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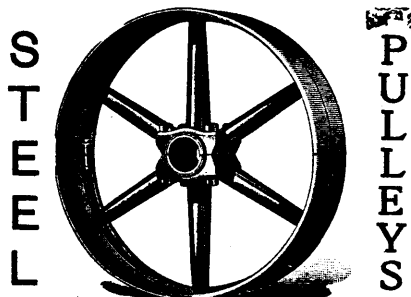
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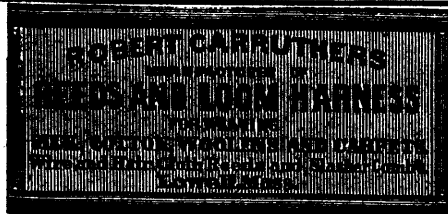
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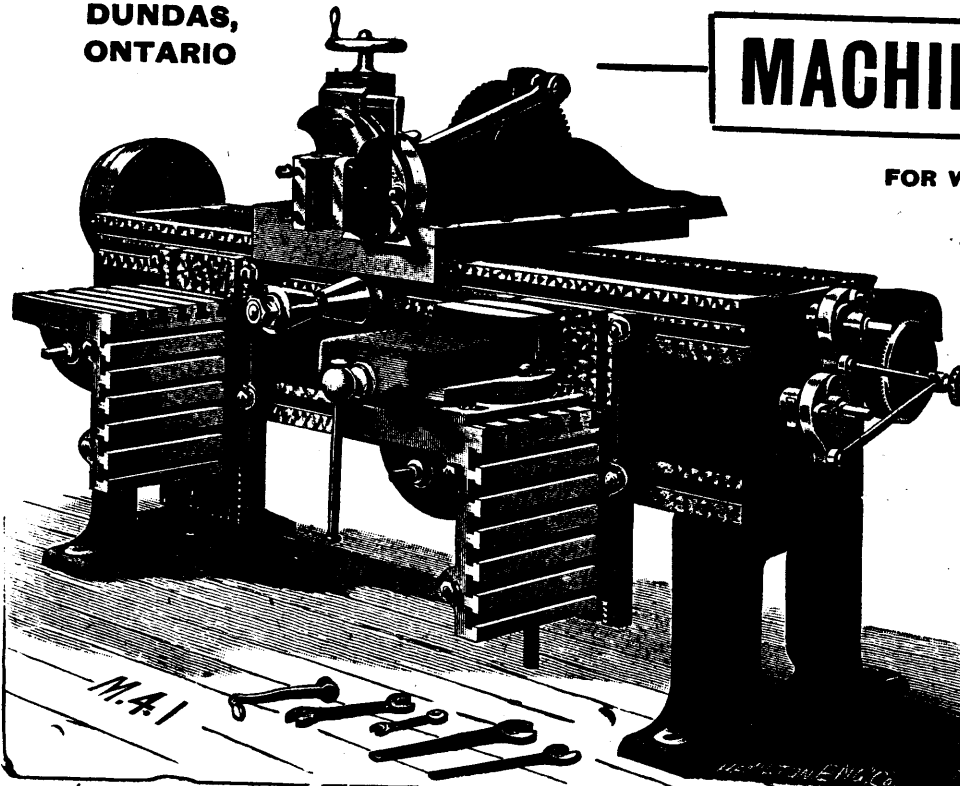
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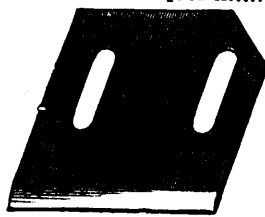
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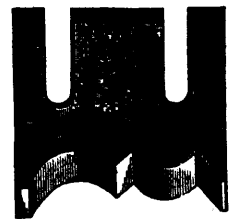
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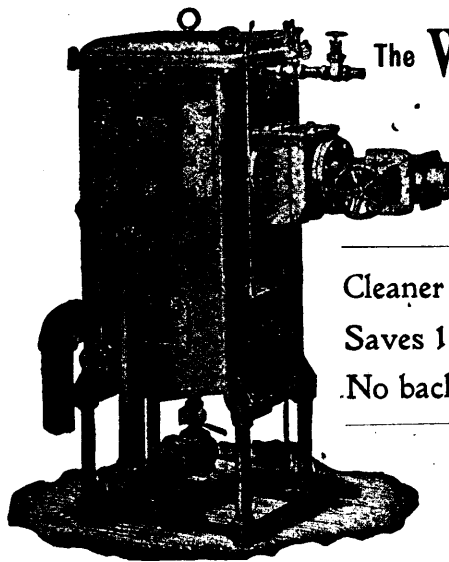
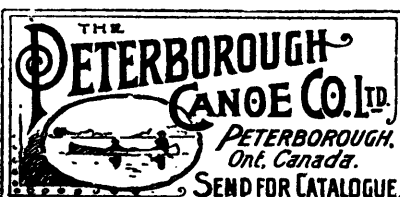
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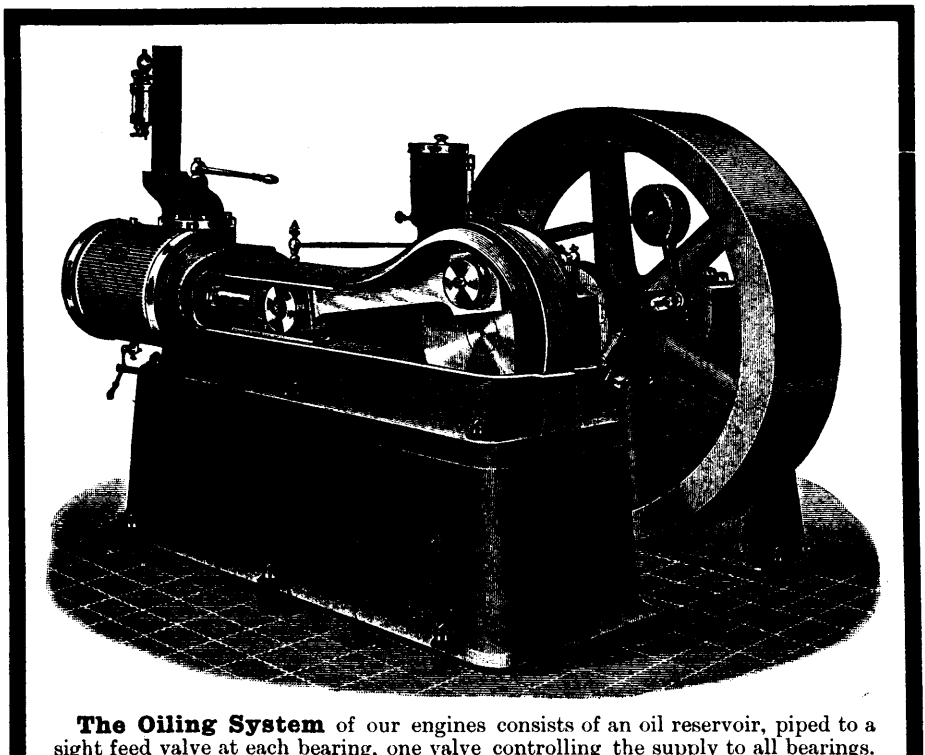
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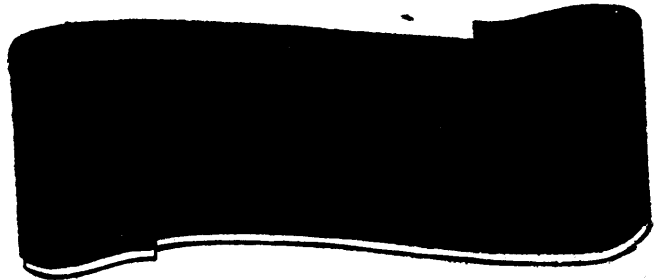
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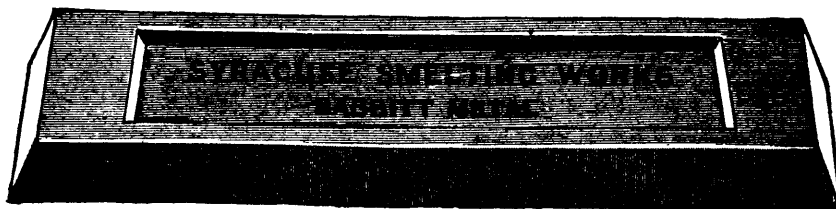
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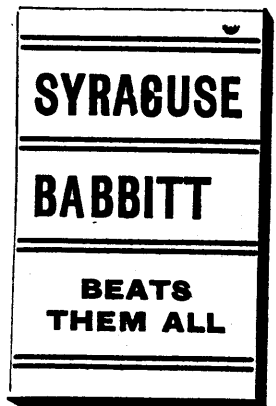
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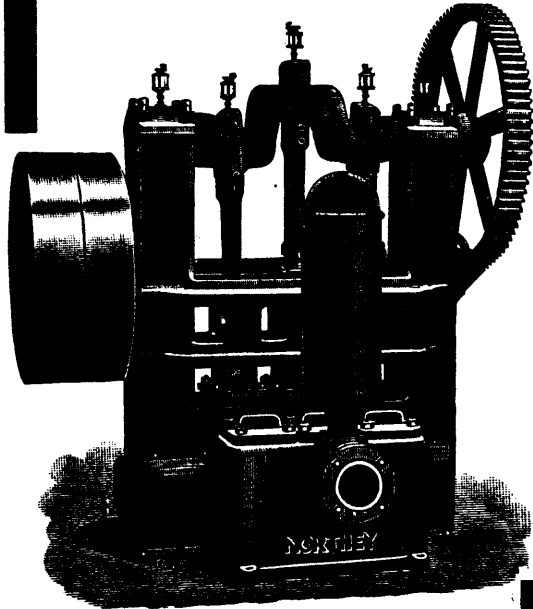
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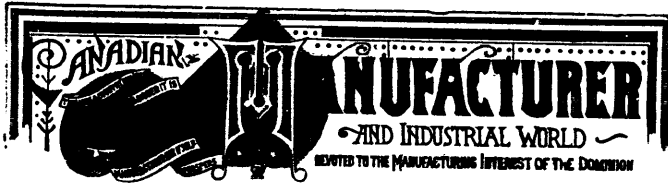
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PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

**The Canadian Manufacturer Publishing Co., Limited.**

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164 Federal Street, Boston, Mass.

AGENTS FOR UNITED STATES.

Index to Advertisers ..... Page 42

J. J. CASSIDY, Editor and Manager

**THE TORONTO INDUSTRIAL EXHIBITION.**

In reading the minutes of the proceedings of the March meeting of the Executive Council of the Manufacturers' Association, as recorded in *Industrial Canada*, we find no mention whatever of anything in connection with the Toronto Industrial Exhibition; and upon referring to the March report of proceedings of the executive of the Toronto Branch, we find a like condition prevailing—not one word about the Industrial Exhibition.

Going back to the proceedings of the Executive Council at its December meeting, as recorded in the organ, it is shown that a special committee had been appointed to deal with the resolution of the Association re the holding of an all-Canadian Exhibition, the report of that committee being to the effect that at a largely-attended meeting of the Montreal Branch the feeling was unanimous that Toronto was undoubtedly the only city prepared to handle such an exhibition. The report of the Toronto Branch was to the effect that it had adopted a resolution pledging its support of the by-law to be submitted to the ratepayers of Toronto for the purpose of raising money to pay for the erection of new buildings for the Industrial Exhibition. The report of the Montreal Branch showed that at a recent meeting in that city a resolution had been unanimously carried to the effect that Toronto was the most suitable place from the manufacturers' standpoint for an all-Canadian Exhibition, provided suitable buildings were erected. These proceedings were had previous to the vote of money by the city of Toronto for the erection of exhibition buildings.

The annual meeting of the Toronto Industrial Exhibition Association was held in March; and it should be borne in mind that according to the understanding previously made, the Manufacturers' Association were to have twelve members instead of five, and that nominations for directors were to be made before the annual meeting. This was done, the Manufacturers' Association putting in nomination several of its most esteemed members. But the result of the meeting of the Industrial Association showed that with but one exception all the nominations of the Manufacturers' Association were ignored, and that, instead of there being three members on the Exhibition Board as before, only one was elected. It is therefore not surprising that a sudden, solemn, icy stillness prevails among the one time enthusiasts in the Manufacturers' Association, the exception being Mr. McNaught who has been subsequently elected president of the Industrial Exhibition Association.

**The Canadian Manufacturer**

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

This freezy feeling, as shown in *Industrial Canada*, while quite observable as regards the Toronto contingent of the Manufacturers' Association, is not thus apparent elsewhere; for at a meeting in March of the executive of the Montreal Branch, as reported in the organ, "it was pointed out that the nominees of the Manufacturers' Association for election to the directorate of the Toronto Industrial Exhibition Association had been defeated at the recent election; and it was suggested that inasmuch as it appeared that the manufacturing side of the Toronto Exhibition would receive but scant attention, the Montreal Branch should withdraw its recommendation that an all-Canadian Exhibition should be held in Toronto, and that Ottawa be favored." Decisive action was deferred by the Montreal Branch for want of information to indicate the reason why the nominees of the Association had not been elected on the Industrial Board; whether it was out of disrespect for the Association, or an accident. The Montreal Branch is soliciting information in the matter.

There seems to be a screw loose.

Soon after the Canadian Manufacturers' Association came under its present management, it imposed upon itself the duty of chaperoning the Industrial Exhibition Association, and, as can be seen by reference to back issues of *Industrial Canada*, it induced the Industrial board of directors to promise certain reforms, one of the most important of which was to increase the number of representatives of the Manufacturers' Association from 5 to 12, and to reduce the number of representatives of the Toronto District Electoral Society from 12 to 6. The Industrial Exhibition management were in sore need of money with which to erect new buildings, repair old ones, and to otherwise improve the Fair Grounds. A money by-law had been previously submitted to the tax-payers of Toronto, which, if passed, would have given them \$150,000, had been rejected. In the dilemma the only hope for help lay in the endorsement and assistance of the Manufacturers' Association; and the active propaganda undertaken by it in behalf of the Industrial resulted in winning over the tax-payers to vote \$133,500, which was accomplished a few months ago. Since then occurred the annual meeting of the Exhibition Association, at which was elected a board of directors, only one of whom, Mr. W. K. McNaught, was a representative of the Manufacturers' Association. The tax-payers of Toronto would never have given the Exhibition the \$133,500 had it not been for the endorsement of the Manufacturers' Association, and still we observe that meeting after meeting

of the Executive Council of the Association, and of the Toronto Branch also, have been held and never a word of remonstrance or protest spoken against this breach of faith. The Association and the citizens of Toronto generally would have applauded Mr. McNaught had he declined to accept the position of director on the Exhibition Board when he found that all the other candidates of the Association had been snowed under; but he evidently wanted to be president of the Exhibition Association—and he got there.

The situation is not a pleasant one to contemplate.

#### THE RAILWAY COMMISSION.

Hon. Mr. Blair, Minister of Railways and Canals, has introduced a bill in the House of Commons for the appointment of a Railway Commission. It provides for the abolition of the Railway Committee of the Privy Council and for the appointment of three commissioners to exercise the functions of that body, a change in accordance with modern requirements. The commissioners are to hold office during good behavior for a period of ten years, are eligible for reappointment, and are removable only by the Governor-General on the address of both the Senate and House of Commons. Perhaps it would have been better to follow the American course in requiring that the commissioners dispose of any railway interests they may own within a reasonable period after appointment. The position will be quite as honorable and distinguished as a seat on the Bench, and will command sufficient salary as well as prestige to make it desirable to men of ability. A holder of railway stock might find himself in a delicate position if required to decide a point that would affect the value of his holdings by several points. A man whose interest in railways is merely that of a stockholder can easily exchange his investments, and anyone having a more direct interest is clearly disqualified for the position of commissioner. The difficulty is met by a provision for the appointment of commissioners to act in the event of any commissioner being personally interested in matters coming before the board. Mr. Blair has profited says *The Globe*, by American experience in providing against the delays and costs resulting from interference by the courts, and has given broad scope to the commission when acting within its designated powers.

The powers of the commission extend to all matters with which the Railway Committee is now authorized to deal. In the matter of rate regulation these powers are far more extensive than were conferred on the Railway Committee. Freight is divided into three classes. On ordinary traffic, no greater, less or other tolls can be levied than those fixed by the commission, and no change can be made until it has been actually approved by that body. On freight classed by the commission as "commodity" a maximum and minimum toll is to be established. The railway companies will be allowed within these limits to fix a working tariff of charges, as is now customary with all freight, but every such working tariff must be filed with the Secretary of the commission, and must remain in force until another within the same limits is filed. The commission has power to revise the working tariff so filed or to alter the maximum or minimum. The third class of traffic is that between competitive points. The commission may thus designate any cities, towns, places or districts in Canada, and permit between them lower rates for a long than for a short haul. The railway companies may make reductions between such points at any time by simply mailing the new schedules to the commission, but increases cannot be made without official approval. With regard to through rates and traffic

arrangements, the bill gives the commission power to fix rates and apportion percentages between railway companies. The act provides that the commission may not only determine the reasonableness of rates submitted by the railway companies, but may specify rates, a power which the Interstate Commerce Commission is seeking to obtain in the United States.

The leading principle of the bill is the authority which will be conferred on the commission in supervising all dealings and deciding all disputes between the railways and their patrons. Similar authority is conferred in regard to expropriation, right of way, company organization, and other matters connected with railway construction and operation. In such matters, as well as in regard to unjust discriminations, the leading features of the existing law are retained, with the all-important difference that the machinery has been provided for carrying the law into effect. This legislation marks an epoch in the transportation development of Canada. It is a complete recognition of the right of the people to control their highways. The Minister of Railways and his colleagues have profited by the experience of Britain and the United States, and have chosen an opportune time for establishing the business of common carriers on a new basis.

For many years our manufacturers have been bitterly handicapped by the unfair discrimination against them by the railroads; in fact, in multitudinous instances, the unequal and unjust charges for transportation have given advantages to competitors in other countries far out-balancing any benefit they may have derived from the tariff; and this gleam of relief offered them in Mr. Blair's bill, which it is to be hoped will be passed substantially as introduced, will be most acceptable.

#### THE FOUNDRY INDUSTRY.

A couple of years ago, *The Foundry*, of Detroit, devoted to the founding branch of the iron industry, made an enumeration of the iron foundries in the United States, giving the number in each state in the Union, and it has recently completed its second enumeration, this time as at the beginning of 1902; and from an analysis of its figures we find as follows, remembering that the facts for this year include those which relate to Canada also.

The writer believes that at a very conservative estimate, the foundry capacity of the United States is to-day fully 30 per cent. greater than it was two years ago. There is not the least doubt that extensions of existing plants have brought into use at least double the capacity of new plants. There is no way in which the actual amount of iron melted can be figured out with any degree of certainty. The foundries as a class are notoriously lax in keeping records of any kind, let alone reliable ones. The record of blast furnaces producing foundry irons would be a guide, though it would fail to show to what extent the foundries have consumed scrap iron in various forms. If an average melting ratio could be obtained, together with a record of the amount of coke used by foundries, one would be in a fair position to obtain an approximate estimate of the total amount of iron melted. He knows, however, that it has at times been difficult to secure iron and coke, and this in itself goes further towards proving that there are indeed real busy times in the foundries than any statistical figure we could quote.

The five states of Pennsylvania, New York, Ohio, Illinois, and Michigan contain 2,269 iron foundries, or nearly 50 per cent. of the whole. Fourteen southern states have in two years increased their number of iron foundries from 550 to 656, or a gain of nearly 20 per cent., although all of the

shops found within this territory lack 65 of being equal to the number of foundries doing business in Pennsylvania.

In the number of brass foundries the state of New York leads with 133, Pennsylvania following with 121. Connecticut has the largest percentage of brass foundries, the manufacturers of this state having long been noted for their brass goods. It is interesting to note, however, that the city of Philadelphia lacks but one of equalling the number of brass foundries in Connecticut. The country at large has 875 foundries which melt brass exclusively.

In the malleable iron industry a gain of 12 is shown, the number of establishments engaged in this branch of the trade being 107. Illinois leads with 18, Pennsylvania 16, New York 15, Ohio 12, Wisconsin 11, Connecticut 10. The output of the latter state is small compared with the number of plants engaged. The six states named hold 76 per cent. of the malleable trade. The south as yet has but one malleable plant, located at Chattanooga, Tenn. The malleable capacity of the country at large has been greatly increased through the enlargements of old plants.

In the list of steel foundries is included several relatively small plants using the Tropenas process. That the demand for steel castings is increasing is shown in the gain of 41 per cent. in the number of plants engaged in the trade. Pennsylvania again shows its remarkable hold upon the iron industry by claiming 29 shops or 40 per cent. of the total capacity, Ohio ranking second with 10 steel foundries and Illinois third with 7.

In the annual report of the American Iron and Steel Association for 1899, James M. Swank gives the total production of direct open-hearth steel castings in that year as amounting to 169,729 gross tons, against 120,587 tons in 1898. The same authority gives the production for 1900 as 177,491 gross tons, of which 42,644 tons were made by the basic process and 134,847 tons by the acid process. Of the total Pennsylvania produced 78,584 tons.

The stove industry does not show as great a gain in numbers as other branches of the trade, but the output has been vastly increased through enlargements. Pennsylvania again leads with 44 shops, Ohio 39, New York 30, Illinois 25, Massachusetts, 16, Indiana 14, Michigan and Tennessee each 13, Kentucky 12. These nine states control 206 out of 269 stove foundries, or 76 per cent. of the whole. Of course in referring to the stove trade we have only taken notice of manufacturers who operated their own foundries. Makers of steel ranges, sheet iron stoves and other concerns who buy their castings are not included in the figures given.

The writer gives the names of 33 cities representing the leading foundry centres in the United States and Canada which have 20 or more foundries each, and which represent 23 per cent. of the total. In this list we find Montreal with 22 iron and 7 brass foundries, and Toronto with 17 iron and 5 brass foundries.

Chicago maintains her position as the leading centre of iron foundries in the world, although if all kinds of foundries are considered she must yield the first place to Philadelphia. Pittsburg holds third place in point of iron foundries; Brooklyn fourth, with Cleveland and Milwaukee tied for fifth place.

No one will deny that the Dominion of Canada makes a creditable showing with 527 foundries to her credit. Ontario is especially noteworthy for the extent of its foundry business, and the Province of Quebec, considering its location and resources, is holding its own. It is of course true that many of the foundries of Canada are small affairs, but the same will hold good throughout the United States.

On the whole the small foundry is as yet very much in evidence, and it probably always will remain so. It is really a question if some of our large foundries are not too unwieldy to be handled to the best advantage. There are a lot of foundries without railroad facilities, proper equipment, etc., which are making more money than some of the best modern shops, all of which goes to show that up-to-date equipment is not everything. Very often it appears as if insufficient attention is being paid to the personal element in the trade. The small shop, well located and looked after by a competent man, is one of the most active competitors large foundries are forced to meet.

#### UNITED STATES DEMAND FOR IRON PRODUCTS.

In view of the existing enormous demand in the United States for pig iron and all iron products, Mr. Archer Brown, of the well-known concern of Rogers, Brown & Co., who are one of the largest handlers of iron in that country, has given his views of the situation.

Replying to the question, What is your opinion as to the continuation of prosperous conditions in the iron and steel market? Mr. Brown said:

While no one can definitely forecast the future, it can be said that at the present time there is nothing in sight to indicate any slackening of current demand for iron and steel products. This demand exceeds anything before known in our history or in the history of any country. It is, however, thoroughly legitimate, and springs from the general revival of industrial operations, construction of electric lines, equipment of railroads, extension of railroads, etc. Iron markets depend necessarily on financial markets. A severe financial setback would naturally check new undertakings, and thus restrict demand for iron materials. Unless, however, there is such a setback, or something like a general failure of crops during the coming summer, the best opinion is that the full tide of activity in iron will continue for at least another year.

How much would you estimate the current rate of consumption to be in excess of production, and where is the deficiency to come from? was asked. Mr. Brown replied:

The current rate of production of pig iron in the United States, which underlies all iron and steel industries, is about 18,000,000 tons per annum. We have not been exporting any pig iron, but have been importing 10,000 to 20,000 tons per month. We have also been reducing the stocks of iron in first hands on an average of 30,000 to 40,000 tons per month for some months past, therefore we have been consuming 40,000 to 50,000 tons per month more than we have been producing. To meet this deficiency there are only two sources of supply. First is imports, the second is increase of domestic production. Both sources will be drawn upon this year. Imports will continue not so much in crude iron as in steel billets, tin plate bars, sheets and possibly also rails and higher finished forms of steel. Prices are low in Germany and in England, due to industrial depression in the former and Boer troubles in the latter country. Freights are also very low and thus foreign products can be brought in and pay duty and yet nearly meet our home prices. We have, therefore, something reliable to fall back upon in the event of too great scarcity.

The main reliance, however, is in the increasing output of United States blast furnaces. This will come somewhat slowly, because it takes about eighteen months to construct a new furnace and develop a supply of raw material for it. There will be some increase of output from existing plants before the end of the year, carrying the product of the year probably up close to 19,000,000 tons. There is therefore prospect of keeping our mills and foundries well supplied with raw material during the year, unless the demands of their customers should still further increase.

What is your view of the continuance of present prices of iron and steel products?

The market seems to be assured for the present year at least with more than usual certainty, because, according to the best judges, 75 to 80 per cent. of the prospective product of mills and furnaces is already contracted for. There is a current belief that on a declining market these contracts are freely cancelled and do not amount to much. This is an error. On a very severe slump, such as occurred two years ago, there are some cancellations and adjustments, but ordinary decline in market prices does not bring about cancellations beyond a percentage that is too trifling to consider. Contracts for material in pig iron and other heavy forms are not contingent, but solid, and are forcible, while the principals remain responsible for their obligations. No one seriously looks for any slump in prices that will affect this year's business. When it comes to next year, everything will depend, as I have before stated, on the occurrence of unforeseen events to check consumption, such as financial troubles or a general crop failure. It does not seem likely that production can so far increase in the next two years as to create an excess above demand and thus seriously break the markets.

There has been extreme depression in Germany for more than a year, and in Great Britain a condition of discouragement rather than depression. Business has gone on in England and Scotland on a somewhat restricted scale, but prices have been very low. Pig iron stocks in Great Britain, which were formerly heavy, running 1,000,000 tons and upwards, are now reduced to about 200,000 tons. Our latest advices are that the spring and summer trade will likely still further cut into this slender store, and that English prices must inevitably improve. A Scotch iron master who recently arrived in New York stated that Middleboro prices barely yielded cost of production, while Scotch irons were hardly remunerative. England has made no progress in production of pig iron for several years, and, in fact, in the past year has dropped back about 1,000,000 tons, and is now making only about 40 per cent. as much as the United States. Germany has also dropped off about 1,000,000 tons, and is making less than half as much as the United States. German markets are recovering somewhat.

Foreign makers generally have been greatly alarmed over American competition. They can scarcely credit the present condition, which, instead of flooding them with cheap American iron, actually calls on them for supplies for America. When this condition is fully realized foreign prices will, no doubt, respond. It is an interesting fact that the world's supply of iron to-day, while consumption is at the highest point on record, is the lowest for perhaps twenty years. The fact as to German stocks are not available, but there is reason to believe that all the pig iron in first hands in the world to-day is not half as much as Great Britain carried in warrants a few years ago, and not as much as the United States carried three or four years ago.

What is the present condition of the export trade in iron?

In all crude or heavy forms, export movement ceased a year ago. It continues, however, in more highly finished forms, such, for example, as agricultural machinery, wood working and iron working machinery, sewing machines, wire, nails and a great variety of minor forms. There is no reason to think that this trade will fall off materially, for the world's markets seem to call for supplies from America even at advanced prices. We cannot hope to compete with England and Germany, however, until our period of extreme activity is over and their period of depression has ended, so that conditions on both sides of the ocean will be more nearly equalized.

Only about twenty-five per cent. of the pig iron made in this country comes to the open market, the great bulk of the output being consumed by large steel companies who make their own pig. It is probable that the foundry and malleable iron which goes to the open market will amount to 3,500,000 tons a year. The increase of basic-openhearth plants has led to a rapid extension of the basic pig iron trade, and most of this specialty is purchased in the market by basic steel plants. Present indications are that many furnaces which have hitherto made foundry iron will change to basic, which is sold in larger blocks and has a more reliable and uniform trade.

### BRITISH VIEWS OF AUSTRALIAN TRADE.

A couple of influential British manufacturers interested in the iron and steel industry recently made a tour of the Australian colonies and have expressed themselves regarding the situation there to The Engineer, of London :

Mr. Stafford Ransome, M.I.C.E., tells of his disappointment at finding so little machinery of British manufacture in use throughout Australia and New Zealand. This was specially noticeable in the case of agricultural implements. He was present at the great agricultural shows in Melbourne and Christchurch—the agricultural centre of New Zealand. On the stands of neither did he find the goods of well-known British manufacturers. Here and there was a portable traction engine of English make, in some cases bearing the name of the maker, in others that of some local firm, but the display of American and other machinery was larger and more effective. And the reason for this, he was everywhere told, was because British firms would not accommodate themselves to colonial conditions by supplying just what was desired. American and German firms were more ready to do this, hence the business was falling into their hands. Mr. Ransome sums up the difficulties which in his opinion have hitherto told against British firms doing a satisfactory business with Australia, some of which difficulties have not existed for their foreign competitors. These disadvantages, in his own words, are as follows:—“(1) The exorbitant freight charged by our steamship companies; (2) the difficulty of establishing an agency in one colony which could adequately deal with them all; (3) the trade from any individual colony being insufficient to warrant the establishment of an agency in each; (4) the different conditions, and especially the different import tariffs in vogue in the various colonies, and the consequent hampering of intercolonial trade; (5) the long distances and imperfect communications between the important centres; and (6) the financial crisis in Australia, which enfeebled her purchasing power.” The time has come, he urges, for British engineering firms to make another bid for Australasian trade. Under the new conditions created by federation it should be worth their while, and the people here, he believes, would sooner do business with Great Britain than with any other country, provided their British kinsfolk would wake up, and make some effort to understand and meet colonial requirements.

Mr. Wm. Atkins, of William Atkins & Co., steel manufacturers, has returned from a third visit to his firm's branch in Sydney. He is somewhat alarmed at the demands of organized labor, and the place it is securing in the different legislatures. If such influences are not checked, the trade of the country, in his opinion, must suffer. The fixing of wages by Act of Parliament, if carried into effect, will not lead to the extension of manufacturing industry, as is fondly hoped by the “Labor party.” It will tend rather to the intimidation of capital. Turning to purely commercial matters, Mr. Atkins expresses the opinion that trade on this side is adversely affected by the system of British manufacturers consigning goods to agents or brokers who work solely on commission. These men have no show-rooms, rarely possess any capital, and are not directly interested in the welfare of their principals. The commission is mainly what they seek, and consequently much of the goods consigned to them is eventually sold by auction below cost, to the detriment of legitimate trading. American and German makers of files, saws, edge tools, and other hardware lines have been unusually active in Australia, and by underselling have secured a considerable share of business. Like Mr. Ransome, Mr. Atkins is of opinion, however, that the average colonist prefers British-made goods so long as price and quality are fairly equal.

Commenting upon these reports, Hardware and Machinery, of Sydney, says :

The failure of British firms to study colonial preferences has been mentioned by us again and again, and the danger they run of losing business by such neglect as often pointed out. Complaint is frequently made that manufacturers will not make goods of the desired pattern, nor merchants pack them in the desired manner. What wonder if the Australian buyer places his orders in some other country, where sellers

are more accommodating. With Mr. Atkins' statements we cannot so entirely concur. The danger from socialistic legislation is not so great, we believe, as he anticipates. Labor exercises considerable influence, it is true, and does not hesitate to make risky experiments, but at bottom, and in the aggregate, the working classes are reasonable, and though hurried on for a time by short-sighted leaders, will come to see the foolishness of killing the goose which lays the golden eggs. That trade suffers to any extent through British firms consigning to unworthy agents goods which are ultimately flung on the market by auction we cannot admit. John Bull may be conservative in his methods, but that very quality helps to prevent him doing business with men of straw here or anywhere else. As a matter of fact, goods are very seldom placed on these markets in the way suggested. Occasionally parcels of cement and other heavy lines are offered at auction, but these are usually sent out as a speculation, and not consigned to any agent in the ordinary way of business. Agents of the character described are extremely rare.

#### THE AUSTRALIAN EMPLOYERS' FEDERATION.

In our last issue we directed attention to the Australian Employers' Federation, which is being organized in Melbourne to guard the interests of employers generally. According to a Sydney, N.S.W., contemporary, the attempt to draw Victorian employers together for their mutual advantage may have far reaching results. It will be seen that the first item in the draft constitution embodies the real objects of the association—"To protect the interests of employers of labor from undue aggression and excessive State interference,"—the other items merely looking to the means to be taken in securing this protection. Says our contemporary:

With the power which organized labor is securing in Parliament and the consequent extension of factory and other legislation in the interests of workers, employers have reason to be restive, and the desire to resist demands which they consider unfair is only natural. No one trade is able successfully to do this. The adjustment of conditions, and even the settlement of disputes, are now transferred from the factory to the Parliament, where labor presents a united front. Only by a similar closing of the ranks can employers hope to secure due consideration for their view of any trade matter. So far from making for industrial war, the proper organization of employers should really make for peace.

Whether the association now being formed in Victoria is going to play this deserving part will depend upon the attitude and capacity of the promoters. It will depend also upon the ability of the employers to sink their differences and pull together for the common good. Certainly, the basis of membership is wide enough to give it a firm standing, all classes of employers being invited—"agriculturists, horticulturists, pastoralists, viticulturists, and general producers, together with, manufacturers, carriers, and traders generally." Not only so, but by making provision for alliance with similar bodies in the other States of the Commonwealth and New Zealand, the association expresses its hope of yet becoming national in character and representation. First, however, Victorian employers, either as individuals or associations, have to be enrolled and retained, a work which will tax the energy and resource of the secretary, upon whom the responsibility must largely fall. A considerable measure of support has already been accorded the organization, and accepting its statement that it seeks to promote harmony instead of stirring up strife, we hope it may live and thrive. The interests of capital need safeguarding. But labor has its legitimate aspirations, and if peace and goodwill are ever to reign in the industrial world, employers and employed must each recognize the rights of the other.

#### PATRONIZE HOME INDUSTRIES.

The movement inaugurated by leading members of the Manufacturers' Association to educate the people of the Dominion to a better appreciation of Canadian manufacturers is worthy of all encouragement. The feeling that foreign

goods are better than domestic products is by no means confined to the Dominion, but our people seem to have an unfortunately large share of that peculiar weakness. It is far too common to hear Canadians boasting that their purchases are imported, and there is a conspicuous lack of pride in bestowing patronage at home. It is an open secret that tweeds made in Canadian woolen mills are sold here in Toronto as English and Scotch, and it is said that this surreptitious substitution of domestic products is by no means confined to fabrics. In Britain public sentiment is entirely different, and butchers find it profitable to substitute Canadian for British beef. They can secure a higher price by pretending that beef has been produced at home. It was to check the substitution of foreign goods that the British Parliament enacted legislation requiring a label on manufactured articles telling the place of manufacture, and we should endeavor by every means to so mould public sentiment that domestic manufacture will be the best recommendation in Canada.—Toronto Globe.

Industrial Canada tells us that on investigation it finds that the words "Made in Canada" are sufficiently protected under the Act governing false marking of goods to prevent their misuse on any article made in Canada; and that it behooves manufacturers to stick to their guns and make the use of these words popular. This suggestion is good as far as it goes, but it does not go far enough. As we have heretofore suggested, every article manufactured in Canada, particularly for home consumption, should have displayed upon it those three cabalistic words "Made in Canada"; and it should be a penal offence for any one to offer for sale, or display any article so marked that was made in any other country; and it should also be a penal offence to expose or offer for sale any article made in any other country that did not have displayed upon it the name of the country in which it was made. Such a law would render impossible such open secrets of which The Globe speaks.

#### EDITORIAL NOTES.

The census returns for 1901 presented to the Newfoundland legislature show a total population for the colony of 220,249, of which Newfoundland has 216,615 and Labrador 3,634. In 1891 Newfoundland had 197,930 inhabitants, while Labrador had 4,106.

It is being urged in Australia that the Commonwealth Government should endeavor to build up a large iron and steel industry there through the system observed in Canada. A writer in The Melbourne Age shows that all the necessary raw material for making every sort of iron and steel is readily available, and there is an unlimited supply of labor. This can be done by following the Canadian policy of giving bonuses for a term of years. Understanding that the proposed bonuses would be adjusted in the Canadian system, Mr. Watson, the leader of the Labor party in the Australian Parliament, has made a calculation of the probable cost. Taking the quantity of iron consumed in that country as a basis, he estimates that the Commonwealth would pay in five years £1,450,000.

Saturday Night advocates the appointment of Canadians to the positions of British Consul at San Francisco, Chicago, Portland, Boston, New York, Charleston and New Orleans. It says that the Canadian has been next neighbor to the Yankee so long that he knows his methods and manners to an extent which an average British civil servant can hardly hope to attain. In Mexico, Central and South America, in Japan, China, in the cities on the Mediterranean coast, in fact in every country in Europe, one bright, energetic Canadian, having an eye to the general wants of the Dominion, might



fairly and satisfactorily be placed by the British Government, and they would doubtless waken up the British consular service, of which so much complaint is made every year, even by the British exporters themselves. There is reason to believe that the Dominion Government have had this project under consideration for at least a couple of years, and it would be interesting to know what, if any, advance has been made in this direction. Probably the Manufacturers' Association would find it more profitable to press this proposition than the one which would necessarily be narrowed down to the appointment of commercial agents.

Mr. B. E. Fernow, director of the New York State College of Forestry, appreciates thoroughly the value of forest resources. But he knows that upon the manner in which they are exploited will depend whether they are to continue permanent sources, and in the Twentieth Anniversary Number of *The Manufacturers' Record*, of Baltimore, he makes a strong plea for scientific lumbering. "It is forest management," he writes, "harvesting with provisions for regrowth, that alone will insure a continuance of this source of wealth. The writer is glad to learn that owners of large forest areas are taking advantage of the offer of the United States bureau of forestry to make so-called 'working plans' for such forest management. Unfortunately, as these plans appear to be much less concerned with reproduction of the crop, but rely mainly upon a reduction of the cut which the owner is to make in his harvest, I fear that many of the owners will figure differently from the working plan, believing that the dollar they can take now is better than the two in the future. Not until silviculture, the pivotal art of the forester—systematic reproduction by skillful methods of the forester under competent hands—is begun, can we hope much for the future." The remarks of Director Fernow are quite as applicable to Canada as to any portion of the United States.

Mr. A. S. Kendall, a member of the Dominion House of Commons, addressing the House a few days ago on the tariff question, very learnedly informed his hearers that "should we impose an export duty on pulpwod, etc., the Americans might retaliate with an export duty on hard coal and coke." And it is of this sort of stuff that some of our legislators are made. Dr. Kendall should read the Constitution of the United States, where it is expressly provided that no export duty shall ever be imposed.

The pig iron from which the first steel was made at the works of the Algoma Steel Co., at Sault Ste Marie, Ont., which was on February 18 last, was the product of Midland Furnace No. 1 at Midland, Ont., owned and operated by the Canadian Iron Furnace Co., of Montreal. The pig was made from ore from the Helen Mine in the Michipicoten district, Ont.

Industrial Canada, in its April issue, alludes to a report to the Executive Council of the Manufacturers' Association of "the Committee on Machinery to the Toronto Industrial Exhibition Association" whatever that may mean, which, it says, is "replete with suggestions." The report says that several changes are absolutely necessary to furnish inducements and facilities to exhibitors. These are: 1. The building should have more prominence. 2. A roadway should be made leading to it from the main thoroughfare, and a portico

added. 3. More prominence should be given to the building, and the necessity of its enlargement in the future kept in view. 4. All the industrial buildings should be illuminated on the outside, and the west end of Machinery Hall be treated in the same manner as the south side. 5. Dormer windows should be put on the roof. 6. The manager should be urged to spare no reasonable expense to secure exhibitors of processes of manufacture. These absolutely necessary changes having been made, the success of the Industrial Exhibition is assured.

We have received the 1902 edition of Kelly's Merchants', Manufacturers' and Shippers' Directory, and some idea of the amount of information it contains can be gathered from the fact that it now covers more than 4,000 pages of closely printed matter. It is published by Kelly's Directories, Limited, London, England, who have a branch at 71 Victoria St., Toronto. The work covers every country and contains a really first-rate, classified Directory, as well as the Custom Tariffs of every country and of all classes of business. The work is endorsed by the British Government and cannot but help both the export and import trade. We notice in the introduction the very flattering extracts from British Consuls' letters, showing how very useful they find the Directory, a copy of which is sent to them each year. The Canadian section, we are pleased to notice, has been greatly enlarged, in fact, since some of the information must have been obtained as late as January of this year, it is now the most up-to-date Directory to be obtained in the Dominion. Kelly's have been publishing Directories since 1799, their first work being *The London Post Office Directory*, the 103rd annual edition of which appeared last December. They now issue over 150 different publications, comprising Official Directories of Australia, New Zealand, South Africa, the Cities and Counties of Great Britain; also Classified Trade Directories of Great Britain, copies of nearly all of which are carried in the Toronto office, where Mr. W. P. Dent is Manager for the Dominion.

Hon. R. W. Scott, Secretary of State, has introduced a bill in the Dominion Senate to amend the act respecting joint-stock companies. The chief object is to facilitate the issuance of Dominion charters for joint-stock companies by letters patent, to provide that companies at present doing business in the United Kingdom or in the United States or in any foreign country may secure the right to make investments in this country and manage the same by merely applying to the Secretary of State at Ottawa. The same provision applies to companies at present operating under Provincial charters. Applicants for letters patent are now subjected to a delay of three months before securing from the authorities the privilege of engaging in business. Tedious formalities have to be gone through, and it is required that at least 50 per cent. of the capital applied for must be first subscribed, of which 10 per cent. must be deposited with the Receiver-General till the issue of the patent as guarantee of good faith. The new bill will obviate the delay and wipe out the call for a deposit. The chartering of foreign companies in Canada by a mere filing of papers is in accordance with English precedent. The desirable feature of the arrangement is that it will encourage the investment of American and other foreign capital in the development of Canada's abundant natural resources. The present law says that a majority of the directorate of companies doing business here must be Canadians. That feature is done away with entirely.

# 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 contract for a new elevator at Montreal has been granted to the Steel Storage Elevator Co., Buffalo, N.Y. The elevator will have a capacity of 960,000 bushels and cost about \$606,000.

The Toronto Street Railway Co's receipts for the month of March show even more than the usual advance. The City Treasurer has given out the following statement of receipts and city's percentage for March since 1896:

	Gross Receipts.	Percentage.
1902.....	\$141,765 00	\$11,341 20
1901.....	125,192 63	10,015 41
1900.....	117,782 50	9,422 60
1899.....	108,076 92	8,246 15
1898.....	92,375 38	7,390 03
1897.....	79,334 07	6,346 72
1896.....	74,409 75	5,952 76

A pulp plant will be erected on Prince of Wales Island, near Queen Charlotte Sound, B.C., by Chicago capitalists, at a cost of about \$750,000. The company will manufacture pulp for the Oriental market.

Messrs. Rhodes, Curry & Co., Amherst, N.S., have received the contract for the construction of the building of Marconi's wireless telegraph plant at Glace Bay, C.B.

The Dominion arsenal at Quebec City will be extended so as to permit of an annual output of from two million to six or seven million rounds of ammunition, which in time of need could be increased

to eighteen or twenty million. The Government will erect a smallarms factory at an early date, which will turn out from 12,000 to 15,000 rifles.

The Cape Breton Brick Co., North Sydney, N.S., will erect a \$50,000 plant, capable of turning out 3,000 bricks an hour.

Mr. W. Hanaford has asked the St. Henri, Que., council for exemption from taxation, as he wishes to establish a factory employing 100 hands, and paying \$30,000 annually in wages.

The Vancouver Engineering Works and the Albion Iron Works, Victoria, B.C.; Albion Iron Works, Vancouver, B.C.; the Victoria Machinery & Depot Co.; the Andrew Gray Iron Works; the Schaae Iron Works; the Dobson Iron works, Nanaimo, B.C., and the Wilson Iron Works, Westminster, B.C., have been amalgamated with a capital of \$1,000,000. The work contracted for will be distributed among the different foundries.

The Dominion Bridge Co., Montreal, has received the contract for the superstructure of an international bridge across the Fraser River at New Westminster, B.C. The bridge will cost about three-quarters of a million dollars.

The Canadian Bank of Commerce will erect a new building in Kamloops, B.C.

The citizens of Lunenburg, N.S., will purchase the Lunenburg Water & Electric Light, Heating & Power Co.

Hull, Que., will spend \$73,000 in improving its waterworks and electric light systems.

A by-law will be voted on by the rate-payers of Gravenhurst, Ont., to raise \$15,000 to purchase the electric light plant.

Messrs. Goldie & McCulloch Co., Galt, Ont., received the contract for both building and machinery for the new 150 barrel flour mill erected for R. Cooper, Welland, Ont.

The Grand Trunk Railway Co. will expend about one million dollars on double tracking this year between Port Hope, and Whitby, Ont., and Whitby and Port Union, Ont.

The Burrige Co., Winnipeg, Man., Western agents for Goldie, McCulloch & Co., Galt, Ont., have recently sold to the Brandon Binder Twine Co., Brandon, Man., a 100 h.p. Wheelock engine, two 75 h.p. boilers with shafting, pulleys and hangers; to the North-West Laundry Co., Winnipeg, a 10x10 Ideal engine and also wood-working machinery. The Burrige Co. are also agents for the Kerr Engine Works Co., Walkerville, Ont.

The G. F. Stephens Co., Winnipeg, Man., paint manufacturers, recently ordered from the Burrige Co. a 15 h.p. gas engine.

The James Smart Mfg. Co., Brockville, Ont., manufacturers of an extensive line of hardware goods in addition to their stoves and furnaces, have opened up a full line in Winnipeg, Man.

The Packard Electric Co., St. Catharines, Ont., supplied the transformers for the Sheik's Island power plant.

The council of Cornwall, Ont., is asking for tenders for lighting the town by arc and incandescent lights.

The Gladstone Electric Light & Telephone Co., Gladstone, Man., is applying for incorporation.

The Canadian Pacific Railway Co. will install a dynamo for lighting the shops, yards, etc., at Revelstoke, B.C.

The Toronto city engineer has reported that it would cost about \$22,700 to install an electric light plant to supply 150 arc lights on the island, and \$30,250 if 1,500 incandescent lights were supplied in addition.

## Pneumatic Tools and Appliances ARE GREAT MONEY SAVERS.

Air Hoists, Baggage Handlers, Agitation of Liquids or Syrups in Refineries. Cushion and Carpet Cleaners, Chipping Tools for use by Machinists, Boiler Makers, Stonecutters and Marble Works. Calking and Drilling, Air Brushes

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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.

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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.



W. C. Johnson and R. W. Douglas, Montreal, and Vivian Burrill, Shawinigan Falls, Que., are applying for incorporation with \$200,000 capital as the Shawinigan Falls Terminal Railway Co., to construct a steam or electric railway in the village of Shawinigan Falls.

The Ottawa City Council will ask for tenders for the installation of a municipal telephone system of 4,000 subscribers, the cost to subscribers will not exceed \$20 per phone per annum.

The Canadian General Electric Co. Toronto, has received the contract for nine transformers for proposed transmission to Toronto and elsewhere, \$43,200, and also for three 10,000 e.h.p. generators, \$209,475, from the Canadian Niagara Power Co., Niagara Falls, Ont.

The National Box Co., Toronto, are establishing a factory at Orillia, Ont., for dressing and redressing all kinds of lumber. The factory will have a daily capacity of 50,000 feet and will be equipped with first-class machinery.

The Colchester Electric Lighting Co., Truro, N.S., has been incorporated to establish an electric lighting plant at a cost of about \$80,000. Power will be furnished for manufacturing purposes.

Mr. A. Bowen, Andrews ville, Ont., will install an electric plant, which will furnish power to operate flour mills at Kemptonville and light the village.

Guelph, Ont., will offer a bonus of \$15,000 to retain the rolling mills of the

Guelph Foundry Co. There is a possibility of the mills being moved to London, Ont.

The Bent Wood Works, London, Ont., are asking Guelph, Ont., for a bonus of \$10,000 with minor concessions. The company manufacture carriage woodware, and employ fifty men. Their proposed factory will be 225x60 feet.

The Straits of Canso Bridge Co., Sydney, N.S., with a capital of \$5,000,000 will build a bridge 150 feet above high water across the Straits of Canso. The straits at points proposed for the bridge are three quarters of a mile wide.

The Bank of Toronto will erect a branch office building on the corner of King and Bathurst Streets, Toronto. The price paid for the site was \$20,000.

The Mira Brick Co., Mira Ferry, N.S., is installing a new brick machine, and will manufacture about three million bricks during the coming season.

The Paris Plow Co., Paris, Ont., will apply for incorporation with \$100,000 capital, to manufacture plows, etc. Mr. Frederick Wiard, formerly of Batavia, N.Y., will be manager of the new company.

A statement issued recently by Manager Angstrom of the Bertram Engine Co., Toronto, said that the report that the company would build a new ship-yard at Port Burwell was unauthorized. A proposition to locate at that place was still under consideration, but the yard would

be located where the conditions best suited their business. It was proposed in the new yard to build hulls of steamers which were too large for construction in their present Toronto yards.

The elevator of W. S. Ellis, Alliston, Ont., was destroyed by fire April 6.

The Sanford Mfg. Co., Hamilton, Ont., has received the contract to make 4,000 tunics and 4,000 riding breeches for the fourth Canadian contingent. The cloth will be supplied by Boyd, Caldwell & Co., Lanark, Ont.

The Dominion Peat Products, Brantford, Ont., has been incorporated with \$100,000 capital, to manufacture peat, etc. The provisional directors include Daniel Spencer, Brantford, A. N. Gray, Woodstock, Ont., and C. F. Gray, Norwich, Ont.

The elevator to be built at Montreal for F. J. Webber, Buffalo, N.Y., to cost about \$600,000 will be begun immediately.

The Canadian General Electric Co., Toronto, has received a contract for a 1,000 h.p. generator and several motors and transformers from the American Cereal Co.

The Archer Development Co., Toronto, has been incorporated with \$300,000 capital, to acquire certain inventions of D. J. Archer of improvements in lighting and heating appliances, and to manufacture same. The provisional directors include D. J. Archer, W. J. McMurtry and W. C. Laidlaw all of Toronto.

## "OPERATING EXPENSE"

One more place, Mr. Manufacturer, where you can cut it down. That place is the Oil Bill.

If waste oil is thrown away in your plant, or if the filter you're now using doesn't save at least half of what you would pay for oil without it, you are the man we want to talk to.

Let us send you a

### Cross Oil Filter

on 30 days' trial to prove that it will clean waste oil and drippings perfectly—better than any other filter made—and save anywhere from 50% to 75% on your oil bills.

If it doesn't send it back at our expense. No way for you to lose—Can we send one?

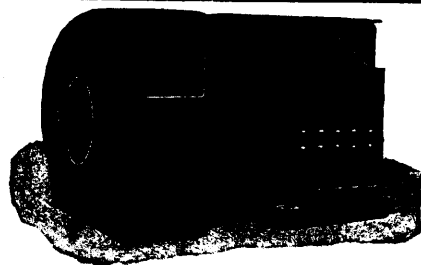
**THE BURT MFG. CO.,**

AKRON, OHIO, U.S.A.

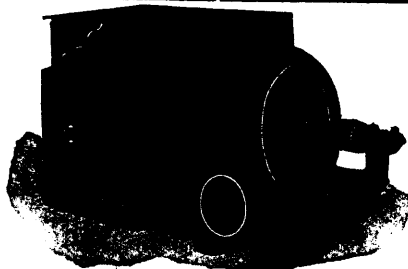
A complete stock carried by the  
**FAIRBANKS CO., MONTREAL, Sole Agents for Canada**

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HEATING—VENTILATING—DRYING  
AND  
MECHANICAL DRAFT.



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



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

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

The Ball Furniture Co., Hanover, Ont., has been incorporated with \$40,000 capital, to manufacture furniture and woodenware, and to acquire business now carried on by R. J. Ball. The provisional directors include R. J. Ball, J. H. Adams and Christian Hertel, all of Hanover.

The Hamilton Bridge Works Co., Hamilton Ont., will increase their capital from \$150,000 to \$250,000.

The Stephenson Carriage Co., Cannington, N.S., has been incorporated with \$40,000 capital, to manufacture carriages, wagons, etc., The provisional directors include Thomas Stephenson, T. H. Foster and Donald Gillespie, all of Cannington.

T. Meaney, William and John Clarke, Toronto, and James and George Clarke, New York, have been incorporated with \$5,000,000 capital, as the North Shore Power Railway & Navigation Co. The company will build a railway seven miles long to connect the harbor in Seven Islands Bay with the water power site, at which the works will be erected on the

north shore of the Gulf of St. Lawrence. A pulp mill will be erected to be of 200 tons daily capacity. The company will own its own fleet of steamers and also a large wrecking equipment. It is expected about \$1,000,000 will be spent this year.

The Nova Scotia Steel & Coal Co., New Glasgow, N.S., are placing 16-ton cars on its line between North Sydney and Sydney Mines and are said to be in the market for several 75-ton locomotives.

The ratepayers of Edmonton, N.W.T., will vote on a by-law to raise \$140,000 for the installation of water works and sewerage systems and the purchase of the electric light plant.

The Nova Scotia Steel & Coal Co., have installed a new colliery pump at Sydney Mines capable of delivering 600 gallons of water per minute against a perpendicular height of 720 feet.

The Canadian Pacific Railway Co., has awarded the contract for their Fort Wil-

liam Ont., elevator to C. H. Haglin, Minneapolis, Minn. The elevator which will be of 3,000,000 bushels capacity will be of concrete.

It is said that the McCormick Harvesting Machine Co., Chicago, Ill., will establish a Canadian branch of their business in Toronto. The works will be about as large as those of the Massey-Harris Co.

The Canadian Oil Fields Limited, has been formed in London, England with \$500,000 capital. J. D. & R. D. Noble, Petrolea, Ont., are interested. The company have purchased considerable oil property at Petrolea, and intend to drill a number of oil wells this spring.

The sawmill of Joseph Lauzin, Portneuf, Que., was destroyed by fire April 8. Loss about \$3,000.

Mr. John White, London, Ont., has purchased the rolling mill machinery of the Guelph Iron & Steel Co., Guelph, Ont., and will remove it to London. The cost of building the additions and putting

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**BALATA**  
**RUBBER**

Linen Fire Hose,

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**THE STANDARD**



**GOLD WATER PAINT**

WEATHER PROOF, FIRE PROOF  
WHITE AND COLORS.

**MILL SUPPLIES**

Lubricating Oils and Greases

PAINT, PAINT OILS, ETC.

**W. A. FLEMING & CO.**

Montreal and St. John, N.B.

"RATHBUN'S  
STAR."

**Portland Cement**

"BEAVER"  
BRAND

MANUFACTURED BY

**THE CANADIAN PORTLAND CEMENT CO.**

LIMITED

Capacity of Works—500,000 Barrels per Year.

THE RATHBUN COMPANY,  
310-312 Front Street West,

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

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MONTREAL, QUE.

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the works in order will be about \$55,000. These works were built by the Guelph-Norway Steel & Iron Co., in 1895, and first put in operation in January, 1896, and were remodeled in 1899. The mills consist of one scrap furnace, two busheling furnaces, two heating furnaces, two trains of rolls, one squeezer, and one hammer, with capacity to produce 12,000 gross tons bar iron and steel per annum.

A planing and matching mill will be erected at Seely's Bay, Ont., by John Stinson.

Messrs. Hogate & Sirois, Quebec City, will erect a million-dollar pulp mill with a capacity of 2,000 tons of pulp per day at Seven Islands, Labrador.

Carman, Man., will have a farmers' elevator with a capacity of 45,000 bushels.

A new factory will be erected at Palmerston, Ont., by the Palmerston Carriage Co.

The Hamburg Mfg. Co., New Hamburg, Ont., will manufacture farm implements and will erect a new building and install a plant for that purpose.

Far from going to Port Burwell or anywhere else, it now seems quite probable that the Bertram shipyards will be located at or near Welland. Mr. Bertram was in town yesterday in connection with the matter, and his investigations were of a most satisfactory character. Mr. Bertram went to the registry office and also met Mr. A. Griffiths, and they went into details in regard to the location, which will be south of the Michigan

Central in the town of Crowland, at the junction, and on the east side of the canal. Mr. Bertram while here also had an interview with the traveling freight agent of the Michigan Central Railway, and it is understood that satisfactory freight arrangements can be made for Welland. What is of more importance, however, is that Mr. German has secured the Government's consent to make the necessary enlargement to works on the canal to permit of the location of the yards in this vicinity.—Welland Tribune.

The Laurentide Pulp Co., Grand Mere, Que., manufacture about 100 tons of paper and cardboard daily, 125 tons of ground wood pulp and 70 tons of sulphite pulp. The company cuts from ten to fifteen million feet of pine lumber annually. To do this has required an investment of about \$4,000,000.

The Canadian Pacific Railway Co. will erect a new station at Port Arthur, Ont., to cost about \$30,000.

The new building for chemistry and mining for the School of Practical Science is being vigorously pushed forward. Excavation has been begun, and a large number of teams and men are at work. The mere statement that the frontage on College street would be 280 feet and that the building would be four stories high does not give as vivid an idea of the magnitude of the undertaking as may be obtained by a glance at the men at work. That this new building is a necessity is readily answered by a visit to the present

School of Science building. The class rooms, laboratories and drafting rooms are crowded to such an extent that many of the classes are subdivided and much of the work repeated three and four times. Public appreciation is shown by the increasing attendance, and by the fact that only 25 per cent. of the graduates are living outside of Canada. A glance at the list of graduates as published in the calendar of the school shows, too, that they are taking a very prominent part in the development of the country.

The Canada Carbon Light Co., Toronto, has been incorporated with \$150,000 capital, to manufacture light, heat and power machinery. The provisional directors include R. B. Hamilton, W. J. Douglas and Frederick Diver, all of Toronto.

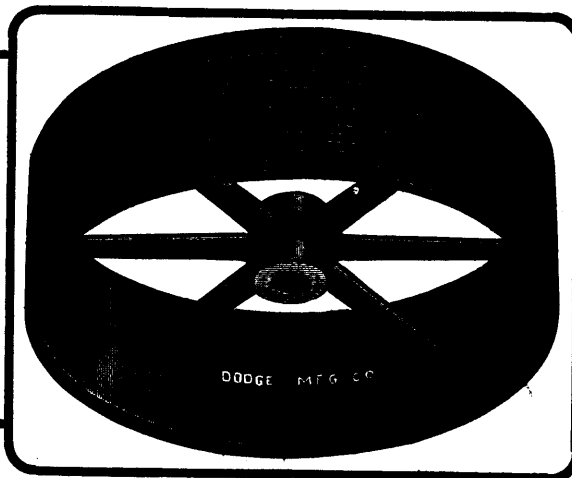
The Algoma Navigation Co., Toronto, has been incorporated with \$250,000 capital, to acquire the business of the Owen Sound, Georgian Bay & Soo Line of steamers. The provisional directors include T. M. Kirkwood, A. J. H. Eckhardt and J. A. McKee, all of Toronto.

The Toronto Machine Screw Co., Toronto, advise us that they have disposed of their business to the John Morrow Machine Screw Co., Ingersoll, Ont., and the Canada Foundry Co., Toronto.

The Bennett Furnishing Co., London, Ont., have received a contract to furnish the new \$3,000,000 Bluecoats school in Newgate Street, Old London.

# 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..**

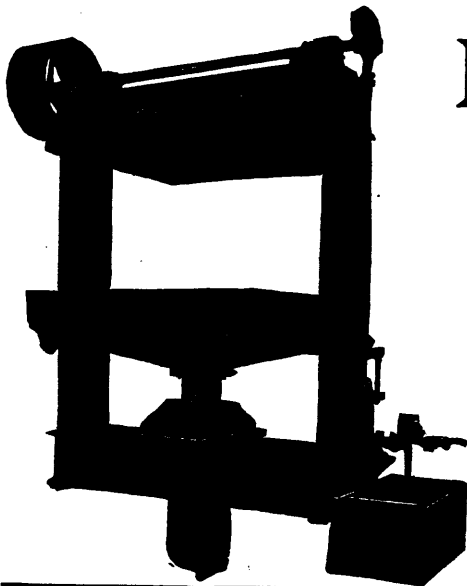
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**Power Transmission Machinery. GRAIN HANDLING MACHINERY.**

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

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We Build Presses  
for...

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

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CATALOGUE  
AND PRICES

## William R. Perrin & Company

TORONTO, - CANADA

Messrs. Morrison Bros. will establish a boot and shoe factory in Orillia, Ont.

The Huntsville & Bracebridge Tanning Co., Huntsville, Ont., has been incorporated with \$100,000 capital, to manufacture hides, skins, leather, etc. The provisional directors include H. B. Cassils and C. T. Shaw, both of Montreal, and C. O. Shaw, Huntsville.

The Phelps Light, Limited, Toronto, has been incorporated with \$500,000 capital, to manufacture devices, fittings and combinations for illuminating and heating purposes. The provisional directors include James Robinson, Montreal; R. H. Greene and E. W. Phelps, both of Toronto.

The Canadian Scoria Block Co., Toronto, has been incorporated with \$150,000 capital, to manufacture scoria-blocks, brick, tile, etc. The provisional directors include Hon. G. E. Foster, Herbert Waddington, both of Toronto, and W. C. Trotter, St. Johns, Que.

A natural soap mine and a paint mine are two of the latest mineral discoveries in the Canadian North-West. Several soda lakes have been found in the foothills near Ashcroft, B.C. Their bottoms and shores are incrustated with a natural washing compound, containing borax and soda. No two analyses agree exactly as to the composition of the material; a

New York analysis gives 26 per cent. borax, while a Montreal chemist, from the same sample, gives 16 per cent. borax. Tests prove the substance to be equal to the washing powders in common use. Trials by blacksmiths and farm workmen show that it will remove grease and dirt quicker than soap. A syndicate of British Columbia men has been formed to put the product on the market. About 275 tons of the compound have been cut and taken out of the lake. It is handled precisely as ice is handled. The blocks are more than 9 inches in thickness, are sawn into pieces of 15 by 18 inches, and weigh 50 pounds each. It is estimated that this lake alone contains 20,000 tons, proving that the industry, if successful, will reach large proportions.

### THE CANADA FOUNDRY CO.

The Canada Foundry Co., Toronto, are erecting a mammoth manufacturing plant, which includes machine shop, foundry, structural iron works, blacksmith shop, power house and pattern vault. An engineering and draughting building and pipe foundry will shortly be added. The buildings are all fire-proof, being constructed of concrete, brick and steel. The chimney rises 216 feet above the foundations. At the base is situated the power house, in which will be installed a large

battery of boilers, steam engines, electric generators, etc. Electricity will be used generally throughout the building, but hydraulic and compressed air lifts will be utilized for chipping, riveting, etc.

### ELECTRIC LAMPS.

The Packard Electric Co., St. Catharines, Ont., have sent us a brochure having reference to "Lamps," that is, to the electric lamps manufactured by them. The lamp, we are told, is the objective point in all incandescent lighting, as it is by this that the consumer and the general public judge the efficiency and value of an electric lighting service. If, therefore, care must be taken in selecting station apparatus and equipping the distributing system, which are but the means to an end, how important must it be to use the same care in the selection of the lamp, which is the end itself.

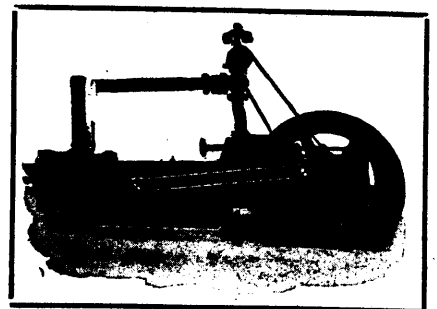
A glance at the beautiful and well illustrated little booklet before us will give the assurance that the company appreciate the importance of the incandescent lamp as a factor in the general scheme of central station economy, and that they are sparing no efforts or expense in producing a lamp the equal of any in the market.

The text of the book makes reference to the general appearance of the Packard lamp in its many forms; an explanation

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

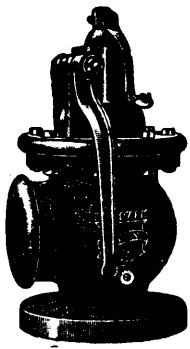
WILL DO WELL TO COMMUNICATE WITH US BEFORE  
INSTALLING PLANT

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



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

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A  
VALVE  
YOU  
CAN  
RELY  
ON  
—  
SEND  
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PRICES

## CROSBY STEAM APPLIANCES EXCEL

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

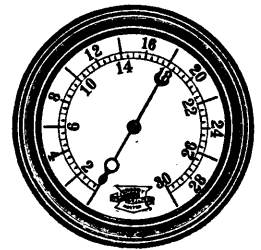


Stationary and Marine Valves.  
Water Relief Valves.  
Blow-off Valves.  
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Single Bell Chime Whistles.  
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**CROSBY STEAM GAGE and VALVE CO.**

BOSTON, NEW YORK, CHICAGO, LONDON

A TRUTHFUL GAGE  
IS THE  
ONLY GOOD GAGE



of their construction of the materials of which they are made and how they are made; showing how they are tested, their efficiency, etc.

Other pages show the different standard types of the Packard lamp, their candle power, different sizes in which they are made, etc., and special mention is made of their railway lamp. Other mention is made of their special and decorative types of lamps, including spherical, bunghole, sign, low voltage, series, etc., any of which can be supplied frosted or in colors.

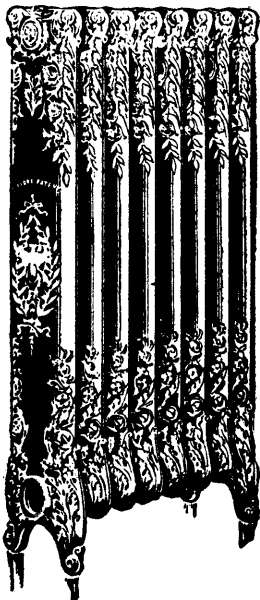
The book is marked "Catalogue A," and we are informed that the Packard Company will have pleasure in sending it to any who may desire to have it.

A sash and door factory is being erected at Fernie, B.C., by Messrs. Coward & Co., at a cost of about \$10,000.

### BY-PRODUCTS OF THE COKE OVEN.

In a coal like the Connellsville coking coal, containing from 29 per cent. to 35 per cent. of volatile matter, there is from 8,000 to a little over 9,000 cubic feet of gas per short ton. On this basis the 30,000,000 tons of coal coked in the United States last year would produce more than 250,000,000,000 cubic feet of gas, according to the Engineering Magazine. Allowing one-half of this production for consumption in the oven, we have remaining over 120,000,000,000 cubic feet, or about one-half the annual natural gas production during the height of that excitement. To convert this fuel gas into illuminating gas involves a change in the operation of the oven, so that gas produced with the recuperation of air and gas may be burned in the flues instead of the rich coke-oven gas. Am-

monia, that is ammonia sulphate, is the most valuable of the by-products of coke-making, it having a market value of about \$20 per ton. The yield of this by-product from each ton of coal coked is about twenty pounds, or a total yield of over 300,000 tons for the 30,000,000 tons of coal coked last year, which would make the value of this by-product over \$6,000,000. The yield of tar is about sixty pounds per ton of coal coked. By-product tar is superior to tar that comes from the gas works. It contains a less amount of pitch, and its fuel value is about \$5 per ton, which would give a value of nearly \$5,000,000 for this product from the coal consumed in coking last year. In their primary state the combined by-products of cokemaking have a value of close to \$1 for each ton of coal coked. After passing through the complex processes of modern chemistry, these have a much greater value.



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### AUSTRALIAN TRADE.

We are authorized by Sir Richard Cartwright to publish in THE CANADIAN MANUFACTURER the following communication addressed to him by Mr. D. H. Ross, a Canadian now in mercantile business in Victoria, New South Wales. Mr. Ross is a son of Hon. William Ross, who was the first Minister of Militia and Defence, in 1873, in the cabinet of Hon. Alexander Mackenzie, then Premier of Canada. Events tending to the consolidation of the British Empire, are moving very rapidly, and the letter of Mr. Ross contains valuable suggestions regarding the closer trade relations existing between Canada and Australia.

SYDNEY, AUSTRALIA, Feb. 10, 1902.

The Honorable Sir Richard Cartwright, Minister of Trade and Commerce, Ottawa, Canada.

DEAR SIR:—When I had the honor of an interview with you at Ottawa in October last, with reference to the Canadian Government granting a liberal subsidy for a line of steamers from Canada to Australia, you suggested that on my return to Australasia, and after the Commonwealth tariff came into operation, I should write you my views of the subject, on receipt of which, they would receive your consideration. I now have pleasure in complying with your suggestions, and trust this communication will assist in making known some of the serious disabilities under which Canadian manufacturers, interested in Australasian trade, labor, and why and how these difficulties could be obviated.

I was somewhat surprised at the attitude taken by some Canadians over the Commonwealth tariff, for the reason that, as a whole, it is lower than that hitherto existing in the former colonies of Queensland, Victoria, South Australia, Tasmania and West Australia.

Under the Commonwealth Act, West Australia retains, for five years, the Customs tariff which existed in that colony previous to Federation, and it is also granted the privilege of collecting import duties for that period, on the basis of the Commonwealth tariff, when in excess of former tariff, or in other words, West Australia has the right of collecting the maximum import duties according to either tariff. This was arranged to permit that State, which has less than 180,000 people, time to grow in population, and to complete certain public works now in course of construction, and to bring to a successful conclusion the largest scheme yet undertaken in the world—that of conveying water several hundred miles through special pipe lines to the rich gold fields in the interior—a work to which the State was committed prior to Federation.

The mistake made by Canadians is that New South Wales was (from an exporter's point of view) Australia, because that Colony for years had practically no custom tariff, being "free trade" in its policy. Nothing could be more opposite to the facts, as the returns of imports into the Colonies prior to December 31, 1900 prove, as per Schedule of Imports for that year for Australia and New Zealand, which were as follows:

### IMPORTS IN 1900 INTO AUSTRALIA AND NEW ZEALAND.

	From Commonwealth States.	Other countries including U.K.	Total Imports.
	£	£	£
New South Wales	10,164,080	17,396,991	27,561,071
Victoria	6,364,167	11,937,664	18,301,811
Queensland	3,067,278	4,116,834	7,184,112
South Australia	4,183,434	3,948,348	8,131,782
Western Australia	2,675,156	3,287,022	5,962,178
Tasmania	1,372,552	701,105	2,073,657
Com'wealth. Total	27,826,667	41,387,944	69,214,611
New Zealand	1,776,978	8,869,118	10,646,096
Australasia	29,603,645	50,257,062	79,860,707

Above returns are exclusive of gold. The exports of gold exceeded the imports in each State, and in New Zealand.

The following summary shows the imports from the United Kingdom and all other countries in 1900, (exclusive of imports from other Australian Colonies):

Victoria, Queensland, Tasmania, South and West Australia	£23,990,953
(These colonies had a high protective tariff.)	
New South Wales, the only free trade Colony	17,396,991

The Protective Tariff Colonies, now in the Commonwealth, imported more in 1900 than New South Wales by	£6,593,962
To this add imports to "Protective" New Zealand in 1900, (exclusive of imports from Australian Colonies)..	8,869,118

Australasian balance of trade in favor of Protective Colonies	£15,463,080
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**Electrical Fittings, Arc Lamps, Telephone Bells, Etc.**

In other words—in 1900 the Colonies of Australia and New Zealand with high duties imported £32,852,671, and New South Wales with free trade imported £17,396,991.

This should clearly prove that New South Wales, despite its former free trade policy, did not import as much as the other colonies by over six and one-half millions sterling; and when New Zealand is included, the imports of the protective colonies amount to approximately double that of New South Wales. This demonstrates that in Australia a high customs tariff does not stop importations, for this country cannot, nor never can, become a great manufacturing centre.

The total over sea importations of the Commonwealth States and New Zealand in 1900 were valued at £50,257,062, or in round figures \$250,000,000, which represents per head of population. Australia £18 9s. 6d. New Zealand £13 18s. 10d., or an average of £17 14s. 1d.

The Commonwealth was—in theory only—an accomplished fact on January 1, 1901. The real union in a commercial sense will not be consummated until

October 8, 1903—two years after the inception of the Commonwealth tariff—when the customs barriers between the different states (excepting West Australia) will be removed as arranged in the Federal Act. After October 8, 1903, all goods after being entered at any Commonwealth port, will be permitted to be transhipped to any other state (excepting West Australia) without any customs' restriction.

To-day free trade between the States (excluding West Australia)—except in natural products of Australia—exists only under the restrictions stated. These restrictions were incorporated in the Federal Act principally through the influence of New South Wales, which having been free trade for many years, and anticipating the effect of the tariff, imported large and valuable stocks of merchandise, which were held in Sydney for purely speculative purposes.

The universal feeling amongst the people of Australia is that Federation will prove of the utmost benefit to all, when the rough corners and uneven places are rounded off. It will open up

avenues of trade and commerce, that—while not prevented under the former separated governments—were curtailed to an extent that did not offer a profitable persuing of a general exchange of goods.

While these Australian markets are specially well catered for, "the bond of Empire" feeling is strong indeed, and Canadian manufacturers should profit to the utmost in this respect, and undertake to largely increase their trade here by studying carefully the requirements of our people, and offer goods which are suitable to the trade, without undertaking to educate Australians to new ideas and new ways of doing things.

When our importers find Canadians in a position to supply what is required, and that their interests are studied, the trade battle is more than half over. Another point is, that your manufacturers must place themselves in a position to supply promptly, pack carefully and forward in the most expeditious and reasonable manner.

The largest factor of expense to the Australian importer, at the present time, is caused by the great distance from

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manufacturing centres in Canada to sea-board shipping points. This could and should be changed by a direct line of steamers from Atlantic Canadian ports to Australia, as herewith outlined.

Line of Steamers and their Route.—For all practical purposes, the steamers should leave Canadian ports for Cape Town, South Africa, thence to Melbourne, and on to Sydney, New South Wales. At Cape Town transshipments could be made to other South African ports. At Melbourne, transshipments—except in special circumstances—could be made for Adelaide, South Australia; Freemantle, West Australia; Hobart and Launceston, Tasmania. At Sydney, transshipments could easily be effected to Brisbane and other Queensland ports—Fiji; and Auckland, Wellington, Christchurch and Dunedin, New Zealand.

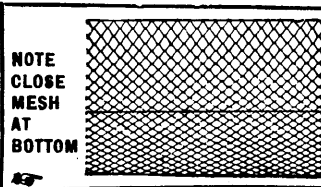
No return cargo would likely be available for Canada at the early stages of the line, but the steamers could always "fill up" here with cargo for the United Kingdom, from which country they could steam direct to Canadian ports.

To meet as far as possible the requirements of the large manufacturing centres in Quebec and Ontario, the steamers should, while navigation in the St. Lawrence is open, leave Montreal, calling at Quebec, and making Halifax the final port of departure. In winter, Halifax would likely be the port of departure. When shipments of steel rails, etc., are being effected, the steamers could at first call at Sydney, Nova Scotia, as bunker coal would in every instance be taken in at that port for the long voyage.

South Africa as a field for Canadian enterprise is undoubted, and our newly acquired (or regained) possessions there will boom at a tremendous rate when peace comes.

I believe that Canadians are alive to the importance of being early in the field; and to successfully compete with your powerful neighbors in the United States it is absolutely essential that there should be a direct line of Australian steamers calling at Cape Town.

That Australia is also alive to the possibilities of trade in South Africa is quite true, and there is room for us all. The State Government of New South Wales has already appointed a commercial representative to travel throughout Cape Colony, Natal, the Orange River

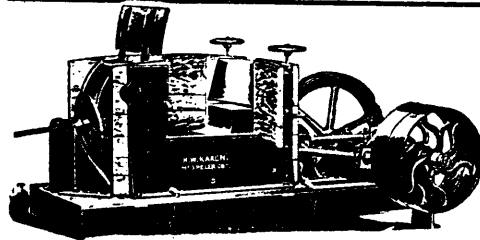


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is close meshed at bottom and does not require rail or board support at edges, having strong straight wire (No. 12 gauge) at top, bottom and in centre, cannot sag and is easy to erect. The "Page Acme" netting is of neat appearance, very durable and cheap. We also make farm and ornamental fence, gates, nails and staples. The name of Page is your guarantee of quality.

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OUR machines require no wrench, measuring instruments or gauge saws. We have entirely done away with them. Any amount of clearance desired can be obtained instantly. Drills can be ground to do more and better work. Send for Catalogue showing 10 styles, and full explanation of machines grinding from No. 60 to 5 inches.

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Capacity 3-32 to 1 1/4 inches.

Style "K"



Colony and the Transvaal, with headquarters at Cape Town. This is done in the interests of New South Wales' exports of pastoral, agricultural and dairy products.

New Zealand is not far behind, for the Premier of that colony, in a speech delivered on January 16, said that "the New Zealand-South African line of steamers" would, in all probability, be an accomplished fact inside of two months. Now, if a comparatively small country like New Zealand, with an area of some 103,000 square miles and an European or "white" population of only 740,000 people, can afford, in the interests of its export trade, to subsidize a steamer service to South Africa, should not Canada, with its vast extent of country, its boundless resources, its vastly larger population, and above all its well equipped industries, do the same thing?

It is only necessary for me to dwell casually upon African business likely to be done by Canadian exporters to lead up to what is of far more importance—that of Canadians securing a proper proportion of the trade waiting for them in these great colonies, once the facilities of competitive rates are secured to them.

Australasian territory and population: The Commonwealth has an area of 2,972,906 square miles, New Zealand has 104,471 square miles, making the total area 3,077,372 square miles, with a population of 4,556,000 people, who import annually from over sea some \$250,000,000 worth of goods.

Shipments via New York are so seriously handicapped by heavy inland freights from points in Canada, and the fact so well known, that New York export commission houses endeavor to the utmost of their ability to divert all the orders sent to them to United States channels, that comment thereon is scarcely necessary.

The greater portion of manufactures, on the other hand, cannot bear the heavy cost of freight from ocean to ocean by the Canadian Pacific Railway to Vancouver and the steamer freight from that point to Australian and New Zealand ports. To give one instance, I know of an order for Canadian newspaper in rolls that could have been secured here quite recently for 3,000 tons per annum only for the prohibitive freight rate from the point of manufacture to the only port where such a commodity could be shipped from, viz., New York, which placed the United States manufacturer in a position to undersell the Canadian. The possibilities of the business in paper alone is evidenced by the fact that Australasia imports paper to the value of about \$3,000,000 annually. Many more orders for paper could have been secured on the same basis, for there is in Australasia a strong desire to give Canadian goods the preference, everything else being equal.

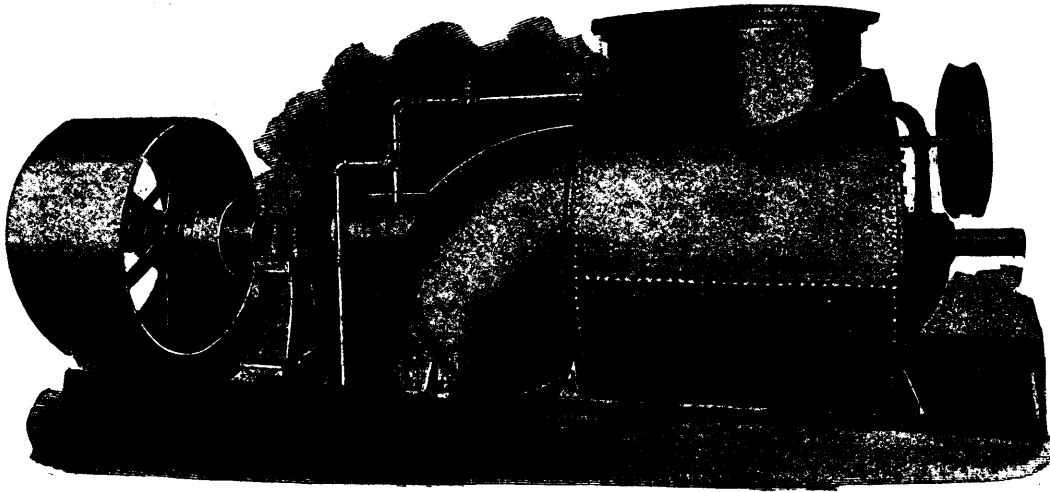
A Canadian-South African-Australian line is the only cargo service, which could successfully compete with any other at present existing. For the first few years it could only be operated by Canada

granting a liberal subsidy, making the rates of freight at least as low as those from New York, and after three years or so, it is safe to assume the line would, in a very great measure, become self-supporting. It is also safe to estimate, from the first inception of the line, full cargoes for steamers of 6,000 to 8,000 tons could be assured.

Once Australian importers are assured of regularity in receiving their shipments, confidence would be secured, and it is beyond question, an enormous increase in Canadian exports would be secured in these markets, which trade returns prove to be the largest per capita in the world. It is only natural that the question will present itself—what can Canada export advantageously to Australasia?

Herewith are noted a few lines: (1) Furniture. (2) Boots and shoes. (3) Cotton goods. (4) Agricultural machinery and implements. (5) Buggies and wagons, principally in the white or unfinished. (6) Steel rails and fish plates. (7) "New" and cut paper; and to a lesser extent, carpets, tweeds, woolen goods, dried fish, oils, and the many specialties of the smaller manufacturers.

Furniture.—Only to a very limited extent is this line made here, for our woods are not suitable for manufacturing what is demanded by the bulk of purchasers. Canadian makers are making great strides in producing goods which are in demand here. The one solitary obstacle to the trade being largely developed is the freight question. Only a



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

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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.

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few days ago I saw a consignment of Canadian furniture, which (including a 20 per cent. customs duty) cost a fraction over 85 per cent. on original factory invoice cost to land in Sydney, via New York.

High class Canadian boots and shoes are already here, and despite the present Custom tariff (which is almost certain to be reduced to about 25 per cent. ad valorem) large importations would take place. Australia has no great facilities for manufacturing the soft light boots introduced here by American makers, and to which our people have become accustomed. The cheaper grades of footwear used by the laboring classes will be made locally.

Cotton Goods.—Canadian mills have already practically secured the greater portion of this trade, and would have more, were the freights equal to those from New York or Manchester.

Agricultural Machinery.—You have only to refer to Canadian official returns to prove the large export trade that is now being done to these Colonies. There is already a vast field for this class of exports, and with fair freights, it would mean a further development of the trade, for (with the exception of one large company, which seemingly have very special rates from the Canadian Pacific Railway) all Canadian manufacturers are compelled to ship via. New York, which adds considerably to the landed cost in Australia.

Farming Implements.—I am in a posi-

tion to know of very satisfactory orders being sent to Canada for the requirements of our settlers, and in most every instance shipment has to be made via New York. There is no option in this matter, and it is safe to assume that much larger business would be secured with better shipping and freight facilities.

Buggies, Wagons, Wheels, Etc.—While the existing Commonwealth duty is a high one, ranging from £3 to £12 per vehicle and 15 per cent. ad valorem, (which will likely be reduced, when the revision of the tariff is completed) it can never shut out the importation of these goods.

Wheels knocked down in white i.e. finished but not put together and ready for painting are, at the present time, being ordered from the United States in considerable quantities. White bodies for buggies are also being ordered, all for the reason that we have no wood in Australasia, which can be used for wheels or bodies to give a finished vehicle the necessary lightness.

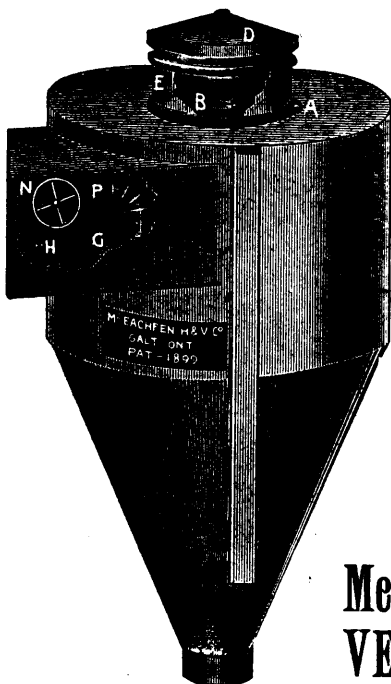
Steel Rails and Fish Plates.—In all probability, the huge steel works in Ontario, and at Sydney, Cape Breton, will soon be in a position to cater for the Australasian demand. The Commonwealth is committed as its first public work—to build a line of railway from Port Augusta in South Australia, via Tarcoola, to Euchla in West Australia, a distance of about 1,100 miles. West Australia has caused a preliminary survey to be prepared, the estimate for

the route named being £4,400,000 (for a 4 ft., 8½ in. road) including £594,000 for water reservoirs. It is only a question of a very few years, when all the railways in the Commonwealth, with a few trifling exceptions, will be required to adopt a standard gauge, likely 4 ft., 8½ in. At the present time Victoria has 3,238 miles of railway, gauge 5 ft., 3 in.; New South Wales, 2,930 miles, gauge 4 ft., 8½ in.; Queensland, 2,856 miles, gauge 3 ft., 6 in.; South Australia, 1,901 miles, gauge 3 ft., 6 in. and 5 ft., 3 in.; West Australia, 1,978 miles, gauge 3 ft., 6 in.; Tasmania, 594 miles, 3 ft., 6 in.

Adopting a standard gauge will, in a very great measure, mean re-laying the trunk lines with new rails, using the old rails for side and unimportant tracks. Besides, there is the gradual extension of the existing State lines of railway (with a mileage of 13,500) to be considered as an important factor in the demand for steel rails, fish-plates, etc.

New Zealand railways, gauge 3 ft. 6 in., mileage of 2,300 open, and a new trunk line between Wellington and Auckland now being made, should be added to the length of the Australia lines. Surely a proportion of these orders for rails, fish-plates, etc., should go to Canada, and thus assist in furnishing cargo for steamers.

Iron railway sleepers will likely be required in the Adelaide-Albany track, to escape the ravages of white ants, which destroy wooden sleepers in a few years. Iron sleepers have been in use in North



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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.

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Don't buy before getting their prices, when purchasing Dynamos, Motors, Fixtures or Supplies.

Quotations Supplied on Application.

PHONE 1103

Queensland road beds for many years with success.

Cast iron pipes for gas and water are always in demand. I saw considerable quantities of water pipes from Philadelphia landing in New Zealand two months ago.

Preferential trade.—It is scarcely to be expected that the Commonwealth, in practically its first financial year, will seriously consider this large subject, for the reason that, as yet, the government has not found out its bearings.

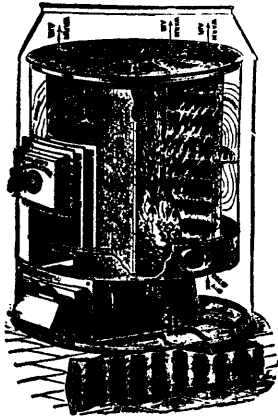
I am, dear sir, yours faithfully,  
D. H. Ross.

**WATERPROOF PAPER AND WOVEN MATERIALS.**

An article appearing in the Celluloid-Industrie is dealing with some applications

of celluloid or Pyroxylin-solutions (Nitro-cellulose). Since it has been found that after spreading a thin layer of these solutions over some paper or woven material a thin skin forms, which is a protection from damp or wet, and as any color or decoration under pressure may be added, efforts have been made to produce a material closely imitating leather. A product of this description named Pegamoid is put on the market. Articles impregnated by the pegamoid process, such as textile goods, paper, asbestos, and others, are rendered waterproof and lasting, while they also improve in appearance and use. They are soft and pliable and not susceptible to the influence of weather, climate, or destruction by insects. Pegamoid leather seems destined to supplant several kinds of real leather, being cheaper and having at the same time equal durability

and the soft touch pertaining to leather. Wall-papers, impregnated with pegamoid, can be washed and will retain their colors. For upholstering purposes it is claimed to have these several advantages. It is very durable, the surface is pliable, hard and horny, and it cannot easily be scratched, an apparent advantage over leather. Further, being waterproof, the furniture may be washed or scrubbed, even with hot water, and will not rot like leather, neither is it subject to the influences of acids or grease. The surface is at least equal in appearance to the best skins, and, though hard it is pliable and can be easily manipulated. Deeds, drawings, etc., impregnated with the solution would be rendered almost indestructible. With pegamoid, as a few other similar productions, the foundation is formed by more or less thick, closely-woven cotton materials, often of the character of flannel, either of natural color, white or dyed. These undergo certain preparations before the solutions are applied, and the latter are of different consistency according to their various uses. Sundry additions are made, such as castor oil, caoutchouc, etc., to make them more pliable, or resinous substances to obtain greater hardness and gloss. After the application of the solution the materials are passed through engraved rollers under high pressure to grain them or impress certain designs.



**YOU SHOULD CONSIDER** what System will give you the best from an **ECONOMICAL** and **HEALTHFUL** Standpoint. By using  
**KELSEY CORRUGATED WARM AIR PATENTED GENERATOR**

**You Are Assured of** Most Heat with Least Fuel; Better Quality of Air; Good Ventilation; Cool Cellar; No Escaping Gas or Smoke; All Rooms Warm at All Times.

If interested, write us when we will send you descriptive printed matter, and arrange to have a competent and practical heating man call and give you an estimate.

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Exclusive Makers for Canada. **BROCKVILLE, ONT.**

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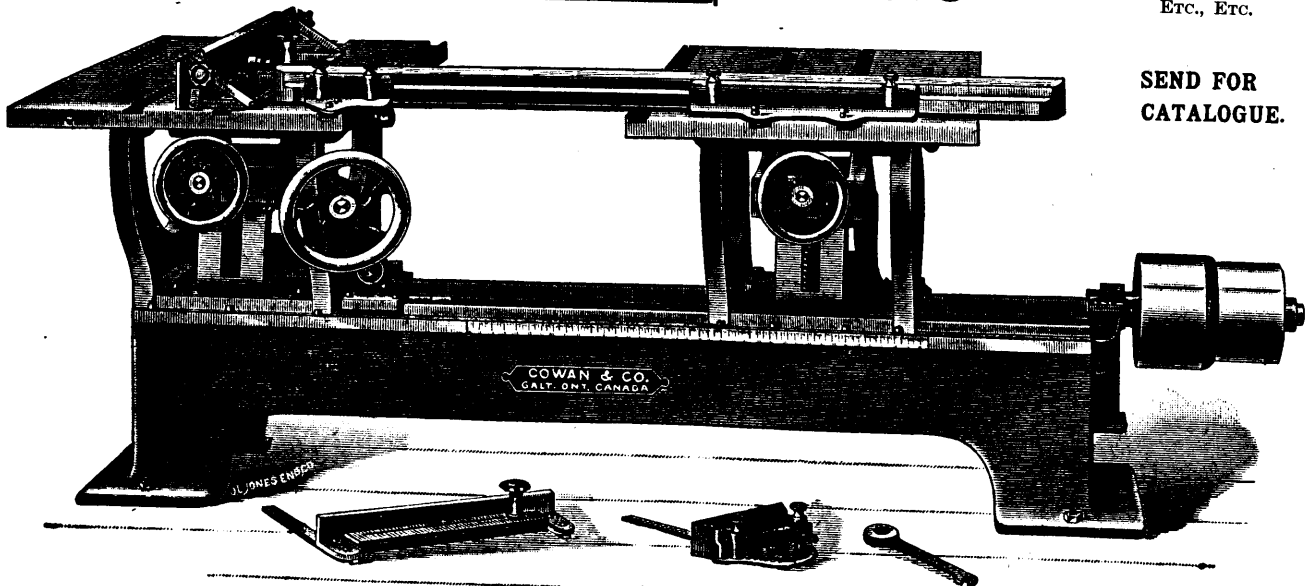
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Each sheet is accurately squared, and the corrugations pressed one at a time—not rolled—giving an exact fit without waste.

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**THE FINEST VENTILATOR OR CHIMNEY  
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It gives a positive upward draft under all conditions—can't get out of order—and exhausts more cubic feet of air per minute than any other ventilator.

Made of Galvanized Steel or Sheet Copper.

The perfect simplicity and clever mechanical arrangement of the "HALITUS" will delight you, if you want a ventilator that really and perpetually ventilates. Read all about them in our catalog.

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**BRISTOL'S RECORDING WATER LEVEL GAUGE.**

The Bristol Co., Waterbury, Conn., are placing upon the market an adaptation of their well-known recording pressure gauge to an instrument for making a continuous record in ink upon a revolving

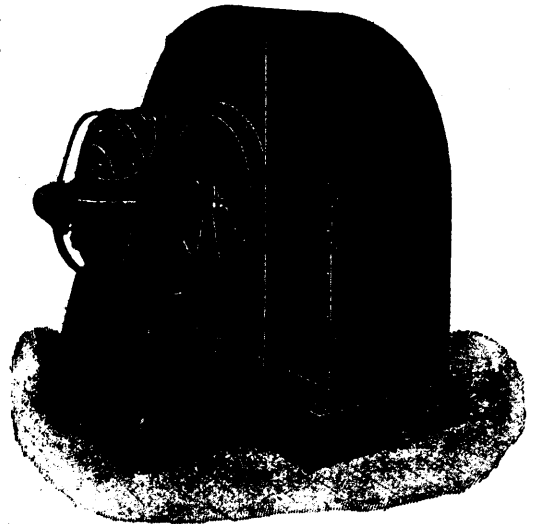
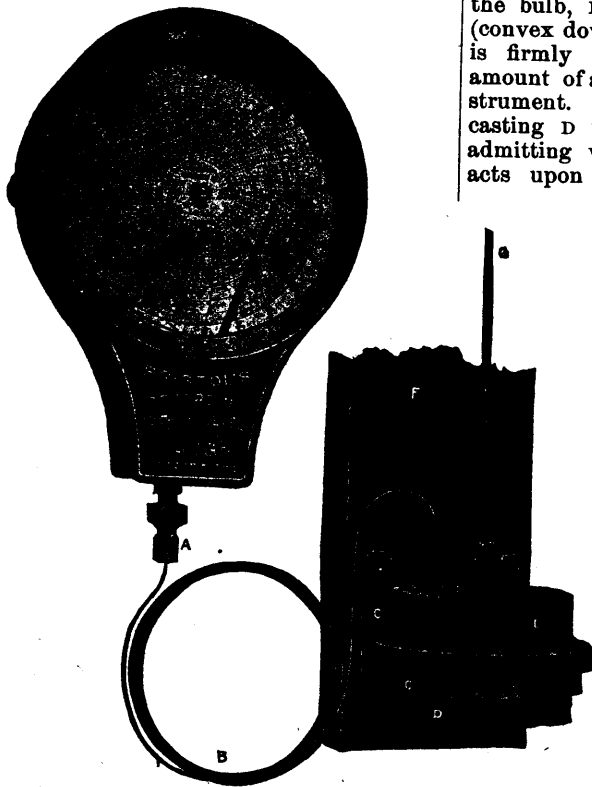
with. A represents the union joint, by which a flexible capillary tube B is connected to the recorder. This connecting tube terminates in the upper portion of the bulb casting E, and when the instrument is in operation it is immersed to the depth a record is desired. Between the flanges of the upper and lower parts of the bulb, E and D, a flexible diaphragm (convex downwards) of thin sheet rubber is firmly held, enclosing the proper amount of air for the operation of the instrument. Near the bottom of the lower casting D there are several holes for admitting water, the pressure of which acts upon the lower surface of the

of the liquid to be recorded. The accuracy of the instrument is not affected by the location of the recorder or by the length of the capillary connecting tube.

An important advantage that instruments of this form have over those of ordinary type, which are operated by floats, is that its continuous performance and accuracy cannot be affected by ice in winter.

**A BUFFALO ELECTRIC STEEL-PLATE FAN.**

The electric motor, by reason of its simple rotary motion, is particularly fitted for driving by direct connection such



Buffalo Induced Draft Fan.

chart, of the rise or fall of the level of water in a canal, reservoir, well, tank, or variation of sea level.

The construction and operation of the instrument will be readily understood by reference to the illustration shown here-

resting on a ring bracket C. This bracket is designed to be secured to a plank F, which may be lowered into the water to any desired depth. The recorder may be located at any convenient point for observation, either above or below the surface

pieces of apparatus which partake of similar motions. In the case, for instance, of a rotary fan or blower for handling air direct connected to a motor, the uniform resistance to the revolution of the fan is overcome by a uniform torque or twisting

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**Rust Proof.**  
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Absolutely will not Blister, Peel Off or Chalk.

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

Manufactured by

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

force acting on the motor armature. The consequent result is uniformity of speed and power supply.

The accompanying illustration shows one form of such apparatus as manufactured by the Buffalo Forge Co., Buffalo, N.Y. The fan is of the Buffalo full housing bottom horizontal discharge type, built as an exhauster, that is, having but one inlet. The fan wheel is overhung, and the single bearing next to the motor is of the Buffalo Forge Co., ring oiling pattern, thereby insuring the positive lubrication so essential under conditions of high speed and continuous running. The absence of a bearing on the inlet side is a very desirable feature in that it facilitates pipe connections when the machine is used as an exhauster. In the case of handling hot gases the desirability of not having them flow in direct contact with a bearing is readily apparent, though for such use water cooling boxes may be provided where so desired. A further advantage of the single inlet style may be mentioned; the in-rushing dust laden air currents do not pass through the motor to the detriment thereof. The Buffalo Forge Co. builds these fans both for blowing and exhausting purposes; when used for the latter, the inlet next to the motor is closed by a concave cap fitting closely around the shaft.

The blast wheel is built up of curved steel-plate blades bolted at their centre to the spider arms and at their edges to conical side plates for securing additional rigidity. Wrought iron tee arms cast into heavy hubs form the spiders, of which but one is used in small blast wheels. As to the scroll and sides of the housing, these are of heavy steel plate, bolted together, rigidly braced with angle irons, and secured to the heavy cast iron base.

An upright extension of this base pro-

vides a bed for bolting down the motor. This arrangement gives a solid compact unit and possesses many obvious advantages over the construction which mounts the motor in a housing in which case alignment is more or less quickly destroyed by the play due to the vibrations of high speeds.

In order to insure a perfect running balance, these machines are set up in the shop, connected to their motors and carefully brought to balance. This procedure is essential for best results. It may be added, in conclusion, that these fans are widely used in many varying situations. The particular type here illustrated is very popular in central power plants for purposes of ventilation, mechanical draft and transformer cooling.

## 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.

758. A house in Hamburg, Germany, wishes to be supplied with the names of Canadian exporters of pigshead in pickle and feet in salt, also various kinds of bacon.

759. A manufacturer of vulcanite pens, nibs and other stationery lines is prepared

to appoint capable Canadian resident agent.

760. A firm claiming a large connection with the trade in all parts of the Kingdom wishes to secure a first-class Canadian agency in white mouldings for pictures, hardwood mouldings, mouldings for mantels, etc.

761. A manufacturer of all sorts of deed and cash boxes, etc., seeks Canadian resident agent to introduce their goods.

762. A salesman of chilled meats at Manchester desires to get into communication with Canadian shippers.

763. A firm of distillers at Cognac, France, desire an energetic and reliable agent in Canada to whom they might entrust the agency for the sale of their brandies.

764. A Barcelona, Spain, house have requested to be placed in touch with wholesale lumber firms having interests in the Maritime provinces of Canada who require representation in that city.

765. Enquiry is made by a Staffordshire firm for the names of Canadian buyers of machinery, iron and rails, scrap metal, wire rope, etc.

766. A London firm of hat manufacturers are contemplating doing business with Canada, and ask to be furnished with information to this end.

767. A firm of high-class grocers and provision merchants at Cape Town desires to get into communication with Canadian houses with the view of doing an increased business in Canadian butter, fodder, oats, and general provisions.

Messrs. Rhodes, Curry & Co., Amherst, N.S., have received an order for a number of additional cars from the Cumberland Railway & Coal Co.



**B. GREENING WIRE CO.**  
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& METAL PERFORATORS  
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**A Few Extracts from Letters from British Consuls, etc.**

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

"I am directed to thank you for the book and to express the opinion of this Consul that the work is one which cannot fail to be very useful to the commercial community."—*The Secretary of the Chamber of Commerce of Georgetown, Demerara, Aug. 12th, 1901.*

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

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

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

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

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

**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, April 18, 1902.

Canadian manufacturers of machinery will be pleased to learn that by a recent ruling of the Customs Department, they will be placed in a more favorable position as regards competition with American manufacturers. It has been brought to the attention of the Department that American machinery has been brought into Canada and duty paid on the cash price marked on the invoices. These prices have been found to be considerably less than the selling price in the American market, and as the Customs ruling calls for the duty based on the American market value, the officers at the various ports of entry have been requested to strictly enforce the regulation.

Advices from Vancouver report the amalgamation of ten iron manufacturing firms in British Columbia. The concerns are in Victoria, Vancouver, Ladysmith, Nanaimo and Westminster. The work of the province will be distributed among the different plants, according to ability to handle it. The firms in the amalgamation are the Vancouver Engineering Co., and the Albion Iron Works, Victoria; the Victoria Machinery and Depot Co.; the Andrew Gray Iron Works, the Schacke Iron Works; the Dobson Iron Works, Nanaimo, and the Wilson Iron Works.

Chicago capitalists will erect a \$750,000 pulp plant on Prince of Wales Island near Queen Charlotte Sound, for the manufacturing of pulp for the Oriental market. The island is a square mile in area and thickly wooded with spruce. The Chicago capitalists purchased the island from Vancouver citizens, who secured it without cost from the Provincial Government.

The craze for speculation in certain Canadian securities is spreading, and men with large business responsibilities, with practically no knowledge of stock values, are being influenced to enter the market. The result has been disastrous for quite a few of the uninitiated, and for the one who closes with a profit, there are ten others who are compelled to close with a loss. The present market is one that beginners should keep out of. Even the old speculators shake their heads, warningly, and advise the younger element to be careful in their trading.

Coal, steel and Canadian Pacific Railway has attracted the greatest attention this week, and while values are buoyant

here is every indication that the market shows the effect of the recent wild buying. The money market is tightening and banks are exercising more caution in making loans.

Five new seats were added to the Montreal Stock Exchange last week and found a quick sale at \$20,000 each. The enormous increase in the volume of speculation has had the effect of advancing these holdings, which twelve months ago could have been obtained for \$12,000.

The Canadian Pacific Railway is purchasing the Ottawa Northern and Western Railway, and recent advices from Montreal state that all that is necessary to complete the deal is the signature of the secretary and president.

The last week's transactions on the Toronto Stock Exchange totalled 52,782 shares of stocks, \$212,000 in bonds and 1,000 mining shares. The previous week they totalled: stocks 42,902, bonds \$206,000, mining 2,000 shares.

The retail shoe section of the Merchants' Protective Association are endeavoring to come to some arrangement with the Rub-

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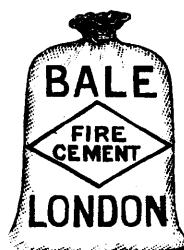
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GAS PURIFICATION and GENERAL IRON MERCHANTS



# CUPOLAS

# FOUNDRY EQUIPMENT

# CRANES

**E. A. WALLBERG, C.E.**

Temple Building, **TORONTO**

Merchants Bank Building, **MONTREAL**

ber Boot and Shoe Jobbers' Association, so that the former will have a uniform price for rubbers. The wholesalers at present have a uniform selling price, so have the jobbers, but the retailers, while they are supposed to, actually have not. A joint committee of the three bodies will meet in a few days and endeavor to arrange a satisfactory schedule.

There is an active demand for oils and paints now and the outlook promises a good season in nearly all departments of trade. Turpentine is lower. White lead is weak, owing to price cutting. Other prices are generally unchanged.

**BRITISH PIG IRON MARKETS.**—Messrs. Wm. Jacks & Co., 49 Leadenhall street, London, E.C., England, under date of April 3, 1902, quote as follows:

Since writing you last we have nothing of special interest to report as to the market position on this side, as prices have remained steady.

To-days quotations are as follows:—No. 1 Gartsherrie 66/6 per ton, f.o.b. Glasgow. No. 3 Gartsherrie 56/6 per ton, f.o.b. Glasgow. Nos. 1, 2 and 3 Cumberland Hematite, 67/6 per ton, f.o.b. Liverpool. Nos. 1, 2 and 3 to special analysis, 71/6 per ton, f.o.b. Liverpool. Refined D.T.N. Hematite in small pigs 85/6 per ton, f.o.b. Liverpool.

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

**STRUCTURAL MATERIAL.**—While the official price for structural material remains unchanged at \$1.60 f.o.b. Pittsburg, none is obtainable at this figure except for delivery at the convenience of the mills, at some indefinite distant date. Small parcels seem to be obtainable for prompt shipment from stocks held by some mills, or from sizes which they happen to be turning out at the moment on old orders, at 2½c. per pound delivered at New York. From stocks here, dealers and jobbers are asking 3c. per pound.

**PLATES.**—The Lukens Iron & Steel Co. have advanced prices for plates 1-10c. per pound, and they claim to be crowded with work for some months to come. Whether there will be any advance in the price of plates by the mills generally is still an open question.

**IRON AND STEEL BARS.**—There is no important new business reported in steel bars. Buyers seem to have covered their requirements for a long time ahead. Iron bars are not in active demand; in fact there is no new business reported at the present nominal quotation of 1.80 f.o.b. Pittsburg, but there are many re-sale lots offered on the basis of 1.70 f.o.b. Pittsburg, and some mills outside the Eastern Bar Iron Association are selling at this figure.

**SHAFTING.**—Contrary to expectations the cold rolled shafting manufacturers did not make any change in prices at their recent meeting in Pittsburg. The conservative element is firmly opposed to making any change in prices, which are now 50 per cent. off list in carload lots

## R. SPENCE & CO.

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## SAVERY'S PATENT COMBINED DRYER STEAM JOINT

AND

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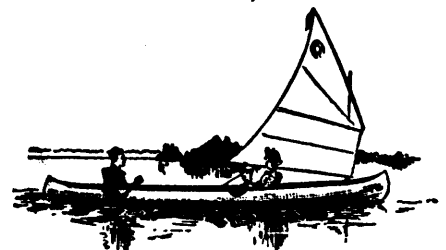
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CANADIAN PATENT No. 68,093.

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

**MARSH STEAM PUMPS**  
TANKABLE FOR ALL DUTIES  
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and larger, and 45 per cent. off in less than carloads. The list is 5c. a pound on cold rolled shafting from 3 inches down to 2 13-16 inches inclusive, being higher on larger and smaller sizes.

**NICKEL.**—The new consolidation controls mines and works which turn out about 60 per cent. of the nickel supply of the world; and the properties which it controls give opportunities for a large expansion in output. It has valuable ore deposits both in the Sudbury District in Canada and in New Caledonia, though the latter have not been much developed as yet. It has also the best reduction works of their kind in existence, and the necessary control of patents and processes. If, as stated, the managers have arranged a full understanding with the Societe le Nickel, the two companies together will have control of 90 per cent. of the world's nickel supply, and will be practically masters of the market for that metal. The combination will doubtless seek to extend its Sudbury holdings, so as to keep any possible competitor out of the region.—Engineering and Mining Journal.

**COPPER.**—The New York copper market opens up steady. Local conditions have not changed materially during several days, and quotations continue 12½ for Lake, and 12 and 12¼ for Electrolytic and Casting. Business has been confined to moderate proportions for some time, but although there is no special strength to the tone of the market it is doubtful if much concession could be obtained from any of the leading holders. The large exports are the leading feature at present, and the foreign shipments for the week ending April 11 were 4,507 tons, against 4,278 tons for the previous week. Total copper exports since April 1 to 11 were 7,248 tons.

**LEAD.**—As usual the lead market was without important feature. The constant condition of the producers of the South-east Missouri district—sold far ahead—naturally takes the life out of the market, except at such times as it is affected by the movements of the smelting trust. Soft Missouri has been saleable on a basis of \$3.97½, with common lots at \$3.95 and choice at \$4. Chemical hard has been saleable at \$4, but higher prices have been asked and in general maintained at about \$4.05, as in the past. Desilverized has been held all week—as for many previous—at \$4.05, but there has been nothing doing in it. About the only sales of lead reported during the week have been of the choice soft Missouri brand, and the figure has been \$4.—St. Louis Lead & Zinc News.

**HARDWARE.**—Speaking of the recent hardware jobbing consolidation in the United States, The Iron Age says: The announcement of the practical consummation of the consolidation of hardware jobbing interests will command the attention not only of all departments of the hardware and metal trades, but of the commercial world at large. This will be the case because while there have been for months in the press throughout the country frequent references to the matter, nearly always with inaccurate and often



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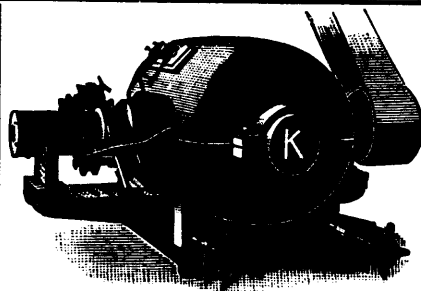
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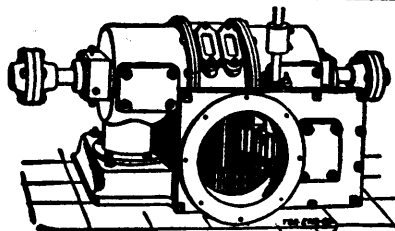


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BUILT IN 44 SIZES.

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Water Wheel Governors, Machine Dressed Gearing, Pulleys, Shafting and Bearings.  
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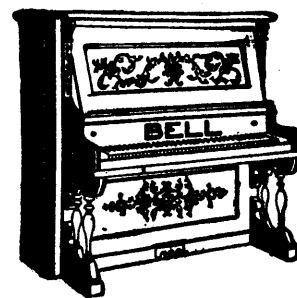
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**Iron, Steel**  
**PIG IRON.**  
**Cleveland, - Ohio.**

grotesque statements as to its purpose, progress and scope, this is the first opportunity for the public to become possessed of the facts in regard to this memorable uniting of great interests in one strong company. Opinions will differ widely in regard to the wisdom of the action and the practicability of the scheme, but there will be general agreement that the amalgamation of so many and so large houses into a single organization is an event of profound significance to the hardware trade. It introduces a new element and presents new problems. Whether it will be for the benefit of the class of trade in whose interest it is formed, and what will be its influence on the trade at large, are questions an answer to which may be long delayed.

In answer to the question whether it is the intention of the combine to figure largely as jobbers of metals and tinplates, steel and bar iron, etc., as well as hardware, The American Metal Market says that this would seem to be the case, as in going over the list of some fifty firms published as composing the new combination, it finds several firms who have always been known to the trade not as hardware jobbers, but as jobbers in metals, tinplates, sheet and bar iron, etc., but it does not see the names of any of the large jobbing houses in exactly the same business in New York, Philadelphia, Baltimore or Chicago, and some prominent firms in New York have not even been invited to join. The present consolidation is a puzzle to the trade, and seems at present incomplete.

**BARB WIRE.**—The volume of business in Barb Wire continues large. The output of the mills is taken by the trade as fast as it is available, notwithstanding the increased manufacturing capacity. Quotations are as follows, f. o. b. Pittsburgh, 60 days, or 2 per cent. discount for cash in 10 days:

	Painted.	Galv.
To jobbers in carload lots...	\$2.60	\$2.90
To jobbers in less than carloads.....	2.65	2.95
To retailers in carload lots..	2.70	3.00
To retailers in less than carloads.....	2.80	3.10

—The Iron Age.

**BRITISH-CANADIAN TRADE.**—The returns of the British Board of Trade for the month of March show that imports into that country from Canada increased as follows during the past three months: Cattle, £27,000; wheat, £55,000; flour, £50,000; bacon, £15,000; hams, £24,000; butter, £33,000; sawn wood, £12,000. During the same period British imports from Canada decreased as follows: Sheep and lambs, £4,000; oats, £60,000; peas, £19,000; cheese, £2,000; eggs, £12,000; hewn wood, £8,000. British exports to Canada increased as follows: Wool, £2,000; cotton piece goods, £44,000; linen piece goods, £3,000; silk, £7,000; woolen tissues, £31,000; worsted tissues, £38,000; carpets, £5,000; hardware, £1,000; pig iron, £3,000; bar iron, iron sheets and boiler plates, £5,000; galvanized sheets, £10,000; tin plates, £26,000; cast and wrought iron, £2,000; compelled some to shut down temporarily.

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unwrought steel, £22,000; unwrought tin, £2,000; haberdashery, £11,000. British exports to Canada decrease as follows: Spirits, £16,000; jute piece goods, £1,000; rails totalled £20,000; wearing apparel and slops, water-proofed, totalled £9,000; not water-proofed, £75,000.

**BUFFALO PIG IRON MARKET.**—Office of Rogers, Brown & Co., Buffalo, N. Y., April 16, 1902.

Within the past week the shortage of pig iron in this district has been greatly intensified by the labor troubles in the coke region, which have shut off the supply of fuel from several furnaces and

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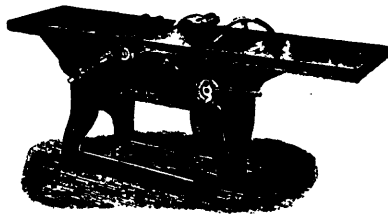
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(endorsed by the British Government), the 16th edition of which is just published. In addition to the Classified Trade Lists of the Importers and Exporters, Merchants and Manufacturers of the United Kingdom and all principal trading centres of the 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.

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Coke from other sections, however, is being hurried forward to take the place of the usual supplies and relief is looked for very soon. This stoppage has of course made quite a break in the volume of pig iron produced.

A glance at the situation with foundries shows that they have practically no stocks in their yards and the majority of melters are having a difficult time in obtaining sufficient iron to keep running. There are no indications of conditions appearing which would seem likely in the early future to offer relief for foundries from the hand to mouth system, upon which they are compelled to operate. Some foreign iron has been imported, but it is only a drop in the bucket, so to speak, and the freight rates are so high from the coast to interior points that when these are added to the already fancy prices of the foreign metal the quotations are practically prohibitive. Consequently the relief is only felt by consumers located near the coast.

Occasional lots of iron offered for early shipment command about whatever prices the holders see fit to ask.

**CANADIAN TRADE.**—Bradstreets has the following to say regarding the trade outlook in Canada: Only favorable advices come from Canadian trade centers. Fine weather has helped trade at Montreal, country orders being liberal, and northwestern demand is a feature. This is also noted at Toronto, which reports the best trade in years for the season, low fares having attracted buyers. The eagerness of distributors to get supplies would seem to indicate fear of a shortage later. Inland navigation will shortly open, and shipments will be heavy. Trade at British Columbia coast points is better, shipments to the north being large. Lumber is active, and coal shipments to San Francisco are heavy. An increased acreage is looked for in wheat in Manitoba. Clearings for the first quarter are 20 per cent. ahead of last year, while failures are 13 per cent. fewer. For the week clearings aggregate \$31,833,065, a loss of 22 per cent. from last week and of 10 per cent. from last year. Failures for the week number 18, against 22 last week, 29 in this week a year ago and 25 in 1900.

**AMERICAN ACTIVITY IN AUSTRALIA.**—Australian representatives of American business houses are rapidly increasing throughout the Commonwealth, while the American consuls in Sydney, Melbourne, and elsewhere are continually being asked for information respecting commercial requirements in the respective States. The result is that new lines of American goods are continually finding their way into the Australian market. One feature of American enterprise in Australia is the importance attached to extensive advertising. The American importer is ready to spend as many dollars as is his British rival to expend pence. It pays in the long run. Where retail stores are opened, professional window dressers are imported from the States. "The more an article is talked about," said an American agent, "the more readily it

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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.**

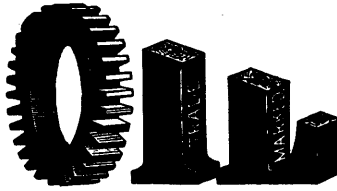
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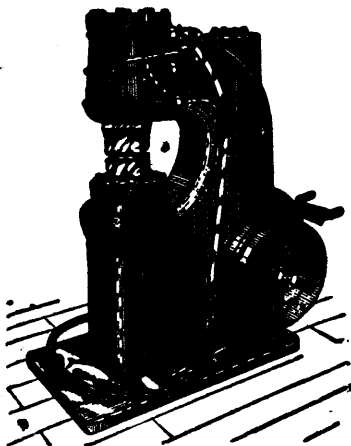
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**THE NICKEL TRUST.**—The capital stock of the International Nickel Co. amounts to \$24,000,000, divided into \$12,000,000 each of common and preferred. Of the capital \$9,000,000 of preferred and a like amount of common stock will be issued to acquire the capital stock of the following: Canadian Copper Co., Anglo-American Iron Co., Vermilion Mfg. Co., Orford Copper Co., Nickel Corporation of London, England; Societe Miniere Caledoniene, of New Caledonia, and Wharton's American Nickel Works, Camden, N.J.

**MANGANESE.**—The production of manganese throughout the world is increasing at a rate at least commensurate with the growth of the demand for it. As our readers know, its use has expanded very materially in recent years, in connection with the manufacture of Bessemer and open-hearth steel, but the element is of tolerably wide distribution in localities where it is capable of easy working, in relation to the consuming centres, and there is no reason to fear for a failure of supplies in the years to come. On the contrary, the development of new mines promises to lead to a plethora, and consequently to a serious fall in prices, unless the manufacture of steel grows pari passu with it, which seems improbable. It is estimated that the world's production during the past year was close upon 900,000 tons, of which over 430,000 tons were supplied by Russia, 120,000 tons by Spain and Portugal, 83,000 tons by India, and the remainder by other countries, among which Brazil leads with a round 70,000 tons. The Russian contribution forms the backbone of the whole annual supply. It comes mainly from the Trans-Caucasus.—London Engineering.

**TRADE DEVELOPMENTS.**—Implement manufacturers are the most importunate buyers, and the bar mills have placed business far into next year, while prices naturally tend upward. It is apparent that this unusual amount of contracting will result in smaller buying later in the season, and there may be some repetition of the speculative dealing now reported in rails, buyers finding prices attractive enough to part with some of their early contracts. In pig iron a number of large contracts are pending, and the Southern foundry producers have resisted the effort to advance quotations. As a rule the coke supply is ample, but there is some fear that reopening of lake navigation will divert cars from this traffic, and there is not any too large facilities at present. Scrap iron and steel command high prices, and an importation has been arranged which is exceptional. A heavy tonnage of merchant pipe and steel is being placed. The ore situation has been complicated by the placing of a large contract at 75 cents for lake trans-

portation to Ohio ports, though small shippers will probably be compelled to pay 80 cents.—Dun's Review.

**THE WORLD'S PRODUCTION OF SPELTER.**—Henry R. Merton & Co., of London, well known for their estimates on mineral production, have compiled figures on the world's output of spelter in 1901. In the following table we compare the 1901 figures as per Messrs. Merton, with the actual production for 1900, as stated in the Engineering and Mining Journal's compilation, The Mineral Industry. Figures are in long tons of 2,240 pounds :

	1900.	1901.
Rhine, Belgium and Holland.....	186,320	199,285
Silesia .....	100,705	106,385
Great Britain .....	29,830	29,190
France and Spain .....	30,620	27,265
Austria and Italy .....	6,975	7,700
Poland .....	5,875	5,935
<b>Totals Europe .....</b>	<b>360,325</b>	<b>395,760</b>
United States .....	110,028	122,830
<b>Totals.....</b>	<b>470,353</b>	<b>498,590</b>

Thus the total production of spelter or metallic zinc increased 6 per cent. The gain in Europe was 4.3 per cent., while in the United States it was 11.6 per cent. In Europe the increase in output was made in the face of some depression in trade and lower prices, the average for good ordinary brands in London in 1901 having been £17 0s. 7d. per ton, against £20 5s. 5d. in 1900, a reduction of 15.9 per cent. The average New York quotation for the year 1901 was 4.08 cents per pound, against 4.39 cents in 1900, a decrease of 7.1 per cent. The depressed

condition of the trade in Europe was further shown by the decrease in shipments from the United States. In 1900 these exports reached a total of 20,001 long tons of spelter, but in 1901 they fell to 3,022 tons. The decrease of 16,979 tons considerably exceeded the increase in production in European countries, so that the supplies there last year were somewhat less than in 1900. In Europe the gain in production was made up by increases of 7 per cent. in the Rhine, Belgium and Holland, and 5.5 per cent. in Silesia. In France and Spain there was a decrease of 10.8 per cent., while in other countries there was but little change. The United States produced 24.6 per cent. of the world's total in 1901, as against 23.4 per cent. in 1900.

**MANITOBA TRADE.**—A very intelligent correspondent of The Globe, writing from Winnipeg about the conditions of trade in Manitoba and the North-West Territories, speaking of certain lines of goods in demand there, says :

Barbed wire, of which thousands of tons are used, is supplied by the United States steel trust. Binder twine is, like the wire, duty free, and comes indifferently from eastern Canada and the States. A factory is now being built in Brandon on the co-operative principle that will, it is expected, supply a large part of the demand. Rope for general farm work is made in Montreal. Nails and tacks come from Montreal and Hamilton and are of good quality. The stocks carried are very large and are brought in while freight rates are low during lake naviga-

tion. Shovels and spades are made in Gananoque, and harvesting tools at and near St. Catharines. Peterboro' supplies locks, bolts and other articles of hardware, while Toronto is the chief point of supply for tinware and graniteware. Hand churns come in by the carload, and St. Mary's and various points in Waterloo county do most of the manufacturing. The woodenware, wood fibre and similar goods are from Newmarket, Toronto and other points covered by the operations of the united factories. Bar iron is from the mills at Hamilton and Montreal. Wheel-barrow are a Meaford product.

In cheap hardware notions and in the lower grades of cutlery the Germans are pre-eminent, but in fine cutlery, in guns and sporting supplies generally, large quantities of which are used, the British manufacturer is supreme. More rifles of American make come in than of guns. Belgium supplies most of the glass, and the stock of this is of course immense, because of the frequency of house building. The paints and oils used are chiefly Canadian preparations. It is needless to say that the cost of coal oil is one of the big grievances of the West, and the heavy freight rates and the large profits of the middleman have fully as much to do with the matter as the duty.

Careful enquiry into the conditions of the dry goods and clothing trade justifies the belief that in woolens of the sort used by country people, in underwear and hosiery, and in certain lines of cottons, the Canadian manufacturer has noth-

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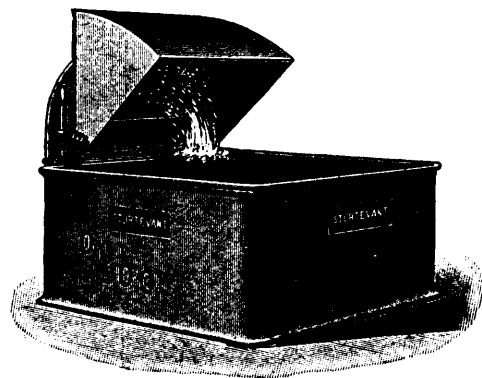
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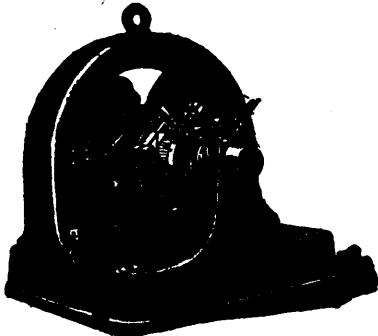
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ing to fear from American competition, and can hold this market. The importation of fine British dress goods has been stimulated by the preferential tariff, but these goods have in no appreciable degree displaced the products of Canadian mills, having rather supplemented them. At one of the great wholesales I was told of a development that is significant. This is the bringing in of clothes and material from the East and the manufacturing of clothing, overalls, shirts and similar articles. The department has been a great success, and of course involves the creation of sub-industries, such as paper box making, the printing of labels, etc. There is a large available supply of girl labor, the work folk being mostly the families of men of foreign nationalities employed in Winnipeg, while some are of Canadian birth. It will no doubt be a good while before Winnipeg devotes time to primary manufacturing, but there will be important developments in a few years along the line of assembling goods and light manufacturing, as above indicated.

Speaking of the furniture trade this correspondent says :

The largest dealer in furniture in Winnipeg, whose store is finer looking than any of its sort in Toronto, has a crow to pick with the Eastern manufacturer. Of his stock perhaps 90 per cent. is made in Canada, the bulk being from Waterloo county. His grievance is the same as that of the hardware men, only more pronounced. In the finish of the edges of drawers, in the adjustment of hinges and locks, and in the polishing, he says the Canadian goods are below the American standard. It is the duty that holds the market, he says, and a high duty makes the manufacturer careless in his modes of production. He, too, is fully convinced that the Canadian workman is just as good and thorough as the American, and that what is needed is the payment of slightly higher prices to the man in the factory for a better finish. This line is of very great importance, as the amount spent on furniture is quite large. The management of the consolidated factories is energetic, and Canadian furniture is competing abroad in free trade markets with that of other countries. It would be wise to keep an eye on the West, where hundreds of thousands of people will be setting up new homes within the next two decades.

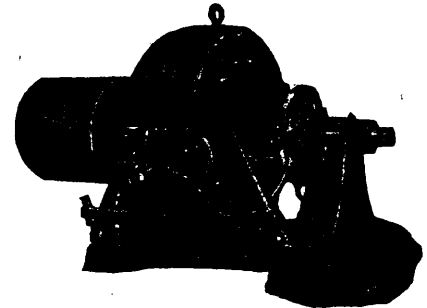
In the matter of pianos and organs, which are almost entirely of Ontario manufacture, I found no complaints. The goods are excellent, and give great satisfaction. As the first cost of settlement is wiped off, the demand for pianos and organs will grow steadily, and the manufacturers will find the collections of their agents greatly improved.

A leading hardware merchant in giving the correspondent an idea of the variety of lines handled and of the proportion of Eastern Canadian goods used in the various branches of business, said that American competition in implements has become keener in recent years, and perhaps 30 per cent. of the number now in use on the farms are of American make. In stoves Canadian makers are supreme, and the factories in Toronto, Hamilton, Lon-

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don, Brantford, Goderich and other points do an enormous business. This must continue one of the most profitable and steady of trades, because whatever else the Western farmer may do without he must have heat and food.

In regard to general hardware, a very big item in a new country, there are things to be said that will not be entirely agreeable to the Eastern manufacturer. He is charged with finishing goods that are otherwise admirable in a manner, so slovenly and unworkmanlike, that it is difficult to sell them in competition with American tools and hardware of the same grade, which are beautifully finished.

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- GODERICH—John Morris, planing mill, assigned to W. R. Robertson.
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- HANOVER—Ball Furniture Co., obtained charter.
- LONDON—Carnall Hat & Cap Co., mfrs., succeeded by The Elite Mfg. Co.
- Hobbs Mfg. Co., obtained charter.
- Hobbs Hardware Co., obtained charter.
- Wood Art Glass Co., mfrs., amalgamated with The Hobbs Mfg. Co.
- MCKELLAR—McKellar Cheese Factory, business for sale.
- NEWMARKET—Newmarket Sugar Co., obtained charter.
- OTTAWA AND ORMSTOWN—Crown Pressed Brick Co., assets sold.
- Stevens Mfg. Co., iron and brass foundries, etc., opening branch.
- PETERBOROUGH—Canadian Ultimotor Co., obtained charter.
- Trent Valley Peat Fuel Co., assets for sale.
- SAULT STE. MARIE—New Ontario Dock & Coal Co., obtained charter.
- TORONTO—Archer Development Co., obtained charter.
- Electric Cab Co., winding-up order granted.
- Computing Scale Co., obtained charter.
- National Lumber Co., obtained charter.

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OFFICES

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

North Toronto Milling Co., dissolved, Thos. McIntosh continues.  
WALLACEBURG—Riverside Canning Co., succeeded by Stonehouse Bros.

**QUEBEC.**

- BLACK LAKE—Union Asbestos Co., registered.
- CAPELTON—Nichols Chemical Co., registered.
- COOKSHIRE—Doherty & Gauthier, mfrs. lash blocks, registered.
- MONTREAL—Canadian Asbestos Co., registered as incorporated.
- Canadian Foundry & Iron Co., applied for charter.
- Compagnie (La) Electrique Crescent, registered.
- L. M. Goyette & Cie., mfrs. boots and shoes, registered.
- Lockhart Bedding Co., dissolved, new partnership registered.
- McLaughlin Carriage Co., registered.
- Ogilvie Flour Mills Co., applying for incorporation.
- D. S. Perrin & Co., whol. confec., registered.
- H. C. Slingsby (for Canada), mfrs. trucks, wheels, etc., registered.
- Sunlight Gas Co., obtained charter.

ST. LOUIS DE MILE END—G. Lefebvre & Cie., mfrs. boots and shoes, registered.  
SHERBROOKE—Eastern Townships Brick Mfg. Co., registered.

**NEW BRUNSWICK.**

NEWCASTLE—Lounsbury Co., implements, etc., applying for incorporation.

**NOVA SCOTIA.**

DIGBY—Digby Woodworking Co., R. M. Oliver, registered sole prop.

**MANITOBA.**

WINNIPEG—Royal Crown, mfrs. soap, incorporated.

**BRITISH COLUMBIA.**

FERNIE—Cedar Valley Improvement Co., incorporated.

VICTORIA—Ashnola Coal Co., incorporated.  
Clayoquot Sound Canning Co., incorporated.

**NORTH-WEST TERRITORIES.**

CALGARY—Calgary Oatmeal Mill Co., incorporated.  
PASQUA—Pasqua Farmers Elevator Co., incorporated.

Main Factory—BRADFORD, ENG.

Main Showrooms—LONDON, ENG.

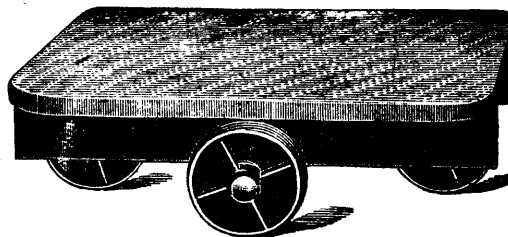
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**H. C. SLINGSBY for Canada, Factory—MONTREAL—Office**

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

We make every truck that leaves our factory advertise us.

SPINS LIKE  
A TOP.  
RUNS  
EITHER  
WAY.



WITH OR  
WITHOUT  
RUBBER TIRES.

EASIEST  
RUNNING  
TRUCK IN  
EXISTENCE.

End Wheels Slide  
on Axle.

**DIXON'S DOES TWO THINGS**



AND DOES THEM THOROUGHLY  
STOPS THE BELT FROM SLIPPING.  
PLEASES THE MAN WHO USES IT.

NOTHING EQUALS IT...

SAMPLE SENT FREE. SEND FOR ONE.

JOSEPH DIXON CRUCIBLE CO., JERSEY CITY, N.J. U.S.A.

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# HARDWARE, METALS, PAINTS and OILS

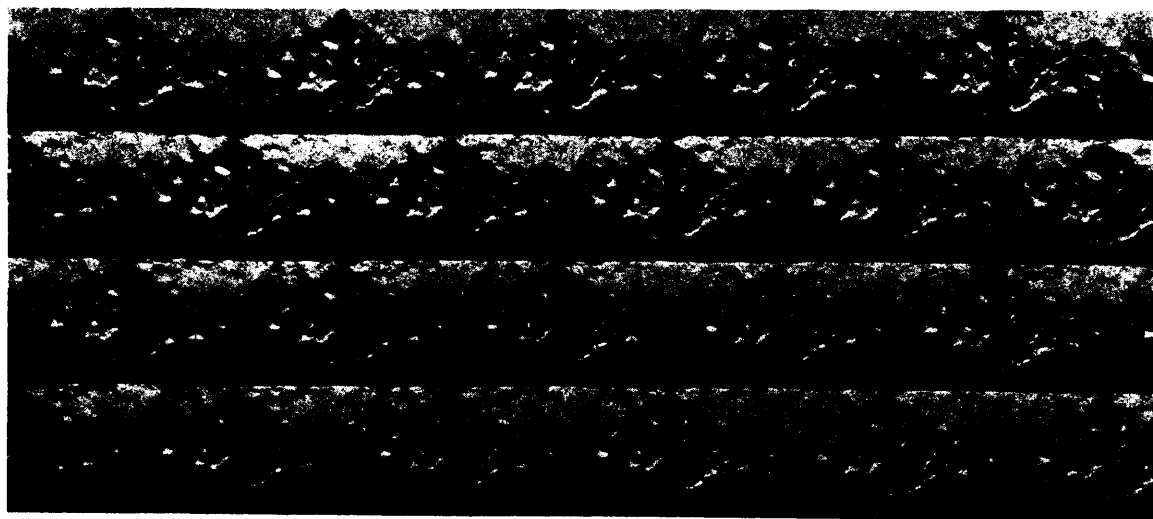
**Current Prices, Revised to April 18, 1902.**

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

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

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

<p><b>ADZES.</b>—Duty 30%. \$13 to \$20 per doz.</p> <p><b>AMMUNITION.</b>—Duty 30%. Caps, Gun, gross. Cartridges, B.B. Cap, Dom., 50 &amp; 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 &amp; 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 &amp; 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.</p>	<p>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.</p> <p><b>ANCHORS.</b> Small, 30 to 50 lbs., \$7.00 per 100 lbs). 100 lbs. and larger, \$5.00 per 100 lbs).</p> <p><b>ANVILS.</b>—Duty 30%. Boker &amp; Co., 12 to 15 cents per lb. Brook's, 10 to 13 cents per lb. Peter Wright's, 12 to 15 cents per lb.</p> <p><b>AUGERS.</b>—Duty 30%. Eye Augers, 60% discount. Nut Augers, 60 " " Ship Augers, 10 " "</p> <p><b>AXES.</b>—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.</p> <p><b>AXLE GREASE.</b>—Duty 25%. Ordinary, box, \$5.75 to \$6 per gross.</p>	<p><b>AXLES.</b>—Duty 35%. Half patent, short beds, 60% discount per set. " " long " 60% " "</p> <p><b>BAGS.</b>—Duty 20%. Cotton, seamless, \$14 @ \$24.50 per 100. Jute, \$7.75 @ \$9 per 100.</p> <p><b>BANDS.</b>—Duty 30%. Carriage Hub, 2" x 1½", \$13.00 per set. " " 2½" x 1½", 14.00 " " " " 2½" x 1½", 15.00 " " " " 2½" x 1½", 16.00 " " " " 2½" x 1½", 17.00 " " " " 2½" x 1½", 18.00 " " " " 2½" x 1½", 19.00 " " " " 2½" x 1½", 20.00 " " " " 3" x 1½", 21.00 " " " " 3½" x 1½", 24.00 " " " " 3½" x 1½", 25.00 " " " " 3½" x 1½", 26.00 " " " " 3½" x 1½", 27.00 " " " " 3½" x 1½", 28.00 " " " " 3½" x 1½", 29.00 " " " " 3½" x 1½", 30.00 " " " " 4" x 1½", 31.00 " "</p> <p><b>BARROWS.</b>—Duty 30%. See Wheelbarrows.</p>
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This cut illustrates a single sheet of our Fig. 825 Siding, 30 x 96 inches in size—It is a superior siding in every respect and we can supply it in Painted Steel or Galvanized Steel, with proper corner trimmings and everything necessary for a handsome and durable job. Give us particulars of your buildings (size and construction) and we will submit sample and estimate.

**THE METAL SHINGLE & SIDING CO., Limited**  
**PRESTON, - ONTARIO**

**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 ½ cents lb., & 25%.  
Bolt Ends, 62½% discount.  
Carriage, 60 " "  
Coach Screws, 70 " "  
Elevator Bolts, 45% discount.  
Machine, 60 " "  
Plow, 60 " "  
Shaft, 45 " "  
Sink, 50 " "  
Sleigh Shoe, 72½ " "  
Stove, 60 " "  
Tire, 55 " "

**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.; 1¼", 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.  
" " " 1 " " 3.00.  
In Cans " 100 lbs., \$3.25.

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

**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.; ½, \$3.75 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).**

**DYNAMITE.**  
30 to 50 cents per lb.

**EMERY.**  
Coarse, 7 cents per lb.  
Fine, 5 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, 33¼% 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, 5½x10½, 20 rod rolls 55% discount, Can. list.  
" 4 x8, 20 " 50 & 5% " "  
" 3 x8, 20 " 55 & 5% " "

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

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

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

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

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

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

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

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

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

**GLASS.**—Duty 20%. (Window).  
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.

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

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

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

**HALTER MOUNTINGS.**—Duty 30%.  
1x1½ inch, 10c. per lb.  
(Evans), 1x1½ in., doz. set packages, \$8.00 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, ½, \$3 per gross.  
Rope, ¾ to 1, \$1½ per gross.  
Web, \$1.87 to \$2.45 per doz.

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

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

**HANGERS.**—Duty 30%.  
Barn Door, round groove, \$4.50 to \$6.50 per doz.  
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., 6¼  
6 in., 6  
8 in., 5½  
10 in., 5¼  
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, 33 cents per lb.  
Zinc, 6 to 6½ cents per lb.; sheets, 7 cen 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.  
Spoooner'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—7½ 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, \$3.50 per 100 lb.  
Soldier 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%).—½ 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, \$3.30; 4 & 5d, \$3.25; 6 & 7d, \$3.15; 8 & 9d, \$3; 10 & 12d, \$2.95; 16 & 20d, \$2.90; 30, 40, 50 & 60d (base), \$2.85; fine, 3d, \$3.85.  
Wire nails in car lots, \$2.77½.  
Miscellaneous wire nails, 70 & 10% discount.

**NAIL SETS.**—Duty 30%.  
Assorted sizes, \$1.20 per doz.

**NETTING—Wire.**—Duty 30%.  
Galvanized, 50% discount.  
Green wire, \$1.50 per 100 sq. ft.  
Poultry, 2x2 mesh, 150 ft. roll, 55 off Canadian List.

**NOZZLES.**—Duty 30%.  
Hose (Brass), \$3.50 to \$5 per doz.

**NUTS.**—Duty ½ cent per lb. & 25%.  
Finished, tapped, 25 % discount.  
Rough, square head, 4 cents per lb. from list.  
Rough, hexagon head, 4½ cents lb. from list.  
Semi-finished, tapped, 25% discount.

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

**OIL.**—Duty 25%.  
Boiled Linseed Oil bbls., 86 cents per gal.  
Cylinder Oil, from 40 cents up.  
Lard Oil, bbls., 90 cents per gal.  
Machine.  
Prime White (Can.), 14 cents per gal.  
Prime White (U.S.), 15½ cents per gal.  
Raw Linseed Oil, bbls., 83 cents per gal.  
Sperm Oil, bbls., \$1.75 per gal.  
Water White (Can.), 15 cents per gal.  
Water White (U.S.), 16½ cents per gal.

**OILERS.**—Duty 30%.  
\$1 per doz. up.

**PACKING.**—Duty 35%.  
Rubber Insertion, 60 cents per lb.  
Rubber Sheet, 22 cents per lb.

**PACKING.**—Duty 25%.  
Asbestos, 35 cents per lb.  
Flax, 35 cents per lb.  
Hemp, 12½ cents per lb.  
Jute, 8 cents per lb.

**PAILS.**—Duty 25%.  
Galvanized Iron, \$2.50 to \$3.50 per doz.

**PAINTS.**—Duty 25%.  
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 ½, 1 & 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, 18 cents per lb.  
Drop Black, pure, 9 cents per lb.  
English Oxides, \$3 to \$3.25 per 100 lb.  
English Vermillion, 80 cents.  
Fire Proof Mineral, \$1 per 100 lb.  
Genuine English Litharge, 7 cents per lb.  
Golden Ochre, 3½ cents per lb.  
Mortar Color, \$1.25 per 100 lb.  
Pure Indian Red, No. 45, 90 cents per lb.  
Super Magnetic Oxides, \$2 to \$2.25 per 100 lb.  
Ultramarine Blue, in 28-lb. boxes, 8 to 24 cents per lb.  
Venetian Red (best), \$1.80 to \$1.90 per 100 lb.  
Whiting, 12 cents.

**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, 5¼  
Carpet Felt, \$45 per ton.  
Plain building, 35 cents per roll.  
Tarred lining, 45 cents per roll.  
Tarred roofing, \$1.65 per 100 lbs.

**PEAVEYS.**—Duty 30%.  
Round and Duck bill, \$2.50 and \$13 per doz.

**PIKE POLES.**—Duty 30%.  
\$10.50 per doz.

**PICKS.**—Duty 30%.  
\$4.50 to \$7 per doz.

**PITCH.**  
85 cents 100 lbs.

**PIPE.**—Duty, \$8 per ton.  
Cast Iron Soil, Medium and Heavy, 65% discount  
Light, 60% discount.

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

**PIPE.**—Duty 30%.  
Galvanized Iron.  
1, \$5.15 per 100 ft.; 1/2, \$5.50 per 100 ft.; 1, \$7.95 per 100 ft.; 1 1/2, \$10.80 per 100 ft.; 2, \$12.95 per 100 ft.; 2 1/2, \$17.35 per 100 ft.

**PIPE, BLACK IRON.**—Duty 30%.  
1, \$4.65 per 100 ft.; 1/2, \$3.40 per 100 ft.; 3/4, \$3.45 per 100 ft.; 1, \$3.30 per 100 ft.; 1 1/2, \$3.75 per 100 ft.; 2, \$3.90 per 100 ft.; 2 1/2, \$4.25 per 100 ft.; 3, \$30.00 per 100 ft.; 3 1/2, \$37.50 per 100 ft.; 4, \$42.75 per 100 ft.; 4 1/2, \$51.50 per 100 ft.; 5, \$57.50 per 100 ft.; 6, \$74.50 per 100 ft.

**PIPE.**—Duty 30%.  
Wrought Iron, 1 inch, per ft. 16 1/2 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 12 1/2-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 37 1/2% discount.

**RIVETS AND BURRS.**—Duty 30%.  
Copper Rivets and Burrs, 35 & 5 off; cartoons, 1 cent per lb. extra.  
Extras on Iron Rivets in 1-lb. cartoons, 1/2 cent per lb.  
Extras on Iron Rivets in 1/2-lb. cartoons, 1 cent per lb.  
Extras on Tinned or Coppered Rivets, 1/2-lb. cartoons, 1 cent per lb.  
Iron Rivets, black and tinned, 60 & 10% discount.  
Iron Burrs, 55% discount.

**ROPE, ETC.**—Duty 25%.  
Cotton, 3-16 in. and larger, 16 cents per lb.  
" 5-32 in., 21 cents per lb.  
" 1/2 in., 2 1/2 cents per lb.  
Crucible Steel Rope, 25% discount.  
Galvanized Wire Rope, 25% discount.  
Jute, 8 cents per lb.  
Lath Yarn, 9 1/2 cents per lb.  
Manila, 7-16 in. and larger, 13 1/2 cents per lb.  
" 1/2 in., 14 1/2 cents per lb.  
" 1/4 and 5-16 in., 15 1/2 cents per lb.  
New Zealand Rope, 10 cents per lb.  
Russia Deep Sea, lines 15 1/2 cents per lb.  
Sisal, 7-16 in. and larger, 10 cents per lb.  
" 1/2 in., 11 cents per lb.

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

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

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

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

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

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

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

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

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

**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 Amunition.

**SHOVELS AND SPADES.**—Duty 35%.  
Jones', 40 and 5% discount.  
Steel, Snow, \$2.45 @ \$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 1/2 cent per lb.  
Rail, 20% discount.  
Ship, \$5 per 100 lb.

**SPRINGS.**—Duty 35%.  
Bright Carriage, 6 1/2 per lb. net.

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

**STEEL.**—see Metals.

**STOCKS AND DIES.**—Duty 30%.  
Blacksmiths', Lightning, 25% discount.  
" Reeco, 30% discount.  
" Jardine, 35% "  
Pipe, Solid, 70 & 10% discount.  
" Duplex, 33 1/2% discount.  
" Jarecki, 35 1/2% "  
" Oster, 30% "  
" Armstrong, 35% "

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

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

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

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

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

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

**TRAPS.**—Duty 30%.

**TRUCKS.**—Duty 30%.

**TURNBUCKLES.**—Duty, 1 cent per lb., 25%; 3 1/2% discount.

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

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

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

**VARNISHES.**—Duty 20 cents per gal.  
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., 13 1/2 cents per lb.  
Brooks', 13 1/2 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.  
Dowsell, \$3.75 each.  
Re-acting (Dowsell), \$5 each.

**WIRE.**  
Brass Wire, (duty 10%), 50 to 50 & 2 1/2% discount.  
Copper Wire, (duty 15%), 45 & 10% discount net cash 30 days, f.o.b. factory.  
Smooth Steel Wire, (duty 20%), is quoted at the following net selling prices:  
No. 6 to 8 gauge, \$2.90 per 100 lbs.  
" 9 " 2.80 "  
" 10 " 2.87 "  
" 11 " 2.90 "  
" 12 " 2.95 "  
" 13 " 3.15 "  
" 14 " 3.37 "  
" 15 " 3.50 "  
" 16 " 3.65 "  
Other sizes of plain wire outside of Nos. 9, 10, 11, 12 and 13, and other varieties of plain wire remain at \$2.80, base, with extras as before.  
Galvanized Wire, per 100 lb.: Nos. 6, 7, 8, \$3.50 to \$3.85; No. 9, \$2.85 to \$3.15; No. 10, \$3.60 to \$3.95; 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, \$4.60 to \$5.05; No. 16, \$4.85 to \$5.35. Base sizes, Nos. 6 to 9, \$2.57 f.o.b. Cleveland.  
Clothes Line Wire, solid 7 strand, No. 17, \$4.35; No. 18, \$2.65; No. 19, \$2.35; f.o.b. Toronto, Hamilton and Montreal.

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

**WHEELBARROWS.**—Duty 30%.  
Garden, \$2 to \$4.50 each.  
Navy, \$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 "  
Trimco, pipe, 25 "

**WRINGERS (Clothes).**—Duty 35%.  
Canadian, \$26 to \$30 per doz.  
Popular Brands, \$16.50 to \$22 per doz.

**ZINC.**—See Metals.

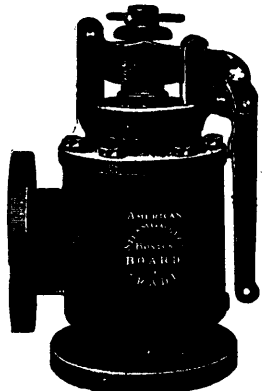
# INDEX TO ADVERTISEMENTS.

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

Agriculture, Ontario Minister of, Toronto.....	33	Fetherstonhaugh & Co., Toronto.....	ofc	Northey Mfg. Co., Toronto.....	8
Albert Mfg. Co., Hillsborough, N.B.....	6	Firstbrook Box Co., Toronto.....	43	Nova Scotia Steel & Coal Co., New Glasgow, N.S.....	4
Algoma Steel Co., Sault Ste. Marie, Ont.....	2	Fleming, W. A. & Co. Montreal.....	17		
Allan & Co., E. M. & A., Toronto.....	36	Forman John, Montreal.....	5-8	Oakey, John & Sons, London, Eng.....	5
American Steam Gauge & Valve Mfg. Co., Boston, Mass.....	42	Frick, H. C. Coke Co., Pittsburg, Pa.....	ofc	Ontario Malleable Iron Co., Oshawa, Ont.....	ofc
American Steam Pump Co., Battle Creek, Mich.....	30	Frost, W. H., Smith's Falls, Ont.....	ofc	Ontario Wind Engine & Pump Co., Toronto.....	29
Anglo-Russian Trade Messenger, Moscow, Russia.....	37			Owen Sound Portland Cement Co., Owen Sound, Ont.....	6
Archbold, George, Prescott, Ont.....	43	Gartshore, John J., Toronto.....	43		
Armstrong Mfg. Co., Bridgeport, Conn.....	21	Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.....	32	Packard Electric Co., St. Catharines, Ont.....	34
		Gee Electrical Engineering Co., Toronto.....	22	Page Wire Fence Co., Walkerville, Ont.....	23
Bale & Co., London, England.....	29	Goldie & McCulloch Co., Galt, Ont.....	3	Parke, Roderick J., Toronto.....	8
Barber, Wm. & Bro., Georgetown, Ont.....	43	Gooding William, London, Eng.....	43	Parker, Alfred S., New Toronto, Ont.....	43
Bellhouse, Dillon & Co., Montreal.....	33	Gordon, Drummond & Co., London, Eng.....	30	Patent Clothboard Co., Parry Sound, Ont.....	43
Bell Organ & Piano Co., Guelph, Ont.....	31	Gowdley, J. A., Reed & Harness Mfg. Co., Providence, R. I.....	23	Perrin, Wm. R. & Co., Toronto & Chicago, Ill.....	19
Benson, W. T. & Co., Montreal.....	2	Gray, R. A. L. & Co., Toronto.....	31	Peterborough Canoe Co., Peterborough, Ont.....	6
Bertram, John & Son, Dundas, Ont.....	3	Greening B. Wire Co., Hamilton.....	28	Phillips, Eugene F., Electrical Works, Montreal.....	34
Big Four Route, Boston, Mass.....	43	Gutta Percha & Rubber Mfg. Co., Toronto.....	ofc	Pitt & Scott, New York City.....	35
Blagden, Waugh & Co., London, England.....	32			Queen City Oil Co., Toronto.....	ofc-34
Bourne Fuller Co., Cleveland, Ohio.....	32	Hamilton Brass Mfg. Co., Hamilton, Ont.....	5		
Bradstreets, Toronto and New York.....	36	Hamilton Cotton Co., Hamilton, Ont.....	ofc	Rehder Plating & Mfg. Co., Thorold, Ont.....	43
Bristol Co., Waterbury Conn.....	ofc	Hamilton Facing Mills Co., Hamilton, Ont.....	30	Rice Lewis & Son, Toronto.....	21
Brown & Co., Paris, Ont.....	23	Hamilton, Wm., Mfg. Co., Peterborough, Ont.....	4	Riley, C. E. & Co., Boston, Mass.....	ofc
Brush, George, Montreal.....	34	Hay, Peter, Galt, Ont.....	1	Robb Engineering Co., Amherst, N.S.....	6
Brunner, Mond & Co., Northwich, Eng.....	5	Hore, F. W. & Son, Hamilton, Ont.....	43	Rosamond Woolen Co., Almonste, Ont.....	43
Buchanan, R. H. & Co., Montreal.....	43	Howard, E. Clock Co., Boston, Mass., and New York City.....	37	Rossendale Belting Co., Manchester, Eng.....	7
Budden, Hanbury A., Montreal.....	43	Hyde, F. & Co., Montreal.....	31		
Buffalo Forge Co., Buffalo, N.Y.....	16			Schoellkopf, Hartford & Hanna Co., Buffalo, N.Y.....	23
Bureau of Mines, Toronto.....	2	Imperial Oil Co., Petrolea, Ont.....	3	Scioto Fire Brick Co., Sciotoville, Ohio.....	37
Burt Mfg. Co., Akron, Ohio.....	16	Jenckes Machine Co., Sherbrooke, Que.....	24	Slingsby, H. C. for Canada, Montreal.....	ofc
Butterfield & Co., Rock Island, Que.....	16	Jones & Moore Electric Co., Toronto.....	36	Smith & Cameron, Toronto.....	43
		Karch, H. W., Hespeler, Ont.....	23	Smith Woolstock Co., Toronto.....	43
Canada Foundry Co., Toronto.....	5	Kay Electric Dynamo & Motor Co., Toronto.....	31	South American Trade Journal, London, E.C., England.....	37
Canada Iron Furnace Co., Montreal.....	2	Keller, John J. & Co., New York, N.Y.....	23	Spence, R. & Co., Hamilton, Ont.....	30
Canada Switch & Spring Co., Montreal.....	ofc	Kelly's Directories, Toronto and London, Eng.....	29-33	Stanyon Engineering Co., Toronto & Pittsburg, Pa.....	36
Canadian Canoe Co., Peterborough, Ont.....	30			Storey, W. H. & Son, Acton, Ont.....	43
Canadian Colored Cotton Mills Co., Montreal.....	22	Kerr Engine Co., Walkerville, Ont.....	36	Stow-Fuller Co., Cleveland, Ohio.....	29
Canadian Heine Safety Boiler Co., Toronto.....	8	Kingston Foundry, Kingston, Ont.....	2	Sturtevant, B. F. Co., Boston, Mass.....	35
Canadian Manufacturer Pub. Co., Toronto.....	43	Kinleith Paper Co., St. Catharines, Ont.....	6	Syracuse Smelting Co., Montreal.....	7
Canadian Office & School Furniture Co., Preston, Ont.....	17	Klipstein, A. & Co., New York, N.Y.....	21		
Canadian Portland Cement Co., Deseronto, Ont.....	19			Tallman, J. N. & Sons, Hamilton, Ont.....	43
Canadian Rand Drill Co., Montreal.....	7	Laurie Engine Co., Montreal.....	43	Thompson, W. G. M., St. Catharines, Ont.....	36
Canadian Rubber Co., Toronto and Montreal.....	ofc	Leitch & Turnbull, Hamilton, Ont.....	31	Toronto & Hamilton Electric Co., Hamilton, Ont.....	43
Carrier, Laine & Co., Levis, Que.....	ofc	Lewis, Rice & Son, Toronto.....	23	Toronto Paper Mfg. Co., Cornwall, Ont.....	43
Carruthers, Robert, Lowell, Mass.....	ofc	London Machine Tool Co., London, Ont.....	23	Trimont Mfg. Co., Roxbury, Mass.....	23
Case, Egerton R., Toronto.....	ofc	Lumsden, J. & Co., Montreal.....	43		
Cassella Color Co., New York and Montreal.....	33	Mason Machine Works, Taunton, Mass.....	43	United Electric Co., Toronto.....	ofc
Clark & Demill, Galt, Ont.....	15	Merrimac Chemical Co., Boston, Mass.....	27	Vulite Syndicate, London, E.C., England.....	33
Cooper, James Mfg. Co., Montreal.....	26	Metallic Roofing Co., Toronto.....	25		
Cowan & Co., Galt, Ont.....	20	Metal Shingle & Siding Co., Preston, Ont.....	6	Walkerville Malleable Iron Co., Walkerville, Ont.....	ofc
Crosby Steam Gauge & Valve Co., Boston, Mass.....	6	Milnes, J. H. & Co., Toronto.....	32	Wallberg, E. A., Toronto.....	30
		Montreal Pipe Foundry Co., Montreal.....	ofc	Whiting Foundry Equipment Co., Harvey, Ill.....	ofc
Darling Bros., Montreal.....	22	Morrow, John, Machine Screw Co., Ingersoll, Ont.....	ofc	Williams, A. R. Machinery Co., Toronto.....	ofc
Dean Bros., Toronto.....	2	Morton Co., Toronto.....	5	Winn & Holland, Montreal.....	5
Deseronto Iron Co., Deseronto, Ont.....	37	McArthur, Corneille & Co., Montreal.....	25	Wilson Bros. Bobbin Co., Todmorden, Eng.....	31
Dixon, Jos., Crucible Co., Jersey City, N.J.....	18	McEachren Heating & Ventilating Co., Galt, Ont.....	32	Wilson J. C. & Co., Glenora, Ont.....	ofc
Dodge Mfg. Co., Toronto.....	4	McLachlan Gasoline Engine Co., Toronto.....	32	Wire and Cable Co., Montreal.....	ofc
Dominion Bridge Co., Montreal.....	ofc	McLaren, D. K., Montreal and Toronto.....	43	Worth & Martin, Toronto.....	9
Dominion Dyewood & Chemical Co., Toronto.....	ofc			Wright & Dallyn, Hamilton, Ont.....	28
Dominion Oil Cloth Co., Montreal.....	20	Neff, A. C., Toronto.....	43		
Dominion Radiator Co., Toronto.....	2	New Toronto Woolstock Co., New Toronto, Ont.....	43	Zanzibar Paint Co., Toronto.....	28
Drummond, McCall & Co., Montreal, Que.....	25				
Electric Construction Co., London, Ont.....					

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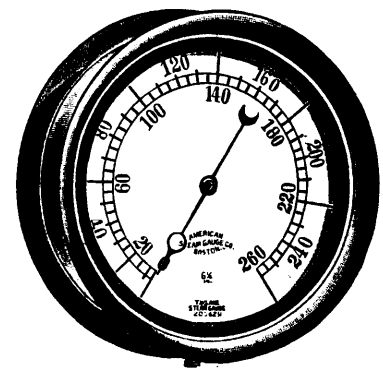
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