africa will for many years continue to be, as it is now, the largest gold producing section of the world.

RE ADVERTISING.

The Iron Trade Review publishes an exceedingly interesting communication from a correspondent concerning the advertising of machinery, who evidently knew what he was writing about. The writer says that he is acquainted with the construction and sale of machinery, and that advertising as he understands it, is pure and simple, a means whereby the prospective buyer may learn somewhat of the article offered for sale. The ideal advertisement, he says, ought to be filled with information, and to say that "we make the best by modern methods with unique and useful features," conveys little to the man who deals with dimensions.

The printed advertisement, he says, is a salesman capable of talking to more thousands than any salesman on two legs can get at individuals in the same time. And the advertisement stays at the job as long as there is anything else in the paper worth preserving. It is never under the weather, keeps good hours and appointments, and waits your leisure patiently. Like the human salesman it should be well dressed in attractive type: should tell what can be, or has been, done with that particular machine or appliance; should speak of extreme limits so that a reader will not write you for something larger or smaller than you care to make; and such data as would be required by the average buyer.

The human representative can never be entirely substituted for the printed advertisement or vice versa. Each has its proper sphere of activity; but the two are very nearly akin, and the things that make a success of the one should be applied to the other so far as they are at all applicable, and I am quite positive that no aggressive, successful salesman indulges in the indefinite utterances characteristic of many advertisements.

The advertisement can, and should, give an idea of the price and capacity of the goods; and the up-to-date engraver can help wonderfully in the portrayal of many features impossible to describe in cold type in the same amount of space.

The plan of showing a shaft, or anything else, turned, ground or subjected to any other process, along with the account of the time taken to do that particular job, furnishes a basis for ready comparison with the work you are already doing, and although this cannot be an exact method it nevertheless conveys definite information.

Lots of the smaller manufacturers have a keen desire to find out just how far the papers contribute to their business. They see the large concerns, whose names are familiar to shopmen all over the world, throwing their money freely into the advertising department of the trade journals and wonder at the oversight or suppose that it is a disregard for results and maybe an unnecessary desire to prove that they are still in the game. As a matter of fact the advertising of these large firms is handled by men who are as close buyers as any one in the other purchasing departments. They strain every nerve to build an advertisement so that it will hold results in good measure and then they go gunning for the printer until he frames it to suit their taste. Are they doing this for fun? Nay.

The man who has not gone into the subject looks upon advertising from two points of view: either he is too well off to need it, or times are too hard for him to bear the burden. The selling expense—and this includes judicious advertising—I consider as essential a part of the general expense account as the fund required for new equipment or the repair of the old appliances. Advertising is the lubricant of the sales mechanism, and it is just as necessary that it be freely applied in that department as that oil should be used in the manufacturing end of the business. If it fails to bring the desired results there is something wrong about the grade of the lubricant, or it is not directed at the best point of application. Poor oil is a nuisance when applied to a shaft bearing, and good oil is absolutely useless when it is put on the shaft between the hangers.

The medium that reaches the buyers is the only one available. The journal should be prepared for just the class you wish to buy your goods. Does it profit a man to mix up his machine tool advertisements with the frippery of other trades? I think not. It is simply so much shelling the woods. But the live advertising, a well displayed account of something really worth having, in the columns of a journal directed at the men you seek to interest, has the target in sight and the shot goes with all the momentum of the value that the reading matter has to the subscribers.

A word about the "keying" of advertisements. It is a doubtful expedient at best. It means the embodiment of some letter, numeral or word, in the phraseology, usually in the address or the reference to the catalogue, circular or machine. Does the reader of the advertisement charge his memory with these things? The individual reader may try to call to mind any of these, and while he may remember that such customs exist, he will have some difficulty in remembering the "key" of any of them. The advertisement has largely done its duty if it gives a lasting impression that a certain firm makes a machine and conveys a favorable idea of the manufacturer or his product. The every-day business man does not consume time in saying where he read the advertisement. Life is too short for the unnecessary, and his correspondence is already shorn of any of the embellishments the epistolary art may have had in the polite intercourse of many years ago. He is apt to think a firm cuts a diminutive figure in the world if it is necessary to address them at a specified letter box or street number. He may be punctilious in these things if he uses these devices in his own advertisements—if he be an advertiser—but I will say concerning my own experience that the breach has been as frequent as the observance.

He may think it best to state his needs frankly, and having done that, why refer to "Catalogue U 3" or some other invention? Any keying device is destined to go astray when it puts any obstacle in the way of the reader reaching the advertiser with the minimum amount of trouble. It may seem a small amount of extra labor to look up the advertisement and prepare the letter exactly in accordance with the wishes of the ad-smith, but human nature is not to be expected to hew so closely to the line. Nor is it to be cajoled beyond a certain stage; and the ad-maker who drafts his productions so that they will reach the fruit in the orchard of business, need not worry over the additional length to splice on the rod. If his advertising brings enquiries from people who have the money and can be made to feel a need for the machinery as exploited in print, then the advertiser may be sure his pole is long enough to get a good share of the persimmons.

The small firm that has all the work it can handle in good times does not intend as a rule to go out of business in bad years. And now as my friend, the advertising solicitor, suggests: The advertisement is a continuous affidavit that business is being done and that arrangements are perpetually under way to handle more of it. The rapidity with which the memory drops the name of a business house that fails to keep busy is an argument for the repetition of the reminder by a perpetual performance of the advertisement. The impression is thereby maintained during good times, and when trade is not so vigorous the aftermath of that publicity campaign will sustain the shop momentum.

RAILWAY BUILDING IN ONTARIO.

Without reference to the Grand Trunk Railway, and the Canadian Pacific Railway, and the lines of roads operated by them in this province, the following facts show the names of railways and their mileage very recently completed, now under construction or projected in Ontario.

	Miles.
Ontario & Rainy River Railway (now Canadian Northern), completed	263
Algoma Central Railway—	
Main line, Sault Ste. Marie to C.P.R. (partially built)	140
Michipicoten branch (partially built)	25
Projected continuation from C.P.R. to James Bay, about	300
Manitoulin & North Shore Railway (contracts called for)	465
Thunder Bay, Nepigon & St. Joe Railway, as projected northward to the Albany River	346
Temiskaming & Northern Ontario Railway, North Bay to Lake Temiskaming (Government line—first sod turned May 10)	250
Probable ultimate extension to the 16,000,000-acre clay belt north of height of land	100
Branch line from Dinorwic Station to Lake Minnetakie, Algoma	200
James Bay Railway, from Parry Sound to Sudbury (construction commenced)	15
Bruce Mines & Algoma Railway (about completed)	95
Nepigon Railway, from Nepigon to head of Long Portage	16
Lake Superior, Long Lake & Albany River Railway	14
Projected air line from Quebec to French River, the Ontario portion being about	10
Irondale, Bancroft & Ottawa Railway	150
Pembroke Southern Railway to Township of Ross	70
Lindsay, Bobcaygeon & Pontypool Railway	15
Bay of Quinte Railway (formerly Kingston, Napanee & Western)	19
	50
Total	2,078

INTERESTING TO AUTOMOBILISTS.

"If the automobile in question came upon the deceased under circumstances calculated to produce fright or terror, and such fright or terror was produced thereby, and this caused an error of judgment by which the boy ran in front of the automobile, it was not contributory negligence."

This was said to a jury in the Supreme Court in New York City a few days ago by Judge Freedman in the closing of the trial of the action brought by Frank H. Thies, who had sued Edward R. Thomas, former president of the Seventh National Bank, and a son of General Samuel Thomas, a millionaire, for \$25,000 damages for the death of his seven-year-old son, Henry Thies, by being run down by the automobile known as the "White Ghost" on last Lincoln's Birthday. This is said to be the first suit resulting from an automobile accident where damages have been recovered in that city. The jury placed the value of the boy's life at \$3,125, which evidently was a compromise verdict.

In his charge to the jury Judge Freedman, in instructing them as to the law applicable to automobiles and other points in the case, said :

Being or playing upon the street is not of itself contributory negligence in such a child, but whether it was or not in this case, in the condition of the street in question at the time, it is for you to say. So a mere error of judgment on the part of deceased was not of itself contributory negligence. If the automobile in question came upon the deceased under circumstances calculated to produce fright or terror and such fright or terror was produced thereby, and this caused an error of judgment by which the boy ran in front of the automobile, it was not contributory negligence.

It is claimed by the plaintiff that the automobile at the time was run at an excessive speed. But that is not the most important point. The mere rate of speed, whether high or low, lawful or unlawful, is immaterial unless it entered into the cause of the accident. In the case at bar there is not even any evidence showing what the lawful rate of speed is for an automobile.

No owner or operator of an automobile is exempt from liability for a collision in a public street by simply showing that at the time of the accident he did not run at a rate of speed exceeding the limit allowed by law or the ordinances. On the contrary, no matter how great the rate of speed may be which the law and the ordinances permit, as a general rule—although in this case there is no evidence—he still remains bound to anticipate that he may meet persons at any point in a public street, and he must keep a proper lookout for them and keep his machine under such control as will enable him to avoid a collision with another person also using proper care and caution. If necessary, he must slow up and even stop. No blowing of a horn or of a whistle, nor the ringing of a bell or gong, without an attempt at slower speed, is sufficient if the circumstances at a given point demand that the speed should be slackened or the machine be stopped and such a course is practicable, or, in the exercise of ordinary care and caution, proportionate to the circumstances, should have been practicable.

The true test is that he must use all the care and caution which a careful and prudent driver would have exercised under the same circumstances.

EDITORIAL NOTES.

God save the King! On Thursday of next week—June 26—His Most Gracious Majesty Edward VII. will be a crowned King of the United Kingdom of Great Britain and Ireland, and of all the British Possessions beyond the Seas, including Canada; and on that day there will be a general suspension of business in all lands over which the British flag floats. In the congratulations and rejoicings which the occasion will call forth, Canadian manufacturers, and Canadians generally will

participate with great enthusiasm, for the British Empire is based essentially upon the confidence and good will of all the people. In offering His Majesty their most cordial congratulations, we will all remember that under the just and beneficent rule of the English Monarchy, the British Empire has acquired an annual trade of \$8,000,000,000, a revenue of \$1,500,000,000; that its people have increased to the number of 400,000,000; and that its territory has extended until it covers 12,000,000 square miles; and will with one accord cry, God Save the King!

The American Blacksmith, of Buffalo, N. Y., publishes a letter received by it from Rev. Robert Collyer, in which that well known and well beloved old gentleman tells somewhat of his early life. He was bound apprentice to a blacksmith at Ilkley, in Yorkshire, England, in 1838, when he was fourteen years of age, and he served his time to a day until he was twenty-one. The terms were his keep, with shirts and leather aprons, his family finding him in clothes. Seeing no chance in England for bettering his condition, in 1850 he emigrated to the United States, where, in 1859, after having worked at the anvil for twenty-one years, he retired from that occupation and became a minister. It was soon after the great fire in Chicago, in 1871, that the students of Cornell University offered Mr. Collyer a thousand dollars if he would forge a horse shoe for them. The shoe was duly made and paid for, and in his letter he says that he was then quite ready to make a hundred more on the same terms. If the transition from being a blacksmith to a celebrated divine was easy, the further transition from preacher to poet was also easy, as witness the poem, The King and the Blacksmith, written by him, which we reproduce in another page.

During the recent election campaign in Toronto, a Mr. J. P. Murray, speaking at a noonday business men's meeting, while evidently suffering from acute indigestion, charged the occupants of the Ministers' offices in the Parliament buildings with being a crowd who a little while ago had been annexationists, unrestricted reciprocityists, and dear knows what not. According to the reports of the meeting made in the daily papers, Mr. Murray had no faith in the Ministers. Their business methods were bad, their patriotism was bad, and their loyalty was bad. There is not a school in the city, he is reported to have said, where a child can be taught to write, and that the teachers cannot talk English and therefore do not know how to teach English. He also had a grievance against the law in which injustice is done to the capitalist because it does not permit him to vote wherever he may own property. There are many men in Toronto, who have capital invested in the business districts, who are not permitted to vote there because their residences are in the flowery suburbs. The laboring man, however, is all right, because his labor is his capital, and he can vote where his capital is invested. Mr. Murray does not seem to be a believer in the political theory that a man should have only one vote.

With respect to the import trade from Jamaica, the Committee of Agriculture and Commerce of that island, which was appointed to confer with the Canadian Manufacturers' Association, reports that it has come to the conclusion that with a fast fortnightly direct steamship service all the bananas consumed in Canada, which amount to something like 600,000 bunches annually, might be supplied by Jamaica. At present, too,

of Canada's consumption of oranges, which amounts to about 40,000,000 annually, Jamaica only sends 4,000,000, and she would certainly supply more with better transportation facilities. So far, the Canadian preference of 33 1-3 per cent. has not been sufficient to attract any quantity of sugar from this island, but the committee expresses the hope that the trade will increase with the abolition of the bounties. The committee hesitates to suggest the possibility of any rebate of duty being granted by the island in favor of any of Canada's products.

Canada continues to increase her purchases from the United States despite the tariff advantages accorded Great Britain in the fiscal system of that country. During the nine months of the present fiscal year, for which details are available, British North America showed a larger increase in its purchases from the United States than did any other political division of America as compared with the corresponding periods of 1900 and 1901. Our total exports to British North America increased from \$69,763,595 in the nine months of 1900, and \$77,894,138 in the same period of 1901, to \$80,999,004 in the corresponding months of the current year. The continued growth in our commerce with Canada is the more remarkable when it is remembered that ever since April, 1897, the United Kingdom has enjoyed tariff advantages in the Canadian market, the discrimination in her favor having ranged from 12½ per cent. in that year to 33½ per cent. from and after July 1, 1900. Yet the exports from the United States to British North America have increased year by year, and our total exports to that market in the nine months under review are \$11,235,409, or 16 per cent., in excess of those for the same period of 1900, and \$3,104,866, or 4 per cent., in excess of those of the corresponding months of last year. A comparison of our exports to Canada in the first nine months of the present fiscal year with those of the corresponding months immediately preceding the reduction in the Canadian tariff in favor of Great Britain shows that our exports to Canada meantime have increased about 75 per cent., being for the earlier period \$46,752,958, and for the nine months ending with March, 1902, \$80,999,004. —Bradstreet's.

The attention of manufacturers who may desire to extend their export trade to the South African market is directed to the business announcement of Mr. G. Glenson Smith, of Port Elizabeth, Cape Colony, which appears in page 32, who offers his services as manufacturer's agent for the sale of such Canadian products as may be entrusted to his care. Mr. Smith was well known in Canada before his removal to Africa.

The Committee of the Cobden Club has issued its report for the year 1901. Three events affecting questions of tariff and trade are singled out for comment—the completion of the political and fiscal union of the Australian colonies; the imposition of taxes on sugar and coal; and the submission to the German Reichstag of a new tariff highly protectionist in character. In each case, says Commercial Intelligence, the committee discern factors favorable as well as unfavorable to Free Trade, viz., the abolition of all tariff barriers between the federating colonies; the declaration of Sir Michael Hicks-Beach that he had no intention of interfering with the Free Trade system; and the opposition of a large section of the German people to the high-tariff policy. The factors unfavorable to Free Trade are dealt with at length. Neither the sugar tax nor the coal tax are held to be desirable or

necessary. It is remarked "that the £7,000,000 that the two taxes were estimated to yield could have been raised by increasing the existing taxes on beer, spirits and tobacco, and it is obvious that the increase of an existing tax involves a smaller interference with trade than the imposition of an entirely new tax." Not only in Germany, but also in Italy, the committee believe, the popular demand for reform in the direction of Free Trade is growing in strength, as an indication of which they mention the formation of a Free Trade League among the wine growers of Piedmont, who demand "an agrarian programme based upon justice, and from all protectionism." Further, the committee detect numerous signs that the Protectionist policy is provoking serious criticism in the United States, but at present (says the report) the movement is largely confined to an agitation for treaties of reciprocity, and the idea of complete free trade has probably as yet very little hold upon the American mind. At the end of the report the committee discuss the question of countervailing duties raised by the signing of the Brussels Convention, and declare their intention to oppose to the utmost of their ability the ratification of the Convention. Fifteen new members were elected during the year, and the total membership is now close on 480.

On May 19th the United States House of Representatives passed what is known as the Gardner Eight Hour bill without a word of debate and without a word of protest. The Washington correspondent of the Iron Age says that the extraordinary expedition with which this important measure was rushed through, under a suspension of the rules, constitutes a remarkable commentary upon the heedlessness so often shown by Congress to the protests of the great business interests of the country, which, as in the present case, are vitally affected by the projected legislation. The bill provides that each and every contract hereafter made to which the United States, any Territory, or the District of Columbia is a party, and every such contract made for or on behalf of the United States, or any Territory, or said District, which may require or involve the employment of laborers or mechanics, shall contain a provision that no laborer or mechanic doing any part of the work contemplated by the contract, in the employ of the contractor or any sub-contractor contracting for any part of said work contemplated, shall be required or permitted to work more than eight hours in any one calendar day; and each and every such contract shall stipulate a penalty for each violation of the provision directed by this act of \$5 for each laborer or mechanic for each and every calendar day in which he shall labor more than eight hours. It is further provided that nothing in this act shall apply to contracts for transportation by land or water, nor shall the provisions and stipulations in this act provided for affect so much of any contract as is to be performed by way of transportation, or for such material as may usually be bought in open market, whether made to conform to particular specifications or not. The bill is now before the Senate. It is the most sweeping and radical measure limiting the hours of labor that has ever been introduced in Congress. If it should become a law it would entail incalculable inconvenience and loss, even upon the working men, for it would be very difficult under this proposed law for the Government to place orders for supplies or for structural work of any kind.

A Nova Scotia branch of the Canadian Manufacturers' Association was organized in Halifax last week, starting with 55 members. Mr. J. R. Henderson, of Henderson & Potts, paint manufacturers, Halifax, was elected President.

CAPTAINS OF INDUSTRY.

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

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

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

The Ontario-Slocan Lumber Co., Orillia, Ont., has been incorporated with \$40,000 to manufacture lumber, timber, etc. The provisional directors include J. H. Lavallee, W. H. Tudhope and J. B. Tudhope, all of Orillia.

The S. Knechtel Wood Turning & Furniture Co., Southampton, Ont., has been incorporated with \$150,000 capital, to manufacture wood-work, furniture, etc. The provisional directors include Solomon Knechtel, N. B. Zinkan, both of Southampton, and Edward Oppertshauer, Hanover, Ont.

The Canadian Rubber Co. have opened a branch of their business at Vancouver, B.C.

The Oil Exploration Co., Walkerville, Ont., has been incorporated with \$200,000 capital, to carry on a business of producers and refiners of petroleum oil, etc. The provisional directors include E. C. Walker, William Robins, both of Walkerville, and F. H. Walker, Detroit, Mich.

The Shawinigan Water & Power Co., Shawinigan Falls, Que., have closed a contract with the Bullock Electric Co., Cincinnati, Ohio, for a set of motor generators, which will be used to give out a current at 60 cycles, 2,000 volts. The Shawinigan company expect to be ready to deliver power in Montreal by December 1.

The Algoma Steel Co., Sault Ste. Marie, Ont., is now turning out 600 tons of steel rails per day. The company will supply

the Dominion Government during the present season with 35,000 tons of steel rails. They have booked Canadian orders to the amount of 100,000 tons.

The Canadian Coral Marble Co., Toronto, has been incorporated with \$500,000 to manufacture a composition known as coral marble. The provisional directors include S. M. Brookfield, Halifax, N.S., E. D. Davison, Bridgewater, N.S., and H. W. Bickell, Toronto.

The International Buckle Co., Westport, Ont., has been incorporated with \$75,000 capital, to manufacture saddlery-hardware, etc. The provisional directors include Robert Atcheson, R. J. Whaley and Charles Provost, all of Westport.

The Soo Lumber Co., Sault Ste. Marie, Ont., will erect a planing mill, 80x70 feet, two stories high.

Another new industry is being established in Cape Breton. A company has purchased the right to manufacture silicate brick, a new product in the Maritime Provinces, and works will be established at Sydney, costing \$50,000, and capable of turning out 30,000 brick per day. The product will shortly be upon the market. Silicate brick manufacture under this patent was invented in Germany recently. The product in appearance and durability is said to equal the best pressed brick, while it is much cheaper. The raw material is sand, quartz and lime, mixed by machinery in such a way as to produce a chemical action, which followed by

steam drying under heavy pressure, creates in the mould a solid artificial stone not unlike old marble in appearance.—Maritime Merchant.

Mr. E. S. Cooper, of Galt, Ont., has become connected with Mr. Jas. Burrige, in the late firm of The Burrige Co., Winnipeg, Man., for the Goldie & McCulloch Co., Galt, Ont. Mr. Cooper has long been associated with the Goldie & McCulloch Co., as salesman and manager of their gasoline engine department, and is also thoroughly experienced in the other lines of their business. Mr. Cooper will take the active management of the outside work of the new firm of Burrige & Cooper, who will within a few weeks open out and carry a large stock of the product of the Goldie & McCulloch Co., including the different lines of machinery, safes, vault doors, etc., which they make. Mr. Burrige has been most satisfactorily identified with the business community of this country for over twenty-three years. The new firm expect to extend their business from Port Arthur, Ont., to Victoria, B.C., and will be prepared to furnish estimates on complete power plants, flour mill machinery, planing mill outfits, and transact a general machinery business.

The Canadian Office & School Furniture Co., Preston, Ont., have sent us a very neat folder, which they say, is not intended as a catalogue of their goods or to take the place of a catalogue, but to simply call attention to the extremely high grade and distinctive character of their products and the hearty recognition of their merits shown wherever they are introduced. They call attention to the fact that they have in stock and also make to order furniture and fittings of all kinds for offices, schools, churches, theatres, banks, hotels, drug and jewelry stores, etc. They say that during the past few years they have fitted up nearly 200 banking offices, among them many of the best equipped offices in Canada. All of their fittings are built in sections, bolted together so that even inexperienced workmen should have no trouble in setting them up.

The Deering Harvester Co., Chicago, Ill., will erect an extensive factory at Hamilton, Ont., to manufacture their goods for the Canadian trade.

Pneumatic Tools and Appliances ARE GREAT MONEY SAVERS.

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

INGERSOLL-SERGEANT

PISTON INLET AIR COMPRESSORS FOR ALL DUTIES

THE JAMES COOPER MFG. CO. LIMITED

299 St. James St., Montreal

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

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Christensen Engineering Co., Milwaukee, Wis., have sent us an illustrated descriptive catalogue having reference to the motor driven air compressors manufactured by them. These compressors are described as intended to be electrically operated from any railway power or lighting circuit, or they can be installed at the most convenient point of distribution, thereby avoiding expensive piping. They are not steam driven compressors with a motor attached, but are complete special designed self-contained units of very compact form. The detail parts are made from jigs and templets and are therefore interchangeable. The working parts operate in a bath of oil. The governor which regulates them is automatic and stops the motor as soon as the air pressure reaches a predetermined maximum, and starts it when the pressure is reduced to a minimum, power therefore being used only when work is being performed. We are informed that more than 6,000 of these motor driven air compressors, of capacities from 7½ to 50 cubic feet of free air per minute, are in constant use in connection with the brake equipment on electrical cars manufactured by this company. One of the most remarkable developments in the recent history of engineering progress is the constantly increasing use of compressed air as a medium for performing various industrial operations. The company will give further information and send catalogue upon application.

The Burt Mfg. Co., Akron, Ohio, have

recently made a large shipment of their oil filters to London, England. The question is suggested that if the Cross oil filter saves half on a manufacturer's oil bills, how long will it take for it to pay for the Boer war?

With reference to the use of water tube boilers in warships, it is interesting to note that for the four new armoured cruisers, Maryland, West Virginia, Milwaukee and St. Louis, now being constructed for the United States navy, each of which are to be supplied with engines of 23,000 i.h.p., it has been decided to install in them the Babcock & Wilcox patent forged steel water tube boilers. The British Admiralty also, after very extended and careful trials, have placed an order for 18,000 h.p. of Babcock & Wilcox water tube boilers for H.M.S. King Edward VII., and also for another ship of the same class; besides which they have ordered similar boilers for the armoured cruiser Cornwall, of 22,000 h.p., the battleship Queen of 15,000 h.p., the protected cruiser Challenger of 12,500 h.p., and the protected cruiser Hermes of 10,000 h.p. The growing favor with which these well-known boilers are being regarded for marine work is the more noticeable because they are rapidly displacing the older type of Scotch marine boilers in their own particular, and heretofore undisputed field.

The C. Regenhardt's Agency, 11 Broadway, New York City, have sent us a copy of the International Guide for Merchants, Manufacturers and Exporters,

published by them in Berlin, Germany, Mr. F. L. Beck being the American agent. This interesting publication should be of invaluable service to any who are desirous of extending their sales abroad. It is the English edition and it indicates for every place in the commercial world a firm that gives the quickest and most reliable information about the financial standing of others; as to the prospects of advancing sales, or about any other business matters. It contains a vast amount of valuable information and will be sent upon application to the New York office as above. Price \$1.50.

The Thomas P. Ford Co., 81 Centre Street, New York City, have sent us their catalogue and price list having reference to the steam and water specialties manufactured by them. Mention is made of their automatic pump governor damper regulator for high or low pressure, steam reducing valves, steam traps, steam separators, boiler feed regulators, tank valves, etc. Prospective buyers and interested parties are invited to correspond with them upon any particular along these lines.

The Canadian General Electric Co., Toronto, has received a contract from Edmonton, N.W.T., for a dynamo and accessories to complete a lighting plant to cost about \$4,000.

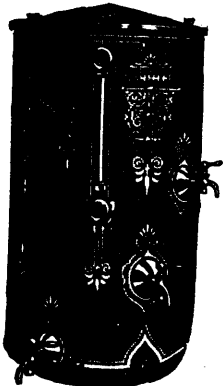
The Silicate Brick Co., North Sydney, N.S., will expend about \$40,000 in construction work this year.

Here is a Money-Saving Faet:

"The Cross Oil Filter is Necessary to the Economical Operation of any Plant Using Oil."

THE BURT MFG. CO., AKRON, OHIO. CUMMER LUMBER COMPANY, Jacksonville, Fla.

GENTLEMEN.—In reply to your recent favor we beg to say that the two Filters we purchased of you some two years ago, are giving us entire satisfaction.



We put these Filters in when we started our new plant and therefore cannot draw any comparisons as to their savings for us, but we know that we filter and reuse a great deal of oil that would otherwise be wasted, and we feel confident that the saving in our oil bills from the use of these Filters is very material. These machines require no attention and the refiltered oil is as clean as the new.

We would not be without these Filters and believe that they are necessary to the economical operation of any plant using oil. Wishing you every success, we are,

Very truly,
CUMMER LUMBER CO.

We don't ask you to put out one dollar until you have seen with your own eyes that the Filter will do just what we claim for it. Write us for further particulars.

THE BURT MFG. CO.

The Largest Mfrs. of Oil Filters in the World.

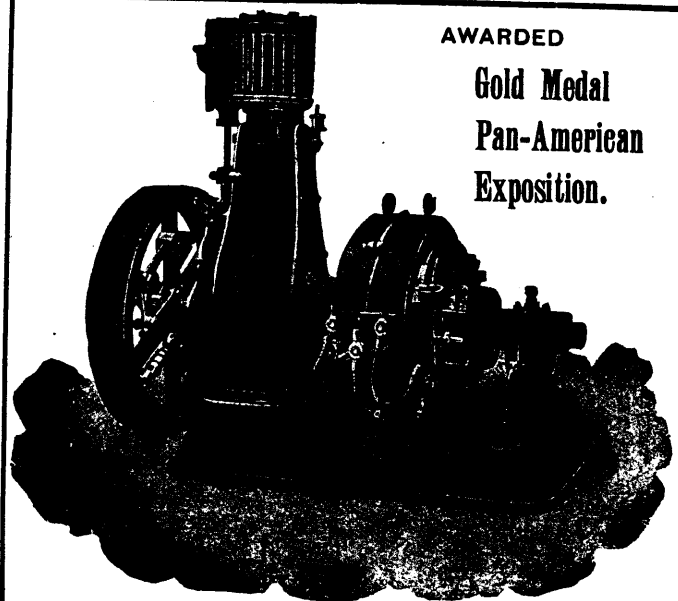
Supplied also by Oil Companies, Engine Builders and Power Contractors.

A complete stock carried by the FAIRBANKS CO., MONTREAL, Sole Agents for Canada

BUFFALO HIGH SPEED ENGINES

HORIZONTAL
VERTICAL
BELTED

SIMPLE
COMPOUND
DIRECT CONNETED



AWARDED

Gold Medal
Pan-American
Exposition.

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

The citizens of Raymond, N.W.T., have subscribed \$24,000 for the erection of a grist mill and elevator. A sugar beet factory is being erected at that place at a cost of about \$500,000.

Up to June 5, the Dominion Department of Agriculture filled orders for supplies for South Africa on behalf of the British War Office to the amount of \$7,500,000. The quantities sent in each case were as follows:—Hay 195,600 tons; flour, 125,815 sacks; beef, 40,776 cases; jam, 11,743 cases; oats, 294,772 bags. Three ship loads of hay are to go forward this month.

Messrs. Fred Thomson & Co., Montreal, received the contract to furnish a 75 k.w. 2,000 voltage generator, two 50 k.w. 40,000 voltage transformers, etc., for the Marconi wireless telegraph station at Glace Bay, N.S. The transformer was attached to a large switchboard having 340 incandescent lamps. The transformer was built to approximately have a capacity for increasing the voltage of a current having a voltage of 2,000, and an

ampereage of 20 to a current with a voltage of 40,000 volts with ampereage of one. When the connection was made the transformer was tested to the enormous voltage of 96,000 volts, over double its specified capacity, and proved a success in every detail. After this test was made, the voltage was "built up," as it is called, by rapidly opening and closing the switch controlling the electric current, until by catching the very crest of the electric wave, as it were, a spark or flame jumped between the opposite poles of carbon points placed twelve inches apart. It was in form like a flash of lightning and apparently about one-half inch in diameter. It requires 120,000 volts to accomplish this result.

From what we can learn the citizens of St. John have displayed a very generous interest in the prospect that Halifax has for the establishment of a steel ship-building industry. Indeed, it may happen that the first steamers turned out of the Halifax yard will be for St. John parties. But the interest need not take

so practical a shape as that for Halifax to be grateful. The garrison city is pleased to know that St. John is glad of the prosperity settling in hereabouts. Halifax, moreover, should be pleased to reciprocate in such kindly feelings, and as St. John is anxious to have her port facilities enlarged by the building of a dry dock, Halifax might well use her influence and help the sister city in her agitation for government assistance. St. John would gladly argue in favor of Dominion subsidies for Halifax built ships. Why should Halifax not put in a good word for St. John's dry dock scheme? The sister city should have a dry dock. Nothing in the world can keep St. John from being a large exporting port if Canada keeps on growing; and if that port is to grow, a dry dock will be an absolute necessity. What the Ottawa delegation has been seeking is to have the government bear three per cent. of the cost, but in asking for that favor, St. John has had in mind the possibility that dry docks may be necessary elsewhere in Canada, and has so framed its request

CAMEL BRAND
BALATA
RUBBER

BELTING

Linen Fire Hose,

Water and Steam Hose,

Packings, Etc., Etc.

THE STANDARD



GOLD WATER PAINT

WEATHER PROOF, FIRE PROOF
WHITE AND COLORS.

MILL SUPPLIES

Lubricating Oils and Greases
PAINT, PAINT OILS, ETC.

W. A. FLEMING & CO.

Montreal and St. John, N.B.

"RATHBUN'S
STAR."

Portland Cement

"BEAVER"
BRAND

MANUFACTURED BY

**THE CANADIAN PORTLAND CEMENT CO.
LIMITED**

Capacity of Works—500,000 Barrels per Year.

THE RATHBUN COMPANY,
810-812 Front Street West,

Telephone Main 1379.

TORONTO, ONT.

SALES
AGENTS

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

Telephone Main 3887.

MONTREAL, QUE.

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that when the government accedes, it will enter upon a definite policy of such assistance to all dry docks to be built in Canada in the future. Perhaps before these words are read the government may have announced some action, and it may be that Halifax may not have to render any good offices in the matter; but in any case St. John has been loyal to Halifax in her large schemes; let Halifax likewise be loyal to St. John.—The Maritime Merchant.

The Burt Mfg. Co., Akron, Ohio, who manufacture the Cross oil filter and the Burt exhaust head, have recently supplied the W. W. Ogilvie Milling Co., Winnipeg, Man. The latter concern operates the largest flour mills in Canada.

The Canadian General Electric Co., Toronto, have sent us a descriptive catalogue having reference to wires and cables for electric purposes. The list covers about every variety of wire with appropriate tables giving sizes, diameters, character of insulated covering, etc. A very interesting chapter gives the rules for the safe handling of live wires.

Messrs. Rumsey & Co., Seneca Falls, N. Y., have sent us their 1902 illustrated catalogue of hand and power pumps, hydraulic and pumping machinery, etc., manufactured by them. Every different article alluded to in the book is illustrated and described.

Messrs. Ritchie & Ramsay, Toronto, have sent us a circular in which is

mentioned the necessity they are under to have the executive and sales departments of their business in closer touch with their customers, and they, therefore, secured offices at 80 Bay street, where they have a complete line of samples of their goods. The circular making this announcement is printed on the enameloid paper manufactured by them, which indicates the high condition of art to which they have attained in the production of such goods.

It is announced that Mr. J. A. Culverwell, Toronto, managing director of the Central Ontario Power Co., has purchased Buckhorn Falls, eighteen miles from Peterborough, Ont. The company owns Burleigh Falls, where five thousand horse power is being developed and transmitted to Peterborough, and two thousand additional horse power will be developed at Buckhorn Falls.

The Laurie Engine Co., Montreal, are constructing a dredge with a capacity of about 1,000 cubic yards a day for the Gold Crown Mining Co., for the purpose of securing the gold deposits lying at the bottom of the Stewart River, Yukon Territory.

A portion of the implement factory of George White & Sons, London, Ont., was destroyed by fire, June 12. Loss about \$2,000.

The Packard Electric Co., St. Catharines, Ont., have sent us a folder in which they call attention to the general features of the Packard transformers

manufactured by them, in asking consideration of which they mention that this is not a new transformer, an experiment, or an untried device, but has been in successful use for several years, and had met the keen criticism of some of the brightest electricians in the country, and their approval thereof is attested by their unqualified endorsement in renewal orders.

The American Thresher & Engine Co., Toronto, which purchased the business of the John Abell Engine & Machine Co., will erect a large warehouse and machine shop at Winnipeg, Man., to supply western Canada.

The Wilkinson Plough Co., Toronto Junction, Ont., has been incorporated with \$25,000, to manufacture agricultural implements, etc. The provisional directors include A. H. Royce, E. B. Freeland, and E. G. E. Ffolkes, all of Toronto.

The Ottawa Machinery Co., Ottawa, has been incorporated with \$100,000 to manufacture agricultural implements, engines, boilers, etc. The provisional directors include John Crawford, J. B. Crawford, and H. H. Stevenson, all of Ottawa.

The Galt, Preston and Hespeler Street Railway Co., has been authorized to extend its line from Hespeler through the Townships of Waterloo and Puslinch, to Puslinch Lake.

The Great West Saddlery Co. is erecting an addition to its factory at Calgary, N. W. T.

IRON GROOVED PULLEYS

Spiral Steel Conveyor.

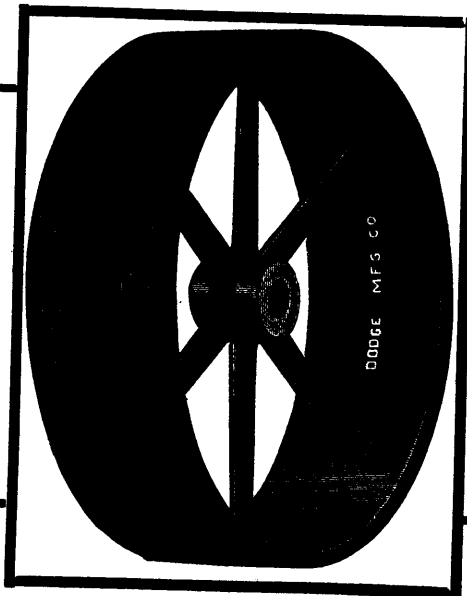
Elevator Buckets.

Detachable Chain.

Sprocket Wheels.

Belt Conveyors.

Friction Clutch Pulleys.



Clutch Couplings.

Machine Moulded
Iron Pulleys.

Steel Shafting.

Flange and Compression
Couplings.

..Improved Ball and Socket Adjustable Hangers..

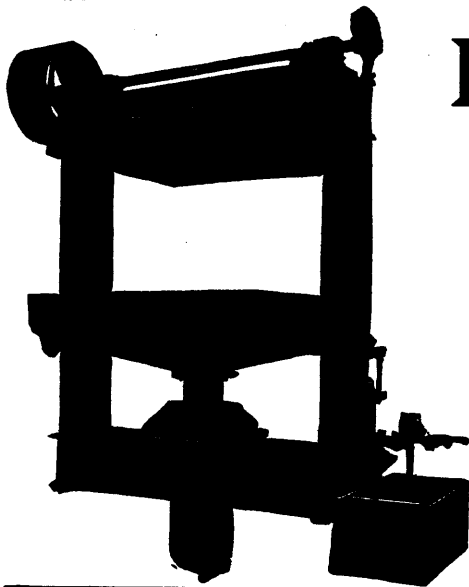
DROP AND POST, SAFETY COLLARS, ETC.

Power Transmission Machinery. GRAIN HANDLING MACHINERY.

SEND FOR CATALOGUE.

DODGE MANUFACTURING CO., - TORONTO, ONT.

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Hydraulic **PRESSES**

We Build Presses
for...

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

SEND FOR
CATALOGUE
AND PRICES

William R. Perrin & Company

TORONTO, - CANADA

E. A. Sjostedt, chief metallurgist of the Lake Superior Power Co., Sault Ste. Marie, Ont., has invented a process whereby sulphurous gas, which is taken from nickel ore, can be manufactured into sulphuric acid, which, it is said, has never before been done in commercial quantities. When the same company found a process by which the sulphur separated from the nickel ore in the roasting process could be saved, they solved a problem which had long baffled the leading scientists of the world, and the Soo plant is now the only one in the world where that natural product is not wasted in the separation. The gas taken from the nickel in the roasting furnaces is used in the sulphite mill, where, with steam, it is turned into the digesters and used in "cooking" the pulp chips in the manufacture of sulphite pulp. The new product will be used for the same purpose, and it can be used to better advantage. The chief advantage of its being a liquid is that it can be transported and put on the markets. Heretofore sulphuric acid was made from the pure sulphur, as found in Sicily, but it is worth only \$30 per ton, and that made by Mr. Sjostedt's invention worth \$100 per ton.

The Colonial Typewriter Co., Peterborough, Ont., has been incorporated with \$100,000 capital, to manufacture typewriters, office furniture, fixtures, etc.

The provisional directors include W. H. Hill, C. B. McAllister, both of Peterborough, and Hiram Kitely, Toronto.

The Hamburg-American Wagon Co., New Hamburg, Ont., has been incorporated with \$100,000 capital to manufacture wagons, sleighs, etc. The provisional directors include E. R. Beger, Edward Merner and John Buckel, all of New Hamburg.

The Truro Condensed Milk & Canning Co., Truro, N.S., are making extensive improvements and extensions to their factory. Among the new machinery introduced is a large refrigerator plant known as the "Linde" system. With this refrigerator chemically pure ice can be made at any time in the year. By it all milk received will be scientifically cooled and prepared for the future process of condensation. Another feature being introduced is a "Howe" soldering machine which will solder 32,000 condensed milk cans in a day. An extension of 50x80 feet is being made to the building which will be used as an additional warehouse.—Maritime Merchant.

The foundry shop of the Singer Mfg. Co., Montreal, was destroyed by fire June 17. Loss about \$15,000.

The planing mill of Rankin & Co., Toronto, was destroyed by fire June 15. Loss about \$3,000.

The United States Government contemplate the expenditure of \$10,000,000 for improvements at Sault Ste. Marie, Mich., and tributary points, including the widening of the canal and the building of a new lock.

The hoop mill of W. S. Greensides, Paisley, Ont., was destroyed by fire, June 17. Loss about \$2,000.

The rate-payers of Cornwall, Ont., have voted favorably on a by-law to raise \$11,000, to put in a new hydraulic plant instead of the steam plant used at the water works pump house.

The Walron Drouin Co., Montreal, has been incorporated with \$90,000 capital, to manufacture hats, caps, etc. The charter members include S. G. Waldron, F. B. Drouin and C. H. Fildes, all of Montreal.

The Ontario Corundum Co., Ottawa, Ont., has been incorporated with \$100,000 capital, to manufacture corundum. The charter members include L. R. Speare, Boston, Mass., E. F. Burritt and R. G. Code, both of Ottawa.

G. R. McCrackren is erecting a 75 barrel flour mill at Saltcoats, N.W.T.

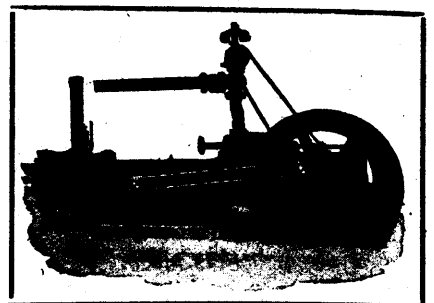
J. A. Tompkins, Brockville, Ont., has received the contract for the addition to the Banff Hotel, Banff, N.W.T., which will be 180x42 feet, and cost about \$100,000.

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

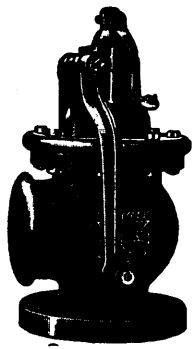
WILL DO WELL TO COMMUNICATE WITH US BEFORE
INSTALLING PLANT

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

CANADIAN RAND DRILL CO. Montreal and Sherbrooke



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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.



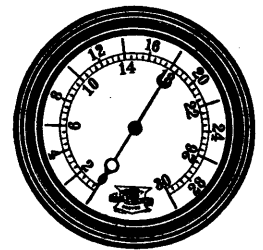
Stationary and Marine Valves.
Water Relief Valves.
Blow-off Valves.
Globe and Angle Valves
Single Bell Chime Whistles.

SEND FOR CATALOGUE

CROSBY STEAM GAGE and VALVE CO.

BOSTON, NEW YORK, CHICAGO, LONDON

A TRUTHFUL GAGE IS THE ONLY GOOD GAGE



The B. Greening Wire Co., Hamilton, Ont., will build an addition to their factory, at a cost of about \$7,000.

The General Electric Co., Schnectady, N.Y., will establish a factory in Ottawa, for the trimming and preparation of mica.

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

The Bell Telephone Co. of Canada is installing 400 long distance telephones in the Windsor Hotel, Montreal. The work of installation is nearing completion and it is expected that by Coronation Day anyone of the guests without leaving his room will be able to secure a connection to any part of the continent.

The Canada Paper Co., Montreal, will rebuild its mills at Windsor Mills, Que. The new mills will consist of seven large stone, brick and steel buildings, which will cost about \$250,000, and have a capacity of 50 tons of pulp and 35 tons of paper per day.

The Canadian American Coal & Coke Co., Frank, N.W.T., will increase the capacity of their plant. The present output of coal is 500 tons per day, which is to be increased to 1,000 tons.

The Stuart-Arbutnot Co., Winnipeg,

Man., have just completed a contract with the Ogilvie Milling Co., for 21 gasoline engines of the Howe pattern.

La Compagnie Industrielle de Montmagny, Montmagny, Que., has applied for incorporation with \$50,000 capital, to manufacture coffins, doors, windows, washing machines, etc. The applicants include Alfred Blais, St. Aubert, Que., Amedee Cote, and Maurice Rousseau, both of Montmagny.

The ratepayers of Brockville, Ont., will vote on a by-law to grant a bonus of \$20,000 to the Union Hat Works, St. John's, Que, to locate in Brockville.

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

The Northern Aluminum Co., Montreal, has been incorporated with \$500,000 capital, to manufacture bronzes, commercial alloy, etc. The provisional directors include G. G. Foster, Montreal, A. V. Davis, Pittsburg, Pa., and F. A. Stoughton, Shawinigan, Que.

The Hiram L. Piper Co., Montreal, has been incorporated with \$40,000 capital, to manufacture railway and electrical supplies, ship lamps, etc. The charter members include William Carruthers, Montreal, H. L. Piper, and J. E. Carruthers, both of Toronto.

THE BRITISH COLUMBIA LEAD INDUSTRY.

Mr. A. S. Goodeve, of Rossland, B.C., who was a delegate from the Board of Trade of that city to the recent Toronto convention of Canadian Boards of Trade, speaking of the development of the silver lead industry, a question of vast importance to British Columbia, said:—"I feel sure that we shall receive the support of all the manufacturers of Eastern Canada in our endeavor to secure the Canadian market for our home mining. Various men whom I interviewed expressed themselves as much pleased at the rapid development and great value of the wealth of our mineral resources. Up to the present time the value of the lead products mined in British Columbia has reached the large total of \$25,000,000, and the present position is such that when the readjustment of the tariff asked for at the conference is granted, British Columbia will be in a position to turn out fifty thousand tons per annum. Even at the present low price of lead, this would be equal to, including the earnings for transportation and refining, about \$6,000,000 per annum. There is no other manufacturing industry where all the raw material can be secured within the country. The ore is mined by Canadian miners, the lime for flux is quarried by Canadians, the coal and coke are mined in Canada by Canadians, the dry ores used in connection with the smelting are mined in Canada, and all the labor used is skilled, at the highest rate of wages. Indirectly, this has a large bearing on the mining and treatment of low-grade dry ores, as in smelting silver lead ores the actual charge only contains from 15 to 20 per cent. of silver lead ores, the balance being made up of low grade gold and copper ores, containing a large percentage of iron. Thus we are enabled to mine large quantities of low-grade dry ores, which otherwise would be unprofitable.

"Miners as a class are proverbial for their good living," said Mr. Goodeve, "and among no other class is there so great a consumption per capita of high-grade food products such as are produced in the agricultural districts of Canada. The machinery used is of the most expensive kind, a large porportion of which is manufactured in Ontario and Quebec."

MECHANICAL DRAFT.

The McEachren Heating & Ventilating Co., Galt, Ont., have sent us their sectional catalogue No. 10, having reference

MARSH STEAM PUMPS
STANDARD FOR ALL DUTIES
MANUFACTURED BY AMERICAN STEAM PUMP CO.
BATTLE CREEK MICH.

41,000 SOLD IN 12 YEARS

FOR DEEP WELLS
MAXIMUM STRENGTH, SIMPLICITY AND SERVICE

WRITE FOR NO. 10 CATALOGUE

Canadian Agents **The A. R. WILLIAMS MACHINERY CO. LIMITED**
Head Office, TORONTO
Branch Office—MONTREAL

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

THE ARMSTRONG PIPE-THREADING and CUTTING-OFF MACHINES
THE ARMSTRONG GENUINE ADJUSTABLE STOCKS AND DIES
 THE BEST WATER, GAS AND STEAM FITTERS' TOOLS
 —Are Manufactured by—
THE ARMSTRONG MFG. CO.
 New York Office—139 Centre St. Write for Catalogue 27. BRIDGEPORT, CONN., U.S.A.

to the fans and blowers, etc., manufactured by them. They do not, in this book, enter into an extended technical discussion of the relative merits of natural draft, forced draft or induced draft, but aim to point out some of the many advantages of mechanical draft when applied to power plants. Mechanical draft, they say, has been extensively and successfully employed several years and its advantages as a powerful and capable agency to increase the efficiency and steam capacity of boilers have been proven so often as to leave no room for contradiction. The book contains much to interest those connected with the manufacturing and power generating industries. The illustrations show effects of forced draft, the method of construction of the fans, different views of the apparatus, method of application, etc., and a very interesting chapter is given upon the relative merits of forced and induced draft. An illustration is taken from a photograph of the chimney at the works of the Goldie & McCulloch Co., Galt, which was done before they had their boilers equipped with apparatus furnished by the McEachren Co. Another illustration of the same works shows their appearance after the installation.

This concern also manufactures portable forges and down draft equipment for blacksmiths and carriage shops; steam traps, steam separators, exhaust heads, back pressure valves and other steam specialties; boiler feed pumps, upright fan engines, wood iron and steel cars and trucks for handling wood, brick, etc., dust separators and shaving feed attachments for distributing wood working machinery refuse on fire grates.

WHAT WOULD WE DO WITHOUT WOOD?

Wood and materials directly obtained from it enter more extensively into our daily lives and surroundings than any other product obtained from a single source. This may seem somewhat like a broad statement, but consider:

For instance, I write this article with a cedar pen-holder. I do not doubt that wood-fibre of some kind or other enters largely into the manufacture of the paper upon which the words of this article are inscribed. My desk is of oak; my chair likewise.

The cushion which gives me bodily comfort while my head is reeling off thoughts on wood, is filled with excelsior and its leather cover is tanned with oak extract. The other various utensils of a literary career, the ruler and the pencil, the dreaded blue one at that, also find their derivation in some forest. So you see how the average man is surrounded in his office. It would, in fact, be quite possible to build and furnish complete a fairly convenient and comfortable home in which no other material than wood was used. The building, of course, would of necessity be a frame structure. Even nails can be dispensed with, for many an old Colonial dwelling, standing to-day, after having weathered the tempests of more than a century, is joined together with pins of white oak.

Hardwood floors are common, and furniture too must have originated in trees. Over in Germany there is a firm which controls a patent for extracting fibre from wood, and it is said that a very good and strong yarn can be spun from it. It is stated that although this material cannot readily be bleached, it is capable of being dyed with excellent results. It is also asserted that cloth woven from this fibre is peculiarly suitable for bed-ticking and that it makes quite effective curtains. A factory for manufacturing goods of this character is about to be built at Bilboa, in Spain.

Furniture of woven willow withes is one of the most effective and artistic of summer furnishings, being light, cool, and above all, serviceable. The fibre of wood also enters largely into the manufacture of wall-paper.

Some of the latest mountings for photographs and other pictures are made from thinly shaved sections of the inner bark of large trees. The effect is most novel and artistic.

So you see we can live in houses of wood, we dine from tables made of it, we walk on it, we rest on it, we write with it, and the time may come when we will stretch our weary limbs upon mattresses made from it.

It is a fact, despite the efforts of sundry forestry associations, that our woods are being rapidly depleted. How long the supply will last no man can tell, but if it were suddenly to be exhausted, a vast number of important industries would

find themselves at a stand still and every-one would feel the loss very heavily.

Besides the uses to which wood is put in modern life, the forests are Nature's balance wheels, whose duty it is to equalize the temperature. They are also huge sponges which retain moisture, giving it out gradually, and generally tend to keep things going in an even manner.

However, it is not the purpose of this article to touch more deeply on this phase of the subject. Its intention is simply to sketch out in a brief manner the many and varied uses to which the art of man has succeeded in putting the product of the forest.—American Carpet & Upholstery Journal.

OUTPUT OF ONTARIO MINES.

The following table, compiled by the Bureau of Mines from returns furnished by mining operators and companies, gives the statistics of the output of the metalliferous mines and works throughout the Province of Ontario for the first three months of the present year. For the sake of comparison the output for the first three months of 1901 is also shown:—

Substance.	1902. First 3 months.	1901. First 3 months.
Gold—		
Gold product, ounces.....	4,485	3,150
Value of gold.....	\$77,068	\$51,520
Ore treated, tons.....	18,238	10,174
Silver—		
Silver product, ounces.....	35,000	20,077
Value.....	\$17,000	\$12,046
Nickel-Copper—		
Ore raised, tons.....	99,990	72,036
Ore smelted, tons.....	61,049	36,708
Nickel in matte product, tons.....	1,435	903
Copper in matte product, tons.....	1,280	840
Value of nickel.....	\$546,356	\$190,858
Value of copper.....	191,170	73,625
Copper—		
Ore raised, tons.....	4,640
Concentrates produced, tons.....	120
Value of concentrates.....	\$6,000
Iron—		
Ore raised, tons.....	5,207	36,503
Value.....	\$8,753	\$41,106
Ontario ores smelted, tons.....	21,901	21,083
Foreign ores smelted, tons.....	22,869	27,580
Mill cinder, etc., smelted, tons.....	5,149	3,486
Pig iron product, tons.....	28,450	28,694
Value pig iron product.....	\$397,838	\$438,639
Arsenic—		
Product, pounds.....	350,000	236,051
Value.....	\$10,500	\$6,262

The aggregate value of the production for the first quarter of 1902 was \$1,254,685, as against \$824,076 for the first quarter of 1901, an increase of \$430,609, or 52 per cent.

The table shows the following gains as compared with the same period last year:

RICE LEWIS & SON, LIMITED, **Hardware and Metal**
MACHINIST TOOLS, PIPE FITTINGS, **Bar Iron, Steel, Boiler Plate Tubes**
STILLSON AND TRIMO WRENCHES, **COMPLETE STOCK OF STOCKS AND DIES.** **PIPE VICES.**
CORNER KING AND VICTORIA STREETS, **STEAM PIPE.** **TORONTO.**
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THE GEE ELECTRICAL ENGINEERING CO.

11 COLBORNE STREET, TORONTO.

LIMITED

WE have a Factory equipped with the very latest and best machines for the building of

Dynamos, Motors, AND ALL..... ELECTRICAL APPLIANCES

We have every facility for repairing. We guarantee all our work. We keep a large staff of competent electricians and wiremen, and are in a position to do Electrical Work of every description. We wire Residences, Business Houses, Factories, etc. We have on hand a large stock of

ESTIMATES AND PLANS SUBMITTED.

Electrical Fittings, Arc Lamps, Telephone Bells, Etc.

Gold, \$22,548; silver, \$4,954; nickel, \$355,498; copper, \$121,545; arsenic, \$2,238; and the following decreases—Iron ore, \$35,353; pig iron, \$40,821.

The increase in quantity and value of nickel and copper is notable, part of the gain in value being due to the larger output, and part to the fact that the mattes of the Sudbury District are now brought to a much greater richness in metallic contents than formerly.

The decrease in the output of iron ore is more apparent than real, and is explained mainly by the fact that navigation on Lake Superior had not opened on March 31, and therefore none of the product of the Helen mine had been moved.

The quantity of pig iron produced was almost exactly the same in both periods, but the value this year is somewhat less. About 52 per cent. of the ore smelted was from Ontario mines, as compared with 43 per cent. in 1901.

FOREST ENGINEERING.

A. T. Drummond, in an article in Queens' Quarterly on the need of forest engineers in Canada, says:

Our interest in Canada on these great problems of forest preservation, water supply, and, it might be added, irrigation, should be as great as that of the people of the United States. The various pulp companies now in operation or being started in the spruce districts, the large mill owners whose timber limits are in some cases so extensive, the water power companies which are so dependent on uniform lake and river levels, and our local governments which derive such a large revenue from the forests are all directly concerned not only in preventing the exhaustion of the timber, but in recuperating the extensive tracts of country which have already been exhausted by fire or the axe. The Dominion itself has also an especial interest in the subject. The clearing of the forests directly curtails the water supply in our canals, navigable rivers, and smaller lakes, by allowing the rains and melted snows to run rapidly off in the spring, and by immensely increasing the evaporation during the summer. The forest preserve around the lakes and other headwaters which feed our canals and navigable

rivers is all important to the continuance of unobstructed navigation.

The work thus far done by our Dominion and provincial governments has been of a very practical nature and has been most valuable. Large forest reserves have been created in Ontario and Quebec, as well as in the North-West Territories; the co-operation of many of the large limit holders has been secured in endeavoring to lessen the great annual destruction arising from forest fires; and in the North-West Territories tree-planting on the open prairie has been directly encouraged. Can we take any further steps in forest preservation and extension, either in the direction of what has proved valuable in the experience of the United States Bureau or otherwise? The continuance of great forest fires alone shows that much has yet to be done, while the advent, recently, of so many United States lumbermen as operators in Canada, the marked increase in the pulp business, and the enlarging government revenues from the Crown domain, all point to the importance of recuperating the very extensive tracts already cut over

THE CANADIAN COLORED COTTON MILLS COMPANY.

Cottonades, Tickings, Denims,
Awnings, Shirtings,
Flannelettes, Gingham,
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Dress Goods, Lawns,
Cotton Blankets,
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Brass Founders

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... Finishers ...

Phosphorine Babbitt Metal

Copper and Aluminum

Castings a specialty.

184 RICHMOND ST. WEST,
TORONTO.

J. M. NEIL

Technical Chemist

—AND—

Chemical Engineer

FOURTEEN YEARS PRACTICAL
MANUFACTURING EXPERIENCE
AS CHEMIST AND WORKS MANAGER

CONSULTATIONS, REPORTS,
DUPLICATION OF PRODUCTS,
PROCESSES WORKED OUT,
DESIGNS AND
CONSTRUCTION OF SPECIAL PLANTS,
FURNACES, ETC.

ELECTROLYTIC PROCESSES
A SPECIALTY.

176 Roxborough St. East
TORONTO

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or burned, and the working under improved methods of those areas that are as yet untouched, in order that they may furnish permanent supplies of timber, and that the present Crown revenues from the forests should be maintained.

What if these great sources of trade and of Crown revenue should in coming years seriously diminish, as they have been doing in the United States? The blame would rest on us who foresaw this and failed to take warning. It has been estimated that, last year, timber to the value of between two and three million dollars was destroyed by fire, and much of this destruction could have been averted. It is the annual story, varied only by the greater destruction in some years than in others. When it is considered that not merely have the forest giants succumbed, but that the younger trees which in time would become the giants have been swept away as well, we may without exaggeration put down the loss of pine and spruce from this cause during the last 50 years at not less than \$200,000,000 in raw material, and it will take nearly 100 years to reproduce these forests, and a much longer time to reproduce the larger trunks.

With many the impression still prevails that the forests in Canada are so extensive that in our generation we need not fear any diminution in the supply of lumber. What are the facts? Much of the best pine country has been already cut over and is for the present exhausted. Of the area left, considerable tracts are under license to lumbermen, while the surveys of the new townships made from time to time in the country north of us show that there are great burned over areas everywhere, with charred trunks and bare rocks to tell where forests once existed. Even the size of the logs is small when compared with those cut from the giant pines of 30 and 40 years ago. The important question bearing on the timber supplies of Ontario and Quebec now is: How far northward do the pines and spruces range?

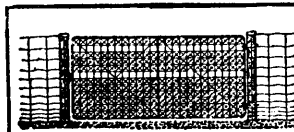
Our knowledge from explorers is that the northern limits of the red and white pine are, in Ontario, somewhat roughly coterminous with the height of land between the St. Lawrence and Hudson Bay basins, and thus approach somewhat closely to Lakes Superior, Nepigon and Huron, while in the Province of Quebec these limits curve from the sources of the Ottawa River toward Lake St. John and thence somewhat north-eastward toward the Gulf of St. Lawrence at Anticosti. The Banksian pine occurs much farther north than the white and red pine, but its wood is not at present regarded with favor by the lumberman.

It will be said, however that the spruces range in diminishing size all the way to Hudson Bay and north-eastward into Labrador, and north-westward to Alaska. This is true, but once the height of land is reached, the waters in the streams flow northward to Hudson Bay instead of towards us, and it will be impossible, without railways and much increased expense, for lumbermen to get logs and timber from the far side of this divide. The time appears to be ripe for

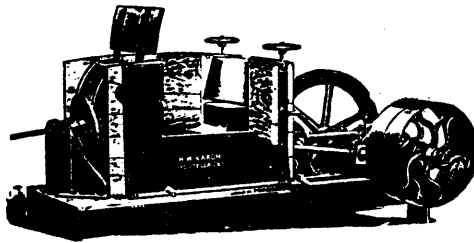
the appearance not only of the experienced forester, but of the trained forest engineer—the man who will be able to intelligently advise on, or take charge of, the private tracts of the great lumber and pulp companies, and equally the greater tracts forming the Crown domain all over the country to the north of us, working them with a view to revenues in the far future as well as the present. In the United States the necessity of conservative scientific working is being felt. In Maine, the International Paper Co., the Great Northern Paper Co., and the Berlin Falls Paper Co., operating more than a dozen of pulp mills, and the first two owning 300,000 acres each, now employ trained foresters on their lands; the United States Government has sent men

from its own Bureau of Forestry and from the New York State College of Forestry at Cornell, to grapple with the Forestry problems of the Philippines; while only skilled foresters are employed by the bureau on the numerous forest areas in the Southern and Northern States, which, at the request of their owners, are being laid out on scientific working plans.

The time seems, in fact, not distant when the forest engineer and proper forest management under him will be found absolutely essential to the successful working of the timber lands of every great pulp mill and lumbering establishment. In Canada, as the area from which pine and spruce can be obtained recedes, under present methods, northward, and the logs become not only smaller in size,



PAGE METAL GATES are so low in price no one can afford to use wooden ones. Light, and yet strong enough to support a heavy man on the end while he swings around the circle without causing them to sag. They are neat in appearance, will last a lifetime. Will not sag nor get rickety. They are supplied with latches which allow them to be opened either way and are self acting. The only good metal gate that is low enough in price for general farm purposes. We also make Farm and Ornamental Fence, Poultry Netting, Nails and Staples. The Page Wire Fence Co., Limited, Walkerville, Ont., I



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Manufacturer of

WOOLEN MACHINERY,

Rotary Fulling Mills, Kicker Fulling Mills, Soaping Machines, Cloth Washers, Wool and Waste Dusters, Rag Dusters, Drum Spool Winders Reels, Spooling and Doubling Machines, Ring Twisters, Card Creels Dead Spindle Spooler for Warp or Dresser Spools, Patent Double-Acting Gig Dyeing Machines.

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More extensively imported into Canada than any others made in the United States. One million now sold for Spring delivery to Ontario. Special inducements. Write to-day.

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THE SCIOTO FIRE BRICK COMPANY, - Sciotoville, Ohio, U.S.A.

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Canadian Representative: STANYON ENGINEERING CO., 402 McKinnon Bldg., Toronto, Ont.

Established 1834.

Incorporated 1900.

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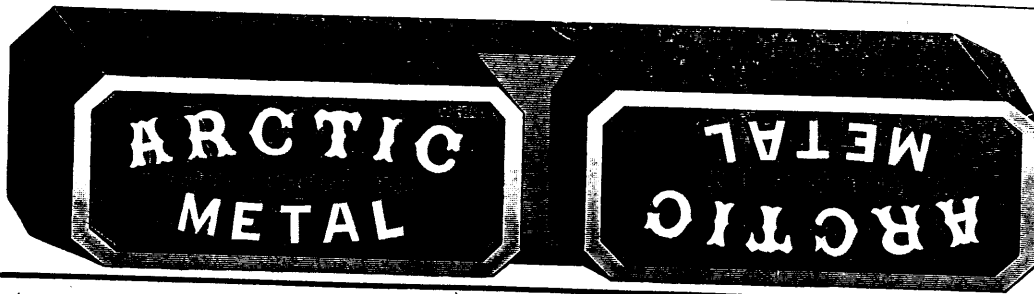
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THEY WILL SAVE YOU 10 ON YOUR INSURANCE

Established 1842

The E. HOWARD CLOCK CO.

395 to 403 Washington St., BOSTON
41 and 43 Maiden Lane, NEW YORK



**J. N. TALLMAN
& SONS**
Brass Founders
Solder and
Babbitt Mfrs.
...HAMILTON, ONT.

but, on account of the greater distance, more expensive to get out, no large company with heavy capital invested in fixed plants can afford to allow its original, conveniently situated limits to be exhausted by cutting or damaged by fire within the first few years, when by conservative management these original limits may perhaps be made a perpetual source of supply.

MAKING OF THE HALF-TONE PLATE.

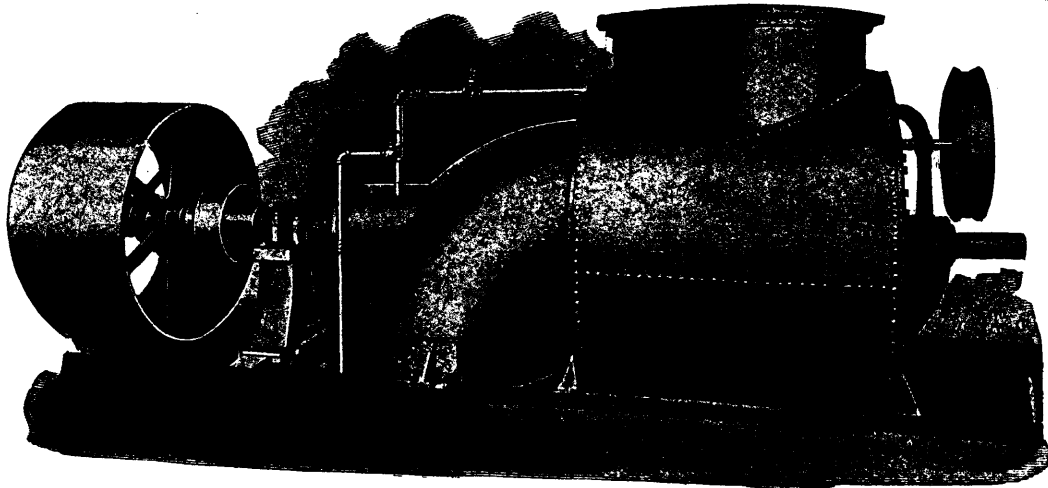
The "half-tone" photographic reproduction has revolutionized book and newspaper illustration. Some rejoice at this, while others grieve; but probably few of either class realize the care that must be taken in the preparation of a good half-tone plate. In a paper read by J. L. Shelling before the Chicago Trade Press Association and printed in *The Inland Printer*, the following information is given on this point:

A half-tone screen consists of two

pieces of glass, each ruled with alternating black and white lines of equal dimensions at an angle of 45 degrees. These two pieces are then cemented together with the lines at right angles, thus making a grating or screen. This screen is placed in the camera next to the sensitive plate, and the pictures photographed through it. The screen is the foundation for the process, and the principle involved has not been changed since the earliest patent was granted. Numerous other methods have been tried, but the mechanical lines of the half-tone screen have not been improved upon. But for this mechanically ruled screen we would not be able to reproduce colors with three or four printings that formerly required from 10 to 20 impressions in lithography. All other methods that have been tried with a view to improving on the half-tone screen have a rough and displeasing appearance, while the regular lines and dots of the half-tone give us a smooth, soft, clean picture, with all the modulation of the photograph.

Did it ever occur to you that the sur-

face of the half-tone plate is composed of thousands of little dots, every one of a different size, and so small that you have to use a magnifier to see them; but if one were missing or not of the proper size it would show in the proof? Yet it is true, and they are all watched by every man who handles the plate from the time the negative is made until the plate is delivered, and if one is missing it must be put in or a new plate made; that is, if high-grade work is desired. How many of these dots are there in a square inch of half-tone? The ordinary screen, composed of 150 lines to the inch, has 22,500 black dots, and an equal number of white spaces. You talk about detail in your business. When you have to look after 22,500 dots to every square inch of your work, and see that none become lost, strayed or stolen, you can talk about being busy. Just for the novelty of the thing, we figured up the number of dots required to make up the surface of the large Dowie plate made by our concern, which measured approximately 24 by 98



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

CROCKER PATENT TURBINE

Under some conditions it is particularly well adapted to Pulp or Paper Mill use, also for operating Belt Driven Dynamos in Street Railway and Lighting Plants.

Remember, we undertake contracts for complete plants, built and installed, thus insuring to the purchaser uniformity, perfect adaptation of parts, and a single responsibility to be considered.

Our Bulletin No. 200 will interest owners of water power and prospective users. Free on request.

THE JENCKES MACHINE CO.,

28 Lansdowne Street,

SHERBROOKE, QUE.

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81 York St., Toronto.
Halifax, N.S.

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COAL JAS. H. MILNES & CO. COKE

WHOLESALE DEALERS IN
Best Grades of STEAM COALS.
Best Grades of BLACKSMITHS' COALS.
Best Grades of FOUNDRY COOKES.
 Shipments made direct from Mines to any point in Canada. Write for quotations.

Head Office: 78 QUEEN ST. EAST TORONTO. Docks: Esplanade, Foot of Yonge

inches, and was made on 133-line screen. There were 2,304 square inches in the plate, with 17,689 black dots per square inch—a total of 40,756,456; so you see we need good eyes and good glasses in order to make perfect printing plates.

In addition to looking after all these little dots, the process man has to keep an eye on the weather. If the wind changes to the east or south, or it is warm or cold, damp or dry, he must change his methods and his chemicals to suit; and while he is reasonably sure he can deliver the cut on the day promised, he could not guarantee to do it, because there are hundreds of things that could happen before it was delivered into your hands that would be small in themselves, but would make the cut useless to you. So when your engraver tells you he had an accident with your plate and cannot deliver it until the next day, just be charitable with him, and remember the 22,500 little dots per square inch that he has to keep in place.

A CENTURY OF BRITISH STEAM-SHIPS.

Few centenaries are better deserving of commemoration within the United Kingdom than the centenary of steam navigation. And it was just in the close of March, 1802, that the Charlotte Dundas, the first steamer ever employed for practical purposes, began to tow barges on the Forth and Clyde Canal. Steam vessels had been tried on Dalswinton Loch with success as early as 1788, but they were

not intended for use, only for experiment. There were only one or two dreamers, like William Symington, the engineer of the Charlotte Dundas, and Henry Bell, who built the Comet in 1812, who had any idea that steam navigation could ever be turned to practical use.

The owners of the Clyde and Forth canals promptly took steps to stop the running of the Charlotte Dundas lest her wash should injure to banks of the canal, and it is even on record that James Watt, the true inventor of the steam engine, threatened William Symington with legal penalties if his engine should prove a success. So the first application of steam to the conveyance of cargo by water ended in financial ruin to the man who had invested his all in it.

The first passenger steamer was not much more successful from a financial point of view than the first steam tug. Henry Bell applied for aid to the government of the day in order that his idea that warships could be driven by steam might be practically tested. It was in 1800 when a steam battleship in the hands of Nelson might have done much. But no help came from the government, nor did private capitalists think that there was anything to be made by applying steam to the transport of passenger vessels. So Henry Bell struggled on as best he could, and in 1812 the first passenger steamer appeared in the Clyde. She took her name, Comet, from the great comet of 1811. She proved that steam navigation was possible for passenger boats, but

she ruined her owner, who died impoverished at Helensburgh, on the Clyde, in 1830.—London Daily Graphic.

ACCURACY.

The Packard Electric Co., St. Catharines, Ont., have sent us a leaflet entitled "Accuracy" which embodies a brief talk on the new type "G" Scheffer Recording Watt Meter made by them. It says:

A motor of the simplest form, driven by a small part of the energy that it measures, is the principle upon which has been built the Scheffer Recording Watt Meter.

As its name implies, the unit of measurement is the Watt hour, a definite amount of energy independent of the voltage at which it is delivered.

A light aluminum disc rotating in a magnetic field and driven by induction, is so adjusted that during any period its number of rotations is exactly proportional to the energy in Watt hours passing to the circuit in that period.

The lightness of the moving parts, the infinitesimal friction of the jeweled ball bearing and the correct proportioning and location of the coils combine to make this meter highly sensitive and the smallest amount of current is measured with accuracy.

Being an induction meter there is no commutator or brushes with their constantly varying friction.

Type "G" has all the advantages of the Type "E" Scheffer meter, with several new features.



Dust and Shavings Separators

FOR WOOD REFUSE

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

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

McEACHREN HEATING and VENTILATING CO., GALT, ONT., CANADA.

LONG DISTANCE PHONE 1108.

The Electrical Construction Company of London, LIMITED

32-40 Dundas St., London, Can.

Perfection TYPE DYNAMOS AND MOTORS

Multipolar or Bipolar, Direct-Connected or Belted.

OVER 1500 OF OUR MACHINES IN USE.

We contract for complete installations, including wiring of factories.

We repair machines of any make. Descriptive matter and estimates furnished on application.

BRANCHES AT Vancouver, Winnipeg, Toronto, Montreal, Halifax.

It is the lightest and smallest meter made.

It has a very wide range of adjustment and is correct on pressure balance so that there is absolutely no movement except when current is being used.

Its sensitiveness makes it respond instantly to any variation in load and on inductive and non-inductive loads it cannot be surpassed for reliability of measurement.

It is so arranged that in putting up connections are very easy to make.

Type "G" is provided with sealing disc and means of sealing to conform with government regulations in Canada.

Its few working parts and ease of adjustment makes a return to the factory for re-adjustment a remote possibility except in case of complicated derangement. It is only through inexperience or clumsy handling that there is any possibility of its mechanism going wrong.

Absolute accuracy under proper adjustment can be depended upon, and the most prevalent feature of meter use, inaccuracy, will be overcome by its use.

In appearance, this meter is very pleasing, and its light weight, ten pounds, allows it to be hung from or fastened to comparatively light structural material. It is not necessary to hide or disguise it, as it is not unattractive or objectional in appearance.

"Accuracy" is the foremost claim for this meter. On the lightest or heaviest loads, the current is measured with equal accuracy. Its sensitiveness is shown from the fact that it will register the amount of current consumed when a single hylo

lamp is burning on its one candle power filament. This is the only meter we have found by actual test that will do this.

The company will be pleased to furnish more detailed information.

RULES FOR SAFE HANDLING OF LIGHT, POWER AND LINE WIRES.

The following rules for the safe handling of electric light and power apparatus and line wires, were prepared by President Henry Morton, of Stevens Institute of Technology, Hoboken, N.J., and published by order of the National Electric Light Association.

1. Do not touch or handle any electric wire or apparatus of any sort while standing on the ground, or while in contact with any iron work, gas or water pipe, or stone or brick work, unless your hands are covered with rubber gloves, and you are provided with such properly insulated tools as have been declared to be safe and in good order by the electrician or other competent officer of this company.

2. If it is at any time necessary to stand on the ground, or on any surface not insulated from the ground, while handling electric wires or apparatus, rubber boots or an insulated stool should be used.

3. In moving wires hanging on or lying over electric light wires, lamps or fixtures, use a dry hand line.

4. Never handle any electric wire or apparatus with both hands at once when this can be avoided, and if it is necessary

to do so be sure that no current is present, or that one or both hands are protected by rubber gloves or other efficient insulation.

5. When handling line wires, treat each and every wire as if it carried a dangerous current; and under no circumstances allow yourself to make contact between two or more wires at the same time.

6. Never open a circuit which has been in use without giving notice to the superintendent, or whoever is in charge, of your intention to do so, and at the same time request that the same line be opened at the main station, and kept open until you have given notice that your work on that line has been completed.

7. In the dynamo room never go near the belts or dynamos, nor touch any apparatus unless you are fully informed and instructed how to do so.

8. Tools used by linemen should be provided with insulated handles of hard rubber or other equally good insulator. It is the duty of each lineman to look after his own tools and see that they are in good order, especially as to their insulation.

Messrs. Seneca Jones, C. A. Birge, Dr. Alton and E. McIntyre, all of Hamilton, Ont., are about to form a company for the manufacture of paint from animal oil. By this process, it is said, good paint can be made from the oil of nearly all kinds of animals. Old dead horses, dogs, cats and other animals will be boiled up for their oil.

COWAN & CO., of GALT, Limited

No. 0—VARIABLE POWER
FEED DOWELL MACHINE.

"GALT FOUNDRY"
Engine and Machine Works,

Galt, Canada

Wood-Working

.. Machinery ..

Patent Feed Water
Heaters and
Purifiers.

ENGINES, BOILERS

AND

Saw Mill Machinery,

Etc., Etc.

SEND FOR CATALOGUE.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

A MESSAGE TO MANUFACTURERS.

The manufacturers of Canada are no doubt aware that the city of Toronto is expending nearly \$150,000 in the erection of new and thoroughly modern buildings for the Industrial Exhibition to be held this year, from September 1 to 13. The principal building here illustrated will cost \$106,000 and contain over 80,000 square feet, or two acres of floor space, all on one floor. This building will be constructed mainly of brick and steel, thus rendering it practically fire proof. It is located almost in the centre of the grounds, and will be reserved specially for the display of the finer classes of Canadian manufactured goods.

In addition to this building for miscellaneous manufactures, the former Main Building is being reconstructed, and will be used for a Carriage or Transportation Building.

A new Art Gallery and a new Dairy Building are also being erected, both of which will be thoroughly up to date and equal to every requirement of this great Exhibition.

The erection of this Manufacturers' Building was found to be necessary on account of the constantly increasing demand for space for the exhibit of miscellaneous manufactures.

In view of the many efforts being put forth urging upon the public the desirability of purchasing goods of domestic manufacture, it is important that the display of Canadian goods at this year's Exhibition should not only be more representative and extensive, but of a superior character to any that has preceded it.

The applications already received from manufacturers for space indicate that it will all be taken up at an early date.

The average annual attendance at the Toronto Industrial Exhibition has heretofore been about 250,000, but it is confidently expected that this figure will be greatly exceeded this year on account of the re-organization of our buildings and grounds, and the many special attractions which will be embraced in the programme.

Every manufacturer knows that nothing attracts public attention so readily as machinery in motion, and practical illustrations of the process of manufacture. The management are anxious to encourage this feature of the Exhibition and are

IMPROVED BUILDING MATERIALS

All the newest and most effective ideas are embodied in our metallic goods.

The points that make for convenience in handling—for long duration—for most efficient service.

The highest quality and best workmanship available.

That is why you can order from us and be absolutely certain of lasting satisfaction—and yet our prices are most moderate. Consult our catalogue for full information about our metallic

**Ceilings, Cornices, Lathing,
Shingles, Sky Lights, Corrugated Iron,
Sidings, Ventilators, Finials.**

And other goods for all kinds of architectural purposes.

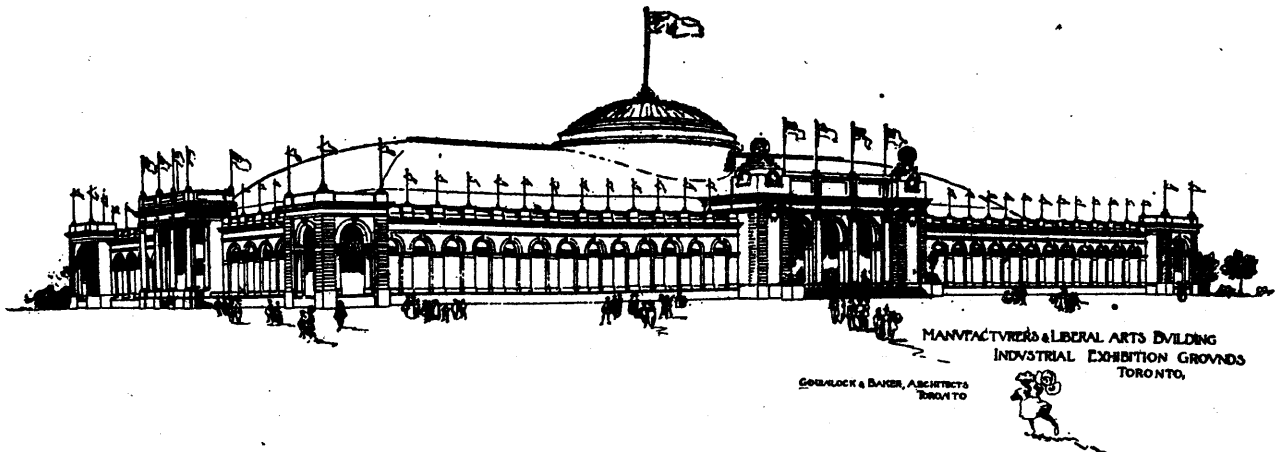
THE METALLIC ROOFING CO., Limited
Wholesale Manufacturers,
TORONTO. MONTREAL. WINNIPEG.

prepared to offer special facilities to those manufacturers who desire to avail themselves of the splendid opportunity of advertising their products in this way.

THE OTIS ELEVATOR COMPANY.

The Otis Elevator Co., of Canada, have definitely decided to erect a most complete and modern elevator plant at Hamilton, Ont. All the necessary

tools, etc., that go into the construction of the plant, will be bought in Canada. The Canadian Otis Elevator Co., will be distinctly a Canadian company, the majority of the directors being Canadians. A full line of elevators and hoisting machinery will be manufactured for the Canadian market. Branch offices will be established in all the principal cities. Mr. J. H. Shales will be the representative in Toronto.



Zanzibar Paints

Made in all Colors

Rust Proof.
Decay Proof.
Fire Proof.

FOR
Bridges, Roofs,
Factory Buildings,
Structural Iron Work,
Warehouses, Etc.

USE
Zanzibar Crucible Black

For Smoke Stacks, Boilers, Steam Pipes
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Extraordinary High Fire Test.
Elastic and Durable.

Absolutely will not Blister, Peel Off or Chalk.

Manufactured by

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

THE MCKINNON DASH AND METAL WORKS COMPANY.

The factory here shown is the new plant of the McKinnon Dash & Metal Works Co., at St. Catharines, Ont., and is not overdrawn, but gives a good idea of one of the most complete and up to date manufacturing plants in Canada.

Besides making a large line of carriage

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

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



The canal will require the removal of 400,000 cubic yards of earth, and 600,000 yards of stone, and will be several years in building. This canal will provide power for a great metallurgical plant to treat ores of copper, zinc, silver and gold electrically. The ores for treatment are expected to come from western Canada and from the region to the north of the Sault, where extensive developments are now in progress.

Contracts for immense grading operations on the Manitoulin and North Shore railway, a Clergue enterprise, are to be made at once. These will be for the extension of the road in the nickel and copper country near Sudbury, Ont. This road is designed ultimately to form a link in the new trans-Continental line of the Canadian Northern road, which now stretches west from Lake Superior into the far northwest on its way to the Pacific coast.

THE O. A. S. E.

The yearly meeting of the Ontario Association of Stationary Engineers was held in Toronto, May 26, at which the reports of the Registrar and Treasurer were received. The Registrar reported the total number of certificates issued to date as 1,075, of which about 100 will cover lapses and deaths.

The Treasurer reported having funds in hand to the amount of \$229.

A report from the Legislative Committee, setting forth the action of the Government's amendment to the factories act, and showing that the amendments in their present form are not of much use to either the steam user or the engineer.

A strong committee was appointed to take the matter up at the next Session of the Ontario Legislature.

It was also ordered that the Union

to supply malleable iron and brass castings in the rough or finished, also suspender buckles and special metal stampings.

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

It is an evidence of the confidence manufacturers are placing in the future of and saddlery hardware, they are prepared

ANOTHER POWER CANAL AT THE "SOO."

Another water power canal is to be excavated by the Clergue syndicate at Sault Ste Marie. It will be the third to use the water of Lake Superior for the Consolidated Lake Superior Co., and will increase the company's facilities to about 110,000 horse-power. All the contracts for the new canal will be made this summer, and the firm is now making estimates.



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

Wire Screens for Every Class of Material.

Perforated Metal of Steel, Copper, Brass, Zinc for all purposes.

Special Attention given to Miners Requirements.

IF YOU VALUE TIME and WANT COPIES OF WHAT YOU WRITE

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AUTOMATIC DUPLICATING BOOK that makes copies without the trouble of inserting a Carbon Leaf.

The MORTON CO., Limited,
46 RICHMOND ST. W.
Phone Main 2554 TORONTO

The Bourne-Fuller Co.

Iron, Steel
PIG IRON.
Cleveland, - Ohio.

label be placed upon all printed matter done for the Association.

The Board Members elected were F. W. Donaldson, Toronto; F. G. Mitchell, London; W. F. Chapman, Brockville; and J. G. Bain, Toronto.

The Officers elected by the Board were President, F. W. Donaldson; Vice-President, Chas. Moseley; Registrar, J. G. Bain, 113 Yorkville Ave, Toronto; Treasurer, A. M. Wickens.

KINLEITH PAPER COMPANY

MANUFACTURERS OF

LIMITED

Book, Writing
Envelope and Cover **PAPERS**



AND SPECIALTIES

MILLS AND HEAD OFFICE

St. Catharines, Ont.

EDWARD FINLAY

MANAGING DIRECTOR.

OPPORTUNITIES.

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

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

"GENUINE OAK" BELTING

More SOLID LEATHER to the Foot than any Belt made.

"LANCASHIRE" HAIR BELTING

FOR EXPOSED SITUATIONS

ENGLISH CARD CLOTHING

D. K. McLAREN

Head Office and Factory, - MONTREAL.

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BLAGDEN, WAUGH & CO., 50 & 51 Lime St., London, E.C., England
Telegraphic Address, "PHENOLATE, LONDON."

TAR PRODUCTS. Refined Tar, Benzole, Solvent Naptha.

PITCH. Carbolic Acid (Crude and Crystal), Picric and Cresylic Acids.
CREOSOTE. Green Oil, Pyridine.

NAPHTHALINE (CRUDE, PRESSED, CRYSTAL, SUBLIMED, MARBLES.) **CYANIDES.** PRUSSIAN BLUE, PRUSSIAN BLUE.

AMMONIA (SULPHATE, NITRATE, LIQUID, MURIATE, ANHYDROUS, CARBONATE.)

Chemicals. Sulphate of Copper. Chlorates of Potash and Soda. Calcium Carbide. Acetate of Soda. Wood Naptha. Acetone, Bichromates.
CHEMICAL MANURES.

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GARTSHORE-THOMSON-PIPE & FOUNDRY CO.
Limited

CAST IRON PIPE

3 in. to 60 in. diameter.

For Water, Gas, Culverts and Sewers

Special Castings and all kinds of

FLEXIBLE AND FLANGE PIPE.

WATER WORKS SUPPLIES

HAMILTON, ONT.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

808. A London firm who desires to extend their trade connections are open to take up the sale agencies of Canadian grain and hay shippers.

809. A wholesale and export firm in London are prepared to undertake the sale of small articles of domestic ware, especially in the hardware line, for Canadian firms who are seeking an opening in Great Britain.

810. A north of England firm desire to get into communication with shippers in Canada of wood chimney pieces.

811. A house engaged in the manufacture of furniture for wholesale, wishes to get into touch with a Canadian shipper of furniture wood in a knockdown condition, such as legs, splots, etc.

812. A firm interested in the shipment of mahogany logs make enquiry for the names of merchants in Canada who are prepared to import this wood.

813. Enquiry is made for manufacturers in Canada of carbide of calcium.

814. A whip manufacturer asks for particulars of Canadian shippers of wood suitable for the purposes of his business.

THE CANADIAN MANUFACTURER is prepared to give name and address of a reliable concern doing business at a prominent seaport in Cape Colony, who is in touch with the South African trade in the following lines:—

Hats—straw, wool and felt, for men and women and children's headgear.
Shirtwaists for men and women.

Canned goods—fruits, vegetables, meats, fish, etc.

Codfish, salmon, etc., salted.

Salted meats—bacon, ham, sausage casing and all butcher's supplies.

Foodstuffs—farina, cornstarch, breakfast foods, etc.

Lumber for building purposes, sash, doors, and blinds, and builders supplies generally.

MARKETS.

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

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

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

TORONTO, June 20, 1902.

One of the most gratifying features of the local trade situation is the small number of business failures. Wholesalers report an active demand for all lines of goods, and collections are most satisfactory. In the dry goods business, manufacturers report no surplus stock, and as raw material rules high, indications favor an advance rather than a decline in prices. The receipts of British goods for the fall trade are heavy, and travellers' orders are above the average. The bright outlook for crops in this Province, as well as in the North-West, augurs well for the future of trade.

There is a very marked decline in the volume of trade in the speculation mar-

ket, and many causes combine to bring about the inactivity. Many of the large traders have closed out their deals and have gone on their summer vacation; the coal strike governs the trading in New York, and as speculation in Toronto is to a large extent influenced by the New York market, it has been a depressing factor; the prospects of trouble between the Street Railway Co. and employees has also kept many intending buyers out of the market and influenced timid holders to sell. There are a number of Canadian securities now quoted at prices which should encourage investors.

The coal strike has resulted in Toronto wholesalers raising their prices, and manufacturers are beginning to feel the effect

of the advance. If the strike continues, the price of soft coal will be further advanced. Even if the strike is settled through the intervention of President Roosevelt, it will be some time before it will be possible to get any of the companies to ship any coal to Canada, as they will have to fill the contracts called for in the different American cities.

The Dominion Coal Co. has declared a dividend of 4 per cent., being at the rate of 8 per cent. per annum from January 1 last. The dividend will be paid on July 1, at the office of the American Loan & Trust Co., Boston, to holders of the preferred stock on record, June 18, 1902.

The general offices of the National Association of Manufacturers of the United States has been removed from Philadelphia to New York City, the address being at 170 Broadway.

A handy little directory has been issued by the Iron Age giving classified lists of a large number of manufacturers of an immense variety of goods in the hardware, metal, machinery and allied lines. It is a convenient volume to have at hand when it is desired to find a manufacturer of any article which would come under the classes of goods above referred to. It is published by the David Williams Co., 223 William Street, New York City.

We are informed by the publishers, Messrs. H. Alabaster, Gatehouse & Co., 4 Ludgate Hill, London, England, that the 1903 edition of their Universal Electrical Directory is in course of preparation for its 22nd annual issue, and that it will appear in January.

To Manufacturers



DO YOU PUBLISH

Catalogues and Circulars?

Advertise in Trade Journals?

WE CAN SUPPLY YOU WITH ARTISTIC AND MECHANICALLY CORRECT

Photo Engravings, Wood-Cuts, Electrotypes

... ZINC ETCHINGS ...

OR ANYTHING THAT YOU MAY DESIRE, FIRST-CLASS IN EVERY PARTICULAR,
AT PRICES THAT DEFY COMPETITION. ASK FOR ESTIMATES.

CANADIAN MANUFACTURER PUBLISHING CO., Limited, - TORONTO

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

On July 1 Regina, N.W.T., will be constituted a full port of customs, and after that date the out-ports of Prince Albert, Moose Jaw and North Portal will be placed under the jurisdiction and survey of Regina.

A man may drive a horse to water, or anywhere else; and an editor or a book-keeper may drive a pen, but he cannot drive a pencil—it must be lead.

BUFFALO PIG IRON MARKET.—Office of Rogers, Brown & Co., Buffalo, N. Y., June 17, 1902.

More activity is apparent in the trade tributary to this market. Enquiries are numerous and sales running well into 1903 are not infrequent.

Interest as to the probable course of the market in 1903 is now very general. The question involved should not be considered as one of speculation entirely but one of supplying known requirements in advance. Furnaces are occupying a neutral position as to future sales.

IMPORTS INTO THE TRANSVAAL.—The appended table of imports into the Transvaal during the year ended December 31, 1901, supplied by the United States Consul at Pretoria, affords an excellent basis upon which to judge of the nature and extent of the market for foreign goods in that portion of South-Africa:—

IMPORTS INTO TRANSVAAL.		
Article.	Quantity.	Value.
Acetic acid and vinegar, gals.	12,065	\$11,938
Ale and beer..... do	55,126	59,570
Ammunition..... do		2,924
Animals, live..... number	45,602	83,606
Drugs and chemicals..... lbs.	213,625	396,702
Apparel and slops..... do		1,580,327
Biscuits..... lbs.	1,106,839	160,575
Books and stationery..... do		175,235
Boots and shoes..... do		1,119,816
Butter..... lbs.	1,594,515	538,162
Butterine, marg'n and ghi. do	337,705	46,227
Candles..... do	2,401,485	237,612
Cheese..... do	589,168	104,084
Chocolate and cocoa..... do	127,380	76,029
Cigars..... number	2,449,605	109,311
Leather and mfrs. of..... do		233,008
Machinery of all kinds..... do		943,906
Matches..... gross	70,378	33,258
Meal, wheat and other..... lbs.	4,321,357	143,936
Meats:		
Preserved, etc..... do	3,290,477	641,731
Fresh and game..... do	1,926,213	192,720
Milk, preserved..... do	4,411,731	442,744
Oil:		
Mineral..... gals.	404,345	88,346
Other than mineral..... do	187,740	93,544
Pickles, sauces and chutney..... lbs.	313,030	68,788
Rice..... do	2,777,232	90,035
Soap..... do	3,008,023	200,398
Spirits..... gals.	119,467	361,863
Sugar..... lbs.	10,018,922	418,305
Tea..... do	596,733	159,052
Tobacco:		
Manufactured..... do	71,193	43,341
Unmanufactured..... do	412,983	53,536
Tobacconists' ware..... do		88,566
Toys and sporting goods..... do		56,378
Vegetables:		
Fresh..... lbs.	5,513,917	178,114
Preserved..... do	760,624	72,355
Bicycles and accessories..... do		145,567
Wines..... gals.	47,465	164,196
Woolen manufactures..... do		370,136
Wire, electric cable and other..... do		32,523
Goods not enumerated..... do		8,040,377
Total.....		\$17,861,831

NOTE—These returns do not include military or government stores.

WORKSHOP RECIPES.—To drill and file hard castings and iron, use turpentine on drill or file. You will be astonished at the result.

To anneal or soften steel for filing and drilling, heat to a low red, and bury in slack lime or in forge dust, and let it cool.

ELECTRIC FIXTURES

A year ago we opened our Electric Fixture Show-room with an entirely new line of goods.

In fitting up our show-room we spared no expense in making it attractive; even to showing our fixtures by their own light.

Our fixture business has grown so quickly that we are already compelled to enlarge our Show-room to double its former capacity.

We wish to clear out a few odd fixtures to make room for our new Spring goods; so that, if you think of using Electric Light in your house, you could not choose a better time to buy the latest designs in fixtures at prices but little above cost.

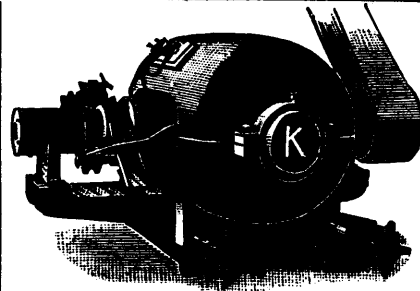
R. A. L.

Gray

& Co.

85 YORK STREET
TORONTO

Just below King St.

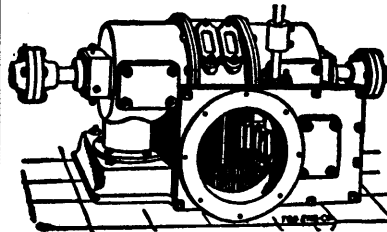


Special Attention Given to Electrical Repairing.

THE KAY ELECTRIC DYNAMO & MOTOR COMPANY, Limited

219-221 Queen St. East,
TORONTO, ONT.

- Manufacturers of —
- MULTI-POLAR MOTORS.
- BI-POLE MOTORS
- ALTERNATING CURRENT MOTORS.
- INDUCTION MOTORS.
- DYNAMOS for Incandescent and Arc Lighting.
- DYNAMOS for Electro-plating and Electrotyping.
- ELECTRIC CONTROLLERS for Elevators.
- ELECTRIC ORGAN BLOWERS.



Horizontal Type.

"LITTLE GIANT" TURBINE

....FOR ALL PURPOSES....

HORIZONTAL AND VERTICAL
BUILT IN 44 SIZES.

We guarantee a higher percentage of power from water used than any other wheel on the market.

Water Wheel Governors, Machine Dressed Gearing, Pulleys, Shafting and Bearings.
Catalogue and Gear List mailed on application. Correspondence Solicited.

J. C. WILSON & CO., - - GLENORA, ONT.

BELL PIANOS and ORGANS

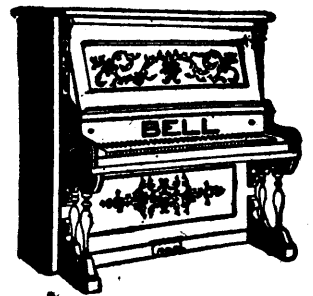
BUILT TO LAST A LIFETIME
AND USED THE WORLD OVER

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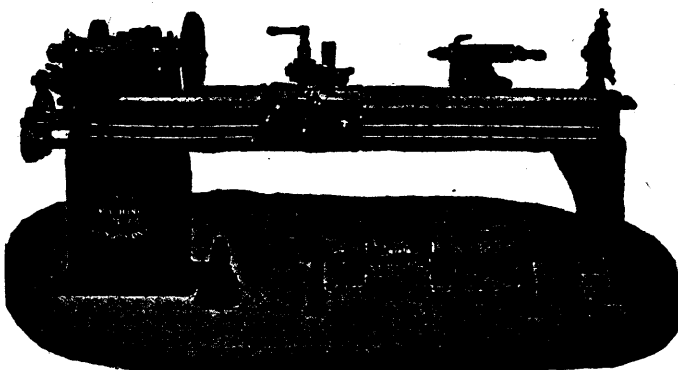
THE BELL ORGAN AND PIANO CO., LIMITED

GUELPH, - - ONTARIO.

LARGEST MAKERS IN CANADA.



The London Machine Tool Co., LONDON, ONT.



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OF

General Machinery

- LATHES,
- PLANERS,
- DRILLS,
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- HAMMERS,
- BULL DOZERS,
- PUNCHES,
- PRESSES.

Established  1799.

By Special Arrangement.

EXPORT TRADE
Canadian Merchants and Manufacturers
desiring to do business with
**GREAT BRITAIN, THE COLONIES
or FOREIGN COUNTRIES**
will do well to consult
KELLY'S DIRECTORY
OF THE
**MERCHANTS, MANUFACTURERS and
SHIPPERS of the World.**

(Endorsed by the British Government).

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

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

Kelly's Directories Limited (London, Eng.)

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

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

A Few Extracts from Letters from British Consuls, etc.

"I have to thank you very heartily for the copy of your Directory for 1901. I have always found it most valuable in supplying reliable information in answer to inquiries."—*H.B.M.'s Consul at Asuncion, Paraguay, Aug. 30th, 1901.*

"I am directed to thank you for the book and to express the opinion of this Consul that the work is one which cannot fail to be very useful to the commercial community."—*The Secretary of the Chamber of Commerce of Georgetown, Demerara, Aug. 13th, 1901.*

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

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

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

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

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

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

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

"I am constantly receiving letters of enquiry for information that in most cases could be obtained in your Directory."—*British Consulate, Uruguay.*
"The only book consulted is Kelly's Directory."—*From British Consular Return, Riga.*

"Many of these inquiries would have been rendered superfluous by a reference to Kelly's Directory."—*Report from British Consul, Genoa.*
"The Directory has been of the greatest service to me in my former Consular posts, and will, I believe, be doubly useful here."—*B. C. Chicago.*

"We beg to express our appreciation of the thorough and exhaustive character of the Directory, which covers exactly the fields we desire to reach."—*Messrs. H. M. Anthony Co., New York.*
"The copy of Kelly's Directory has already been of great use to me."—*B. V. C. Thorshavn.*

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

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

To temper mill picks, stone tools, etc., take a half pound of concentrated lye, dissolve in one gallon rain water. Heat steel to a cherry red and dip it in the solution one inch; draw to a straw color. If done properly the steel will stand the hardest stones.

To case-harden anvil tools made of iron, heat to a bright red; rub in prussiate of potash, or cyanide of potassium, and immediately cool in rain water.

To temper small springs, etc., heat to a cherry red and cool in rain water. Dip in lard oil; hold over fire until oil burns off. Repeat the oil dip twice more and then cool in oil. This is reliable if done properly.

To temper butcher knife blades of thin steel without warping, lay steel between two pieces of iron, bolt together, and heat to a cherry red. Cool in rain water, and draw temper by dipping the back of the blade in hot lead until you get a dark straw color on the edge.

To temper hand hammers, heat the face to a cherry red, cool in rain water, about one inch, then let temper draw to a dark straw color. Then put the hammer face in a cup of half an inch of lard oil, and let it cool in the oil, etc.

A good and reliable welding compound is made of two pounds of borax, one half pound sal ammoniac; mix and melt them well together. When cold reduce them to fine powder. Use same as borax.

An every day welding compound is made of one quart of common dry clay, one pound of borax and one handful of salt. Grind together and it is ready for use. Very reliable and cheap for every day use.

Another good welding compound is made of one pound of borax, one ounce of muriate of ammonia; melt together. When cool grind fine and use the same as borax.

To weld a buggy spring, scarf each end, punch a hole half an inch from end; lay a thin piece of iron between; then rivet together and heat to a low red. Put iron scales on first; then use every-day welding compound. Heat slowly and you will get a good weld.

When working steel never be in a hurry; for edge tools, heat very slowly, and do not heat too hot. When you draw tool out, do all that you can at one heat, and finish with a wet hammer and anvil until almost cold. To temper lay the steel on top of a slow fire and heat very evenly before you temper.

Never upset a cold chisel, rather draw it out and cut the end off. The same with stone cutters' tools, etc.

To restore burnt steel, heat to a red; cool in water, and repeat two or three times. It will restore steel to a certain extent.

To weld low steel or iron to malleable castings, use one part sal ammoniac to ten parts borax, melted together, then grind fine. Heat slowly same as welding steel.
—J. L. Painter in The American Blacksmith.

REVENUE RETURNS FOR ELEVEN MONTHS.—An excess amounting to \$13,274,000 of ordinary receipts over ordinary expenditures, and a surplus of \$2,-

764,000 over ordinary and capital expenditures combined, are the features of Canada's financial statement for the eleven months ending May 31. The revenue on that date stood at \$51,279,346. For the previous eleven months it was \$46,571,284. The expenditure amounted to \$38,005,112, whereas for the same period of 1901 it was \$35,626,248. The comparison shows a gain of \$4,708,062 in revenue, as against an increase of \$2,378,864 in expenditure. The capital expenditure amounted to \$10,510,218, which has to be deducted from the \$13,274,284 excess

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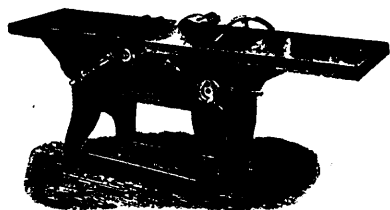
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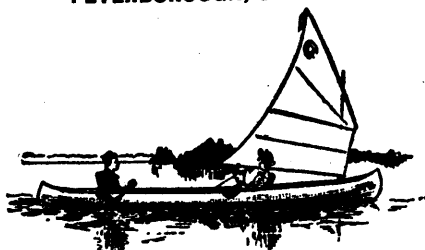
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Manufacturers of . . .

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

of ordinary revenue over ordinary expenditure. The revenue items in detail for the eleven months are appended:—

	1901.	1902.
Customs	\$25,849,690	\$29,037,417
Excise	9,493,226	10,226,745
Postoffice Department	3,006,471	3,369,651
Public Works	5,200,002	5,808,750
Miscellaneous	3,021,895	2,836,782

Totals	\$46,571,284	\$51,279,346
Expenditure	\$35,626,248	\$38,005,112

It will be seen that except in miscellaneous, which fell off by \$185,000, there was a gain in every other source of revenue. The increases were: Customs, \$3,187,727; excise, \$733,519; postoffice department, \$363,181, and public works, \$608,749. The capital expenditure, compared with the eleven months of the year preceding, shows an increase of \$1,778,976. The increase for the eleven months consists of \$2,100,000 on public works and railways and canals and an item of \$579,395 for iron and steel bounties. Railway subsidies declined by \$475,690, and the expenditure for the South African contingent dropped from \$866,112 to \$233,268. The latter item really consists of the expenditure for maintaining a regiment at Halifax for garrison purposes.

IVORY.—A remarkable change has come over the ivory markets of late years. The great emporium used to be London, with Liverpool next. Now this has all changed. Belgium takes the lead with its annual sales at Antwerp, where the Congo ivory is disposed of. There is now more ivory sold at Antwerp than at London and Liverpool put together. The reasons are not far to seek. At London and Liverpool, if the prices do not please, the ivory is withdrawn. At Antwerp the sales being Government sales, the ivory is sold outright. Thus the ivory buyers have a clear market before them, and there is no such disappointment as is frequently experienced in London and Liverpool. The largest elephant's tusk ever brought into Sheffield was purchased at the last Antwerp sales by Messrs. Joseph Rodgers & Sons. It was from the Kilimanjaro district of the Congo. It weighs 216 lbs., is 10 ft. in length, and 23½ in. in girth, and cost £325. There is only one larger tusk known, that is at the Natural History Museum, South Kensington, and is believed to be from the same elephant. It is not generally known that the late Queen Victoria had a large store of ivory in the form of tusks, ornamental and otherwise, which came to her as gifts from dusky monarchs and Indian rajahs. These have recently been disposed of. All indications of the source of origin are destroyed, so that no firm can tell whose gift it is they have purchased.—The British Trade Journal.

MARRIAGE CONTRACTS IN QUEBEC.—The question of marriage contracts and what constitutes a trader is being discussed by many business men. It is not uncommon for business people, for the purpose of saving themselves in the event of business reverses and other reasons, to

PORTLAND CEMENT

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

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O. A. ROCQUE, Orleans, Ont.

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

JOHN DRYDEN, Minister of Agriculture.

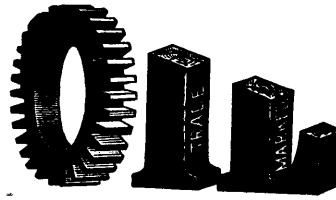
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could use the Packard Lamp
with satisfaction.

It's giving satisfaction to
many of them now and we
wonder why every user
doesn't buy this lamp. We
believe they would if they
only knew its superiority.

No lamp made gives better
service than the Packard.

A trial order will demon-
strate its superiority.

Packard Lamps are made
in Canada.



have a large portion of their property
made out in their wives' names.

At the last session of the Quebec Legis-
lation an amendment was made to Article
1834 of the Civil Code, respecting the
registration of marriage contracts. The
amendment was assented to on March 26,
1902. This is the amendment :

" Every married person doing business
as a trader, whether alone or in partner-
ship with others, shall be bound, under a
penalty of a fine of \$200, to register in the
office of the prothonotary of the Superior
Court of the district wherein such business
is carried on, within sixty days from the
day on which trading commenced, or
within sixty days from the date of his
marriage, a declaration in writing stating
if he is under community or is separate as
to property, if by contract of marriage,
and in case of separation of property, if
by marriage contract or judgment. If by
marriage contract, the declaration shall
mention the date, the name of the notary
before whom the deed was passed, and the
domicile of the latter when the contract
was made ; and if by judgment the declar-
ation shall mention the number of the case,
the date of the judgment, and the name
of the district in which the judgment was
rendered.

" The prothonotary of each district shall
keep a register for this purpose.

The following persons are subject to the
provisions of the code :

1. Merchants, viz., persons habitually
engaged in the buying and selling of goods,
wares and merchandises for profit.
2. Manufacturers of goods, wares or
merchandise for sale.
3. Bankers and dealers in money and
commercial paper and securities.
4. Factors or commission merchants.
5. Auctioneers.
6. Insurance and underwriters.
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by land or water.
8. Hotel and tavern, eating-house and
boarding-house keepers.
9. Warehousemen and wharfingers.
10. Mechanics and tradesmen who buy
goods, wares or merchandise, either in the
form of raw materials or wholly or prac-
tically manufactured, with intent to sell,
after having by their labor improved the
articles so purchased, or converted them
into something else ; such as jewellers,
boot and shoemakers, builders, merchant
tailors, hatters and furriers, watch and
clock makers, shipbuilders, printers,
butchers and millers.

Parties who have been married in On-
tario and residing in the Province of
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property.



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great heat is required.

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**GAS PURIFICATION and GENERAL
IRON MERCHANTS**

THE KING AND THE BLACKSMITH.

BY REV. ROBERT COLLYER.

It was long ago, and far away
In a summer palace, the legends say,
Where the fragrance of roses, and new
mown hay
Was borne on the wind ; while the plash
and play
Of water from fountain, sweet and clear,
Rose and fell on the listening ear.
And the singing of birds, with the mur-
mur of bees
Hidden away in the mulberry trees
Stole through a room, where one lay still,
The king of the land, on whose royal will
All men waited in fear and awe,
For the king was the fountain of life and
law.

He had sat in his hall through the morn-
ing tide,
Where the folk had come, from far and
wide
To the seat of justice, a wondrous throng,
That the king might judge between right
and wrong
In each man's case and make due award,
While on right and left stood the royal
guard,
Silent and stern, with bated breath,
To do his bidding for life or death.

But now he was tired and wanted a nap,
Just forty winks, so he donned his cap,
Silken and soft, in exchange for his crown,
Covered himself with a quilt of down,
Said "this feels nice" and shut his eyes,
Bade them close the lattice to keep out
the flies,

And let none disturb him on peril of doom,
In the cool retreat of his darkened room.
But the king was to have no sleep that day
Tired as he was and falling away
To a slumber as sweet as labor can bring,
For right through the silence came the
ring
Of many hammers struck on steel.
Many and mighty, peal on peal,
Of stalwart strokes from beyond the trees,
Drowning the murmur of water and bees,
And the singing of birds in the drowse of
the day,
On the level space by the mountain gorge,
Where the master smith had built his
forge.

Now this was the way the story ran,
That before the time the oldest man could
remember
There had been a forge standing there by
the mountain gorge.
And manned by the smiths, from father
to son,
Steadily held and honestly won,
Workers in iron since the day
When the old bronze age had passed away,
Shoeing the horse, and forging the brand,
Strong and true for the soldier's hand,
Turning the share and tiring the wheel,
Master workmen in iron and steel.
There they had stood from the far old
time,
Toiling and moiling in smoke and grime,
Upright and downright, steadfast and
true,
Doing the work God gave them to do.
The land had been held by chartered right

Three hundred years, and maintained by
might
Of the good right hand, from father to son,
Steadily held as honestly won,
So that clear as the right of the king to
his crown
Was the right of the smith to have and to
own
Homestead and smithy, garden and croft,
With all below and all aloft,
High as the stars and deep as the fires,
Full and free as the heart's desires,
So ran the charter, fair to see,
Dated ten hundred and ten, A. D.

But might makes right when kings grow
white
With anger, and the lurid light
Burns in their eyes men fear to see,
Quailing before the majesty
Of one whose wrath is as the path of the
lion, before which all things flee.
He tost the cover away from his couch,
And some say he swore, but I will not
vouch
For this—though we read, kings have
been known
To swear in their wrath like the veriest
clown.
I only know that he called the guard,
Whose place it was to keep watch and
ward,
Bid them go forth and raze to the ground
The smithy, until no stone was found
To stand on another, and bring the smith
In to the royal presence forthwith
To hear his doom, who had dared to make
This clamor and keep a king awake.

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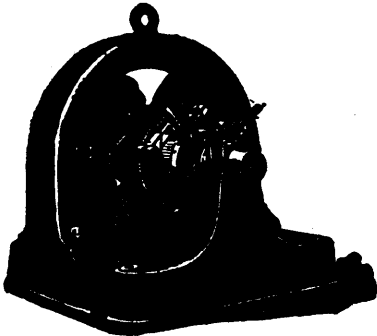
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HAMILTON, ONT.
**FILE and RASP MANUFACTURERS
AND RE-CUTTERS.**

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

Swiftly the guard went up to the glen
To bring the smith and his stalwart men
Into the presence of majesty.
And they said no word but quietly
Came forth of the smithy into the hall and
ranged themselves against the wall.
With leathern apron and grimy face
Each man stood in his proper place,
While the folk flocked in from far and
near,
High of courage or stricken with fear,
Crowding the hall to hear and see
How the smith would answer majesty.
And this was the way he answered the
king,

"If right makes might then my anvil's ring
Must be heard all the same in this good
free land.

Thy royal word cannot stay the hand
Of the smith in his forge, or thy royal
might,
Hence anvil and hammer I stand on my
right."

In the ancient time men made this rhyme
And carved it in runes on a stone
'By hammer and hand
All things do stand'

So I counsel thee let us alone.
And if thou wouldest sleep while we work
all day,
Why move thy new palace out of the
way.

"Who shoes the horse and forges the
brand,
Strong and keen for the soldier's hand,
That thy foes may be met in battle array?
The master smith and his men away.
Who forges the tools for mason and
wright

To build the walls, whose massive might
Defies the foe and the tooth of time?
The men of my craft, in whose name, the
rhyme

Was made, and carven on a stone,
The master smith and his men alone.
So the smith in his forge is also a king,
With crown and sceptre and all,
And when his anvil ceases to ring
Thy kingdom will go to the wall.

So I answer your majesty.
Now then, free men, what say ye?"
It was long ago and far away
To the east of sunrise, the legends say,
When this thing was done on a summer's
day.

Then from that time forth, for ever and
aye,
This law was made for great and small,
King or commoner, freeman or thrall.

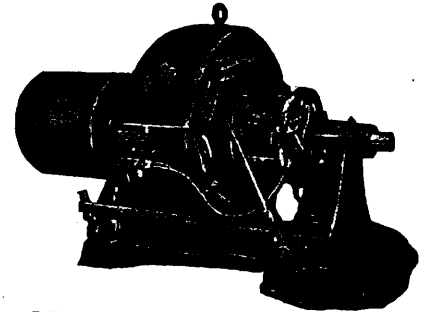
That wherever the smith shall set his
forge,
In town or vill or by mountain gorge,
Holding the same by lawful right
And steadily working with the might
Of his good right hand, then no matter
what clamor

He may happen to make with his anvil
and hammer,
He shall still be free to hold his own
And be proud of his cap, as the king of his
crown,

Because, but for his making no thing can
be made,
And so none shall molest him or make
him afraid.

This law was made by the folk, wrote and
then
It was signed and sealed with the great
Amen.

**The Jones & Moore
ELECTRIC CO.**
ELECTRICAL CONTRACTORS



**DYNAMOS, TELEPHONES, SLOW
SPEED MOTORS, MOTORS, SUPPLIES,
DIRECT CONNECTED DYNAMOS.**

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VALVES**

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IN
STEAM
SPECIALTIES**

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LIMITED

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CHARLES F. CLARK, President. JARED CHITTENDEN, Treasurer.
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BUSINESS CHANGES.

FROM BRADSTREETS.

ONTARIO.

INGERSOLL—Ingersoll Metallic Mfg. Co., founders and brass bedsteads, meeting of creditors.
 IROQUOIS—St. Lawrence River Electric Co., obtained charter.
 LINDSAY—Flavelle Milling Co., storehouse burned.
 LONDON—George White & Sons Co., mfrs. engines, etc., loss by fire.
 NIAGARA FALLS—Niagara Falls Machine & Foundry Co., obtained charter.
 ORILLIA—Ontario-Slocan Lumber Co., obtained charter.
 OTTAWA—E. N. Huttubise & Co., sawmill, assets to be sold.
 Ontario Corundum Co., obtained charter.
 Ottawa Machinery Co., obtained charter.
 RIDGETOWN—George Carter, miller, burned out.
 St. THOMAS—St. Thomas Acetylene Mfg. Co., obtained charter.
 SOUTHAMPTON—S. Knechtel Wood Turning & Furniture Co., obtained charter.
 TORONTO—Canada Crude Oil Producers, obtained charter.
 Canadian-American Linotype Corporation, obtained charter.
 Canadian-Buffalo Forge Co., obtained charter.
 Canadian Coral Marble Co., obtained charter.
 H. S. Howland, Sons & Co., obtained charter.
 Imperial Vencer Co., obtained charter.
 A. Miles, planing mill and sash and door factory, loss by fire.
 Rankin & Co., planing mill, burned out.
 WALKERVILLE—Oil Exploration Co., obtained charter.
 WESTPORT—International Buckle Co., obtained charter.

QUEBEC.

HEREFORD—J. E. Dupuis & Co., sawmill, etc., registered.
 MONTREAL—Montreal Lumber Co., obtained supplementary charter increasing capital stock to \$100,000.
 Northern Aluminium Co., seeking incorporation.
 Ogilvie Flour Mills Co., incorporated.
 Hiram L. Piper Co., obtained charter.
 Sunlight Gas Co., registered.
 Waldron, Drouin Co., charter granted.
 QUEBEC—McNeil & Mercier, mfrs. vermicelli, assigned to V. E. Paradis.
 SAYABEC—J. Fenderson & Co., lumber and sawmill, sawmill burnt.

NEW BRUNSWICK.

CAMPBELLTON—Shives Lumber Co., applying for incorporation.

NOVA SCOTIA.

AMHERST—Amherst Foundry & Heating Co., fire loss \$300.

MANITOBA.

BINSARTH—Binsarth Farmers' Elevator Co. incorporated.

BRITISH COLUMBIA.

COMAPLIX—Kootenay Lumber Co., sawmill, opening branch at Cambourne.

All interested in South and Central American Trade should read

THE SOUTH AMERICAN JOURNAL

Founded 1863

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

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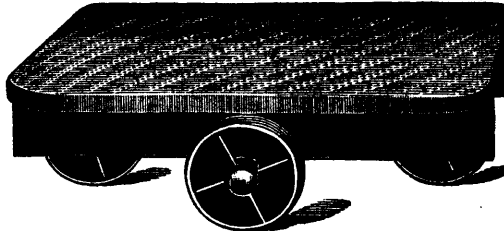
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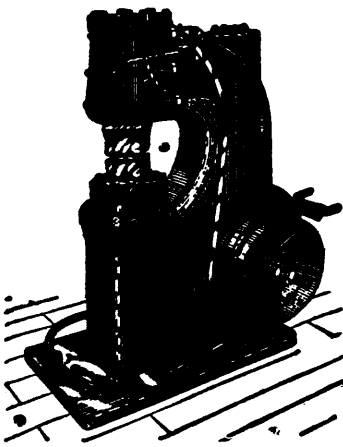
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Current Prices, Revised to June 20, 1902.

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

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

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

ADZES.—Duty 30%.

\$13 to \$20 per doz.

AMMUNITION.—Duty 30%.

Caps, Gun, gross.
Cartridges, B.B. Cap, Dom., 50 & 5% discount, Can. list.
Cartridges, B.B. Cap, Amer., 40% discount, Amer. list.
Cartridges, Central Fire, Military and 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, \$6.62½ 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.

ANCHORS.

Small, 30 to 50 lbs., \$7.00 per 100 lbs).
100 lbs. and larger, \$5.00 per 100 lbs).

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.

AUGERS.—Duty 30%.

Eye Augers, 60% discount.
Nut Augers, 60 " "
Ship Augers, 10 " "

AXES.—Duty 25%.

Bench, \$6.50 to \$14 per doz.
Broad, \$26.25 to \$40 per doz.
Double-bitted, \$11 to \$13 per doz.
Handled, \$8.50 to \$12 per doz.
Regular, \$6 to \$10 per doz.
Ship Carpenters, \$22 to 25 per doz.

AXLE GREASE.—Duty 25%.

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

AXLES.—Duty 35%.

Half patent, short beds, 60% discount per set.
long " " 30% " "

BAGS.—Duty 20%.

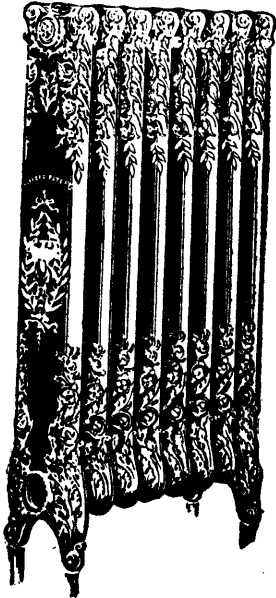
Cotton, seamless, \$14 @ \$24.50 per 100.
Jute, \$7.75 @ \$9 per 100.

BANDS.—Duty 30%.

Carriage Hub, 2" x 13"	\$13.00 per set.
" " 2 1/2" x 13"	14.00 "
" " 2 3/4" x 13"	15.00 "
" " 3" x 13"	16.00 "
" " 3 1/2" x 13"	17.00 "
" " 4" x 13"	18.00 "
" " 4 1/2" x 13"	19.00 "
" " 5" x 13"	20.00 "
" " 5 1/2" x 13"	21.00 "
" " 6" x 13"	24.00 "
" " 6 1/2" x 13"	25.00 "
" " 7" x 13"	26.00 "
" " 7 1/2" x 13"	27.00 "
" " 8" x 13"	28.00 "
" " 8 1/2" x 13"	29.00 "
" " 9" x 13"	30.00 "
" " 9 1/2" x 13"	31.00 "

BARROWS.—Duty 30%.

See Wheelbarrows.



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BELLS.—Duty 30%.
Church, 35 cents per lb.
Cow, 60% discount.
Door, \$5.50 to \$12 per doz.
Farm, \$1.75 to \$4.50 each.

BELLOWS.—Duty 25%.
Blacksmiths', Canadian, 10% discount; Amer., 50% discount.
Moulders', \$9.50 to \$15 per doz.

BELTING (Leather).—Duty 20%.
Amer., Hoyt's, regular, 35% discount.
Canadian, 55% discount.

BELTING (Rubber).—Duty 20%.
50 to 60% discount.

BITS.—Duty 30%.
Countersink, \$1.50 per doz.
Gimlet, U.S., \$1 per doz.
Reamer, \$1.50 per doz.

BLANKETS.—Duty 35%.
Horse, \$18 to \$36 per doz.

BLOCKS.—Duty 30%.
Gin, \$3.50 to \$5 each.
Hyper Acme, 15% discount.
Weston Chain, 25
Wood Pulley, 60% discount.
Wrought Iron, 25

BLUE STONE.
Cask lots, for spraying, 7 cents per lb.
100-lb. lots, for spraying, 7½ cents per lb.

BOLTS.—Duty ¼ 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

BOOT, CAULKS.—Duty 20%.
Small or Medium, ball, \$4.25 per M.
Heel, \$4.50 per M.

BOOT HEELS or Lifts (Leather).—Duty 25%.
Large Size, \$1.15 doz. pairs.
Medium Size, \$1.05 doz. pairs.

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.

BOOT SOLES (Leather).—Duty 25%.
Heavy, \$3.60 doz. pairs.
Medium, \$2.90

BORAX.
Lump, 8 cents per lb.
Powdered, 10 cents per lb.

BRACES AND BITS (Carpenters)—Duty 30%.
Barber's best, 70 and 10% discount.
Spofford's, 50 and 5% discount.
Improved, 50 and 5% discount.

BRICK (Fire).—Duty 20%.
Circular, \$35 per M.
Square, \$30 per M.

BRUSHES.—Duty 25%.
Canadian list, 50% discount.

BUCKLES.—Duty 30%.
Double Grip Trace, three loop, tinned and japanned, put up a dozen in a box, 1½", 55 cents per doz.; 1½", 65 cents per doz.
Harness, japanned or tinned, 12 cents per lb.
Shoe, japanned or tinned, 12 cents per lb.

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

CANT DOGS.—Duty 30%.
\$10 per doz.

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.

CASTINGS (Iron).—Duty 30%.
Carriage, in 5 ton lots, 5 cents per lb.
" 3 " 5½ " "
" 2 " 5½ " "
" 1 " 5½ " "
" ½ " 5½ " "
" ¼ " 5½ " "

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

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

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

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.

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

CHAIN.—Duty 5%.
Brass, Jack, 30% discount.
Coil, 3-16, \$11.00 per 100 lb.; ¼, \$8.75 per 100 lbs.; 5-16, \$5.50 per 100 lbs.; ¾, \$4.90 per 100 lbs.; 1, \$4.40 per 100 lbs.; 1½, \$4.00 per 100 lbs.; 2, \$3.90 per 100 lbs.
Iron, Jack, 25% discount.
Safety, 55

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

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

COLORS.—In oil, see Paints.
—Dry, see Paints.

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

COTTON DUCK.—Duty 22½%.
36 in. wide, 38 cents per yd.
48 in. wide, 45 cents per yd.
60 in. wide, 57 cents per yd.

CROW BARS.—Duty 30%.
5 cents per lb.

CRUCIBLES.
Dixon's, 7 cents per number.

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

DYES (Aniline).
50 to 50 cents per lb.

DYNAMITE.
30 to 50 cents per lb.

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

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

EMERY 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, 33½% 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, \$2.82½ in less than car lots, and \$2.70 in car lots.
Mesh, 5½x10, 20 rod rolls 55% discount, Can. list.
" 4 x8, 20 " 50 & 5% "
" 3 x6, 20 " 55 & 5% "

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

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

FITTINGS (Pipe).—Duty 30%.
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 SCRAPER.—Duty 30%.
Engineers' Favorite, 40% discount.
Ingls, 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).
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 "
Lead Glass, " 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, 8½ to 9 cents per lb.
Gelatine, 22 to 30 cents per lb.
Strip, 18 to 20 cents per lb.
White, extra, 18 to 20 cents per lb.

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

GRANITWARE.—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%.
1x1½ inch, 10c. per lb.
(Evans), 1x1½ in., doz. set packages, \$3.00 per gross.

HALTERS.—Duty 30%.
Leather, 1 in. strap, \$3.87½ to \$4 per doz.
Leather, 1½ in. strap, \$5.15 to \$5.20 per doz.
Rope, 1, \$9 per gross.
Rope, 1 to 1½, \$11 per gross.
Web, \$1.87 to \$2.45 per doz.

HAMMERS.—Duty 30%.
Blacksmiths', 10 cents per lb.
Carpenters', Madoles', \$6.40 to \$8.75 per doz.
Carpenters', 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.
Tinnerns', \$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 do
File, \$2 to \$2.50 per gross.
Hammer, 50 cents to \$2 per doz.
Pick, \$1.50 to \$2.50 per doz.
Plane, \$3.50 per gross.

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

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

HATCHETS.—Duty 30%.
Canadian, 40 to 42½% discount.

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

HINGES.—Duty ½ cents per lb. & 25%.
Heavy T and strap, 4 in., 6½ cents per lb.
" " " " 5 in., 6 " " "
" " " " 6 in., 6 " " "
" " " " 8 in., 5½ " " "
" " " " 10 in., 5½ " " "
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.

HOOKS.—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 %.
Lifting, 40% discount.

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.

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, \$3.35 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), 10½ 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.
" " Bar, 35 cents per lb.
Zinc, 6 to 6½ cents per lb.; sheets, 7 cents per lb.

METALS—Continued.

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, 12½ 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—¾ cents per lb., Base price.
Sheets, Galvanized Iron
" 17—\$3.80 per 100 lbs.
" 18—\$3.90 " "
" 20—\$3.90 " "
" 22 to 24—\$4.10 per 100 lb.
" 18 to 24—\$4.50 " "
" 26—\$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, Planished Sheet (duty 5%)
" "A"—\$6.00 per 100.
" "B"—\$5.00 " "
" Russia—\$10.00 per 100 lb.

Pig Lead (duty 15%).—Domestic, \$3.75 per 100 lb.; pigs, imported, \$4.25 per 100 lb.; bars, \$5 per 100 lb.; sheets, \$6.50 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.
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.—7½ 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, Blister.—12½ cents per lb.
Steel, Hammer.—7 cents per lb.
Steel, Decarbonized Sheet.—7 cents per lb., base.
Tank Steel Plate (duty \$7 per ton).—3-16, \$2.60 per 100 lb.
Plates, Steel Boiler (duty 10%).—¼ 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, \$2.80; 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 per 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 Lined 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 Lined 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%.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.
Zanzibar, black, 75 cents to \$1 per gal.
" colors, \$1.25 per gal.**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, 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%.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, 13 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.**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.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

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.
1, \$5.15 per 100 ft.; 2, \$5.50 per 100 ft.; 3, \$7.95 per 100 ft.; 4, \$10.80 per 100 ft.; 5, \$12.95 per 100 ft.; 6, \$17.35 per 100 ft.

PIPE, BLACK IRON.—Duty 30%.
1, \$4.65 per 100 ft.; 2, \$3.40 per 100 ft.; 3, \$3.45 per 100 ft.; 4, \$3.50 per 100 ft.; 5, \$3.75 per 100 ft.; 6, \$7.40 per 100 ft.; 7, \$7.40 per 100 ft.; 8, \$12.75 per 100 ft.; 9, \$12.75 per 100 ft.; 10, \$20.00 per 100 ft.; 11, \$20.00 per 100 ft.; 12, \$37.50 per 100 ft.; 13, \$42.75 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 60 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, \$1.80 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, ½ cent per lb.
Extras on Iron Rivets in ½-lb. cartoons, 1 cent per lb.
Extras on Tinned or Coppered Rivets, ½-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.
" ¼ in., 22½ cents per lb.
Crucible Steel Rope, 25% discount.
Galvanized Wire Rope, 25% discount.
Jute, 8 cents per lb.
Lath Yarn, 9½ cents per lb.
Manila, 7-16 in. and larger, 13½ cents per lb.
" ¼ in., 14½ cents per lb.
" ½ and 5-16 in., 15½ cents per lb.
New Zealand Rope, 10 cents per lb.
Russia Deep Sea, lines 15½ cents per lb.
Sisal, 7-16 in. and larger, 10 cents per lb.
" ¼ in., 11 cents per lb.

RULES.—Duty 30%.
Boxwood, 75 and 10% discount.
Ivory, 37½ to 40% discount.
Lumbermen's.

SAD IRONS.—Duty 30%.
Mrs. Potts', No. 55, polished, 62½ cents per set.
No. 50, nickle-plated, 67½ 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, 12½% discount.
S. & D., 40% discount.
S. & D., 35 off on Nos. 2 and 3.

SCALES.—Duty 30%.
Gurney's, 40 discount. Canadian list.

SCREENS.—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, 87½ & 10% discount.
Hexagon Cap, 45 "
Set, case-hardened, 60 "
Square Cap, 50 & 5 "
Wood, F.H., bright and steel, 87½ & 10% discount.

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

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

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

SHELLS (Cartridge).—See Ammunition.

SHOT, See Ammunition.

SHOVELS AND SPADES.—Duty 35%.
Jones', 40 and 5% discount.
Steel, Snow, \$2.45 to \$2.60 per doz.

SKATES.—Duty 35%.
Canadian Hockey, 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 ½ cent per lb.
Rail, 20% discount.
Ship, \$5 per 100 lb.

SPRINGS.—Duty 35%.
Bright Carriage, ½ per lb. net.

STAPLES.—Duty 3%.
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.
Reece, 30% discount.
" Jardine, 35% "
Pipe, Solid, 70 & 10% discount.
" Duplex, 33½% discount.
" Jarecki, 33½% "
" Oster, 30% "
" Armstrong, 35% "

STONES.—Duty 30%.
Scythes, \$3.50 to \$5 per gross.

TACKS, BRADS, etc.—Duty 35%.
Carpet tacks, blued, 80 & 15% discount.
" tinned, 80 & 20 "
" in kegs, 40% discount.
Cheese-box tacks, blued, 85 & 12½% 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, 12½ & 12½% dis.
" brush, blued and tinned, bulk, 70% dis.
" gimps, blued, tinned and japanned, 75 & 12½% discount.
Trunk tack, black and tinned, 85% discount.
Zinc tacks, 35% discount.

TAGS.—Duty 25%.
Shipping, 50 to 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.
" "Brook's," 25% discount.
" "Trimmo," 25 "

TRAPS.—Duty 30%.

TRUCKS.—Duty 30%.

TURNBUCKLES.—Duty, ½ cent per lb., 25%; 33¼ 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, 12½ 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.
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.
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., 13½ cents per lb.
Brooks', 13½ cents per lb.
Peter Wright's, 15 cents per lb.

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.
Brass Wire, (duty 10%), 50 to 50 & 2½ 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.

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 \$3.35; No. 11, \$3.70 to \$4.10; No. 12, \$3 to \$3.30; No. 13, \$3.10 to \$3.40; No. 14, \$4.10 to \$4.50; No. 15, \$4.80 to \$5.05; No. 16, \$4.85 to \$5.35. Base sizes, Nos. 6 to 9, \$2.57½ 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, \$3 to \$4.50 each.
Navy, \$19 per doz.
" Iron wheel, \$22.50 per doz.
Steel tubular, \$7.50 to \$10.50 each.

WRENCHES.—Duty 30%.
Agricultural, 60% discount.
Alligator, 50 "
Trimmo, pipe, 25 "

WRINGERS (Clothes).—Duty 35%.
Canadian, \$26 to \$30 per doz.
Popular Brands, \$18.50 to \$22 per doz.

ZINC.—See Metals.

INDEX TO ADVERTISEMENTS.

Where the folio is not given the Advertisement appears at intervals.

Agriculture, Ontario Minister of, Toronto.....	33	Fetherstonhaugh & Co., Toronto.....	ofc	Nova Scotia Steel & Coal Co., New Glasgow, N.S.....	4
Albert Mfg. Co., Hillsborough, N.B.....	6	Firstbrook Box Co., Toronto.....	43	Osakey, John & Sons, London, Eng.....	5
Algoma Steel Co., Sault Ste. Marie, Ont.....	2	Fleming, W. A. & Co., Montreal.....	17	Ontario Malleable Iron Co., Oshawa, Ont.....	obc
Allan & Co., E. M. & A., Toronto.....	36	Forman John, Montreal.....	5-8	Ontario Wind Engine & Pump Co., Toronto.....	32
American Steam Gauge & Valve Mfg. Co., Boston, Mass.....	42	Frick, H. C. Coke Co., Pittsburg, Pa.....	obc	Otis Elevator Co., Hamilton, Ont.....	8
American Steam Pump Co., Battle Creek, Mich.....	20	Frost, W. H., Smith's Falls, Ont.....	obc	Owen Sound Portland Cement Co., Owen Sound, Ont.....	6
Anglo-Russian Trade Messenger, Moscow, Russia.....	37	Gartshore, John J., Toronto.....	43	Packard Electric Co., St. Catharines, Ont.....	34
Archbold, George, Prescott, Ont.....	43	Gartshore-Thomson Pipe & Foundry Co., Hamilton Ont.....	29	Page Wire Fence Co., Walkerville, Ont.....	23
Armstrong Mfg. Co., Bridgeport, Conn.....	21	Gee Electrical Engineering Co., Toronto.....	22	Parke, Roderick J., Toronto.....	8
Bale & Co., London, England.....	34	Goldie & McCulloch Co., Galt, Ont.....	3	Parker, Alfred S., New Toronto, Ont.....	43
Barber, Wm. & Bro., Georgetown, Ont.....	43	Gooding William, London, Eng.....	43	Patent Clothboard Co., Parry Sound, Ont.....	43
Bellhouse, Dillon & Co., Montreal.....	33	Gordon, Drummond & Co., London, Eng.....	32	Perrin, Wm. R. & Co., Toronto & Chicago, Ill.....	19
Bell Organ & Piano Co., Guelph, Ont.....	31	Gowdey, J. A., Reed & Harness Mfg. Co., Providence, R. I.....	23	Peterborough Canoe Co., Peterborough, Ont.....	6
Benson, W. T. & Co., Montreal.....	2	Gray, R. A. L. & Co., Toronto.....	31	Phillips, Eugene F., Electrical Works, Montreal.....	34
Bertram, John & Son, Dundas, Ont.....	3	Greening B. Wire Co., Hamilton.....	28	Pitt & Scott, New York City.....	35
Big Four Route, Boston, Mass.....	43	Gutta Percha & Rubber Mfg. Co., Toronto.....	ofc	Queen City Oil Co., Toronto.....	ofc-34
Blagden, Waugh & Co., London, England.....	29	Hamilton Brass Mfg. Co., Hamilton, Ont.....	5	Ratcliffe Advertising Agency, London, E.C., England.....	34
Bourne-Fuller Co., Cleveland, Ohio.....	29	Hamilton Cotton Co., Hamilton, Ont.....	obc	Rehder Plating & Mfg. Co., Thorold, Ont.....	43
Bradstreets, Toronto and New York.....	36	Hamilton Facing Mills Co., Hamilton, Ont.....	33	Reiche & Co., Bradford, England.....	33
Bristol Co., Waterbury Conn.....	obc	Hassan, Tasse & Dean, Detroit, Mich.....	43	Rice Lewis & Son, Toronto.....	21
Brown & Co., Paris, Ont.....	43	Hay, Peter, Galt, Ont.....	31	Riley, C. E. & Co., Boston, Mass.....	ofc
Brush, George, Montreal.....	37	Hors, F. W. & Son, Hamilton, Ont.....	23	Robb Engineering Co., Amherst, N.S.....	6
Brunner, Mond & Co., Northwich, Eng.....	5	Howard, E. Clock Co., Boston, Mass., and New York City.....	31	Rossendale Belting Co., Manchester, Eng.....	7
Buchanan, R. H. & Co., Montreal.....	7	Hyde, F. & Co., Montreal.....	3	Schoellkopf, Hartford & Hanna Co., Buffalo, N.Y.....	23
Budden, Hanbury A., Montreal.....	43	Imperial Oil Co., Petrolia, Ont.....	24	Scioto Fire Brick Co., Sciotoville, Ohio.....	37
Buffalo Forge Co., Buffalo, N.Y.....	16	Jenckes Machine Co., Sherbrooke, Que.....	36	Slingsby, H. C. for Canada, Montreal.....	obc
Bureau of Mines, Toronto.....	16	Jones & Moore Electric Co., Toronto.....	23	Smith & Cameron, Toronto.....	32
Burt Mfg. Co., Akron, Ohio.....	16	Karch, H. W., Hespeler, Ont.....	31	Smith, G. Glenson, Port Elizabeth, South Africa.....	43
Butterfield & Co., Rock Island, Que.....	4	Kay Electric Dynamo & Motor Co., Toronto.....	2	Smith Woolstock Co., Toronto.....	37
Canada Foundry Co., Toronto.....	5	Keller, John J. & Co., New York, N.Y.....	32	South American Trade Journal, London, E.C., England.....	36
Canada Iron Furnace Co., Montreal.....	2	Kelly's Directories, Toronto and London, England.....	36	Spence, R. & Co., Hamilton, Ont.....	36
Canada Switch & Spring Co., Montreal.....	obc	Kerr Engine Co., Walkerville, Ont.....	2	Stanyon Engineering Co., Toronto & Pittsburg, Pa.....	36
Canadian Canoe Co., Peterborough, Ont.....	33	Kingston Foundry, Kingston, Ont.....	29	Storey, W. H. & Son, Acton, Ont.....	43
Canadian Colored Cotton Mills Co., Montreal.....	22	Kinleith Paper Co., St. Catharines, Ont.....	6	Stowe-Fuller Co., Cleveland, Ohio.....	36
Canadian Heine Safety Boiler Co., Toronto.....	30	Klipstein, A. & Co., New York, N.Y.....	31	Sturtevant, B. F. Co., Boston, Mass.....	35
Canadian Manufacturer Pub. Co., Toronto.....	43	Laurie Engine Co., Montreal.....	43	Syracuse Smelting Co., Montreal and New York.....	7-32
Canadian Office & School Furniture Co., Preston, Ont.....	17	Leitch & Turnbull, Hamilton, Ont.....	21	Tallman, J. N. & Sons, Hamilton, Ont.....	24
Canadian Portland Cement Co., Deseronto, Ont.....	19	Lewis, Rice & Son, Toronto.....	43	Thompson, W. G. M., St. Catharines, Ont.....	43
Canadian Rand Drill Co., Montreal.....	7	London Machine Tool Co., London, Ont.....	31	Toronto & Hamilton Electric Co., Hamilton, Ont.....	36
Canadian Rubber Co., Toronto and Montreal.....	33	Mason Machine Works, Taunton, Mass.....	43	Toronto Paper Mfg. Co., Cornwall, Ont.....	43
Cantlie, James A., Montreal.....	obc	Merrimac Chemical Co., Boston, Mass.....	27	Trimont Mfg. Co., Roxbury, Mass.....	32
Carrier, Laine & Co., Levis, Que.....	ofc	Metallic Roofing Co., Toronto.....	25	United Electric Co., Toronto.....	obc
Carruthers, Robert, Lowell, Mass.....	ofc	Milnes, J. H. & Co., Toronto.....	2	Vulite Syndicate, London, E.C., England.....	33
Case, Egerton R., Toronto.....	ofc	Montreal Pipe Foundry Co., Montreal.....	6	Walkerville Malleable Iron Co., Walkerville, Ont.....	ofc
Cassella Color Co., New York and Montreal.....	7	Morrow, John, Machine Screw Co., Ingersoll, Ont.....	29	Williams, A. R. Machinery Co., Toronto.....	ofc
Clark & Demill, Galt, Ont.....	33	Morton Co., Toronto.....	6	Williams & Wilson, Montreal.....	ofc
Cooper, James Mfg. Co., Montreal.....	15	McArthur, Cornelle & Co., Montreal.....	obc	Winn & Holland, Montreal.....	5
Cowan & Co., Galt, Ont.....	26	McEachren Heating & Ventilating Co., Galt, Ont.....	25	Wilson Bros. Bobbin Co., Todmorden, Eng.....	31
Crosby Steam Gauge & Valve Co., Boston, Mass.....	20	McKinnon Dash & Metal Works Co., St. Catharines, Ont.....	ofc	Wilson J. C. & Co., Glenora, Ont.....	ofc
Darling Bros., Montreal.....	6	McLaren, D. K., Montreal and Toronto.....	29	Wire and Cable Co., Montreal.....	ofc
Dean Bros., Toronto.....	22	Neff, A. C., Toronto.....	43	Worth & Martin, Toronto.....	9
Deseronto Iron Co., Deseronto, Ont.....	2	Neil, James M., Toronto.....	22	Wright & Dallyn, Hamilton, Ont.....	9
Dixon, Jos., Crucible Co., Jersey City, N.J.....	37	New Toronto Woolstock Co., New Toronto, Ont.....	43	Zanzibar Paint Co., Toronto.....	28
Dodge Mfg. Co., Toronto.....	18	Northey Mfg. Co., Toronto.....	8		
Dominion Dyewood & Chemical Co., Toronto.....	ofc				
Dominion Oil Cloth Co., Montreal.....	33				
Dominion Radiator Co., Toronto.....	38				
Dominion Oil Cloth Co., Montreal.....	33				
Drummond, McCall & Co., Montreal, Que.....	2				
Eby Mfg. Co., Toronto.....	25				
Electric Construction Co., London, Ont.....	25				

ofc outside front cover.

obc outside back cover.



Board of Trade Pattern Drop Lever Pop Safety Valve.

AMERICAN STEAM GAUGE AND VALVE MFG. COMPANY

BOSTON, MASS., U. S. A.

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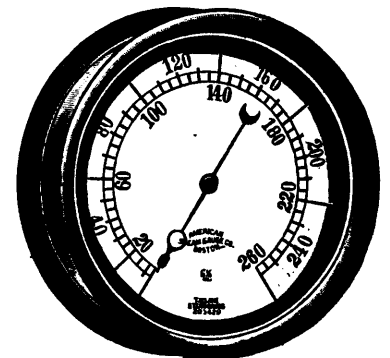
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