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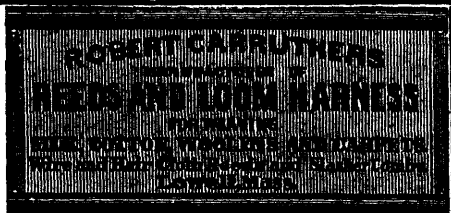
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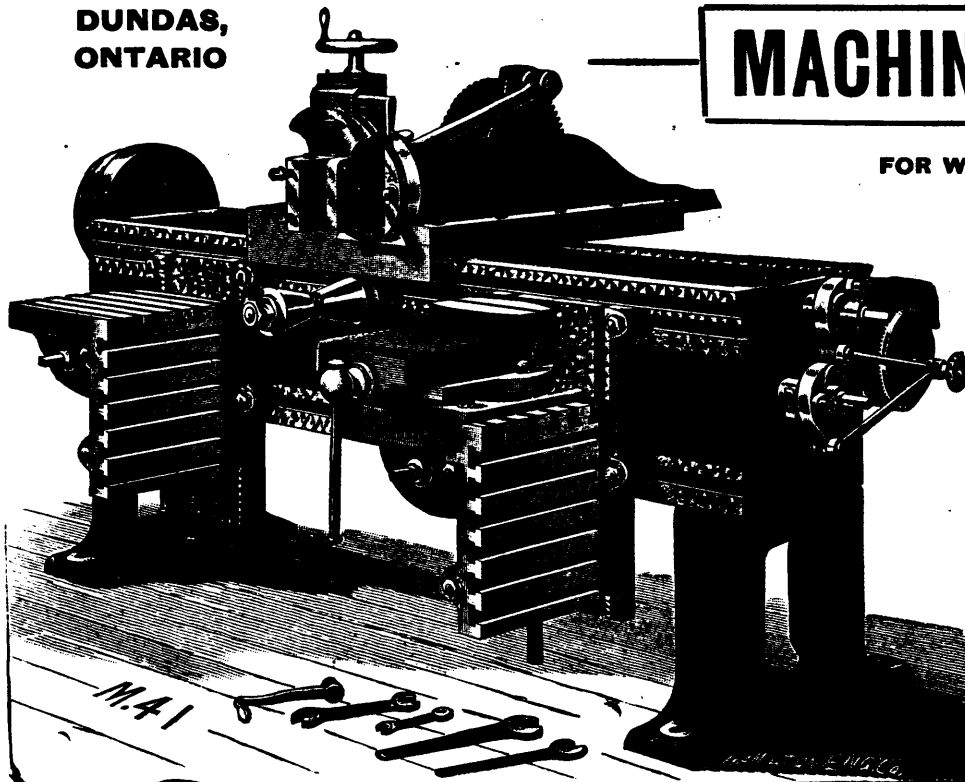
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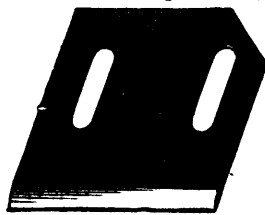
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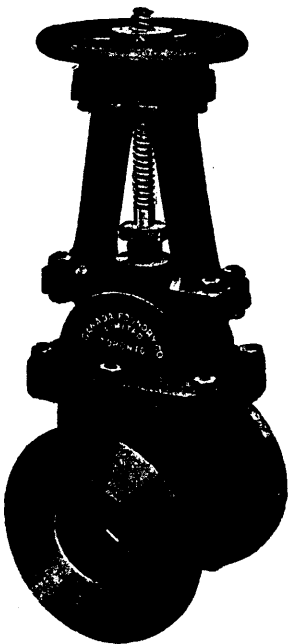
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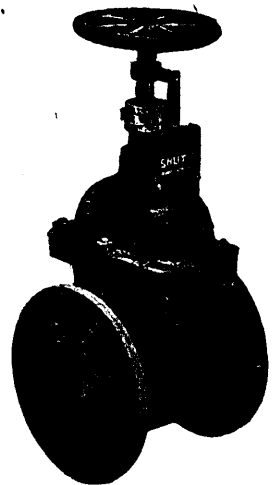


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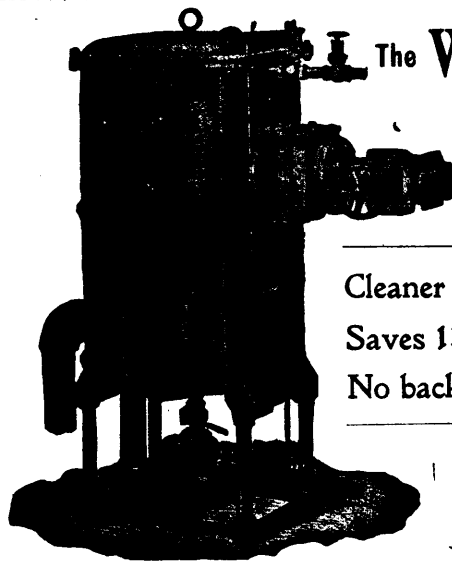
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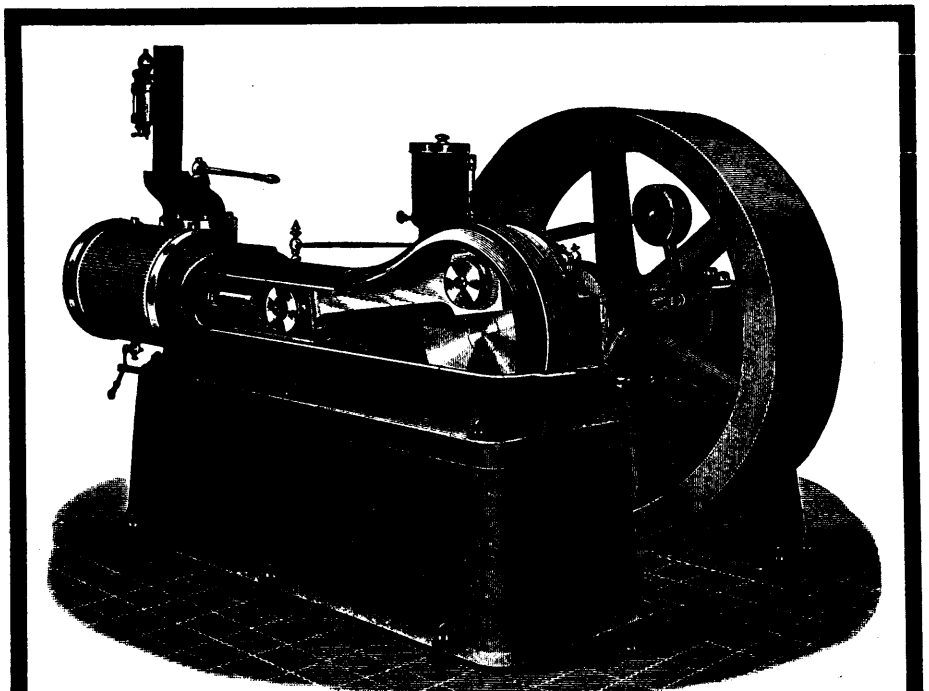
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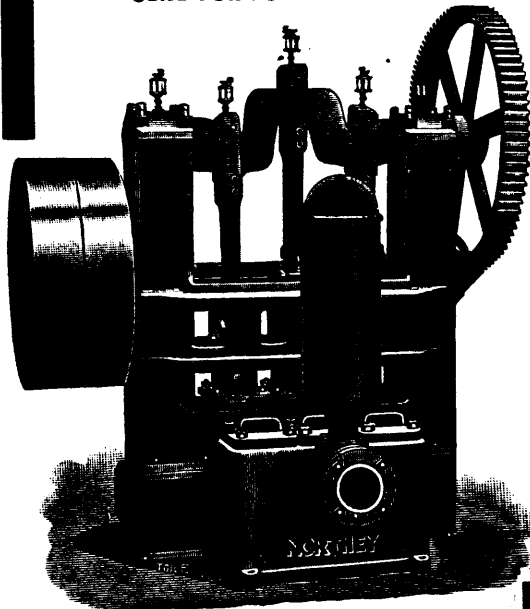
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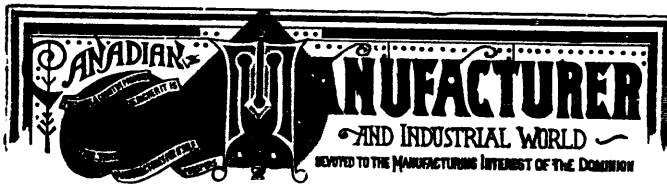
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PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

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MESSRS. DAVISON & CO.,

164 Federal Street, - Boston, Mass.

AGENTS FOR UNITED STATES.

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J. J. CASSIDEY, - - - *Editor and Manager*

THE TORONTO FAIR.

Now that the Fair Association is recognizing the fact that the manufacturers are an important department of the annual exhibition and are constructing suitable buildings for the proper display of machinery, the manufacturers should interest themselves in the Fair and endeavor to make it a success. There is no exhibit at any fair more attractive than that of machinery in motion, but as this entails an expense which in many cases cannot be afforded by exhibitors, it has been suggested that the provincial Government be asked to provide funds sufficient to cover a portion of the cost. The present is the time to bring this matter before the provincial authorities, as it is only a few months before the Fair will be opened. If the manufacturers are offered fair treatment in the matter of housing their exhibits, and in the providing of power for machinery, there will, no doubt, be a large increase in the number of exhibits, assisting materially in giving the Toronto Industrial Fair a greater reputation than it at present enjoys. A good showing this season will go far towards making a success of the Dominion Exhibition which it is proposed to hold in Toronto next year.

MODERN TARIFF SYSTEMS.

The United States Treasury Bureau of Statistics have issued a monograph entitled "Modern Tariff Systems," which is of considerable interest to all students of the tariffs of different countries.

It presents in concise form a statement of the three distinct tariff systems now applied in the principal commercial countries of the world, and is of special interest at this time in view of the tariff discussions and pending tariff legislation in certain European countries. The tariff systems now in use among the prominent commercial countries of the world may be classed under three heads: (1) The general tariff system; (2) the general and conventional tariff system; and (3) the maximum and minimum tariff system. The system of a general tariff is the simplest of those enumerated, and consists in having a single schedule of import duties, which is applied to the goods of all countries without distinction. Such a tariff is altogether an act of the legislative branch of the government. It takes account only of the needs of the home country, and recognizes foreign commercial relations only in so far as the latter are in harmony with home interests.

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.

The system of general and conventional tariffs, however, makes a distinction between goods which come from different countries. The fact that nations which make use of a general tariff often find themselves compelled to change this tariff when they later make commercial treaties is evidence of how difficult it is to maintain such a tariff intact. But since modern nations are practically compelled to have more or less commercial relations with each other, some way of regulating these relations must be found, and the usual method of securing this end is by means of a mutual understanding between the countries in question. Generally one nation declares itself ready to grant some concession or reduction in its tariff if a corresponding concession is offered in return. If an agreement is reached, a treaty is then made, and as a rule the willingness is expressed to make further treaties with other countries under similar conditions. Such a treaty will usually introduce new tariff rates. If the state substitutes these rates for those in the general tariff, then no change in the system takes place. The usual course, however, is for the state to now maintain two columns in its tariff schedule; the first for those countries enjoying the "most favored nation" treatment, which is called the treaty or conventional tariff, and the second containing the original rates, for those countries not receiving this treatment, and termed the general tariff.

The rates of the conventional tariff are, of course, never higher than those of the general schedule, and are usually lower. It may be, however, that one nation regards it of importance that a certain rate, a reduction of which is refused by the other power, should not be increased during the period for which the treaty is made. The making of an agreement that rates shall not be changed is termed "binding" such rates. That is, the conventional tariff schedule is composed of reduced and "bound," or fixed rates. The general schedule may be changed at any time without breaking any of the conditions of the treaty, but, the conventional schedule can only be changed by the consent of both parties.

The general tariff is framed with the acknowledged purpose of being the basis for the negotiations of commercial treaties. A conventional schedule is drawn up in these treaties, and, by the action of the most favored nation clause, the conventional tariff becomes so extended in application that, as a rule, it is the exception to apply the general tariff. For this reason, the general tariff is regarded mainly in the light of a preliminary sketch of the real tariff. As a consequence, the rates in the

general schedule are not infrequently made rather high, so that they can readily be reduced and concessions demanded in return. There is always the possibility, however, that the negotiations may be broken off for some unforeseen reason, and the undesired high rates become actual rates. This possibility generally exerts a restraining influence in the framing of the general tariff. The course which events in the field of commercial policy may take will always exert considerable influence in the formation of such tariff schedules, but the main consideration must always be the needs of the home producers.

The most prominent country using the general and conventional system is Germany. The general tariff is practically that of 1879 with the later amendments. The conventional tariff is made up of the schedules contained in the commercial treaties with Austria, Italy, Belgium, Switzerland, Russia, Roumania, Greece and Servia. Partially through commercial treaties and partially through the action of the administration in making most-favored-nation agreements, Germany has extended the application of the conventional schedule until it is now given to all European countries except Portugal. The general tariff, therefore, has only a very limited scope, and in this case may be regarded as a penalty tariff. In Austria the general tariff is based on the laws of 1882 and 1887.

The maximum and minimum tariff system is distinguished from the above system, first of all, in its form. Instead of having two rates for a few articles it has two rates on most articles on which duties are imposed, and for this reason is frequently called the double tariff system. In the application of these rates the maximum schedule corresponds to the general schedule and the minimum schedule to the conventional schedule of the system just described, since the minimum rates are given only to those countries which receive the most-favored-nation treatment. The characteristic difference between the two systems, however, arises from the difference in their origin. The minimum schedule is not drawn up by negotiations between the executives of the two countries, but is framed by the legislative body at the same time that the maximum schedule is made. That is, the legislative power fixes two rates of duty on each article in the tariff. The higher rate is the one which fixes the maximum extent to which those articles may be taxed on entering the country; the lower, or minimum rate, is the one which fixes the minimum extent to which the duty may be lowered. If it is desired to make commercial treaties at any time, these two rates show the exact limits between which the treaty rates are to be fixed.

The countries at present using a multiple or maximum and minimum tariff system are Spain, France, Russia, Brazil, Greece and Norway.

A NEW DEPARTURE IN IRON MAKING.

The London Iron & Coal Trades Review has the following to say regarding what is called the new departure in iron making:

It is probably not too much to say that all the pig iron makers in Great Britain are at the present moment looking forward with interest, not unmixed with anxiety, to the possibilities involved in the reconstruction of their existing plants, as typified by the fact that already one of the furnaces of the new order—that recently erected by the Millom & Askam Co.—has approached the output of 300 tons per day, or at the rate of over 2,000 tons a week, against the hitherto general average of 800 tons per week, more or less, of furnaces using the same description of raw material. The reconstruction now being provided for by the Consett Iron Co., the Dowlais Iron Co., and Bolckow Vaughan & Co.—the largest concerns of their kind, and probably the most wealthy and influential in the

United Kingdom—points to the conclusion that they have each and all satisfied themselves that this way safety lies—that they have discarded the old heresies as to the old system of having many furnaces in the place of few, for the production of a given output, that were formerly inculcated at the meetings of the Iron and Steel Institute and elsewhere, and have concluded that the "short life and the merry one" of the large capacity furnace is the proper thing, after all. We hope shortly to be able to publish particulars of the new plants arranged for by these important firms. Meantime we can but note that they will be on what are commonly known as American lines, with the typical American bosh, large blowing power, and mechanical arrangements suited to the conditions involved in handling an enormous volume of raw materials in a given period of time.

We do not expect of course, that the output of the new plants will ever reach the remarkably high levels of American records. It is not to be expected that British blast furnaces, using ores that range from 45 per cent. to 48 per cent. of iron, can ever be expected to reach the 700 tons per day and upwards which have been got from American furnaces using ores that assay 60 per cent. to 65 per cent. of iron, in the dry state. But we do not doubt that furnaces can be, and will be, constructed in Great Britain that are able to produce from ores probably averaging about 47 per cent. quite 400 tons of pig per day, which is more than three times the average daily output of the present time; and we shall be surprised if the ambition of British ironmasters, and the guarantees given by their American advisers, stop much short of this record, while it is quite probable that it may be exceeded.

Mr. Swank in The Bulletin says that this article is worthy of the serious attention of American iron and steel manufacturers, which would naturally include Canadian iron masters also. He says:

It will be only a few years, possibly only one year, until our British competitors will have many furnaces built and operated upon American lines. With their cheaper labor there will then be little room in British markets for American pig iron, and in neutral markets our pig iron makers will have sharper competition than they have recently had. And Germany, too, will have a hand in this competition. Its pig iron manufacturers have already studied and copied our best furnace practice. And so of other branches of iron and steel manufacture. Europe will not long content itself with the old and expensive methods. Our people simply deceive themselves if they think that the world's markets for iron and steel are hereafter to be within their grasp. The activity in our export trade in iron and steel in the last few years was exceptional and abnormal and can not be continued. Not only will Europe adopt our methods but it will always have cheap labor. Again we say, as we have frequently said, that the home market is our best market and that it should be carefully guarded. Whoever says that our iron and steel industries no longer need protection does not realize what fierce competition in our own markets a reduction of even 50 per cent. in our iron and steel duties would bring. He is helping the free trade enemy to break down needed protection.

THE METRIC SYSTEM.

The executive committee of the American Society of Mechanical Engineers have issued a circular letter to all its members which contains the report of its committee relating to the metric system. It is strongly against the compulsory adoption of the system in the United States. The members are urged to address their respective representatives in Congress, protesting against the pending legislation in that direction. It is pointed out that the metric or French system is now legal, and its use is optional, while, if the bill now before the Congress is passed, it will be illegal to use in the United States such terms and measures as pounds, tons, yards, feet, inches, gallons, etc. In this connection it is interesting to note the arguments used by Prof. John E. Sweet, of Syracuse, N.Y., in which he gives some good

reasons for the retention of the present system of weights and measures in the United States. He says :

It is not true that one in ten who trade in machine tools in foreign countries favors the change, and suppose everyone who has dealings there were in favor of it, would it not be a liberal estimate to say that it is a hundred thousand of our people? If you do not think one hundred thousand is liberal, let us say a million. How many million are there now and how many more million in years to come will there be to whom it would be all sorts of expense, a perfect nuisance, rendering all the present books and tables obsolete, or for one to read them, making it necessary to interpret everything relating to distances, sizes and weights, to be understood?

To figure, the metric system is the best; to measure anything, it is just as good and no better than our own; to work with, it is not half so good. How many workmen do we have to one figurer? The experience of over forty years of William Sellers & Co., where the two systems have been worked side by side for that length of time, is evidence that no amount of theory can upset. Worst of all there is no possible way to avoid carrying on the two systems as long as machines now made have to be repaired, or at least except by making things in inches and calling them French names, which is just exactly what they do more or less, even in France, to some extent and in the other countries to a greater extent.

No one advocating the metric system ever acknowledges that our system possesses any merit. No man can make out of the metric system a tool for the mason and the carpenter comparable to the steel square. No one can make a tool for measuring by the metric system comparable in convenience to the two foot rule. It is not possible to get the range of units out of the metric system that we get out of the English; and all our units are commensurate one with another as well as with the French. We have the mile, the rod, the yard, the foot, the inch, the $\frac{1}{2}$ inch, $\frac{1}{4}$ inch, $\frac{1}{8}$ inch, 1-16 inch, etc., and each becomes a unit when we are working to a scale. Building plans are drawn to a scale of $\frac{1}{4}$ inch to the foot. There is nothing in the metric scale that fits it. We can draw plans $\frac{1}{2}$ size, $\frac{1}{4}$ size, $\frac{1}{8}$ size, etc., without running into fractions.

The using of the multiple of ten was the first system and is still in use by the Orientals, but when civilized nations began to make things by rule and standards, they drifted into the more convenient system, and our present system is the survival of the fittest. There is no sense in making laws that people cannot and will not obey. The American people cannot change their practice at once and they will not change a good system which we have been so long accustomed to and which we have spent so much money to build up, to a bad one through a series of years, because its weakness will show itself.

Other nations, it will be claimed, have done this. They had no system when they adopted it, and any system of standards, however bad, is so much better than no system, that they are naturally satisfied. What is there about the use of the metric system that will compensate the farmers, the housewives, the grocers, the builders and the merchants for the cost of furnishing themselves with new scales and new measures? What the factories of all kinds to change their looms, the shops to carry two sets of gages, and a double stock of sizes, the rolling mills two sets of rolls? When this is looked into from all sides, it seems to me that every one except the man who has figuring to do must see that it's a wild scheme, a useless thing, a hopeless failure.

MANUFACTURERS BOOM TORONTO.

Probably no Canadian city has shown greater progress within the past few years than Toronto. Commercially it is coming well to the front, and the indications are that it will, in the near future, be the leading city of Canada in this respect. The large number of new factories which have been erected in the past two years is evidence of the prosperity of the manufacturers. In the west end of the city especially, the growth in most noticeable and the "boom," if it can be so called, has a foundation that will last for years. As a financial centre, it is gradually making headway, the

recent transactions in stocks and bonds on the exchange making new records. One property transfer recently effected, shows the confidence manufacturers have in the future of the city. The Canadian General Electric Co. have purchased the old Upper Canada College property at the corner of King and Simcoe streets upon which they intend to erect a large building for the company's business. The price paid has not been announced. The site is an ideal one, especially for the Canadian General Electric.

BRITISH GRAIN TAXES.

The immediate result of the announcement of the new British budget, with the taxes on grains and flour, has been an advance in the price of the latter product for dealers in the United Kingdom of a shilling a sack. The increase will, of course, be passed on to the consumer and the cost of living will be advanced by at least that much. But the tax reaches much farther than the British consumer in theory, at least, and may seriously affect all countries which export grain and flour to the United Kingdom. It is to be doubted whether the results will be felt at once, for it is evident that the British market must buy abroad and that the tax is not sufficient to expand the agricultural interests of the United Kingdom to any appreciable extent for some time. With one exception, practically the only way the tax will be appreciated in the United States for a long time will be the possible decrease in consumption in England, Scotland and Ireland. It is worth remembering, however, that people who have long been used to certain articles of food do not readily content themselves with substitutes. It is not likely, therefore, that the consumption of flour will decrease as rapidly as some reports indicate.

An interesting feature of the problem is the apparent discrimination, which is afforded by the new taxes in favor of British millers. The tax on the flour amounts to 17½ cents a barrel of 196 pounds, with 112 pounds to the hundredweight, while the tax on the wheat required to make the flour amounts to about sixteen cents. This gives the British mills a preference of 1½ cents. It will probably be felt by one American industry, but it is a question if more wheat may not be used by the British millers. The most serious problem which the United States has to face, is the possible discrimination of the British Government in favor of its colonies. There is already a strong effort afoot to have the taxes on grain and flour from its dependencies removed, and if this effort is successful, both the grain and flour trade of the United States will receive a heavy blow. This is apparent from the large percentage of our grain exports which goes to the United Kingdom. In the year ended on June 30, 1901, we exported 215,990,073 bushels of wheat, of which 78,574,752 bushels went to the British markets. If there were discrimination in favor of the British dependencies, the exports would rapidly decline. A removal of the taxes, as suggested, would open the way to commercial friction between Great Britain and the United States, and wars of this character easily become disastrous.

If the tax on American grains and flour was to be borne entirely in this country, it would be pretty heavy. Counting 112 pounds to the hundredweight, the tax, at three pence per hundredweight, on the 78,574,752 bushels of wheat exported to the United Kingdom in the year ended on June 30, 1901, would amount to about \$2,500,000. In the same year we exported 79,844,843 bushels of corn, the tax upon which would be about \$2,400,000, while on the 10,854,573 barrels of flour exported, the tax would be \$1,890,000.

Naturally the taxes have had a bearish affect on the markets, but it is entirely probable that there will be a recovery when the matter is thoroughly studied. The important fact remains that the United Kingdom must have the grain until the people find a substitute, and by that time the reason for continuing the tax may have disappeared. The only important phase of the situation appears to lie, as has been said, in the possibility of discrimination in favor of British dependencies, but it may be expected that the United States Government will strongly oppose such action.—Mail and Empire.

THE CANADIAN WOOLEN INDUSTRY.

A few days ago in the Dominion House of Commons, Mr. Bennett Rosamond, the well-known woolen manufacturer of Almonte, Ont., discussing the effect of the preferential tariff upon the woolen industries, quoted from the returns to show that the importation of woolen goods of the class manufactured in Canada had increased from 3,166,361 yards in 1897, all of which, save 114,450 yards, came from Great Britain, to 4,562,868 yards in 1900, and, after receiving the full benefit of 33½ per cent. preference in 1901, the imports increased to 6,045,534 yards, an increase of 2,897,000 yards, or 91 per cent. That, said Mr. Rosamond, will show why it is the woolen industry has been depressed most seriously.

Mr. James Kendrey, of Peterborough, Ont., also one of the largest woolen manufacturers in Canada, declared that the preferential tariff gave a preference to the workmen of England over our Canadian workmen, and so long as he had a voice in the legislation of this country he would not willingly give a preference to England or any other country over the workmen and people of this country. No part of the country had suffered more from this than Ontario. He denied the statements made that the Canadian woolen manufacturers were using antiquated machinery. To-day hundreds and hundreds of pieces of German woolen goods were coming into Canada under the preferential tariff, with hardly any English work on them, yet the Government did nothing. The industry in this country was paralyzed. Since 1899 there was less machinery running than of any time in the past 20 years. There were now working 40 sets of cards, over 200 looms and 7,000 spindles less than in 1899, that is, counting only mills that have permanently closed. Half a dozen mills had been burned but not one had been rebuilt, and the insurance companies had cancelled insurance on many woolen mills and it was difficult to get any insurance on the smaller mills. Under old conditions near double the amount of machinery would have been running, and they could not meet the present demand. Their hands had left for the United States, because they got higher wages; over 100 had left his mill and had gone to the United States. It was impossible for the Canadians to compete when the United States drew off their labor and this British preference existed. The machinery for Canadian mills cost 40 per cent. more than in England, and the labor conditions were better. He said that hundreds of pieces of continental goods were imported under the preference without having two per cent. of English labor put on them, and that he could prove this owing to the fact that goods had been sent to him in the grey to be finished by a Toronto wholesale house which had recently had a fire.

Secretary Jarvis, of the Toronto Board of Trade, is on a trip through Western Ontario to secure the co-operation of Boards of Trade in connection with the conference to be held in Toronto, when matters which may come up at the Inter-colonial Conference in London this summer will be discussed.

THE PHILOSOPHY OF ADVERTISING.

The purpose of a public journal of any kind is to save time and money for its readers. Without this channel of communication, the public would be thrown back to the modes of primitive times when intelligence was transmitted by word of mouth or by the art of the penman. In this age, says the Manufacturer's Record, those means would not be tolerated. A newspaper is a clearing-house of information of a public character. It gathers from all portions of the habitable globe whatever is likely to interest mankind in any relation in life. To save time to the reading public, journalism is divided into classes, in the same manner that the professions are separated into specialties. The lawyer looks to his law journal for a condensation of all information touching legal principles and practice. The physician watches for the revelations of the medical periodicals with the same care which he exercises in the attendance upon his patients. The clergyman, the artist, the architect, the builder, the musician, the dramatist, the skilled laborer in whatever branch of industry he may be engaged—all look to the class journals devoted to their callings for the practical information necessary for success.

It is for these reasons that trade papers have taken a prominent place in journalism. They furnish specific information in briefest form to all branches of productive industry. The public who want to buy and the manufacturer or middleman who wants to sell, goes to his class newspaper as the banker goes to his clearing-house—to save time and money. Life is not long enough for buyer and seller to go up and down the earth, hunting each other up, and telling each his story by word of mouth. It is in practical application of this policy that the merchant or tradesman of whatever degree places his sign on his place of business. He does not expect every passer-by to call and become a customer. It is his way of letting people know he has goods in a particular line to sell. He does not take down his sign at the end of each day, or week, or month, or year. He lets this advertisement continue to tell its story. But his customer has to come to or near the store to read the advertisement. The trade journal brings the advertisement to the customer. It wins his attention in the same manner that the child learns his mother tongue, viz.: by repetition. If the advertiser is wise, he will no sooner think of discontinuing his notification of his business to the public in a week, or month, or year, than the merchant will think of hauling down his sign unless he wishes to close down his business. Note the continuity of advertisements in magazines of soaps and cosmetics, and the fortunes such unremitting advertising brings to the manufacturers or dealers. In the same way fortunes have been amassed by inventors and manufacturers of and dealers in useful mechanisms. No matter how useful an invention, or mechanical contrivance you may know you have, what will your possession profit you if you do not extend the knowledge through the most direct channels to the public?

EDITORIAL NOTES.

Mr. J. J. Cassidey, editor of THE CANADIAN MANUFACTURER, is ill of pneumonia at his residence, 68 Harvard Avenue, Parkdale.

In the English House of Commons Mr. MacVeagh will call the attention of Mr. Balfour, the Government Leader, to the growth of trusts in England, and, in view of the evil effects he claims they have produced in the United States, he will ask the Government to appoint a commission to inquire into the subject.

The persistency of the agitation of labor representatives, especially those in British Columbia, to obtain legislation regarding Chinese immigration, has at last been recognized by the Government. Sir Richard Cartwright gives notice of a bill to amend the Chinese Immigration Act. It is proposed to increase the head tax to \$300.

Ontario's nickel mines have passed under the control of one of the great trusts of the United States, and the question of how this will affect the industrial prospects of nickel in this country has created a great deal of newspaper controversy. It will certainly not tend to promote the refining of the metal here, or the manufacture of nickel steel, or the making of the highly-finished products of nickel.

Mr. Wm. Hutchison, ex-M.P. for Ottawa, Canadian Commissioner at the Pan-American Exposition, will be commissioner to the St. Louis Exposition in 1903. The Canadian exhibit at the St. Louis Fair will be one representing the entire Dominion, and not the different provinces. It is thought that the amalgamation of the exhibits from the provinces into one of a Dominion character will be more satisfactory.

One of the most satisfactory and reliable of the barometers of industry in Canada is the "Mechanics Wanted" column in The Globe. That there is no decline in the prosperity of the country is evident from a comparison of advertisements under this head for the five days of issue ending Thursday, and for the corresponding five days in 1901. In the five days ending Thursday there were calls for 392 mechanics, chiefly from country points, the demand for blacksmiths, tailors and woodworkers being especially large. During the same days in 1901 there was a demand for 192 men. These figures mean that the season now opening will be one of the busiest for mechanics in the history of the province.—Toronto Globe.

If some of the goods that are constantly being imported into Canada—those of a character which could be made here to advantage, were actually made here instead of in other countries, The Globe would have to increase its "Mechanics Wanted" column many times. But it seems to think that the acme of Canadian greatness can only be demonstrated by an ever increasing volume of imports.

It is reported that Mr. James Ross, on his recent trip to Great Britain, made a contract for the sale of 90,000 tons of steel billets at \$21 per ton, making a profit to his company, the Dominion Iron & Steel Co., of \$750,000, exclusive of whatever bounties may be paid by the Dominion Government for that production. The Government bounties on iron and steel during the next five years will be :

	On Pig Iron	On Steel
April 21, 1902, to July 1, 1903..	\$1 80	\$2 70
July 1, 1903, to " 1, 1904..	1 50	2 25
" 1, 1904, to " 1, 1905..	1 10	1 65
" 1, 1905, to " 1, 1906..	70	1 05
" 1, 1906, to " 1, 1907..	40	60

That portion of the output of the blast furnaces that is turned into steel will receive bounties first as pig iron and afterwards as steel, so that during the coming year for every ton of steel produced the Dominion Iron & Steel Co. will receive \$4.50 from the Government. Thus on the 90,000 tons of steel sold by Mr. Ross the bounties would amount to \$405,000. This, added to \$750,000, gives a total profit on this order of \$1,155,000. Estimating the annual output of the open hearth steel furnaces to be 270,000 tons of steel, this order of 90,000 tons would be one-third of the steel output. This does not take into account the portion of the pig iron output that is not converted into steel, on which large profits may be expected.

At a meeting of the Toronto Board of Trade, held last week, a resolution was adopted endorsing the reports of a committee recently appointed, having reference to subsidizing the Canadian shipbuilding industry. The report, after pointing out the disadvantages under which Canada labors, they recommended "that the board petition the Government of Canada to make such increase in the rebates now allowed, and provide such other suitable allowance as would place Canadian builders on an even basis with British builders and bring such increase into effect at the earliest possible moment so as to facilitate the establishment of shipyards of sufficient capacity to meet the rapidly growing demands made by the products of Western Canada, and in order that the carrying trade of Canada, both on ocean and inland waters, may be retained in Canadian hands." They further suggested "that the board request the Government of Canada to make and put into force provisions which would prohibit the registration in Canada of foreign-built ships, by applying to them the same regulations as foreign countries apply to Canadian-built ships, thus preventing an unfair foreign competition with Canadian shipbuilders."

Richard A. Yates, Adelaide, South Australia, one of the leading florists and seedsmen of Australia, suggests the establishment of a bureau in London, England, taking the form of a commercial agency, where Canadian possibilities could be presented in a proper manner. Australia established an institution of this kind recently and the result was proving satisfactory. In connection with the bureau they had cold storage establishments, and the business that sprang up in a short time was astonishing.

The Toronto Globe approvingly quotes the London Saturday Review as follows :

A Zollverein, by which the colonies would take our manufactures duty free in return for differential duties in their favor on raw material and food, would be an intelligible arrangement. The colonies, however, would not listen to it for a moment, for two satisfactory reasons. In the first place, several of them raise their revenue by customs and must continue to do so. Therefore they cannot let us in duty free. In the second place, there are many interests protected by colonial tariffs, which would tear the empire to pieces before they left themselves exposed on equal terms to the competition of English manufacturers. If, then, commercial union can give us only pretty much what we have, in return for heavy sacrifices, of what good will it be?

This, The Globe informs us, is as relentlessly logical as a proposition of euclid ; but it does not appear that either of these journals ever considered the possibility of a medium course, by which both Great Britain and the colonies would show tariff favors each to the other in their own markets, while they observed higher tariffs against all other countries.

The danger of a steel famine appears to be past for the present at least, but prices are not going to weaken on that account. The situation is very strong, for a large majority of the mills in the United States have sold ahead up to the end of the present year, and some orders have been placed for the first quarter of 1903. The fact that the steel trust has purchased 300,000 tons deliverable as late as April, 1903, is significant, especially at the figure named, \$16.50, which is half a dollar higher than the quotation of three months ago.

Mr. Robert Hanbury, British Minister of Agriculture, in a speech recently said that he hoped that the new corn duty would have the effect of reviving the British milling trade. He regretted that the duty on imported flour had not been made higher.

The Corn Duties Bill imposing import duties upon grain, flour and feeding stuffs, has passed the British House of Commons by a substantial majority.

A writer in Cassier's Magazine gives an illustrated description of some of the machinery in a new cotton mill in South Carolina, operated by electricity, the motors being attached to the ceiling to avoid occupying floor space.

The motors are absolutely out of reach, afford no danger to human life, and are so proportioned as to give, according to the number installed, the greatest flexibility to the plant as a whole. No special machinery is installed for lighting the plant, as the current is taken from the generator producing the power. Temporary power for any purpose, in any portion of the plant, is easily supplied by a portable motor, which is readily tapped on any power circuit in convenient reach. These and many other advantages, from a mechanical standpoint, have been demonstrated by actual experience. There is a saving in the friction alone of 20 per cent. The producing capacity of the machinery operated is, in actual practise, increased about 4 per cent., due to the steadiness of this method of driving over the usual method of ropes and belts, and the more uniform speed obtained throughout the plant. The enormous flexibility and economic problems solved by the installation of these electric-driven cotton-mills are felt even outside of the mill itself. The plants are readily available for furnishing power to others within reach to the extent of its surplus, and may produce a considerable revenue from this source; and they can supply power at a lower figure than that at which isolated plants could generate their own power.

The Association of American Steel Manufacturers met recently in Pittsburg, when questions of testing and the standardization of specifications for steel were considered. Committees were appointed to carry on the work of further standardizing the various classes of material manufactured by the iron and steel plants of the country, and the details of the standardizing of structural shapes will be further worked out. It was announced that the standards prepared by the American committee of the International Association for testing materials are now being generally adopted by the trade.

It is not improbable that there will shortly be formed a combination of British and European iron masters and workers with a view to keeping up prices. The object of such a combination is to prevent prices being brought to such ruinous depths as they have been until recently, and to enable the European works to compete with the Americans, not only in Europe, but in India, the British Colonies—in fact the world over.

The London, Eng., Daily Express asserts positively that the shipping combine has forced the Canadian Pacific Railroad to boycott the Beaver Line of steamers by the threat that if the Canadian Pacific Railroad failed to comply with the combine's demand no emigrant carried on any ship under the control of the combine would be allowed to travel over the Canadian Pacific road. At a hurried meeting of the directors of the Canadian Pacific, continues The Express, it was decided that it would be useless to fight the combine. As a result of this action the British agents of the Canadian Pacific road now refuse to issue passages on steamers of the Beaver Line.

Hon. Mr. Fielding, Minister of Finance, has introduced a resolution in the House of Commons authorizing the Government to admit free of Customs duty all machinery not made in Canada, and used for the manufacture of rifles, also such parts, in the rough, of the weapons as cannot be manufactured in the Dominion.

Speaking of the Australian tariff, the Sydney correspondent of Commercial Intelligence says that the Commonwealth tariff is becoming more complicated than ever, and is admitted by friends or foes to possess neither sense nor principle. Its inconsistencies, we are told, are manifold and bewildering. Textiles, which include ribbons, are dutiable; but typewriters, including the ribbon in use thereon, are free. Typewriter ribbons, however, when imported distinct from the machine, are held to be dutiable under the "textile" heading. In several instances where the tools used in certain manufacturing industries are declared exempt, many have been declared dutiable under other headings unless specifically mentioned. It is uncertain when the end of the tariff will be reached, but it is certain to meet with even more intense opposition in the Senate, and then, after all, its continued existence will form the burning question at the next Federal elections. Meanwhile, the duties levied under the tariff are bringing in a higher revenue than was anticipated, but this has been partially explained by the fact that the large stocks of duty-free goods in New South Wales are enabling importers to keep down prices of goods imported under the tariff; while in Victoria and other States the reverse operation is in progress. Neither the Federal nor any of the States treasurers anticipate a continuance of the increase; on the contrary, they are looking for a heavy decline during the latter part of the year.

Preparations for the International Exposition to be held in St. Louis, Missouri, next year are being made upon a scale hitherto unknown. The chosen site appropriates about one-half of the 1,300 acres which make Forest Park, with enough adjoining land to cover about 1,000 acres. The plan and scope adopted contemplate the presentation of manufacturing industries in actual conduct as well as of the machinery out of action; the exhibition of processes as well as of completed products. As many novel features as possible will be shown, but nothing will be sacrificed to them. As it has larger capital resources than any previous exhibition, its managers have procured the best and most experienced men available, and are themselves working with much spirit. Work is going forward as rapidly as possible in the formative period of an undertaking of such magnitude. Buildings and sewage systems are under contract, lakes and other landscape features are in course of construction, and branch railways are surveyed. Invitations have been extended to all foreign countries, and many of them—about twelve or fifteen, including France and Japan—have been accepted. Congresses, drawing their delegates from all over the world, are being arranged, and patriotic, religious, and social bodies are preparing to hold conventions or to make exhibits.

The Maritime Merchant calls attention to complaints that Canadian manufacturers of tools and implements have been paying less than the customary attention to the finish of their products. No doubt the difficulty in keeping up with orders is responsible for this, but it seems to be very poor policy and must have an injurious effect on future business, especially at points where there is more or less United States competition. "Attention was called recently to some articles in a store side by side," says The Merchant, "and while the Canadian made article was admittedly the better value, the finish of the United States make was so superior that a purchaser who judged from appearance only would likely favor it in making his selection."

Detinning of tinsplate scrap is going to be an important industry in Toronto, several firms being engaged in the business. Formerly tin scrap, old cans, etc., were treated in a crude way which removed part of the solder and some of the tin, but the old iron remaining was not fit for remelting in open-hearth furnaces, owing to the tin still adhering to it. This material was used in making cast sash weights, etc., but the product was of a very poor quality, being very brittle. Improved methods have resulted in removing most of the tin coating from the sheets, the remaining scrap being of a very fine quality of steel or iron and valuable for use in the open-hearth steel process.

CAPTAINS OF INDUSTRY.

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

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

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

Twenty-one new limited stock companies, having a total authorized capital of \$2,500,000, are gazetted this week. The largest is the Merchants Union Co., formed to purchase shares of the Irving Umbrella Co., the Continental Costume Co., and the Crown Whitewear Co., all of Toronto. The capital is to be \$500,000, and the provisional directors are Reuben Millichamp, G. T. Irving, W. M. McCausland, Wm. Laidlaw and E. J. Coyle.

The voting in the township of Bayham, on the Bertram shipyards by-law resulted in the by-law being passed by more than the required majority. The establishment of shipyards at Port Burwell, said Mr. John Bertram, will not interfere with the Toronto business. It is proposed to construct at the new yards only those boats that are too large to pass through the Welland Canal.

The American Cereal Co., Peterborough, Ont., will erect another building, which will be of brick, three stories high.

The Cockshutt Plow Co., Brantford, Ont., will erect an additional factory capable of employing 600 men.

The Canadian Pacific Railway Co. have awarded the contract for the new elevator at Fort William, Ont., to the Steel Storage & Elevator Construction Co., Buffalo, N. Y. It will be of steel, with a capacity of nearly 2,000,000 bushels and cost over \$1,000,000.

Messrs. Spon & Chamberlain, publishers of engineering books, have removed their offices from 12 Cortlandt street, New York City, to the Liberty Building, 123 Liberty street, New York.

The Jones & Moore Electric Co., Toronto, are installing an electric light plant on the steamer Canada with engine and switchboard.

The Nova Scotia Steel & Coal Co., New Glasgow, N.S., will engage in the manufacture of steel cars.

Simmie's lumber mill, Clavering, Ont., was destroyed by fire April 19. Loss about \$6,000.

There are 55 telephone companies in the Dominion of Canada, of which 44 are at present in operation, twenty-five in Quebec, seven in Ontario, six in Nova Scotia, five in New Brunswick, eight in British Columbia, two in the North-West Territories, and one in Prince Edward Island. The mileage of the Bell Telephone Co. is 94,314. This company operates in Quebec, Ontario, Manitoba, and the North-West Territories. It has no unissued stock. The total telephone mileage for the Dominion is 113,294.

The Malleable Iron Co., Montreal, may remove their works to St. Johns, Que. The company proposes erecting buildings to cost about \$30,000.

The Blackman Export Co., 70 Finsbury Pavement, London, E.C., England, have sent us a number of circulars having

reference to some of the machinery and apparatus manufactured by them, among which is one having reference to the Blackman ventilating fan of which they tell us there are over 60,000 in use, and a table of sizes, capacities, approximate weights and measurements are given, also tables of diameters of blades, revolutions per minute, cubic feet of air exhausted per minute, actual horse power required, etc. Some of these fans are specially adapted for use in clubs, restaurants, hotels, etc., and illustrations show how smoke, gas, odors, etc., are very easily and quickly removed from rooms. The prices of these goods should place them within the reach of any who might desire them, and the company will be pleased to give further information on application.

The Sun Portland Cement Co., Owen Sound, Ont., have placed an order with The Jones & Moore Electric Co., Toronto, for a 30 h.p. motor and the installing of arc and incandescent lamps throughout their works.

L. H. Clarke & Co's malt works, Kingston, Ont., were destroyed by fire April 17. Loss about \$15,000.

A Calgary, N.W.T., company has struck oil on Cameron creek in Alberta. It is thought that oil exists in paying quantities at a depth of 1,000 feet. The well is now 620 feet deep. At Medicine Hat a strong flow of gas was struck, which developed pressure of 240 pounds within 30 minutes. The well is perfectly dry.

J. F. Whitson, of the Ontario Crown Lands Department, returned recently from an exploration trip up the Mississauga River, in Algoma district. He reports having found a very large belt of virgin pine forest comprising probably 1,000 square miles. In some places it averages about 4,000,000 feet to the square mile, and altogether it is estimated that the pine in this region will equal the quantity in the Temagami reserve, which is estimated at three billion feet.

The Blackman Export Co., 70 Finsbury Pavement, London, E.C., England, have sent us their illustrated descriptive catalogue having reference to their Keith system of hot water heaters for offices, residences, etc. These Keith Challenge

Pneumatic Tools and Appliances ARE GREAT MONEY SAVERS.

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

INGERSOLL-SERGEANT

PISTON AIR COMPRESSORS FOR ALL DUTIES
INLET

THE JAMES COOPER MFG. CO. LIMITED

299 St. James St., Montreal

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

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

boilers for hot water heating are constructed in sections, placed one upon another and formed so as to expose to the direct action of the fire about ten times more heating surface than do ordinary saddle borders of equal grate area. They stand complete in themselves, requiring no brick work around them, and being wholly water-jacketed, there is no such risk of fire attending their use as there is from the exposed brick flues of the ordinary built-in borders. They can be located anywhere with perfect safety, and even the larger sizes can be erected complete for operation in a few hours. The illustrations explain the external and internal construction, and it will be observed that the heating surface is very great and directly over the fire so that the heat is utilized to the best advantage.

The Pittsburg Gage & Supply Co., Pittsburg, Pa., have sent us a very beautiful descriptive catalogue of their White Star filtering system. Regarding this system they say that a proper conception of the advantages of such an equipment will be gained when it is understood that a complete pipe system for oiling dispenses with 80 per cent. of the labor of attention by handling automatically all the oil applied to or released from the machinery and reduces to a minimum both the loss by friction and its attendant expense for repair in continually supplying the bearings with an abundance of oil. In the system illustrated, the oil is fed to the several oil cups by gravity from the elevated

reservoir and after passing through the bearings is carried in piping to the filter where it is purified and returned by the pump to the storage tank above. The third pipe carries any surplus back to the filter and prevents overflow. The supply of oil is thus continuous and uniform, securing the most desirable results. The illustrations, which are of a very fine character, renders a full comprehension of the merits of the system, quick and easy. The makers will have pleasure in giving further information on application.

Messrs. Seidel & Naumann, 23 Moor Lane, London, E.C., England, have sent us their catalogue descriptive of the metallic packing rings manufactured by them, a feature of the article being that the packing intended for stuffing boxes consists of hollow metal rings filled with a lubricant which resists the most intense heat. In the inner side of the rings small openings are provided to allow the continuous outflow of the lubricant so that the piston rod and the working parts of the engine are always thoroughly lubricated. The use of these hollow metal rings as packing offers the following advantages:—Durability; saving in initial and working expenses; friction reduced to a minimum, the rods remaining smooth without grooves or scratches; easy screwing down of the gland. The packing can be fitted to any stuffing box without necessitating any alterations. For further information apply as above.

The B. F. Sturtevant Co., Boston,

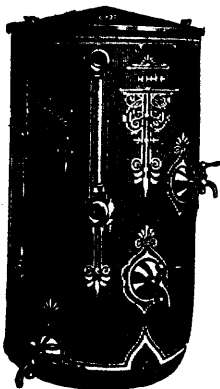
Mass., have sent us their bulletin No. 46, the title of which is Mechanical Draft, What it is, and What it Does. It describes the process by which draft is induced and the many purposes for which it is applicable. The advantages of mechanical draft are very concisely set forth as follows:—Costs far less than a chimney, burns the cheapest fuels, increases steaming capacity of boilers, permits of utilizing heat in escaping gases without restricting combustion, decreases smoke, is positive but flexible, responds instantly to sudden demand for more steam, may be exactly regulated to the requirements, is independent of wind or weather or of temperature of gases, increases the efficiency of combustion, is about 75 times more efficient than chimney, costs but little for operation, and practically nothing when fan engine exhaust is utilized, produces draft necessary for economizers, makes mechanical stokers effective, saves space, is portable, applicable to old or new plants as auxiliary to or as a substitute for a chimney.

The Canadian Pacific Railway Co., will build new machine shops at Fort William, Ont., at a cost of \$75,000.

The ratepayers of Hamilton, Ont., will vote on a by-law to grant a bonus of \$50,000, to the Deering Harvester Co., Chicago, Ill., who will probably erect a branch factory at that place. Three large buildings will be erected at once and about 300 men employed.

"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 you can 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.

LARGEST MFRS. OF OIL FILTERS IN THE WORLD.

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

BUFFALO VENTILATORS

IMPROVED

FOR

SCHOOLS, CHURCHES, FACTORIES, FOUNDRIES

AND ALL INDUSTRIAL BUILDINGS



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

BUFFALO FORGE COMPANY,
BUFFALO, N.Y.

The British Columbia Packers' Association, which, it is stated, will embrace practically all the packing concerns of British Columbia, has been incorporated under the laws of the State of New Jersey with a capital stock of \$4,000,000 divided into \$1,500,000 preferred and \$2,500,000 common.

The Sturgeon Falls Pulp & Paper Co., Sturgeon Falls, Ont., have awarded a contract to Peter Lyall & Sons, Montreal, for the development of their water power, and the erection of the building required for their mills at Sturgeon Falls.

The Owen Sound Park & Summer Resort Co., Owen Sound, Ont., have placed an order with the Jones & Moore Electric Co., Toronto, for a 1,000 light multipolar generator with switch board and all necessary wiring.

The Canadian Pacific Railway Co., has received application from an American company for sites on which to erect sixty elevators in Manitoba and the Territories.

M. P. Grover, a prospector at Michi-

picoten, Ont. mining field, reports the discovery of another big deposit of iron ore on the north shore of Lake Superior. The ore assays 65 per cent.

A German chemist, Herr Glebler, is said to have discovered a new process of hardening steel which makes it 50 per cent. lighter, 14 per cent. stronger, and 33 1/2 per cent. less costly than Krupp, Harney or Boehler steel. The inventor will not sell the secret to any foreign manufacturer, but will retain it for the benefit of his countrymen in general, and the German navy in particular. This, if true, will give Germany an enormous advantage in naval construction, for a lighter hull means a higher rate of speed for a given fuel consumption, which means also an increased steaming distance.

Mr. J. H. Kirkpatrick, the Ontario representative of the James Cooper Mfg. Co., Montreal, was at Sault Ste. Marie, Ont., a few days ago, witnessing the preliminary working of the new plant, in-

stituted by his company at that place, consisting of a complete air compressor and hoisting plant for operating both shafts of the Superior Copper Co's property.

The Benjamin Mfg. Co., Yarker, Ont., have placed an order for a 25 k. w. generator with the Jones & Moore Electric Co., Toronto.

The ratepayers of Sydney, N.S., will vote on a by-law to raise \$257,000, for waterworks, sewers, etc.

The Eclipse Acetyloid Gas Co., Montreal, has applied for incorporation with \$200,000 capital, to manufacture acetyloid, etc. The applicants include G. R. W. Notman, T. P. Howard and C. D. Gaudet, all of Montreal.

The ratepayers of St. Mary's, Ont., will vote on a by-law to raise \$16,000 for waterworks and electric light extension.

The saw mills of John Cooper, Cooper-ville, Ont., were destroyed by fire April 22. Loss about \$4,000.

CAMEL BRAND **BELTING**
BALATA
RUBBER

Linen Fire Hose,
Water and Steam Hose,
Packings, Etc., Etc.

THE STANDARD



COLD 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,
Telephone Main 1378.**

**SALES
AGENTS**

TORONTO, ONT.

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

Telephone Main 3987.

MONTREAL, QUE.

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The Sherbrooke Gas & Water Co., Sherbrooke, Que., will build a dam 150 feet long and 25 feet high, with 15 gates, across the Magog river.

The Speight Wagon Co., Markham, Ont., will erect large additions to their factory at that place.

Messrs. Morrison Bros., Orillia, Ont., will erect a boot and shoe factory there.

Messrs. Hassan, Tagge & Dean, engineers and chemists, Detroit, Mich., advise us that they make a specialty of investigating cement properties, and designing, constructing and operating cement plants.

The large flour mills of Mr. John Brown, Dunnville, Ont., was destroyed by fire April 29. Loss about \$27,000.

The Dominion Government will erect two buildings on the grounds of the Agricultural College, Guelph, Ont., to cost about \$125,000, one of which will serve for a residence and the other for domestic science.

Robertson & Hackett's sash and door factory, Vancouver, B.C., were damaged by fire to the extent of about \$2,000.

John Wake, Minnedosa, Man., will build a 40,000 bushel elevator at that place.

The large boiler of the Hodd & Cullen Milling Co., Stratford, Ont., exploded April 28. Loss about \$5,000.

It is stated that the Canadian General Electric Co., Toronto, has purchased ground fronting on King and Simcoe

streets, and will there erect a large factory, about 185x150 feet.

The Chaleurs Bay Mills, D'Israeli, Que., have been incorporated with \$150,000 capital to manufacture lumber, etc. The charter members include John Champoux, David Champoux and Alexander Champoux, all of D'Israeli.

The Dominion Iron & Steel Co., Sydney, N.S., recently shipped their first cargo of pig iron to New York, which amounted to five thousand tons.

The storehouse of the Anchor Knitting Co., Almonte, Ont., was destroyed by fire April 24. Loss about \$25,000.

The Lake of the Woods Milling Co., Keewatin, Ont., is in receipt of an order from Australia for 31,036 sacks of flour, two hundred pounds each, also an order from the British War Office for 12,500 barrels of flour for South Africa.

The Robert McCausland Stained Glass Co., Toronto, manufacturers of stained glass windows, etc., contemplate erecting a factory in Winnipeg, Man.

B. Allen, Stratford, Ont., will erect a factory in Vancouver, B.C., to manufacture wagons, wagon tops, etc.

The Canadian Bank of Commerce will erect a two-story bank building in Collingwood, Ont., at a cost of about \$8,000.

The Canadian Pneumatic Tool Co., Montreal, has applied for incorporation with \$10,000 capital, to manufacture tools, machinery, etc. The applicants

include S. A. Stephens, sr., J. J. H. Elliott and S. A. Stephens, jr., all of Montreal.

The American Blacksmith, of Buffalo, N.Y., have sent us a beautiful two-color half-tone engraving of their "Farrier's Forge" picture, which they are offering to all new yearly subscribers to their paper.

Burgoyne's grist mill, Newburgh, Ont., was destroyed by fire April 23. Loss about \$3,000.

We have pleasure in calling attention to advertisement of Messrs. J. N. Tallman & Sons, Hamilton, Ont., in which they advertise the Arctic anti-friction babbitt metal, manufactured by them. The firm are also manufacturers of solder and brass goods, etc.

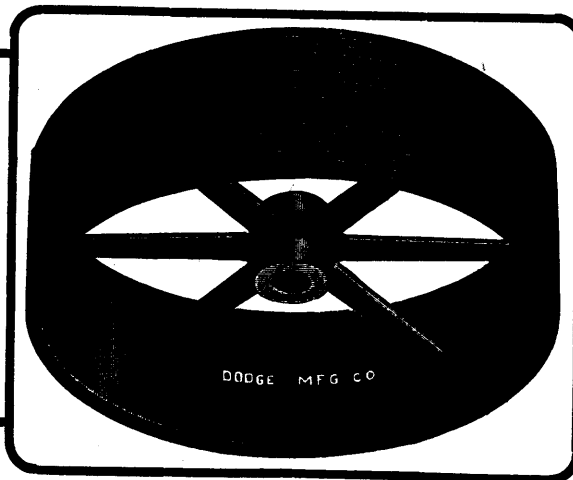
The Canada Last Co., Toronto, has been incorporated with \$40,000 capital, to manufacture lasts, etc. The provisional directors include J. C. Iredale, George Wilkie and Harry Ford, all of Toronto.

The Alexander Brown Milling & Elevator Co., Toronto, has been incorporated with \$300,000 capital to manufacture flour, etc. The provisional directors include Alexander Brown, S. H. Foster, both of Toronto; and Murray Brown, Portage la Prairie, Man.

Messrs. B. Bell & Son, St. George, Ont., have been incorporated with \$200,000 capital, to manufacture machinery, implements, etc. The provisional directors include S. G. Kitchen, J. P. Laurason and F. K. Bell, all of St. George.

IRON GROOVED PULLEYS

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



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

..Improved Ball and Socket Adjustable Hangers..

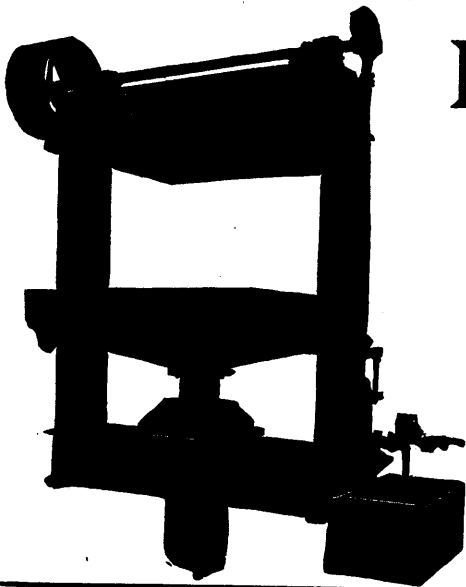
DROP AND POST, SAFETY COLLARS, ETC.

Power Transmission Machinery. GRAIN HANDLING MACHINERY.

SEND FOR CATALOGUE.

DODGE MANUFACTURING CO., - TORONTO, ONT.

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Hydraulic **PRESSES**

We Build Presses
for...

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

SEND FOR
CATALOGUE
AND PRICES

William R. Perrin & Company

TORONTO, - CANADA

The Wm. Wyndham Co., Hamilton, Ont., has been incorporated with \$70,000 capital, to manufacture hats, caps, gloves, etc. The provisional directors include William Wyndham, Hamilton, Jess Applegath, Toronto, and S. L. Squire, Waterford, Que.

The Cornwall Street Railway, Light & Power Co., Cornwall, Ont., has been incorporated with \$200,000 capital, to construct a street railway to be operated by electric motive power. The provisional directors include S. W. Ewing, Alexander McPherson and J. P. Cleghorn, all of Montreal.

The Ontario Can Co., Toronto, has been incorporated with \$250,000 capital, to manufacture tin-cans, tin-can machinery, etc. The provisional directors include Benjamin Adriance and John Murphy, both of Brooklyn, N.Y., and J. B. Newton, Paterson, N.J.

The Penberthy Injector Co., Windsor, Ont., has been incorporated with \$40,000 capital, to manufacture injectors, etc. The provisional directors include S. O. Johnson and H. S. Johnson, both of Detroit, Mich., and H. T. W. Ellis, Windsor, Ont.

The National Cross-Ply Veneer Co., Toronto, has been incorporated with \$100,000 capital, to manufacture veneer-woods, cements, etc. The provisional

directors include J. E. Davidson, E. A. Webb and H. E. Cardinal, all of Toronto.

The Consolidated Electric Co., Toronto, has been incorporated with \$100,000 capital, to manufacture electric plants, etc., and acquire business now carried on by the Dominion Electric Co. The provisional directors include A. J. Phillips, G. C. Brown and A. R. Richards, all of Toronto.

The Stratford Peat Co., Toronto, has been incorporated with \$40,000, capital, to manufacture peat, etc. The provisional directors include H. E. Hurlburt, Thornbury, Ont., William Allan and D. A. McPherson, both of Toronto.

The Seaman-Kent Co., Meaford, Ont., has been incorporated with \$100,000 capital, to manufacture timber, lumber, etc. The provisional directors include W. J. Seaman, Frank Kent, and J. M. Sparrow, all of Toronto.

The Algoma Central Railway Co., and the Canadian Pacific Railway Co., will build a union station at Sault Ste. Marie, Ont., at a cost of about \$50,000.

The Tretheway Train Pipes Coupling Co., Montreal, has been incorporated with \$500,000 capital, to manufacture machines, implements, tools, etc. The charter members include C. C. Ballantyne, T. A. Trenholme, both of Montreal West, and W. G. Tretheway, Vancouver, B.C.

THE BUFFALO FORGE CO.

The Buffalo Forge Co., Buffalo, N.Y., inventors and manufacturers of the famous Buffalo forges, have just issued their new catalogue for distribution among the trade. It is a handy little book, envelope size, illustrated with half-tone engravings throughout, describing in detail not only the many different types and sizes of their portable, blacksmiths, machinists, boiler makers, tool makers, riveting, jewelers forge, bench forge for light work, railroaders and prospectors, bellows, foot power, brazing and melting forges, and folding forges for marine service, but it includes descriptions of their Buffalo hand blowers, power and hand drills, punches, shears, bar cutters, tire benders and tire upsetters.

This company has also sent us a new 16-page ventilator catalogue, fully illustrated with half-tone engravings, describing in detail the many different types and sizes of ventilators manufactured by the above company, is now ready, and any readers of THE CANADIAN MANUFACTURER, who are interested, can secure a copy by writing for it.

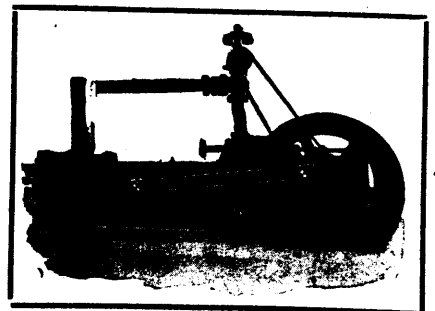
This company, with their quarter century of experience in the heating and ventilating of buildings of all classes, has become thoroughly in touch with the conditions, which make stationary ven-

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

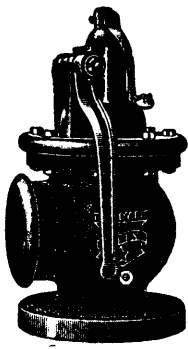
WILL DO WELL TO COMMUNICATE WITH US BEFORE
INSTALLING PLANT

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

CANADIAN RAND DRILL CO. Montreal and Sherbrooke



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A
VALVE
YOU
CAN
RELY
ON

SEND
FOR
PRICES

CROSBY STEAM APPLIANCES EXCEL

Steam Engine indica-
tors.
Recording Gages.
Revolution Counters.
Pressure and Vacuum
Gages.
Lubricators, etc.

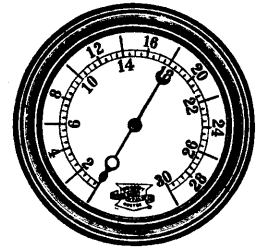


Stationary and Marine
Valves.
Water Relief Valves.
Blow-off Valves.
Globe and Angle Valves
Single Bell Chime
Whistles.

SEND FOR CATALOGUE

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

A TRUTHFUL GAGE
IS THE
ONLY GOOD GAGE



tilators an efficient and most desirable apparatus. While the requirements of a stationary ventilator are somewhat hard to fulfil, they have been perfectly met by the new Buffalo Improved Ventilator. Their value, when in use with the fan system, is too often under-estimated. In certain cases they are alone amply sufficient for proper ventilation. These ventilators are built of heavy gauge iron, and will resist any strain of reasonable magnitude they may be subject to. Many special interesting types are shown in the catalogue.

LIGHTNING ARRESTERS.

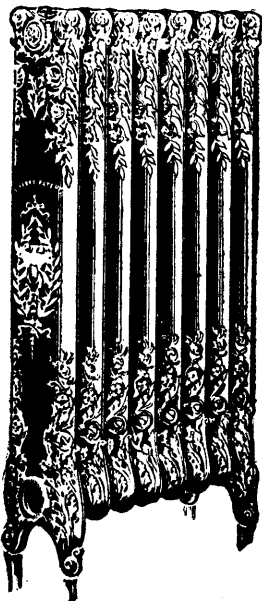
The Canadian General Electric Co., Toronto, have sent us a bulletin, which includes descriptions and prices of lightning arresters, manufactured by them. As the season is now with us when thunderstorms are prevalent, the following

extract from the bulletin is interesting. It says:

The numerous instances in this country during the past few years, when considerable electrical apparatus has been destroyed, and many circuits have been rendered temporarily inactive as a result of frequent severe storms, accompanied by destructive lightning, thereby causing much trouble and loss to central stations, and no little inconvenience and annoyance to consumers through temporary "shut-downs" of light and power, is the best possible argument in favor of having your station and lines equipped with well designed and effective lightning arresters as a safeguard. It is also much better policy to have a few effective arresters, judiciously distributed, than a large number of arresters which will not thoroughly protect your apparatus. It is generally considered good practice to have

an arrester installed on each circuit as it enters the station, and in addition that they be freely used on the overhead lines. In many cases it is recommended that arresters should be installed on the A.C. circuits within 500 feet of each transformer. This is especially applicable to localities subject to frequent and unusually severe thunderstorms.

Two conditions are essential to a successful device for protection against lightning discharges: the lightning arrester must offer less obstruction to the high potential discharge in its path to the earth than any other part of the circuit, and it must be constructed so as to extinguish the arc that is formed across its air gaps on a grounded circuit or when simultaneous discharges occur on both sides of an insulated circuit. The first of these conditions determines whether the lightning will discharge through the arrester



Send for Catalogue on
up-to-date Heating.

WARM UP YOUR

Buildings

WITH

"Safford Radiators"

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

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

THE DOMINION RADIATOR CO., Limited,
* TORONTO

HEAD OFFICE, - - DUFFERIN STREET

THE BEST *PIPE THREADING and CUTTING-OFF* MACHINES

Are Made by the **ARMSTRONG MFG. CO., BRIDGEPORT, CONN.**

Also Manufacturers of a FULL LINE of **ADJUSTABLE STOCKS and DIES** and Water, Gas and Steam Fitters' Tools.
 Send for Catalogue 27. Factory: BRIDGEPORT, CONN. New York Office: 139 CENTRE STREET.

or some other part of the circuit, and the second determines whether the arrester will extinguish an arc on the circuit or whether it will be destroyed by it. These fundamental principles have been followed in the construction of all lightning arresters manufactured by the Canadian General Electric Co. The resistance is uniformly low. In lightning arresters for direct current, the magnetic blow-out which has also been employed in controllers and circuit breakers with eminent success, provides for the immediate extinction of the arc. In lightning arresters for alternating current circuits, dangerous arcs are prevented by a combination of metal cylinders and non-inductive resistances. Canadian General Electric lightning arresters are manufactured for the protection of all forms of electrical apparatus and circuits. They have been on the Canadian market for a number of years and are too well known to require any lengthy individual description.

An illustrated booklet on "Thunderstorms," and including a more general description of lightning arresters, besides much useful information and various diagrams, showing methods of connecting, will be mailed free upon application.

SHUTTLES.

The Lachute Shuttle Co., Lachute, Que., have sent us their 1902 catalogue, describing and illustrating the shuttles, spindles and other fittings manufactured by them. About every article of this character now in use in the trade is described with a minuteness which requires no further explanation; and we do not

doubt that the remarks contained in the book regarding shuttles will be of much interest to all interested in the weaving industry.

Before the advent of the Cotton Spinning Frame, the terms "Cotton Shuttle," indicating a cop shuttle, and "Woolen Shuttle," indicating a bobbin shuttle, were commonly used. The majority of cotton mills to-day use frame filling spun on bobbins, and the term "bobbin shuttle" may refer to either a cotton or a woolen shuttle. We have not designated any particular style of bobbin shuttle as distinctively a cotton or a woolen shuttle. While there are generally certain distinguishing features which indicate whether they are intended for cotton or woolen, they may be used for either.

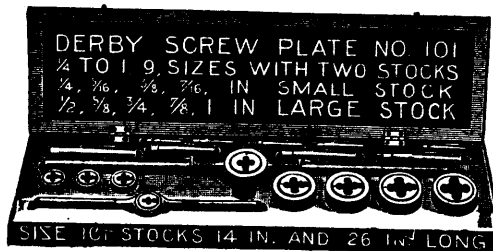
When making bobbin shuttles it is very important that we should have a bobbin such as is to be used in the shuttles (one bobbin of each kind used). The proper adjustment of the spindle and catch for the correct working of the bobbin is not easily determined from a sample shuttle alone. "Misfits" are not uncommon in samples. By means of the bobbins we can determine the adjustment required, and our bobbin shuttles will be found ready for the loom when received. Weavers are particularly requested, when putting in new shuttles of our make, to make no change in the adjustment of the spindle, spring or catch. If the bobbins used are the same as were furnished us, the adjustments we have given will be found right until after the parts have become worn and it is necessary to take up for the wear.

If the spindle in a new shuttle does not "snap down," do not screw down the spring excessively to make it do so; it will limber up in a few hours and work freely. It is not uncommon for weavers to screw down the springs so excessively that the curve of the spring is inverted; this causes unnecessary abrasion of the various parts on account of the excessive pressure of the spring, and causes breakage; and any pressure of the spring greater than absolutely necessary to hold the spindle in position while the shuttle is running, is injurious to the shuttle, the spindle, the pivot pin and the spring.

The "Leverage" of a spindle is a distance from that spot on a spindle where the power is exerted by the spring (commonly called the "heel" of the spindle), to the centre of the fulcrum pin, measured on a line at right angle to the direction of the power. This distance is usually about one-fourth of an inch on common spindles, but may be altered as desired; by increasing the leverage, the effectiveness of the spring to hold the spindle down is increased.

Cop shuttle spindles which do not fit the cops cause an excessive amount of waste. On new orders for cop shuttles we should have two or three perfect cops (steamed, if they are so used), and as many extra cop tubes. We will then grind the shuttle spindle to a perfect fit for the cops, so it will produce a minimum amount of waste. The mule spindle is a very unsafe guide for the size of the shuttle spindle; different counts of yarn or yarns with greater or less twist, or tightly or loosely built cops, require different

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



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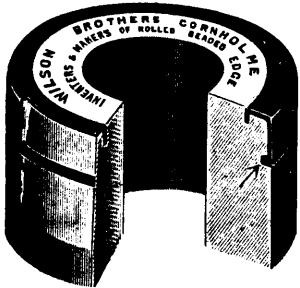
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sizes of shuttle spindles, though all may have been built on the same size mule spindle.

A "Combination Shuttle" is one intended for the use of both a cop and a bobbin. The spindles in such shuttles are split and ground to the proper size to receive the cop. The same spindle carries the bobbin. It is not uncommon to put split spindles into shuttles intended for a bobbin only. If a shuttle has a split spindle, it is not necessarily a "Combination" shuttle. Split spindles fitted for bobbins only, are generally much larger in diameter near the point than "Combination" spindles, and are usually finished in a different manner than they would be if intended also for a cop. The split in such spindles is simply to keep the bobbin quiet on the spindle.

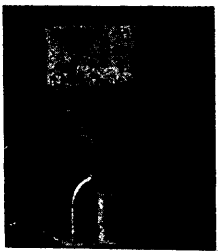
If a shuttle has a long taper alike on both sides near its ends, it is liable to be thrown out of line when it meets and leaves the binder (or swell) on entering and emerging from the loom box. The shuttle will preserve a better alignment if the binder side only is given a long taper, the opposite side being left more stout, in order to furnish a support for the impact of the binder. It is important that we should know which side of loom box the binder (or swell) is on.

It is claimed that on very high-speeded looms having the binder on the back side, it is an advantage to have a long taper on both sides of the shuttle in order to cause the forward tip of shuttle to dip toward the reed and enter the shed more easily. Shuttles made in this manner will not run as smoothly as when their alignment is preserved as above described, but in some cases it is claimed that the advantages gained outweigh the disadvantage to the shuttle.

It is not uncommon to set the tip slightly toward the back side of the shuttle, that is, out of the centre of the shuttle; the tip is then a little closer to the reed and enters the shed more easily.

Right and Left Hand Shuttles. When the shuttle rests on its bottom and the spindle points directly away from you, if the eye of the shuttle is on the left side, the shuttle is "Right-hand"; if the eye is on the right side, the shuttle is "Left-hand."

Shuttles which are threaded without the means of the breath or hook are commonly called "Self-threading Shuttles." Their use is limited.



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SAVE YOUR
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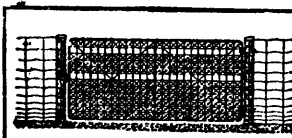
SUMMER HOTEL ENGINEERING.

Mr. William Kavanagh writes as follows in Power :

The difficulties to be overcome by the engineer in preparing the machinery of the average summer hotel are manifold and perplexing in the extreme. In the first place, the average summer hotel proprietor seldom employs the same engineer more than one season. In the second place, the hotel is generally not located within easy reach of the machine or supply shop, or even a steam-fitting or pipe shop, making it almost impossible for the engineer to procure the necessary supplies. Usually the proprietor of the hotel employs his engineer too late in the season to admit of proper inspection in order that the necessity for repairs may be discovered and the plant placed in proper condition for the coming season. Generally the engineer is obtained through an advertisement in the daily papers and the lowest salaried man secures the position.

After answering the advertisement the engineer receives a letter or postal card requesting him to call at a certain hotel in the city at a specified time. There he meets the manager or proprietor of the summer hotel, and, after a thorough examination concerning his ability together with an inspection of his references, he is engaged for the season. Before leaving the august presence of the hotel manager the engineer is informed about the amount of salary and number of assistants he is expected to take along ; he is informed about the number of men the last engineer had with him, who operated the plant very satisfactory last season ; also that all of the engineroom help need not be taken until the hotel is open for business. The manager does not forget to inform the engineer who is about to take charge that the plant is in fine condition, everything having been overhauled last winter, and the proprietor or manager is positive there will be no difficulty experienced in starting at the required time.

If the engineer has had experience with summer hotels he will not allow himself to be caught by such talk. The length of the season at the watering places in the vicinity of New York is generally three months—say from June 1 to September 1, during which time there can be no stoppage of the machinery on account



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

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Established 1834.

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HOT PRESSED NUTS.

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Capacity 3-32 to 1 1/4 inches.

Style "K"

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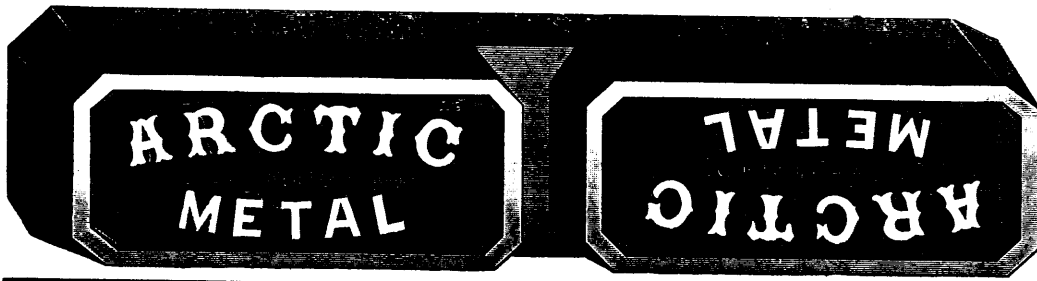
SAVES 50 PER CENT. OF TIME IN ADJUSTMENTS

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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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**Brass Founders
Solder and
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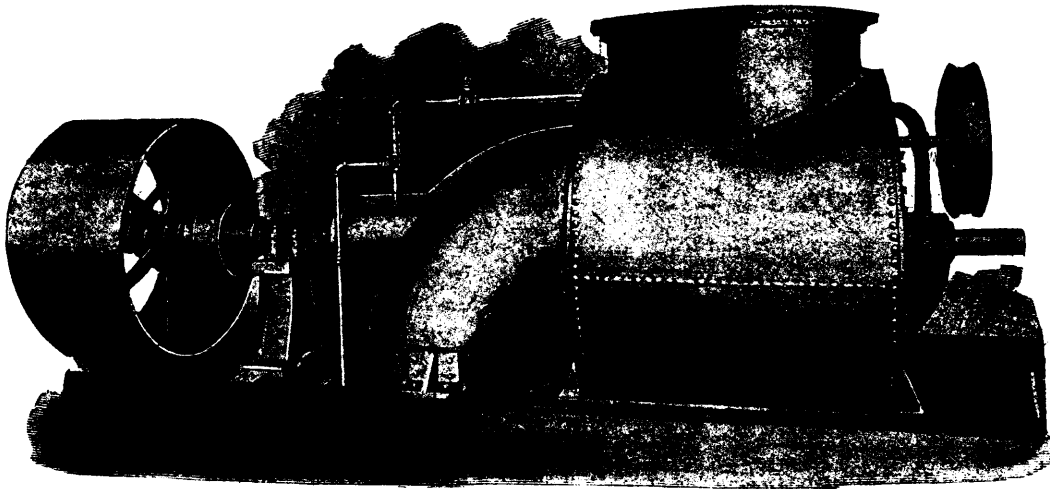
...HAMILTON, ONT.

of the large patronage and also the fact that few summer hotels have duplicate plants; hence the necessity for giving ample time to the engineer, together with sufficient help to enable him to place all the machinery that is to be under his charge in as perfect condition as possible so as to avoid stops and breakdowns during the season. Engineers experienced in hotels are well aware of the fact that continuous operation of the machinery combines with other things to place the hotel on a plane satisfactory to its patronage and saves an endless amount of trouble at the office. For the benefit of engineers who are not experienced in hotel engineering we will here enumerate some of the necessary requirements. First of all, if the hotel is a small one, the engineer must be a "Jack of all trades." He must know how to repair locks and make keys, to do plumbing and steamfitting, to care for laundry machinery, wiring of baskets for dishwashing, dishwashing machinery, butter cutting machines, coffee grinders, stock

boilers, etc., irrespective of bells, electric lighting and annunciators. If the hotel is a large one the engineer's knowledge must be more extended. He must be familiar with ice machines and refrigeration, elevators, hot and cold water supply, both gravity and compression systems; fire alarms, pumps, artesian wells, electric batteries, and have also a knowledge of storage batteries for automobiles, which is requisite now on account of the large number of electric carriages being used, especially at summer resorts. A knowledge of theatrical electric lighting will be found very useful on account of the balls, parties and theatricals held at these places. Large summer hotels have attached to them what is known as a Casino, in which theatricals, balls, etc., are held, and here the engineer is expected to perform the duties of the theatrical electrician. He is informed of the time the show commences, usually at night, and must make preparations to meet the same. If the engineer is posted in theatrical light-

ing he will enquire about the changes in lights, the color of lamps and if a dark change occurs. If so he prepares the switches and lamps that the different acts require and attends to them by cutting in or out the lights necessary to give the desired effect. The cue sheet should be written and given to the engineer to assist him during the performance. If the cue sheet is not given to the engineer he should ask for it at least two hours before the show commences, so as to familiarize himself with the changes required.

The writer was once engaged as chief engineer and electrician of a large hotel at one of our most fashionable watering places, just eleven days before the hotel opened for the reception of guests. The instructions given him were along the lines mentioned above. He was to bring down only two men; the remainder of his assistants were to follow when the hotel opened. The first day was pretty well taken up in traveling and looking after express matter. Having arrived



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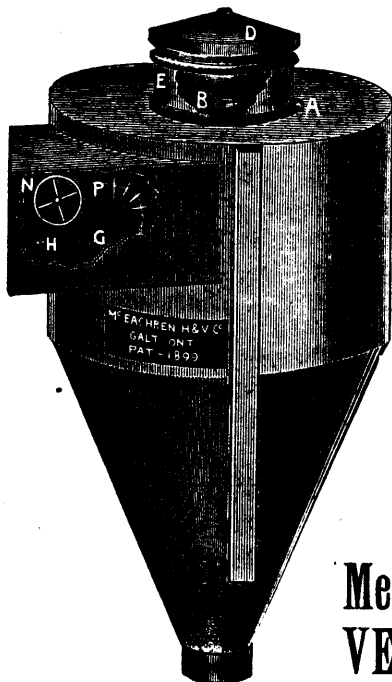
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late at the hotel, he was shown the sleeping, the dining quarters for the men; all of which absorbed the first day. The second day he was shown through the hotel, engine-room, boiler-room, laundry and pump-room, the Casino, bathing houses and swimming baths. After becoming acquainted with the surroundings, he immediately set to work with his men, commencing with the boilers. The first thing discovered by one of his assistants was there were no grate bars, the old grate bars being down and broken. The bridge walls of both boilers, of which there were two, were down along with the side walls and front arches. Now there were practically only nine days left to put the plant in running condition; six weeks would have been nearer the time required. After enquiring at the nearest saloon where the services of a bricklayer could be obtained, the second day was pretty well advanced. The third day was spent in cleaning out the scale from the boilers, which took the combined effort of two men using a large slice bar which fortunately was found under a pile of rubbish near the boiler-room. The writer busied himself in searching for the dynamo leads and brushes, which he found under a bench in the laundry. The telephone was regularly removed every season, "so that it could not be used by the watchman." The plant consisted of two high-speed engines, belt connected to two 250-ampere machines; one horizontal ice machine direct connected to a vertical slide valve

engine; one laundry engine; an engine for the ice-cream freezers and coffee grinders; one large compound hydraulic pump for elevators; two Worthington pumps connected to a large artesian well; one feed pump: two injectors; and one compression tank and pump for hot water supply. The cold water was supplied by pumping it to the roof and allowing it to circulate by gravity through the different connections. The reader will see that in a plant of this size it requires considerable time to locate the damages, especially after a severe winter. Of course no steam could be raised to test the connections until the Police Department gave permission, as these boilers came under the city rules. The engines next received attention. They were badly corroded from the action of the "salt air" and required the effort of three men with a long lever to turn them over. The proprietor was informed about the condition of things and was urged to have the telephone connected, so that supplies could be telephoned for. He pretended to be ignorant of the state of affairs and maintained that the last engineer told him the plant was in fine condition. The boilers being ready for inspection, the police boiler inspector arrived with his pump and applied pressure, with the result that the boilers were condemned just one day before the hotel opened. A new set of tubes had to be inserted in each boiler. While the tubes were being put in the brine pump and tank received attention. The pump was corroded together, and the method em-

ployed to take it apart was to build a wood fire around it, continually hammering the different parts. After two days the pump was taken asunder, oiled and put in running condition. The ammonia condenser was found to be split in one of the sections, which was repaired by the use of heavy clamps and made tight. All the lubricators were split during the winter, owing to the neglect or ignorance of the engineer who allowed them to remain full of water. The valve on the engine that ran the ice machine had to be set, as the eccentric had slipped. Assorting the belts for the different machines required considerable time; they should have been rolled up and named or numbered according to their position. A new flask of ammonia had to be ordered and pumped into the system. After steam was turned on the different lines, almost every line had a burst pipe which had to be renewed before that line could be used. After the hotel opened it was found that the sewer was stopped up, from the fact that during the winter the basement had been flooded and foreign matter carried into it, which necessitated the opening of the sewer until the obstruction was found and removed. Every man worked to the best advantage and did his best to have everything in order before the required time, but it was just nine days after the hotel opened before the machinery was in operation. The expert for the estate that owned the hotel was a plumber, who possessed the gift of making his employer believe that no man knew as much as he did.



Dust and Shavings Separators

FOR WOOD REFUSE

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

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Beg to call the attention of their patrons to their removal to a more commodious and up-to-date factory, where, with improved facilities, they can guarantee even better attention and satisfaction than ever before.

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

Quotations Supplied
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PHONE 1103

AN INDIGENOUS CANADIAN MANUFACTURING COMMUNITY.

Quite near Hartney, Man., on the Souris river, there is a colony of beavers. The animals have selected for their home a place where the bank of the river is comparatively low and overhanging the deep water, which in winter is kept warm and open by the influence of strong springs. Young poplar trees selected from the

grove along the shore afford plenty of food, and the chips from the freshly-cut green wood can be noticed scattered on the ground wherever the animals have been at work. It is said that the beavers have occupied this winter home for several years, and are increasing in numbers. The man on whose farm the interesting animals have located uses every means in his power to prevent the destruction of the creatures. This is perhaps the only

family of beavers to be found within the settled portion of Manitoba. — Hartney Star.

The Grand Trunk Railway Co. will build a station at Guelph, Ont., at a cost of about \$20,000.

The sash and door factory of James York, Chesterville, Ont., was destroyed by fire April 25. Loss about \$75,000.

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

TORONTO

—IN—

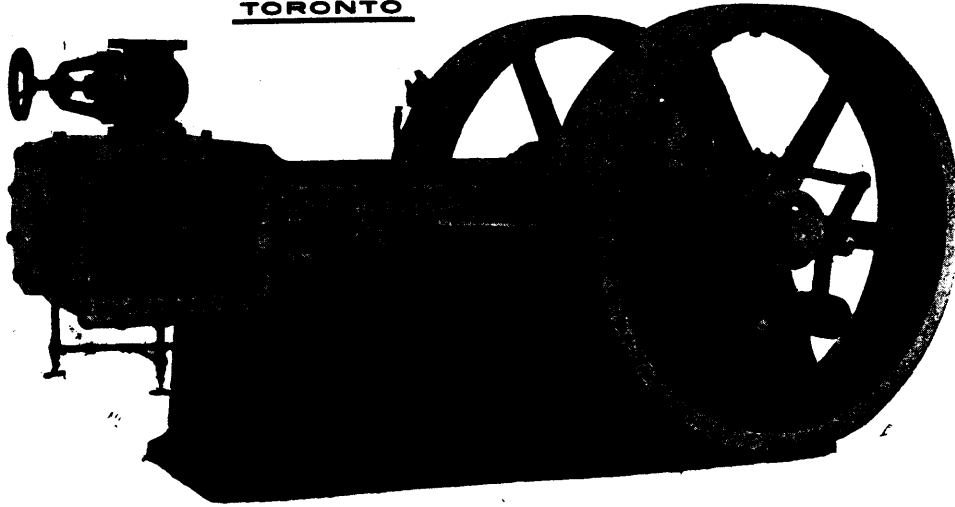
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Write for.....

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We have the Sole Agency for Planished Shafting, Shapes, etc.

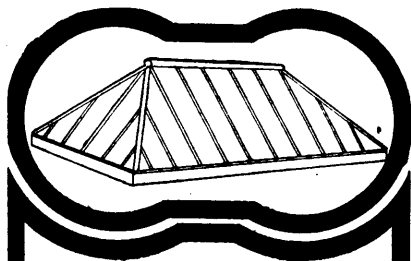
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PROCESS—By one pass through the dies, the bars are brought to EXACT DIMENSIONS specified, and with a bright smooth surface. In the further operation of Automatic straightening they are given AN EXCEEDINGLY FINE POLISH by the action of planishing rolls. Bars finished by this method are very largely increased in TENSILE, TRANSVERSE and TORSIONAL STRENGTH, in consequence of the compression producing a considerable increase in density at and near the surface.

Large as is the consumption of these bars for power transmission shafting, its use in machine manufacture is much greater. **Machine Shafts and Rods, Valve Stems, Pump and Piston Rods, Engine and Elevator Guides, Screw Rods and Bicycle Hub Stock,** are a few of its many uses.

Turned Shafts are less strong than cold drawn, for the reason that the strength portion, or outside of the bar, is CUT AWAY. For further particulars and price, address

LAURIE ENGINE CO. 321 ST. JAMES STREET MONTREAL



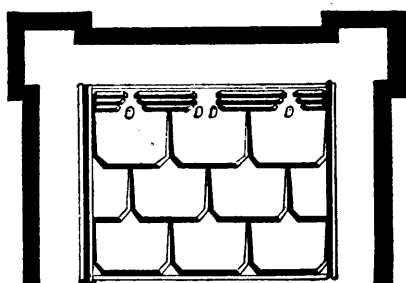
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We make them from hollow bars of Copper or Galvanized Steel—in styles and sizes to suit all kinds of roofs.

They are very strong, and unaffected by cold or heat, as there is neither contraction nor expansion—and, if glazed with our fire-proof wired glass, they are absolutely fire-proof.

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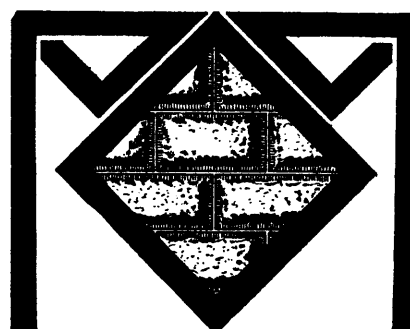
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Are Always They are more economically durable and **Reliable** quicker to

apply than any others, fitting accurately—and therefore most easily laid. They have been thoroughly tested in all kinds of climates, invariably proving **Fire, Lightning, Rust and Weather Proof.**

If you're building, make sure of satisfaction by ordering **EASTLAKE'S** for the roof—fullest information if you write.

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A handsome steel siding for all kinds of building purposes; supplied either Galvanized or Painted.

OUR ROCK FACED STONE

is fire and damp proof—resists all weather conditions—is very reasonably priced—and can be so easily applied it gives universal satisfaction.

Find further facts about it in our catalog.

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Wholesale Manufacturers,
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THE EBY EXHAUST HEAD.

The accompanying illustration is of an exhaust head, which is now being put upon the market by



the Eby Mfg. Co., 581 King Street West, Toronto. Regarding it they say that this head removes about all of the water held in the steam, returning it to the heater. The construction of it is simple and the

work very effective, the value of it being seen in the large saving in the fuel bill. This exhaust head is adapted for all purposes where steam is used.

This company make a specialty of apparatus for steam laundries, in which they have had many years experience. For further particulars apply to the company as above.

THE BRISTOL CO.

The Bristol Co., Waterbury, Conn., has sent us an illustrated catalogue of their recording volt, ampere and Watt meters.

In describing the volt meters, they say one of the current coils is rigidly secured to the back of the instrument, the other is movable, and is supported by a pair of frictionless spring knife-edges resting in the V cuts at opposite ends of a shaft through its centre. The pen arm is attached directly to the right-hand spring and partakes of its motion, recording the changes of voltage on a uniformly moving chart driven by a clock designed for this purpose. The instrument is constructed on electric balance principle without permanent magnets. This instrument is so designed that it is especially sensitive

at the upper portion of the scale. At the working ranges the records show completely the changes that have occurred in the voltage, even though in many cases the variations are only small fractions of one volt.

A novel feature of the ampere meters is the form of armature, which is used to procure a chart with the divisions nearly uniform throughout its range. It consists of two parts, a flat and very thin disc of iron and a small sleeve or core of iron on a non-magnetic shaft. The sleeve is completely concealed from view within the solenoid. The disc is stiffened by a plate of non-magnetic metal. The armature and moving parts are reduced to a minimum in size and weight to avoid magnetic lag. For instruments up to 1,200 amperes capacity the solenoids are designed to carry the entire current, but for ranges over this, the excess passes through a shunt which forms a part of the instrument.

In the Watt meters one of the knife-edge supports is made with a double bearing and replaces one of the spring supports as employed in the usual type of recording volt and ampere meters. The effect of using this form of support is that the motion of the movable coil is multiplied, the potential and current coils can be located very closely together, and consequently it is possible to obtain an evenly-divided scale, as the magnetic field is quite constant over the short distance that the coil moves.

For further information apply to the company as above.

A NEW PUBLICATION.

An interesting publication, dealing with Canadian affairs is being issued by George N. Morang & Co., Toronto, and will no doubt commend itself to everyone who has business or personal interests in

Canada. It is entitled, Morang's Annual Register of Canadian Affairs, and is edited by Mr. J. Castell Hopkins, author of the Story of the Dominion, and the Progress of Canada. The volume contains invaluable information concerning the Dominion in its commercial, financial, agricultural, mineral, educational, political and external interests. Many Canadians will also find a peculiarly personal value in its record of events in which they have perhaps shared, and they will naturally appreciate this yearly epitome of their own participation in the development of the country in which they live. The first volume is limited in its edition and will grow more valuable as the years pass on, so that those who wish to possess in the future a complete set of this important annual work will do well to order at once.

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.

768. A London agent wishes to hear from Canadian firms exporting plumbers and engineers supplies and accessories, cheap furniture, caskets and coffins, marble, etc.

769. Enquiry is made for Canadian producers and shippers of molybdenite and tungsten.

Zanzibar Paints

Made in all Colors

Rust Proof.
Decay Proof.
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FOR ———
Bridges, Roofs,
Factory Buildings,
Structural Iron Work,
Warehouses, Etc.

USE ———
Zanzibar Crucible Black
For Smoke Stacks, Boilers, Steam Pipes,
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Extraordinary High Fire Test.
Elastic and Durable.

Absolutely will not Blister, Peel Off or Chalk.

Manufactured by

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

770. An old-established firm of importers, salesmen and agents in London having every facility for turning over a big stock, desire to be placed in communication with some important Canadian shippers of dairy produce.

771. A Liverpool firm of general merchants and importers have asked to be furnished with names of Canadian exporters of general produce as well as clog soles, India rubber cuttings, etc.

772. A Turkish manufacturer of genuine hand made oriental embroideries wishes to be placed in communication

with Canadian importers of these goods as well as carpets and rugs.

773. The Canadian makers of butcher and other skewers ask to be placed in touch with English buyers.

774. A Lancashire house asks to be furnished with the addresses of the leading Canadian manufacturers of bedroom suites, tables, chairs and other furniture.

775. An Irish house desires the names of principal Canadian producers of bacon, etc.

776. A London firm dealing in macaroni, vermicelli, essential oils, candied peels

and similar lines wishes to get into touch with Canadian importers.

777. A north country manufacturer of grocers' and druggists' specialties is prepared to appoint Canadian resident agents.

778. A firm of organ makers have asked to be furnished with the names of shippers of whitewood from Canada.

779. A French firm, manufacturing ladies' Parisian clothing of the highest class, make enquiry respecting the best means of getting into touch with Canadian importers of such goods.

780. A firm at Leith, Scotland, make enquiry respecting the wood pulp trade of Canada, their object being to interest themselves in the importation of sulphite pulp.

781. A Lancashire firm desires to correspond with buyers in Canada of steel wire screening, such as is used in stamp batteries in the gold mining districts.

782. An English firm of manufacturers of table glass of the best quality make enquiry respecting the market that exists in Canada for these goods.

783. A firm in Scotland, manufacturing tweeds, are desirous of opening up business relations with Canadian houses purchasing such goods as they export.

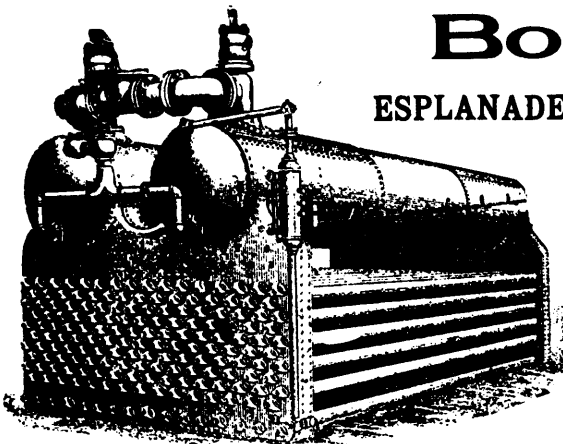
784. A general commission merchant at Mannheim, Germany, is interested in the importation of wood pulp and feeding stuffs, bran, etc., from Canada, and wishes to get into touch with exporters.

785. The English manager for a firm of Dutch cigar-makers makes enquiry respecting the export of these goods to Canada.

786. A Toronto firm asks to be supplied with the names of tinfoil makers and the manufacturers of vegetable parchment paper.

The Canadian Heine Safety Boiler Co.

JOHN J. MAIN,
MANAGER.



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W. P. DENT, - Manager.

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

A Few Extracts from Letters from British Consuls, etc.

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

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

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

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

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

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

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

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

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

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

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

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, May 2, 1902.

The interest in the market for Canadian securities continues, and a new class of speculators are operating. The large proportion of the trading now, according to brokers, is for the account of people who have never before been in the market and the orders are all on the long side. The recent advances in the active issues have encouraged the novices to buy, but the old traders shake their heads, and talk of the turn. Plenty of bull talk is on the street, regarding the Canadian Pacific Railway, and the most enthusiastic bull traders predict that the stock will be put on a 6 per cent. basis. Toronto Street Railway is also a favorite with the bulls, and insiders are talking of a big boom in the near future. The greatest bear factor on this property is the retirement of the bonds, something like \$3,250,000 having to be redeemed during the last ten years of the company's franchise period. The General Electric Co. will issue about \$450,000 of the \$100,000 new stock authorized by the directors, at one share in four to present shareholders and the price it is said will be 150. In the London market Canadian securities have made remarkable progress. Dominion 3 per cents. are now quoted at 102 and British Columbia 3 per cents. at 94. There is no noticeable movement in municipal issues.

The spring strike specimen is spreading, especially among the unions, whose members are employed in the building line. The bricklayers will "go out" on May 1 unless their demands are acceded to. The advance in the prices of food products, and the increase in house rentals, are urged by the men as important factors in influencing them to seek a greater remuneration for their services. In several other industries small strikes have occurred, but in the majority of cases a satisfactory adjustment of wages and hours has been made. An assembly of the Knights of Labor passed a resolu-

tion condemning as unsatisfactory the bill introduced by Postmaster-General Mulock respecting the letter carriers. The assembly also petitioned on behalf of the postal employees for an increase of 20 per cent.

The organization of the new Sovereign Bank of Canada was effected on April 23. The following directors were appointed:



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LINING AND REPAIRING
STOVES, FURNACES, RETORTS

And all work where
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BALE & CO., Newgate St., LONDON, ENG.
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Electrical and Mechanical
Contractors

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BRASS FOUNDERS and FINISHERS

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Temple Building, **TORONTO**

Merchants Bank Building, **MONTREAL**

—H. S. Holt, Montreal, president Montreal Light, Heat & Power Co.; A. A. Allan, Toronto, A. A. Allan & Co., wholesale furriers, etc.; Archibald Campbell, M.P., Toronto Junction, Queen City Flour Mills, President Equity Fire Insurance Co., etc.; James Carruthers, Montreal, James Carruthers & Co., grain exporters; Randolph McDonald, Toronto, Manning & McDonald, contractors, director Crown Life Assurance Co.; Hon. Peter McLaren, Senator, Perth, director Toronto General Trusts Corporation; Hon. D. McMillan, Senator, Alexandria, director Merchants' Fire Insurance Co.; John Pugsley, Toronto, Pugsley, Dingman & Co., and Henry R. Wilson, New York, president Lincoln Trust Co. Mr. D. M. Stewart, the general manager, reviewed the history of the institution since undertaken a short time ago and reported that the total subscriptions thus far received, amounted to 15,331 shares or \$1,533,000.

The Peterboro Street Railway, which has not been operated for two years has been purchased by Detroit capitalists and will be put in first-class shape by July 1. Branch lines will also be operated to near-by summer resorts.

Call loans in the local market are quoted at 5 to 5½ per cent. The money market is holding firm, owing to the large amount required at this season of the year for commercial purposes. The recent heavy advance in stocks has had the effect of making bankers more cautious in granting loans, and the prospects for lower rates in the near future are anything but bright. In New York call loans are quoted at from 3½ to 4 per cent. The Bank of England rate is unchanged at 3 per cent.

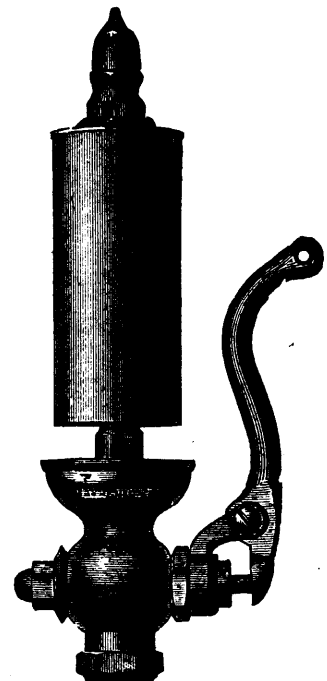
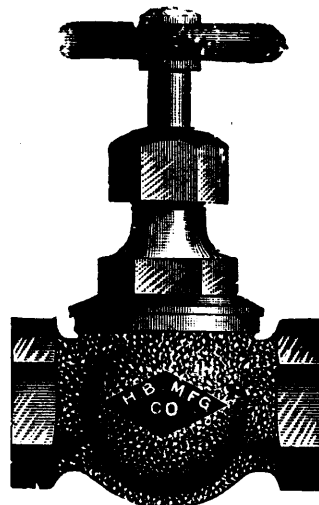
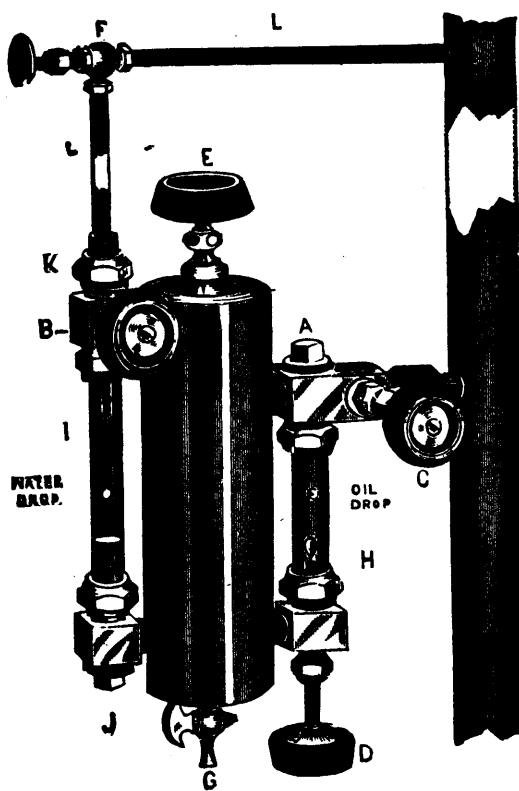
The general prosperity of the country is reflected in the heavy importation at the various customs ports of entry. At Toronto, the staff of clerks are kept working continuously in order to meet the demands of the trade. The number of entries this year exceed those of any previous period, and the duties collected will show an enormous increase over the figures for the corresponding period last year.

The annual report of the Provincial Secretary and Registrar shows a noticeable growth in industrial and commercial companies. In 1900 there were issued 467 letters patent, supplementary letters patent and licenses, while last year 547

instruments, either incorporating or licensing companies, were granted. The total amount of fees collected by the department last year was \$88,643, of which \$75,782 was received for letters patent and licenses, compared with \$71,179, in 1900, and \$60,817 in 1899, and \$5,030 in 1891.

Consumers in the metal markets are holding off in anticipation of lower prices. The position of copper has not changed for the better. All current requirements and requirements for some months to come, according to New York advices, will be supplied out of old contracts placed several months ago. Lake copper has been steady on a basis of 12¼c. asked for prompt delivery. Casting copper, standard brand, is nominally 12c. The production of copper for the first three months of this year, as compared with the same period last year, shows a decrease. Cablegrams from London show that the market there is irregular.

The steel industry is not much changed as to prices. All the large consumers are abundantly supplied under contracts, and they are not concerned at the present fluctuations. Manufacturers of steel plates throughout the east are declining



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orders under \$40 per ton where the price is \$36. As high as \$45 has been paid for some small lots.

BRITISH PIG IRON MARKETS.—Messrs. Wm. Jacks & Co., 49 Leadenhall street, London, E.C., England, under date of April 18, 1902, quote as follows:

Since writing you last our pig iron market has been very strong, and prices have advanced all round. We quote to-day:

No. 1 Gartsherrie 67/3 per ton, f.o.b. Glasgow. No. 3 Gartsherrie 57/ per ton, f.o.b. Glasgow. Nos. 1, 2 and 3 Cumberland Hematite, 68/ per ton, f.o.b. Liverpool. Nos. 1, 2 and 3 to special analysis, 72/ per ton, f.o.b. Liverpool. Refined D.T.N. Hematite in small pigs 86/ per ton, f.o.b. Liverpool.

BUFFALO PIG IRON MARKET.—Office of Rogers, Brown & Co., Buffalo, N.Y., April 30, 1902.

During the past week there has been practically no change in the conditions affecting the pig iron situation in this district. Furnaces are doing their utmost to take care of their customers' wants and supply the required iron on existing contracts, but foundries everywhere continue to call for their iron at the maximum rate allowed by their orders and the resulting shortage calls for a great deal of patience on the part of both consumers and producers. The difficulties which furnaces have experienced in obtaining their raw materials have made it a physical impossibility to meet all the demands made upon them.

Occasionally a special lot of iron is offered for early delivery and is quickly absorbed. A noticeable fact is that a great many buyers who had apparently covered for their season's requirements are sharply on the look-out and quickly snap up offerings of odd carloads.

There is a little improvement in conditions with coke ovens tributary to this territory, most of them being now able to make shipments on their contracts with more promptness than heretofore. This is largely due to the fact that the railroads are better able to handle freight on account of the absence of snow blockades and floods.

SHEET LEAD.—The Syracuse Smelting Works, Montreal, are offering for sale about twenty tons of Cookson's sheet lead in good condition weighing three and four pounds to the square foot.

THE ALABAMA PIG IRON COMBINATION COLLAPSES.—Advices from Pittsburg state that a report is in circulation that the Alabama Pig Iron Combination has broken up because the Tennessee Coal & Iron Co. refuse to advance prices. It is also rumored that T. C. I. refused to advance the prices because the United States Steel Corporation now controls the company.

THE AMERICAN METAL MARKET REPORTS.—The New York scrap iron market is practically unchanged. Recent advices report the following sales:

No. 1 RAILROAD WROUGHT SCRAP.—Prices paid for choice lots were high; we



ELECTRIC LIGHTING

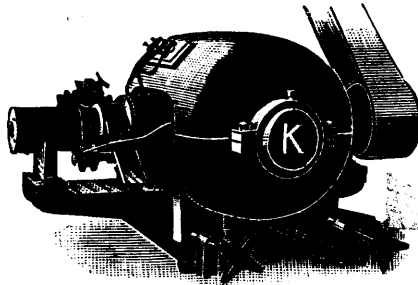
Before deciding on your system, give us a chance to figure—it may save you anxiety and many dollars.

SEND A POST CARD

And we will furnish you with full information and prices.

R. A. L. GRAY & CO.,

85 York Street, Toronto.

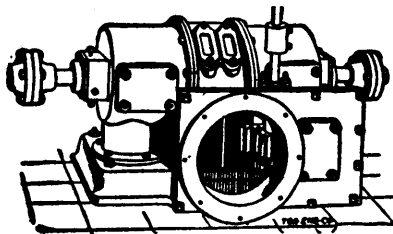


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- BI-POLE MOTORS
- ALTERNATING CURRENT MOTORS.
- INDUCTION MOTORS.
- DYNAMOS for Incandescent and Arc Lighting.
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- ELECTRIC CONTROLLERS for Elevators.
- ELECTRIC ORGAN BLOWERS.



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BUILT IN 44 SIZES.

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Catalogue and Gear List mailed on application. Correspondence Solicited.

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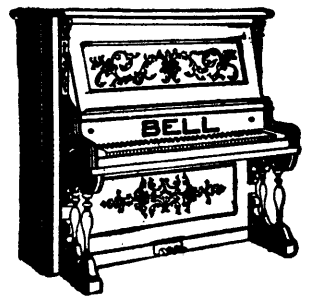
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AND USED THE WORLD OVER

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Telegraphic Address, "PHENOLATE, LONDON."

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

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

Chemicals. Sulphate of Copper. Chlorates of Potash and Soda. Calcium Carbide. Acetate of Soda. Wood Naptha. Acetone, Bichromates.
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understand, equal to \$24 per gross ton New York. For regular shop No. 1 we quote \$23 per gross ton f.o.b. New York.

No. 1 YARD WROUGHT SCRAP.—The usual carload shipments go on, and we also learn of two sales of 250 tons each at \$21.50 per gross ton f.o.b. Jersey City. We quote for good selected No. 1 wrought \$22 per gross ton f.o.b. New York, and for average stock, long and short, \$20 gross.

HEAVY STEEL SCRAP.—The demand is good and supply fair. We quote for carload load lots \$18 to \$18.50 f.o.b. New York.

OLD CAR WHEELS.—Several large concerns are in the market and are having considerable trouble in covering their wants. We quote \$19 to \$19.50 gross ton f.o.b. Jersey City.

No. 1 MACHINERY CAST SCRAP.—The foundries are using large quantities, and the demand continues. We quote \$16.50 to \$17 f.o.b. cars Jersey City or delivered to foundry.

WROUGHT PIPE AND STOVE PLATE.—There is a slight falling off in the demand for stove plate, but wrought pipe continues very active. We quote for pipe \$16 gross ton and for stove plate \$12 to \$12.50 per gross ton f.o.b. New York.

OLD IRON RAILS.—This stock has weakened considerably during the past week. It has declined fully \$2 per ton and sales are now hard to make. We quote \$22 to \$23 f.o.b. Jersey City.

TORONTO CUSTOMS DUTIES FOR APRIL.—The business at the Toronto Customs House continues busy, the returns of duties collected during April showing an increase of over \$100,000 compared with the corresponding month last year. The receipts this year for the month total \$541,000 as against \$437,873 last year. The total for the first four months this year is \$2,204,043; for the same period last year, \$1,921,576; increase, \$282,467.

NEW RAILWAY COMPANY.—The names of Benjamin P. Moore, John McNaught and Arthur L. Meyers were on the papers of the Great Northern of Canada Consolidated Co., which was incorporated a few days ago, but James J. Hill and the Northern and Canadian Pacific are said to be behind the company. The capital stock is \$100,000,000. The corporation is reported to contemplate the construction of a railway from Duluth, Minn., to Dawson City, for the purpose of bringing freight from a hitherto untapped area for distribution at Duluth, whence it would be carried by boats to eastern points and Europe. The cost of construction it is said will considerably exceed \$100,000,000.

SEEKING A BONUS FOR STEEL SHIPS.—Representatives of the steel shipbuilding interests of Canada interviewed the Ottawa Government and asked for a bonus amounting to 10 per cent. of the contract price of each ship. A deputation from St. John, N.B., also asked the Government for an increase in the subsidy for the dry docks at St. John from 2 per cent. to 3 per cent. They also asked that the coasting laws be rigidly enforced and that Canadian registration be refused to foreign vessels.

WANTED

A MAN TO TRAVEL

TO

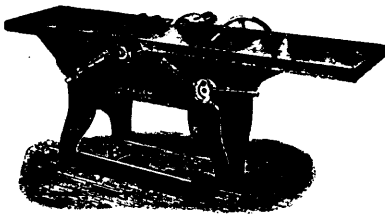
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MANUFACTURERS OF **Wood Working Machinery**



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GREAT BRITAIN, THE COLONIES or FOREIGN COUNTRIES,

will do well to consult Kelly's Directory of the

MERCHANTS, MANUFACTURERS & SHIPPERS OF THE WORLD,

(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.

Highest Award, Gold Medal, Paris, 1900.

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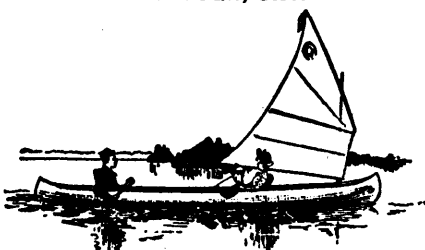
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RIGHTS OF FOREIGN CAPITAL IN LATIN-AMERICA.—The British Board of Trade recently published a useful report regarding the rights and privileges of foreign commercial or industrial enterprises in Central and South America. From reports received from the various British consular and diplomatic officials communicated with, it appears that in Central America and in Mexico foreigners and foreign companies domiciled in those countries are granted all of the rights and privileges accorded to native individuals or firms, and are subjected to the same obligations and taxes unless specially exempt by executive decrees or concessions. In Mexico the books of foreign concerns are required to be kept in the Spanish language, and on starting business each concern must present a certificate signed by the Minister accredited to its country in Mexico, or by a Mexican Consul that it is a company legally organized, and other documents showing its constitution and financial position. Foreign insurance companies must deposit a bond of \$20,000, or double the amount required from native companies. In Ecuador, Peru, Bolivia and Uruguay, foreign companies are on an equal footing with those organized by natives with respect both to privileges and obligations. In Bolivia companies whose head offices are abroad are required to have a resident legal representative or agent, and in Uruguay, foreign life insurance companies are required to pay a fee of \$400 (\$413.60), and 2 per cent. additional on the gross receipts from all policies issued. Fire insurance companies pay a similar fee and 4 per cent. Nominally native companies pay half of these rates, but as they are at present no native insurance companies this slight discrimination is without effect. In Chile, foreign companies are at an advantage compared to native, as they are not subject to the laws governing the formation of such companies in Chile, and are not obliged to make the deposits required by local firms. In Brazil, foreign companies are subject to the Brazilian Commercial Code. They may engage in any lawful undertaking, but must first secure the formal sanction of the Government, whereas native concerns require such authority only when entering the banking business or engaging in supplying food. The statutes of foreign companies must not contravene Brazilian law, and must be approved of the Government. All foreign companies must register at the "Junta Commercial" or at the "Registro de Hypotecas da Comarca" (1) their statutes, (2) list of subscribers with number of shares held by each, and payments made thereon, (3) a certificate of deposit of one-tenth of the capital, and (4) an authenticated copy of the authorization to operate. Both foreign and native industrial concerns are required to pay a tax of 10 per cent. of their capital, and an annual tax of 2½ per cent. of their dividends. Foreign fire and marine insurance companies are required to pay 15 per cent. on the gross amount of premiums received, while native companies pay a corresponding tax of 2½ per cent. This appears to be the only discrimination between foreign and native com-

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

JOHN DRYDEN, Minister of Agriculture.

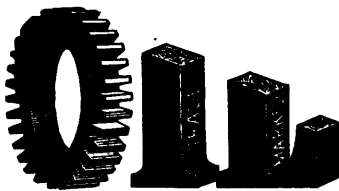
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panies. Foreign insurance companies are also required to invest a portion of their capital in Brazilian securities or property.

ST. LOUIS PIG IRON MARKET.—While the demand for pig iron is not of large volume, it is increasingly in excess of the supply of iron for any delivery during the remainder of the year. The quickness with which medium-sized lots for July to December shipment are snapped up when offered now and then by a furnace not completely sold up for the year, suggests either an uncovered foundry requirement of pretty fair proportions, all things considered, or so confident a feeling among consumers as to prices that they are willing to take speculative chances.

To illustrate the situation, we may refer to four or five 1,000 ton sales of Southern coke foundry iron in the present week at a price above a basis of \$15 for No. 2 at Birmingham for July to December delivery. The furnaces having this iron to offer have since, it is significant to state, advanced their prices 50 cents a ton.

In basic iron, the sale of 1,000 tons of Virginia is noted for last quarter movement, around the \$20 mark, local delivery.

For quick shipments of foundry irons, all sorts of fancy prices are obtained, the necessities of the buyer entering largely into the determination of the selling figure.

CANADIAN TRADE—Bradstreet's has the following to say regarding the outlook in Canada:

Wholesale trade has been more active this week, the warmer weather having stimulated the sorting demand from country merchants, whose stocks are getting well broken into. Trade has been a trifle quiet since the first of the month owing to cool weather, but with more favorable conditions in that respect a much larger movement is expected the next month, and there is a general feeling of confidence. The immigration movement to the West is increasing the demand for staple goods. The values of cotton staple goods are very firmly held. The market looks like advancing again, and, in fact, one mill has already revised its lists. A big local firm having had a buyer in New York for four days the past week trying to buy prints at low prices was unable to secure any large job lots at low prices for the Canadian markets. There is a big demand for cattle and hogs. Some heavy live hogs have been purchased the past week for shipment to the United States. In Buffalo prices are \$1 per cwt. higher than here. Payments are very fair for this season.

COPPER.—New York: Standard—Spot to May, 11.00c. bid, 11.25c. asked. June, 11.10c. bid, 11.10c. asked; Lake—Spot to June, 11.75c. bid, 12.00c. asked; Electrolytic—Spot to June, 11.55c. bid, 12.00c. asked; Casting, 12.00c. nominal.

TIN.—New York: Spot, 27.25c. bid, 27.25c. asked; April, 27.12½c. bid, 27.50c. asked; May, 26.80c. bid, 27.25c. asked.



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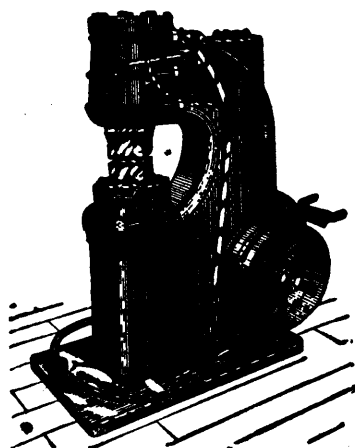
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THE AUSTRALIAN TARIFF.—A report from Mr. J. S. Larke, Canadian Commercial Agent to Australia, dated March 25, has been received at the Department of Trade and Commerce. Mr. Larke states that the trade outlook is brighter than were the prospects given in his last report. Consideration of the tariff has not yet been completed in the House of Representatives. The abolition of composite duties, specific and ad valorem, on some of the articles, is a most important change carried out. Here are a few of the changes of interest to Canadian manufacturers which Mr. Larke outlines:—
 Parasols—Former rate, 1s. 6d. per dozen and 15 per cent.; new rate, 30 per cent.
 Boots and shoes—Former rate, various; new rate, 30 per cent.
 Paints and colors, ground—Former rate, 1s. per cwt. and 15 per cent.; new rate, 2s. per cwt.
 Paints and colors, prepared for use—Former rate, 1s. cwt. and 15 per cent.; new rate, 4s. cwt.
 Carriages—Former rate, various; new rate, 25 per cent.
 Pianos—Former rate, various; new rate 20 per cent.
 Glassware—Former rate, 8d. per cubic foot and 15 per cent.; new rate, 20 per cent.
 Oatmeal—Former rate, 1d. per pound; new rate, ½d. per pound.
 Blankets—Former rate, 20 per cent.; new rate, 15 per cent.
 Carpets—Former rate, 20 per cent.; new rate, 15 per cent.
 Woolen piece goods—Former rate, 20 per cent.; new rate, 15 per cent.
 Cotton goods—Former rate, 10 per cent.; new rate, free.
 Lamps and lampware—

Former rate, 20 per cent.; new rate, 15 per cent.
 Traction engines—Former rate, 15 per cent.; new rate, free.
 Steam engines—Former rate, 25 per cent.; new rate, 20 per cent.
 Boilers and pumps—Former rate 25 per cent.; new rate, 20 per cent.
 Axles and springs—Former rate, 25 per cent.; new rate, 15 per cent.
 Plated ware—Former rate, 25 per cent.; new rate, 20 per cent.
 Mixed metalware—Former rate 25 per cent.; new rate, 15 per cent.
 Printing paper—Former rate, 10 per cent.; new rate, free.
 Strawboard—Former rate, 2s. per cwt.; new rate, 1s. per cwt.
 Cycle parts—Former rate, 15 per cent.; new rate, 10 per cent.
 Cartridges—Former rate, 20 per cent.; new rate free.
 The revenue derived from the tariff for the first six months of its existence has been unexpectedly buoyant. This has encouraged the House to make the reductions it has, and will probably incline the Senate to further cut down the rates. The tariff, though it has doubtless prevented Canadian exporters from entering into new enterprises, has not diminished the variety or volume of imports from Canada. The trade in flour continues. This has hitherto been confined to New South Wales and Queensland, but there is reason to believe it can be extended to Victoria and Tasmania.

MEETING OF PULP WOOD DEALERS IN QUEBEC.—A largely attended meeting of the pulp wood dealers of Quebec was held

in Montreal last week at which the pulp wood industry was discussed at length. It was resolved to organize under the name of 'The Province of Quebec Pulp Wood Dealers' Association. Mr. H. M. Price, of Quebec, was elected president and Mr. E. C. Gatiien, Sherbrooke, secretary-treasurer. The province was divided into eleven districts, each having a representative on the directorate of the association whose duty it will be to watch the interests of the industry in his district and report to the association. Several of the directors were appointed, the balance to be named at a subsequent meeting. The directors chosen at the meeting were F. W. Tobin, M.P., O. C. Morrissette, B. C. Howard, G. H. St. Pierre, F. N. McCrean, O. Brouillard, J. N. Mercier, M. Huger, and Mr. Smith, of the new Canadian Northern Railway. The object of the association is to promote the interests of the pulp wood industry in the province from the view point of the dealers. An effort will be made to agree upon a uniform price to be paid for pulp wood, thus doing away with the present competition among the dealers. The present Government system of disposing of pulp wood limits will be opposed. The meeting adjourned to meet at Victoriaville on May 6.

ZINC FOR PREVENTION OF THE INCRUSTATION OF BOILERS.—The use of zinc to prevent the oxidization of the iron and the incrustation in steam boilers has

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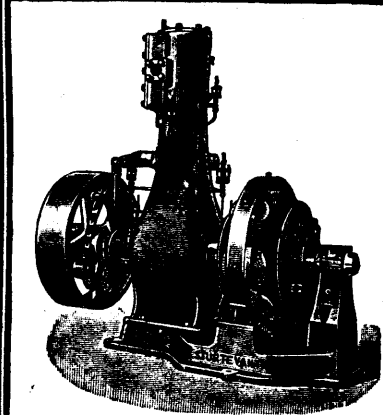
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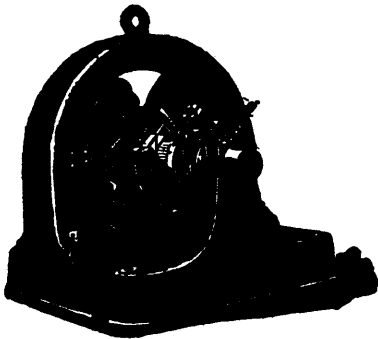
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greatly increased during recent years. Heretofore zinc has been employed for this purpose only in the shape of raw pigs, but after many experiments made by the society of "Mines et Founderies de Zinc de la Vielle Montagne," which have since been confirmed by the British admiralty, by the national French marine, and by many great maritime companies, it has been established that compressed laminated zinc made as an inside boiler lining is greatly superior to the old method. In fact, the galvanic current developed transforms the pig of raw zinc into a more porous substance in which the metallic molecules are isolated one from the other by the corrosion which is quickly produced, resulting in this, that the intimate metallic contact, which causes the generation of the electric current, is eliminated. Compressed laminated zinc, on the contrary, resists the spongy internal corrosion, as it corrodes only on the surface, thus being very slowly consumed and being capable of conducting the current as long as a metallic nucleus remains. The application of the laminated plates is very simple. They are applied to the walls of the boilers by means of strips and are so distributed that the galvanic action is exercised on an even way, when possible, over the entire surface of the iron. When the oxidation is produced in any part of the boiler, it is because the nearest zinc plate is too far away. By this employment of pressed zinc the incrustation of the boilers is avoided and at small cost.—Electrical Age.

PRISON LABOR GOODS.—The customs department have issued orders to the officials at the various ports that the regulations regarding prison made goods must be strictly enforced. A shipment received at Toronto recently was found to have been the product of prison labor, and although the importers had paid the duty on the same, before the origin of the goods was discovered, consignment was sent back to the shipper, accompanied by a copy of the Canadian customs regulation governing the same. The action of the Canadian authorities in strictly enforcing the regulation will no doubt be approved by every manufacturer in the Dominion.

BUSINESS CHANGES.

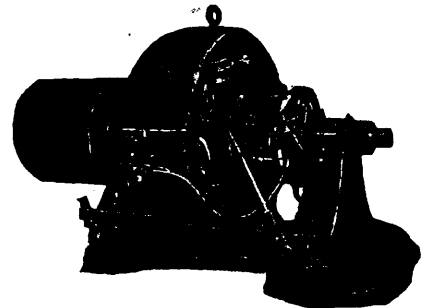
FROM BRADSTREETS.

ONTARIO.

ALMONTE—Anchor Knitting Co., mfrs. underwear and hosiery, damaged by fire.
CHESTERTVILLE—James York, sash and door factory, burned out.
CLARKSBURG—Shipe Mfg. Co., rims, ske wvers, etc., assets advertised for sale.
CLAVERING—W. G. Simmie, sawmill, burned out.
DUNDAS—Canada Can Co., mfrs., Walter Anderson Hamilton, appointed permanent liquidator.
HUNTSVILLE—Huntsville & Bracebridge Tanning Co., obtained charter.
KHYVA—Ratz Bros., sawmill, dissolved, John Ratz continues.
NEWBURGH—John F. Burgoyne, grist mill, loss by fire.
Robert Paul, sash, blinds, etc., loss by fire.
Edwin Stickney, foundry and machine shop, burned out.

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

NEW HAMBURG—Hahn Brass Co. of New Hamburg, corporate name changed to The Hahn Brass Co.
OTTAWA—Alex. Fleck, machinists and founders, slightly damaged by fire.
PAISLEY—D. Fisher, woolen mill, stock advertised for sale.
TORONTO—Canada Carbon Light Co., obtained charter.
 Canadian Scoria Block Co., obtained charter.
 Phelps Light, obtained charter.
 Turnbull & Russell Co., mfrs. elevators, succeeded by The Turnbull Elevator Mfg. Co.
WALLACEBURG—John Cooper, lumber, stave mill, etc., burnt.
WINGHAM—Amos Tipling, flax mill, loss by fire.
WOODBIDGE—Woodbridge Roller Mills, advertised business for sale.

QUEBEC.

MONTMAGNY—Compagnie Manufacturiere de Montmagny, foundry, etc., obtained charter.
MONTREAL—Bennett & Moncel, electrical contractors, registered.
 Canadian Aluminum Works, applied for charter.
 Canadian Pneumatic Tool Co., applied for charter.
 Couture Patent Lock & Latch Co., registered.
 Eclipse Acetyloid Gas Co., seeking charter.
 Montreal Roofing Co., assigned, meeting of creditors.
 Tretheway Train Pipes Coupling Co., obtained charter.
 H. J. Vickerson Electric Co., registered.
ST. PAUL DE CHESTER—Octave Roberge, sawmill, offering to compromise.
SHAWENEGAN FALLS—Goulet, Theodore & Co., mfrs. sash and doors, dissolved.
 Goulet & Co., mfrs. sash and doors registered.
YAMACHICHE—Heroux & Bellemare, sash and doors, registered.

NOVA SCOTIA.

HALIFAX—Maritime Electric Co., burnt out.

MANITOBA.

BINSCARTH—Binsearth Farmers' Elevator Co., applying for incorporation.
RUSSELL—Russell Farmers' Elevator Co., incorporated.

BRITISH COLUMBIA.

FAIRVIEW—B. C. Silicate Brick Co., incorporated.

NORTH-WEST TERRITORIES.

EDMONTON—Edmonton Electric Light & Power Co., sold out.
REGINA—Regina Farmers' Elevator Co., incorporated.
STRATHCONA—Strathcona Electric Light Co., sold out.

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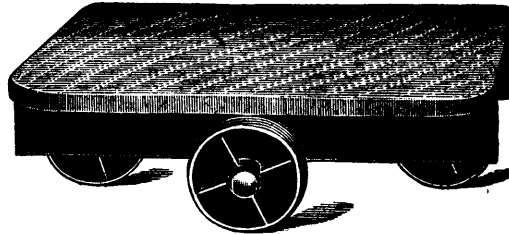
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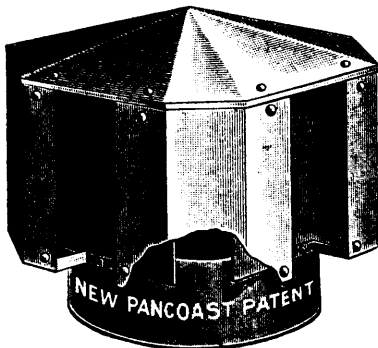
Current Prices, Revised to May 2, 1902.

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.

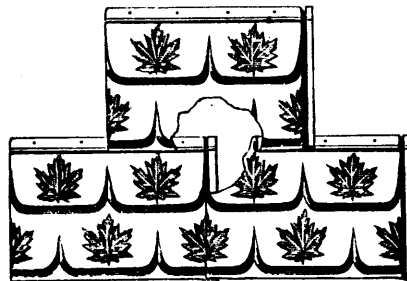
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The publishers request the trade to suggest any changes and improvements which might be made in these lists, with a view to rendering quotations as correct and useful as possible.

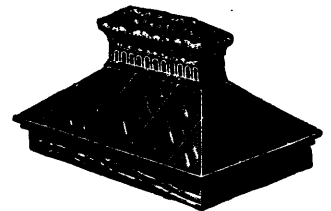
<p>ADZES.—Duty 30%. \$13 to \$20 per doz.</p> <p>AMMUNITION.—Duty 30%. Caps, Gun, gross. Cartridges, B.B. Cap, Dom., 50 & 5% discount, Can. list. Cartridges, B.B. Cap, Amer., 40% discount, Amer. list. Cartridges, Central Fire, Military and Sporting, Amer., add 5% to list. Cartridges, Central Fire, Military and Sporting, Dom., 15 & 5% discount. Cartridges, Central Fire, pistol size, Dom., 30% discount. Cartridges, Central Fire, pistol size, Amer., 10% discount. Cartridges, Central Fire, rifle size, Amer., 10% discount. Cartridges, Rim Fire, pistol, Amer., 40% discount. Cartridges, Rim Fire, pistol, Dom., 50 & 5% discount. Powder, sporting, Can., \$4.50 per keg 25 lbs. Eng., " " Amer., \$5.50 per keg 25 lbs. " " blasting, \$2.50 per keg. Primers, Dom., 30% discount. Shells, Brass, Shot, 55% discount. " Trap, loaded or empty, 25% discount. " Rival and Nitro, net.</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 l.o.b. Toronto, Hamilton, Montreal, St. John and Halifax. Terms 3% cash, freights equalized.</p> <p>ANCHORS. Small, 30 to 50 lbs., \$7.00 per 100 lbs. 100 lbs. and larger, \$5.00 per 100 lbs.</p> <p>ANVILS.—Duty 30%. Boker & Co., 12 to 15 cents per lb. Brook's, 10 to 13 cents per lb. Peter Wright's, 12 to 15 cents per lb.</p> <p>AUGERS.—Duty 30%. Eye Augers, 60% discount. Nut Augers, 60 " " Ship Augers, 10 " "</p> <p>AXES.—Duty 25%. Bench, \$6.50 to \$14 per doz. Broad, \$26.25 to \$40 per doz. Double-bitted, \$11 to \$13 per doz. Handled, \$8.50 to \$12 per doz. Regular, \$6 to \$10 per doz. Ship Carpenters, \$22 to 25 per doz.</p> <p>AXLE GREASE.—Duty 25%. Ordinary, box, \$5.75 to \$6 per gross.</p>	<p>AXLES.—Duty 35%. Half patent, short beds, 60% discount per set. " long " 60% " "</p> <p>BAGS.—Duty 20%. Cotton, seamless, \$14 @ \$24.50 per 100. Jute, \$7.75 @ \$9 per 100.</p> <p>BANDS.—Duty 30%. Carriage Hub, 2" x 12", \$13.00 per set. " " 2½" x 12", 14.00 " " " " 2" x 12", 15.00 " " " " 2½" x 12", 16.00 " " " " 2" x 12", 17.00 " " " " 2½" x 12", 18.00 " " " " 2" x 12", 19.00 " " " " 2½" x 12", 20.00 " " " " 3" x 12", 21.00 " " " " 3½" x 12", 24.00 " " " " 3" x 12", 25.00 " " " " 3½" x 12", 26.00 " " " " 3" x 12", 27.00 " " " " 3½" x 12", 28.00 " " " " 3" x 12", 29.00 " " " " 3½" x 12", 30.00 " " " " 4" x 12", 31.00 " "</p> <p>BARROWS.—Duty 30%. See Wheelbarrows.</p>
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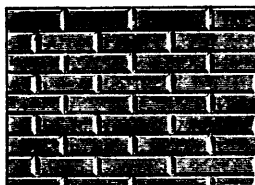
PANCOAST VENTILATOR.



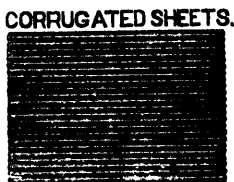
PATENT "SAFE LOCK" SHINGLES.



SKYLIGHTS.



PRESSED BRICK.



CORRUGATED SHEETS.

Metal Building Materials

Fire Proof—Lightning Proof—Frost Proof

Neat, serviceable and low in price. Exactly what every manufacturer requires. A trial order will make you a permanent customer. Would you like to know what many manufacturers who have used our goods think of them?

Our Galvanized "Safe Lock" Shingles are superior to slate or gravel.

Our Steel Sidings keep out the weather, make a warm and dry building, are durable and of handsome appearance.

We can help you to build cheaply and well.

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

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

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

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

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

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

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

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

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

BOLTS.—Duty ¼ cents lb., & 25%.
Bolt Ends, 62½% discount.
Carriage, 60
Coach Screws, 70
Elevator Bolts, 45% discount.
Machine, 60
Plow, 60
Shaft, 45
Sink, 50
Sleigh Shoe, 72½
Stove, 60
Tire, 55

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

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

BOOT HEELS (Rubber).—Duty 35%.
Sizes 6 to 11 (Men's), \$3.50 doz. pairs.
" 4 to 5 (Boy's), \$3.35
" 0 to 3 (Women's), \$3.25 doz. pair.

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

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

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

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

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

BUCKLES.—Duty 30%.
Double Grip Trace, three loop, tinned and japanned, put up a dozen in a box, 14", 55 cents per doz.; 14", 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 " " 5½ " "
" 2 " " 5½ " "
" 1 " " 5½ " "
" ½ " " 5½ " "
" ¼ " " 5½ " "

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

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

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

CEMENT.—Duty 12½ cents per 100 lbs.
Belgian, Portland, \$2.50 to \$2.75.
Canadian, hydraulic, \$1.25 to \$1.50.
Canadian, Portland:
Rathbun's, "Star," \$2.35 to \$2.75.
" "Beaver," \$2.10 to \$2.50.
" "Ensign," \$1.90 to \$2.30.
The smaller figures represent car load lots, and the larger less than car loads, f.o.b., Toronto.
English, Portland, \$3.

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

CHAIN.—Duty 5%.
Brass, Jack, 30% discount.
Coil, 3-16, \$11.00 per 100 lb.; ½, \$8.75 per 100 lbs.; 5-16, \$5.50 per 100 lbs.; ¾, \$4.90 per 100 lbs.; 1, \$4.40 per 100 lbs.; 1½, \$4.00 per 100 lbs.; 2, \$3.90 per 100 lbs.
Iron, Jack, 25% discount.
Safety, 55

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

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

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

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

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

CROW BARS.—Duty 30%.
5 cents per lb.

CRUCIBLES.
Dixon's, 7 cents per number.

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

DYES (Aniline).

DYNAMITE.
36 to 50 cents per lb.

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

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

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

EMERY STEELS.—Duty 25%.
\$2 per doz.

EMERY WHEELS.—Duty 25%.
65% discount.

EXPANDERS.—Duty 30%.
Tube, Dudgeon, 33½% discount.

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

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

FENCING (Wire).—Duty 15%.
Galvanized, barb, f.o.b. Toronto, \$3.05.
Galvanized, plain twist, f.o.b. Toronto, \$3.05.
Galvanized, barb, f.o.b. Cleveland, \$2.82½ in less than car lots, and \$2.70 in car lots.
Mesh, 5½x10½, 20 rod rolls 55% discount, Can. list.
" 4 x3, 20 " 50 & 5% " "
" 3 x3, 20 " 55 & 5% " "

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

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

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

FLUE SCRAPERS.—Duty 30%.
Engineers' Favorite, 40% discount.
Inghis, 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, 60 " "
" " " 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%.
1x1¼ inch, 10c. per lb.
(Evans), 1x1¼ 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 to ¾, \$9 per gross.
Rope, 1 to 1½, \$14 per gross.
Web, \$1.87 to \$2.45 per doz.

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

HANDLES.—Duty 25%.
Axe, \$1.50 to \$2.50 per doz.
Chisel, \$3.50 to \$5 per gross.
Cross-cut saw, \$2 to \$5 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., 64 cents per lb.
 " " " 5 in., 64 " " "
 " " " 6 in., 6 " " "
 " " " 8 in., 5½ " " "
 " " " 10 in., 5½ " " "

Light T and strap, 65 & 5 off.

Screw hook and hinge, 6 to 12 in., \$4.50 per 100 lbs.; 14 in. up, \$3.50.

Spring, \$12 per gross pairs.

HOOKS.—Duty 30%.

Brush, \$7.50 to \$9.

Reaping, 50, 10 and 5% discount.

Chain, wrought, round or grab, \$3 & \$4.50 per doz.

Lumber Piling, \$7 to \$19 per doz.

Malleable, wardrobe, \$1.50 to \$2.50 per gross.

Wire, \$1.25 to \$2

HORSE NAILS.—Duty 30%.—See Nails**HORSE SHOES.**—Duty 30%.

Lt. Med. & H., \$3.40 per keg.

Snow, \$3.95 per keg.

Steel, \$3.80 to \$5.25 per keg.

Toe weight steel, \$6.15 per keg.

HOSE.—Duty 35%.

City Standard, 70% discount.

Phoenix, 60% discount.

INJECTORS.—Duty 30%.

Pemberthy, 65% discount.

I. J. C., 65% discount.

IRON.—See Metals.**JACKS.**—Duty %.

Lifting, 40% discount.

KNIVES.—Duty 30%.

Butcher, \$2 to \$5 per doz.

Pocket, \$1 to \$5 per doz.

KNOBS.—Duty 30%.

Door, Bronze, \$7 to \$12 per doz.

" White Porcelain, 90 cents per doz.

" Wood, \$4.50 per doz.

LACING.—Duty 15%.

Belt (Raw Hide Cuts), \$1 per lb.

" (Leather Side Cuts), 75 cents per lb.

LADDERS.—Duty 25%.

Step, 10 cents per foot.

Rung, 10 cents per foot.

LAND ROLLERS.—Duty 20%.

\$12 to \$15 each.

LANTERNS.—Duty 30%.

Cold Blast, \$7 per doz.

Dashboard, cold blast, \$9 per doz.

LAWN MOWERS.—Duty 35%.

Pennsylvania, 50% discount.

Stearns, 50 " "

Woodyatt, 40 " "

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

Lead, pig.—See Metals.

LEAD.—Duty 5%.

Red and White, dry.—See Paints.

LINES (Cotton).—Duty 25%.

Chalk, \$2 to \$3.50 per gross.

Wire, clothes, \$2.50 to \$4.50 per M ft.

LOCKS.—Duty 30%.

Cupboard, \$1.50 per doz. up.

Desk, \$1.50 per doz. up.

Drawer, \$1 per doz. up.

Padlocks, 75 cents per doz. up.

Rim and Mortise, Peterboro, \$1.50 per doz. up.

Amer., \$1.50 per doz. up.

MALLEABLES.—Duty 30%. See Castings.**MALLETS.**—Duty 30%.

Carpenters', hickory, \$1.25 to \$3.75 per doz.

Caulking, 60 cents to \$2 each.

Lignum Vitae, \$3.35 to \$5 per doz.

Tinsmiths', \$1.25 to \$1.50 per doz.

MATTOCKS.—Duty 30%.

Canadian, \$5.50 to \$6.50 per doz.

MEAT CUTTERS.—Duty 30%.

Amer., 25 to 30% discount.

German, 15% discount.

METALS.

Ingots.—Aluminium, 35 to 50 cents per lb.

Antimony (Cookson's), 10½ to 11 cents per lb.

" Copper, "English," 18 cents per lb.

" " Bar, 25 cents per lb.

" Tin, "Lamb & Flag," 32 cents per lb.

" Straits, 32 cents per lb.

" Bar, 33 cents per lb.

" Zinc, 6 to 6½ cents per lb.; sheets, 7 cents per lb.

METALS—Continued.

Babbit Metal (duty 10%).

Lewis, 7 to 10 cents per lb.

Magnolia, 25 cents per lb.

Post's Zero, 25 cents per lb.

Spooners' 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, Plinished Sheet (duty 5%)

" "A"—\$6.00 per 100.

" "B"—\$5.00 " "

" Russia—\$10.00 per 100 lb.

Pig Lead (duty 15%).—Domestic, \$3.75 per 100 lb;

pigs, imported, \$4.25 per 100 lb.; bars, \$5 per 100 lb;

sheets, \$5.50 per 100 lb.

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, \$3.50; 4 & 5d, \$3.25; 6 & 7d, \$3.15; 8 & 9d, \$3; 10 & 12d, \$2.95; 16 & 20d, \$2.90; 30, 40, 50 & 60d (base), \$2.85; fine, 3d, \$3.85.

Wire nails in car lots, \$2.77½.

Miscellaneous wire nails, 70 & 10% discount.

NAIL SETS.—Duty 30%.

Assorted sizes, \$1.20 per doz.

NETTING—Wire.—Duty 30%.

Galvanized, 50% discount.

Green wire, \$1.50 per 100 sq. ft.

Poultry, 2x2 mesh, 150 ft. roll, 55 off Canadian List.

NOZZLES.—Duty 30%.

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

NUTS.—Duty ½ cent per lb. & 25%.

Finished, tapped, 25% discount.

Rough, square head, 4 cents per lb. from list.

Rough, hexagon head, 4½ cents lb. from list.

Semi-finished, tapped, 25% discount.

OAKUM.

Navy, \$7.80 per 100 lb.

Spun, \$9.30 per 100 lb.

OIL.—Duty 25%.

Boiled Linseed Oil bbls., 86 cents per gal.

Cylinder Oil, from 40 cents up.

Lard Oil, bbls., 90 cents per gal.

Machine.

Prime White (Can.), 14 cents per gal.

Prime White (U.S.), 15½ cents per gal.

Raw Linseed Oil, bbls., 83 cents per gal.

Sperm Oil, bbls., \$1.75 per gal.

Water White (Can.), 15 cents per gal.

Water White (U.S.), 16½ cents per gal.

OILERS.—Duty 30%.

\$1 per doz. up.

PACKING.—Duty 35%.

Rubber Insertion, 60 cents per lb.

Rubber Sheet, 22 cents per lb.

PACKING.—Duty 25%.

Asbestos, 35 cents per lb.

Flax, 35 cents per lb.

Hemp, 12½ cents per lb.

Jute, 8 cents per lb.

PAILS.—Duty 25%.

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

PAINTS.—Duty 25%.

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 and 1-gallon tins, \$1.25 per gal.

Barn, in barrels, 75 to 85 cents per gal.

Zanzibar, black, 75 cents to \$1 per gal.

" colors, \$1.25 per gal.

PAINTS.—Duty 30%.

Copper, \$3.50 per gal.

LEAD, DRY WHITE.—Duty 5%.

Pure, in casks, \$5.75 per cwt.

Pure, in kegs, \$6.25 per cwt.

No. 1, in casks, \$5.50 per cwt.

No. 1, in kegs, \$5 per cwt.

LEAD, RED.—Duty 5%.

Genuine, 560 lb. casks, \$5.50 per cwt.

Genuine, 100 lb. kegs, \$5.75 per cwt.

No. 1, 560 lb. casks, \$5.25 per cwt.

No. 1, 100 lb. kegs, \$5 per cwt.

COLORS (Dry).—Duty 25%.

Burnt Sienna, pure, 10 cents per lb.

Umber, pure, 10 cents per lb.

Raw, 9 cents per lb.

Canadian Oxides, \$1.75 to \$2 per 100 lb.

Chrome Greens, pure, 12 cents per lb.

Chrome Yellows, pure, 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, 33 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,

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

PITCH.
85 cents 100 lbs.

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

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

PIPE.—Duty 30%.
Galvanized Iron.
1, \$5.15 per 100 ft.; 2, \$5.50 per 100 ft.; 1, \$7.95 per 100 ft.; 1½, \$10.80 per 100 ft.; 1½, \$12.95 per 100 ft.; 2, \$17.35 per 100 ft.

PIPE, BLACK IRON.—Duty 30%.
1, \$4.65 per 100 ft.; 2, \$3.40 per 100 ft.; 3, \$3.45 per 100 ft.; 4, \$3.30 per 100 ft.; 5, \$3.75 per 100 ft.; 1, \$5.25 per 100 ft.; 1½, \$7.40 per 100 ft.; 1½, \$9.30 per 100 ft.; 2, \$12.75 per 100 ft.; 2½, \$22.75 per 100 ft.; 3, \$30.00 per 100 ft.; 3½, \$37.50 per 100 ft.; 4, \$42.75 per 100 ft.; 4½, \$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. 16½ cents.

PIPES.—Duty 30%.
Stove, 5 and 6 in., \$7 per 100 lengths.
7 in., \$7.50 per 100 lengths.

PLANES.—Duty 30%.
Bailey's, 40% discount.
Canadian wood, 25% discount.
Mathieson wood, 20 "

PLUMBERS' BRASS GOODS.—Duty 30%
Check Valves, 60% discount.
Compression Cocks, 50% discount.
Gate Valves, 55% discount.
Genuine Jenkins' Valves, 45 "
Imitation Jenkins' Valves, 55 "
Radiator Valves, 55% discount.
Standard Angle Valves, 65% discount.
Standard Globe Valves, 65 "
Stop Cocks, 65% discount.

POLISH.—Duty 25%.
Liquid Stove, \$5 per gross.
Paste, \$5 per gross.

PULLEYS.—Duty 25%.
Awning, 25 to 60 cents per doz.
Clothes Line, 50 cents per doz.
Dodge wood split, 50% discount.
Sash, 25 to 27 cents per doz.

PUMP CYLINDERS.—Duty 25%.
Regular patterns, 65% discount.

PUMPS.—Duty 25%.
Cistern, 50% discount.
Force, 50 "

PUNCHES (centre)—Duty 30%.
Assorted sizes, \$1.80 per doz.

PUTTY.—Duty 20%.
In bbls. (Bladders), \$2.10 per 100 lbs.
In kegs, boxes or loose, \$2.25 per 100 lbs.
In 25-lb. tins, \$2.35 per 100 lbs.
In 12½-lb. tins, \$2.65 per 100 lbs.
In bulk or tins less than 100 lbs., \$2.90 per 100 lbs.
Bulk, in bbls., \$1.90 per 100 lbs.
" in less quantity, \$2.05 per 100 lbs.

RASPS.—Duty 30%.
Blacksmiths, Woodworkers, etc., see Files.

REGISTERS.—Duty 30%.
Floor and Wall, 50% discount.

RIVET SETS.—Duty 30%.
Canadian, 35 to 37½ discount.

RIVETS AND BURRS.—Duty 30%.
Copper Rivets and Burrs, 35 & 5 off; cartoons, 1 cent per lb. extra.
Extras on Iron Rivets in 1-lb. cartoons, ½ cent per lb.
Extras on Iron Rivets in ½-lb. cartoons, 1 cent per lb.
Extras on Tinned or Coppered Rivets, ½-lb. cartoons, 1 cent per lb.
Iron Rivets, black and tinned, 60 & 10% discount.
Iron Burrs, 55% discount.

ROPE, ETC.—Duty 25%.
Cotton, 3-16 in. and larger, 16 cents per lb.
5-32 in., 21 cents per lb.
½ in., 22½ cents per lb.
Crucible Steel Rope, 25% discount.
Galvanized Wire Rope, 25% discount.
Jute, 8 cents per lb.
Lath Yarn, 9½ cents per lb.
Manila, 7-16 in. and larger, 13½ cents per lb.
" ½ in., 14½ cents per lb.
" and 5-16 in., 15½ cents per lb.
New Zealand Rope, 10 cents per lb.
Russia Deep Sea, lines 15½ cents per lb.
Sisal, 7-16 in. and larger, 10 cents per lb.
" ½ in., 11 cents per lb.

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

SAD IRONS.—Duty 30%.
Mrs. Potts', No. 55, polished, 62½ cents per set.
No. 50, nickel-plated, 67½ cents set.
"Sensible," 55 and 60 cents set.
"Toy," \$13.00 gross.

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

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

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

SAWS.—Duty 30%.
Crosscut, Disston's, 35 to 55 cents per foot.
Hack, complete, 75 cents to \$2.75 each.
Hack, frame only, 75 cents each.
Hand, Disston's, 12½% discount.
S. & D., 40% discount.
S. & D., 35 off on Nos. 2 and 3.

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

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

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

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

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

SHELLS (Cartridge).—See Ammunition.

SHOT, See Ammunition.

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

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

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

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

SOLDER (Plumbers').—See Metals.

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

SPIKES.—Duty ½ cent per lb.
Rail, 20% discount.
Ship, \$5 per 100 lb.

SPRINGS.—Duty 35%.
Bright Carriage, 6½ 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.
" Reece, 30% discount.
" Jardine, 35% "
Pipe, Solid, 70 & 10% discount.
" Duplex, 33½ discount.
" Jarecki, 33½ "
" 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.
" " tinned, 80 & 20 "
" " in kegs, 40% discount.
Cheese-box tacks, blued, 85 & 12½% discount.
Copper tacks, 50% discount.
Cut tacks, blued, in dozens only, 80% discount.
½ weights, 60% discount.
Fine finishing, 40% discount.
Leather carpet tacks, 55% discount.
Lining tacks, in papers, 10% discount.
Patent brads, 40% discount.
Picture frame points, 10% discount.
Strawberry box tacks, bulk, 75 & 10% discount.
Swedes, cut tacks, blued and tinned, in bulk, 80 & 10% discount; in dozens, 75% discount.
Swedes, upholsterers', bulk, 85, 12½ & 12½ dis.
" brush, blued and tinned, bulk, 70% dis.
" gimps, blued, tinned and japanned, 75 & 12½% discount.
Trunk tack, black and tinned, 85% discount.
Zinc tacks, 35% discount.

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

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

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

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

TRAPS.—Duty 30%.

TRUCKS.—Duty 30%.

TURNBUCKLES.—Duty, ½ cent per lb., 25%; 3¼% discount.

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

TWINES.—Duty 25%.
Bag twine, 3-ply, 20 cents per lb.
4-ply, 20 cents per lb.
Binding, 12½ cents per lb.
Colored, 27 cents per lb.
Cotton bag, 30 cents per lb.
Cotton, White, 20 to 30 cents per lb.
" Colored, 30 to 40 "
Hemp, 20 cents per lb. "
Jute, 20 cents per lb. "
Mattress, 45 cents per lb. "
Sewing, 45 cents per lb. "

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

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

VICES.—Duty 30%.
Amer., 13½ cents per lb.
Brooks', 13½ cents per lb.
Peter Wright's, 15 cents per lb.

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

WIRE.
Brass Wire, (duty 10%), 50 to 50 & 2½% discount.
Copper Wire, (duty 15%), 45 & 10% discount net cash 30 days, f.o.b. factory.
Smooth Steel Wire, (duty 20%), is quoted at the following net selling prices:
No. 6 to 8 gauge, \$2.90 per 100 lbs.
" 9 " 2.80 "
" 10 " 2.87 "
" 11 " 2.90 "
" 12 " 2.95 "
" 13 " 3.15 "
" 14 " 3.37 "
" 15 " 3.50 "
" 16 " 3.65 "
Other sizes of plain wire outside of Nos. 9, 10, 11, 12 and 13, and other varieties of plain wire remain at \$2.80, base, with extras as before.
Galvanized Wire, per 100 lb.: Nos. 6, 7, 8, \$3.50 to \$3.85; No. 9, \$2.85 to \$3.15; No. 10, \$3.60 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 \$5.00; No. 16, \$4.85 to \$5.35. Base sizes, Nos. 6 to 9, \$2.57½ f.o.b. Cleveland.
Clothes Line Wire, solid 7 strand, No. 17, \$4.25; No. 18, \$2.65; No. 19, \$2.35; f.o.b. Toronto, Hamilton and Montreal.

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

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

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

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

ZINC.—See Metals.

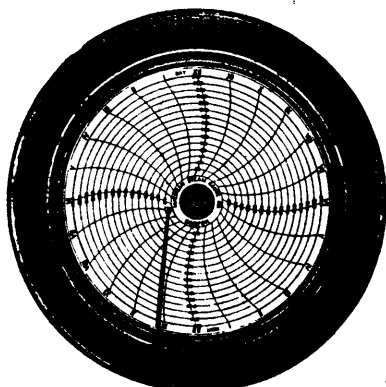
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American Pressure Recording Gauge.

American Steam Gauge and Valve Mfg. Co.

BOSTON, MASS., U.S.A.

MANUFACTURERS OF

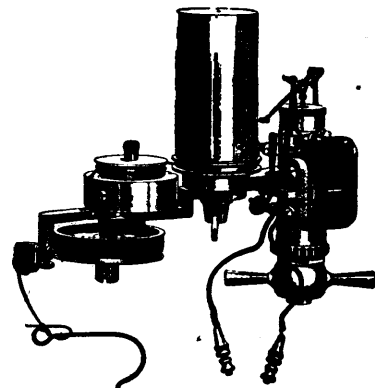
Standard Appliances for Measuring, Indicating Recording, and Governing Water, Steam, Gas, Ammonia, and all pressures.

Sole Manufacturers of The THOMPSON IMPROVED INDICATOR.

HIGHEST AWARD AT PARIS EXPOSITION, 1901—The Only American Indicator to receive a Medal. The GOLD MEDAL awarded at Pan-American Exposition on Gauges, Pop Valves, Indicators and Engineering Specialities.

THE INDICATOR THAT MADE INDICATORS FAMOUS

Also Gauges, Clocks, Revolution Counters, Pop Safety, Cylinder and Underwriters' Water Relief Valves, Recording Gauges, Pyrometers, Salinometers, and all Steamship Instruments. Send for New General Catalogue.



American Thompson Improved Indicator with Reducing Wheel and Electrical Attachment.

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