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VOL. 43.

TORONTO, AUGUST 16, 1901.

No. 4.

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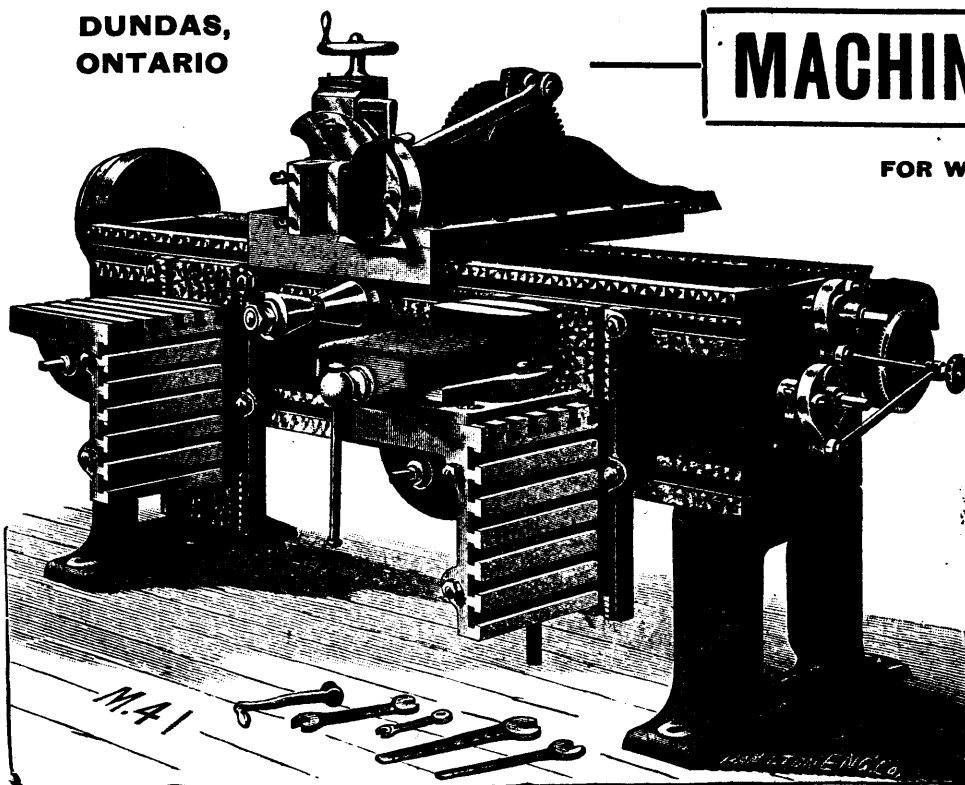
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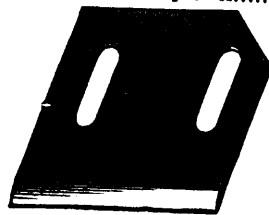
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ABSOLUTELY PURE

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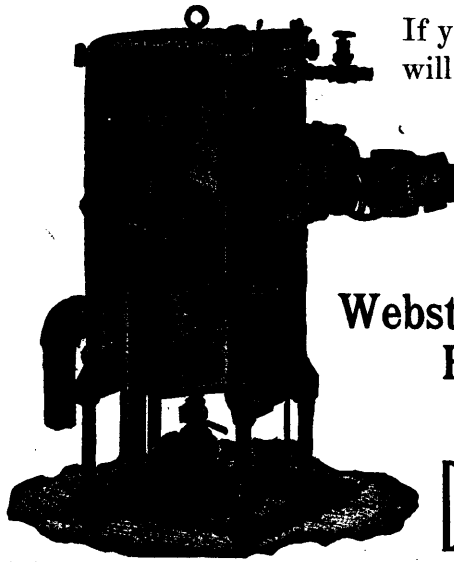
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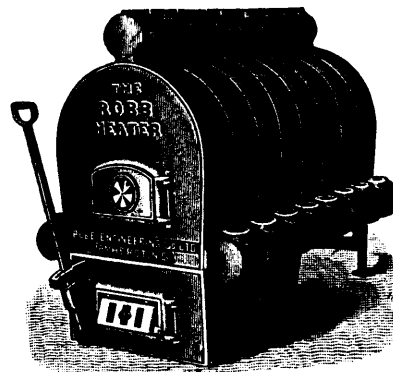
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They are a perfect success, burn the very poorest fuel,
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RICHE' GAS GENERATOR

at a mere nominal cost per thousand cubic feet.

The Generator is simple in construction, and does not require skilled labor to work it. **No Purifiers required.** Products being a Rich Permanent Gas and Charcoal.

These Generators are extensively used in Europe, and are on exhibit at the Paris Exposition. Particulars by applying to

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*Twice the strength of Leather.
Used by all the large manufacturers
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Every Belt Guaranteed*

*Specially suitable for Damp Work
All sizes up to 20 inches in stock for
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Write for our quotations before buying your belts*

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THIS IS OUR SPECIALTY

We also manufacture Friction Clutch Pulleys, Clutch Couplings, Belt Tighteners, Self-Oiling Bearings, Iron Rope Drive Wheels,

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Air Pumps
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Canadian Manufacturers and Engineers will find it to their interest to refer to us when in need of anything in the shape of Pumping Machinery

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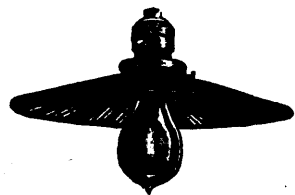
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Works at MILTON, MASS., U.S.A.

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ALUMINUM, MIRROR, CELLULOID, PAPER, PORCELAIN,
FOR FACTORY AND OFFICE.

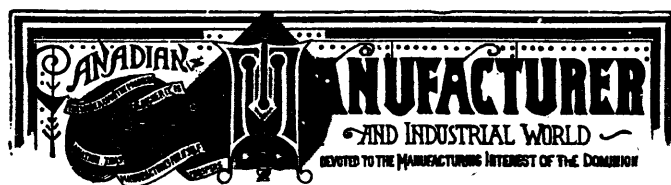
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ELBRIDGE Sparking Dynamos, SAMSON Batteries and IMPERIAL Salts, for Gas or Oil Engines.

Write us about Lighting
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MESSRS. DAVISON & CO.,

164 Federal Street, - Boston, Mass.

AGENTS FOR UNITED STATES.

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

IMPORT TRADE OF TORONTO.

Through the courtesy of John McDougald, Esq., Commissioner of Customs, we are enabled to give some facts regarding the import trade of Toronto for the fiscal year ending with June 30, 1901 :—

TOTAL IMPORTS, DUTIABLE AND FREE.

For consumption, dutiable.....	\$20,958,963
“ “ free.....	10,489,100
	\$31,448,063
In transit.....	393,338
Total.....	\$31,841,401

ENTERED FOR CONSUMPTION, DUTIABLE.

	Value.	Duty Paid.
Under General Tariff.....	\$14,210,754	\$3,935,807
“ Preferential Tariff..	6,748,209	1,370,607
Total.....	\$20,958,963	\$5,306,414

AVERAGE RATE OF DUTY PAID ON DUTIABLE GOODS ENTERED FOR CONSUMPTION.

Under General Tariff.....	27.7 per cent.
“ Preferential Tariff.....	20.3 “
“ General and Preferential Tariff..	25 “
On both Dutiable and Free Goods.....	16.7 “

ORGANIZATION vs. ORGANIZATION.

In a recent issue of this journal attention was directed to the fact that, coincidentally, organized labor, represented by the International Association of Machinists, had then recently assembled in Toronto, while, at the same time organized capital, represented by the National Metal Trades Association was in convention in Chicago.

The aims and objects of the Machinists Association, as declared by President O'Connell, was summed up in a speech made by him at the Toronto Convention in which he said :— “The way to get steady employment is to band together and get the hours of labor down until the only thing you need to do in the morning is to roll over in bed, push the button, and the day's work is done.” The National Metal Trades Association unanimously adopted the following declaration :—

We declare that the Machinists' Union has, through its national and local officers, broken faith with us, and proved itself to be an irresponsible body, with whom we can make no contracts that will be binding upon it. We recognize the

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.

right of any man to belong or not to any religious, political, or economic sect, as he may see fit ; also his right to leave our employment at his free will ; and his right to sell his labor at the best price he can command. We maintain our inalienable rights to employ a man whether he belongs or not to any organization, and at wages mutually satisfactory ; and also to discharge him at our discretion. We insist that the management of a shop is in the hands of the employer, and is not to be interfered with by the employe. We insist that a fair day's work shall be given for a fair day's wage ; and we will give a fair day's wage for a fair day's work. We believe that shortening of the working hours or an increase of wages can only be brought about by the hearty co-operation of employer and employe in advancing and not in retarding production, and by introducing and not fighting improved methods. We decrie strikes and lockouts as unbusinesslike and unnecessary, and believe that all disagreements can be adjusted by other means, and the condition of employer and employe both benefited more by harmonious progress than by strife and discord.

The Machinists' Association found that something more than banding together, rolling over in bed and pushing the button was necessary in the performance of a day's work, and that the Metal Trades Association, as employers, possessed some rights which were entitled to respect.

In a later issue we directed attention to the results growing out of some of the strikes of the workmen belonging to the unions, and that courts in several parts of the United States had found it necessary to issue injunctions against the strikers, restraining them from injuring the property and interfering with the operations of the factories in which strikes had occurred.

It is strange, then, that the leaders of some of the labor associations, particularly those of the Amalgamated Association, with the results of the recent efforts of the Machinists' Association before them, should court a disastrous defeat. There is no dispute as to wages, hours of labor, or even as to the maintenance of their unions in works where they already exist ; but we have the spectacle before us of a strike brought about by the Amalgamated Association in which they seek to close all the works owned by the United States Steel Corporation on pain of their refusal to discharge their non-union workmen and allow the Amalgamated Association a free hand in introducing their unions into every establishment operated by the Corporation. Under this condition of things at this writing, capital is unproductive, and thousands of workmen are in idleness. Revolutions do not go backward. At first the aim of the Corporation was to keep their non-union mills

as such, but if, as it is said to be, the intention of the Amalgamated Association is to live or die in the issue they are forcing, it may be that the war will continue until one or the other party to it becomes vanquished through sheer exhaustion.

The New York Sun says:—

The Steel Corporation proposes to keep its doors open to all artisans, without discrimination. These doors the union is straining every nerve to close against all men but its own members; so the steel company, in resisting that effort, is rightfully an object of natural thankfulness. Because of its unprecedented size, the steel company, in the issue imposed upon it by the Amalgamated Association, stands for the equality of rights in the industrial world to an extent that no other employer ever stood before.

As long as the laws of the States and of the United States are fearlessly and impartially enforced, the right of the American workman to work for his living and for the support of those dependent upon his labor, and to choose for himself his own employment and his own employer, will be vindicated and preserved.

The question of violence is attracting a good deal of comment. The New York Tribune says on this point:—

Mr. Shaffer has announced that this was not an ordinary strike, and that it was not going to be disgraced by boycotting, picketing and riots. So far he has kept his word reasonably well, but it is doubtful if he will be able much longer to control the force he has let loose in passing by the chance for settlement. He must see that a "fight to the finish" means violence. His men have been for the most part orderly in the hope of the settlement he promised, and in expectation that the manufacturers would find it to their own interest to surrender. Now, when they know the last inch of concession that can be obtained by peaceful methods, they must either accept those concessions or adopt other than peaceful methods. The serious question for the officers of the Amalgamated Association is whether or not they are prepared to carry their strike to the violent stage. They need be under no illusion about the meaning of their decision. Strikes are broken in one of two ways. The old men go back to work or new men take their places, and it is not to be expected that the old workers, however self-contained they may have been in the face of a few "scabs" while expecting a settlement in the end on their terms, will see their places permanently taken and the mills running regularly without them, and sit idle and in order at the request of a strike leader with no more diplomatic strings to pull in their behalf.

The great steel strike now pending, and the discussion of its cause, progress and outcome, recalls to the memory of the Pittsburg, Penn., Despatch, some of the historic labor difficulties in the United States of recent years. Within the past decade and a half, it says, there have been five national convulsions in which labor and capital were arrayed against each other. All were marked by excitement and disorder, most of them by violence. The most recent strikes were those with least violence, and these were successful, while the others failed largely from the resort to force and the calling out of troops to suppress disorder.

Martin Irons, who died a few months ago, was chairman of the executive committee of the Knights of Labor in 1886. Terence V. Powderly, now United States Commissioner of Immigration, was master workman. Demand was made that one Hall, a discharged employe of the Iron Mountain Railroad, should be put back. The subordinate and then the principal officers of the road, up to Jay Gould himself, refused. The Knights of Labor had 150,000 members at that time and were not averse to a struggle. After weeks of fruitless negotiations, Irons sent a cipher telegram to all the local bodies of the Knights of Labor on the Iron Mountain and Missouri Pacific roads, calling out every trainman, switchman, fireman, conductor, brakeman and operator. The order was

generally obeyed, and in some sections it tied up the road entirely. The railroad company imported workmen. The strikers grew furious at this, and inside of a month, especially near Sedalia, Mo., there was a condition that bordered on anarchy. Finally troops were called out. The strike ended in a dismal failure for the labor men.

Just as the Presidential campaign in 1892 was beginning, when Grover Cleveland was pitted for a second time against Benjamin Harrison, Henry Clay Frick, then chairman of the board of trustees of the Carnegie Steel Co., promulgated a new scale of wages for the iron workers in all the Carnegie mills, and particularly for the mills situated at Homestead, Pa., where more steel was made at that time than at any other plant in the United States. The Amalgamated Association of Iron and Steel Workers refused to accept the scale. There were some conferences, but Mr. Frick stood firm. The old scale expired on the night of June 30; the new one went into effect on July 1. The members of the Amalgamated Association refused to accept it. They were locked out. The mechanics and laborers who were not locked out struck in sympathy. The strikers were determined to keep non-union men out of the mill, and adopted military discipline and a system of patrol. Mr. Frick imported a large number of Pinkerton detectives. There was a bloody fight between the strikers and the Pinkertons on July 6. In all thirty-five deaths can be traced directly to this strike. Pennsylvania's National Guard was called out and remained on duty for three months. The strike was declared off on November 10 of the same year, although the mills were running full-handed for weeks before that time.

On May 11, 1894, there was a strike of 2,000 of the 4,200 men in the Pullman car works, at Pullman, Ill. Next day 1,000 more employes went out. There was a powerful organization, then known as the American Railway Union. This was headed by Eugene V. Debs. During the next month the strikers tried to treat with the Pullman Company. They were unsuccessful. Then on June 17, the strike was placed in the hands of the general officers of the Railway Union, with President Debs in direct charge. Debs' first move was to order a boycott on twenty-four Western railroads that hauled Pullman cars. Men on railroads everywhere in the West went out. From Chicago to San Francisco there were riots in railroad yards. The bloodiest riots were in Chicago; several men were killed. President Cleveland ordered Federal troops out wherever there were disturbances. As soon as the troops got into the streets in Chicago and elsewhere excitement died down, and soon afterwards the roads sent out their trains as usual. At least \$5,000,000 worth of property was destroyed. Many men were killed. The strike was formally called off on August 3, 1894.

Coal miners in eleven States struck on July 4, 1897, on order of President Ratchford of the United Mine Workers. Nearly all the bituminous miners went out, and a large portion of the men in the anthracite region. At high tide in the strike 110,000 men were idle. This strike was successful. The men went back to work in September at an increase in wages and with an agreement with their employers to arbitrate.

In September there was a small correlative strike at a colliery at Latimer, near Hazleton, in the anthracite district. Following their custom the strikers marched from mine to mine to urge the miners to join them. On the road near Latimer, on Friday, September 10, Sheriff Martin, with 102 deputies specially sworn in, met a body of the marching miners. There was a trifling clash and the deputies fired on

the marchers, who had no firearms. Twenty-one miners were killed and forty wounded. Several others died. The marchers were all foreigners. Troops were called out at once and there was no further trouble. Sheriff Martin and eleven of his deputies were tried for manslaughter, and were acquitted.

After the success of the soft-coal miners in 1897, the United Mine Workers looked with envious eyes on the anthracite territory, where there were few members of the union. They sent men into the field to organize as thoroughly as possible. The operators refused to recognize the union, and President Mitchell called a strike for September 17, 1900. At the time of the strike there were not more than 8,000 regular members of the union in the entire anthracite district. Thousands of non-members came out, however, and at the end of the first week Mitchell claimed he had 112,000 of the 142,000 miners in the district. The strike came in the middle of the second McKinley-Bryan Presidential campaign. Senator Mark Hanna interested himself and persuaded the operators to grant the demand of the miners for a ten per cent. increase in wages, the right to arbitrate, and on other points as well. The operators made some concessions and the strike was declared off in October. In the second week of the strike there was a small riot in Shenandoah. One man was killed by the sheriff's posse. The Governor of Pennsylvania sent troops there and kept them on the ground for two weeks more.

AMERICAN SHIPS AND CANADIAN CANALS.

The publishers of the Cleveland, Ohio, Marine Review have sent us a copy of the introduction which will be used in the 1901 edition of their Blue Book of American Shipping and Marine and Naval Directory of the United States, the sixth annual edition of which is now in press. The book is a resume of naval and merchant ship construction in the United States during the year 1900.

Speaking of the prosperous condition of the shipbuilding industry we are told:—

The year has been one of unexampled activity with the ship builders of the great lakes, and they already have in hand enough orders to insure continued work for nearly all their plants for another year. The vessels built during the year ended with July, and those now under order, have an aggregate value of \$16,324,000. The combined capacity of the freight carriers in the list, some sixty-three of them, is 266,950 gross tons on eighteen feet draught.

Speaking of the utility of Canadian canals the paper says:—

A venture of far reaching influence attempted on the great lakes is worthy of record. It is the opening of the all-water route from the great lakes to Europe, via the Canadian canals along the St. Lawrence river. As a matter of historical record it may be noted that although a few small craft made the passage from the lakes to European ports years ago, the first vessel to utilize these enlarged Canadian canals as a commercial highway between the great lakes and Europe was the British steamer Monkshaven, when in October last it carried a cargo of steel from Conneaut on Lake Erie to Avonmouth, England. This vessel had been employed by the Clergue water power interests at Sault Ste. Marie, and was returning to Great Britain for the winter when Mr. Carnegie seized the opportunity to send some steel abroad by that route. The vessel would have returned to England anyhow, but her trip constituted, nevertheless, the first use of the canals in a commercial sense. Since then the Northwestern Steamship Co. of Chicago has opened a regular service on this route and its four steamships, built at Chicago last winter, have each made a trip abroad. The dimensions of the locks of the Canadian canals are 270 feet length by 45 feet width. They permit a draught of fourteen feet. The vessels of the Northwestern

Steamship Co. are 256 feet long over all, forty-two feet beam and 26½ feet depth of hold, which is regarded as the regulation Canadian canal size. The company expresses itself as satisfied with the results of its enterprise. The importance of this waterway, however, must not be either magnified nor minimized. It occupies a definite field, though a limited one, owing to the restriction in size. The completion of the canals, however, has permitted the lake ship builders to compete with the coast ship builders for the construction of some types of vessels for coastwise trade. Twelve vessels suited to transatlantic and seaboard trade, as well as lake service, were built on the lakes during the year ended with July, 1901, and the experiment of building, each in two parts, two steamers much larger than the canal locks is now being tried in Cleveland. These vessels will each be of about 7,000 tons capacity when put together at the seaboard, after being towed down the Canadian canals in sections.

EDITORIAL NOTES.

John M. Gill, Esq., president of The James Smart Mfg. Co., Brockville, Ont., under date of August 6, writes us as follows:

"Permit us to congratulate you upon the distinctly valuable feature embodied in the Hardware Market Reports in THE CANADIAN MANUFACTURER, viz., that of giving the Canadian tariff duty bearing on the article quoted, a convenience which we are sure will be greatly appreciated by your readers generally."

Much unfavorable comment has been caused in the United States by the publication of the details of the proposed new German tariff law. The general opinion is that if it is put into effect by Germany it will lead Congress to very seriously consider the subject of retaliation, and of the enactment of maximum and minimum tariff rates. The proposed tariff is looked upon with special disfavor for the reason that care seems to have been taken to increase rates on articles that are imported from the United States. The belief in official circles seems to be that there will be no considerable reduction in the exportation of American farm products as a result of the higher duties. In the fiscal year 1900, Germany bought from the United States 9,065,713 bushels of wheat, valued at \$6,495,209; 691,782 barrels of flour, valued at \$2,700,638; 46,256,978 bushels of corn, valued at \$18,776,736, and other grains and grain products in proportion. These exports constitute a relatively small proportion of the total grain export of the United States, but the loss of the market would be seriously felt by the American farmer, as it would throw that much of his surplus into other markets and tend to reduce the price. American machinery, it is believed, will be injured more than anything else by the proposed increases.

The action of the Central Canada Exhibition Association at Ottawa in throwing open their agricultural implement building free to all who desire to exhibit their manufactures at the annual fall fair from September 13 to 21, is causing great satisfaction among manufacturers. Not only is space free, but power is also supplied gratis, in consequence of which the manufacturer secures a chance of exhibiting his products to the best advantage before thousands of people at a trifling cost. The attendance at Ottawa's exhibition promises to be unusually large this year, and Mr. E. McMahon, 26 Sparks St., the Secretary of the Association, is daily receiving applications for space, information, etc., from all parts of the country. The special attractions, which comprise nearly everything from a troupe of performing elephants to a pair of racing ostriches, are sure to prove a big drawing card, and manufacturers will do well to write the secretary for infor-

mation as to freight rates, space, etc., before it is too late to secure good locations.

The Canadian tour of the Duke and Duchess of Cornwall and York will be a great occasion, and it is suitable that we should acclaim it with a lavish display of street decoration; but we cannot help feeling that there is a touch of extravagance about the \$10,000 arch which the Manufacturers' Association of Toronto propose to erect as a temporary decoration. It is proposed to offer three prizes, handsome prizes too, for suitable designs for the purpose. The test of excellence in this case is certainly the greatest display for the least money, and it would be a good way of going about the matter, not to invite the outlay of this or any definite sum, but, having secured the location, to offer the prizes for its suitable decoration. There is a limit to reasonableness in temporary decoration, and good taste is within this limit, so that the designer who hits off the pleasing thing will very likely not be the most lavish. In other words, it ought to be understood that though the manufacturers have voted enough money to cover all needs, the competition is not for the purpose of showing how to spend it all, but in order to establish sufficiency, "an elegant sufficiency." In order to encourage designers to incur the risk of self-restraint, (which is notoriously bad policy in a competition), there should be an additional prize offered to the winner, in the form of a bonus, a percentage on the amount saved, given by the Museum Committee, who would of course get the balance. It is for just such a \$10,000 gift as this that the Museum project has been waiting. If it were not for that, one would think of the Manufacturers' action only to admire their wealth and liberality. But the readiness with which the glory of the city is forwarded, in a matter of a two days' display, and the difficulty experienced in getting subscriptions for a project which is acknowledged to be necessary for her permanent advantage is remarkable; and one cannot help regretting that it is thought necessary to spend so large a sum upon the temporary erection, when half of it might perhaps do, and the other half go to help on the subscription for the permanent structure.—Architect and Builder.

History supplies no precedent which would permit a safe estimate to be made of the final results of the formation of vast industrial combinations, involving thousands of millions of dollars, such as have been organized lately; but we may make two suggestions respecting these movements with some confidence that experience will justify them. First, while many economies are possible to a business conducted upon a vast scale which give to it advantages not within reach of operations of a smaller kind, it is certain that the risks of failure are increased in proportion much beyond the chance to save. No huge, widely-extended corporation can be managed so well as a smaller business conducted by skilled and deeply-interested men who watch every movement closely. Human capacity has limitations, and the limit in the matter of successful management is likely soon to be reached by some of the combinations now being made. We are confident, then, that the small, individual operator will still have a chance, and a good chance, to hold his own. Second, it is not at all unlikely that the men who are making these industrial consolidations are unconsciously, but really, preparing for Government control of them. The promise appears to be either that these enormous masses of capital will control the Government, or will be controlled by it. Control by the people is becoming more and more difficult of attainment, and, in the end, it may be possible only through the instrumentality of revolutionary violence; but that the

American people, in the long run, will quietly submit to the political supremacy of consolidated money-capital is unlikely. When they determine to have the Government run the railroads, for example, if they ever do form such a purpose, they will find the organized machinery made ready for them by men who are now figuring largely in the public view.—Textile Review.

The third edition of the Canadian Newspaper Directory, just received, is a thoroughly complete and up-to-date handbook of Canadian journalism. Apart from its avowed purpose, the book will be found a valuable gazetteer of every city, town and village that can boast of a local paper. It gives the population of each town, indicates county seats, gives the railroads touching each place, names the villages surrounding each newspaper town, the telegraph, postal and telephone facilities and the principal industries and chief shipments. Its usefulness to advertisers and others who have dealings with newspapers is obvious. From no other source can they obtain the data given in this volume, which is the condensed result of many years of study and experience in the newspaper field. A special feature of the directory is a set of four newspaper maps covering the whole Dominion. The book contains over 350 pages, is handsomely bound and reflects great credit upon A. McKim & Co's Newspaper Advertising Agency, Montreal, who are the publishers.

All trains on the Intercolonial Railway and Prince Edward Island Railway are run on eastern standard time. On the Intercolonial Railway the twenty-four hour system of notation is used, in which the hours are numbered from one to twenty-four, beginning at one o'clock in the morning. The afternoon and evening hours run from 13 to 24, and those not familiar with the system may readily reckon by adding or subtracting 12. Thus, to convert ordinary p.m. time into railway time, 12 is added; and 5 in the afternoon, for instance, would be found to be 17 o'clock. To reduce the time-table figures to ordinary p.m. time, subtract 12, and thus 19.35 would be found to mean 35 minutes past 7 in the evening. The advantage of this system is that it prevents mistakes from the confusion of a.m. and p.m. in reading time-tables and in the operating of the railway generally.

A prominent boiler insurance company of Boston, has recently investigated the effects of weather exposure on the heating power of coal. Experiments bearing on this interesting question were made along carefully planned lines. The samples that were taken under scientific investigation by recognized experts were exposed for eleven months to the many vicissitudes of the weather in New England, and then carefully compared. The results obtained demonstrated that the samples which had been so exposed to the weather lost in carbon, hydrogen and nitrogen, and, on the other hand, increased in oxygen, while the per cent. of sulphur was not changed materially. Furthermore, it was shown that the loss of calorific power of coal due to weather exposure is very slight. The loss due to firing coal in a wet condition is also very slight (about one per cent. if ten per cent. moisture be added). These experiments go far to prove that the only advantage is to be gained by storing coal under cover are the lessened risk of its taking fire and the convenience of having the handlers of the coal housed from the inclemency of the weather.

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, belt- ing, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamos, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, alkalies, etc. It is well worth the while of every reader of the Canadian Manufacturer to closely inspect all items under the head of Captains of Industry.

The Department of Public Works for Ontario has commenced the construction of an extensive dam at the head waters of the Gull River, which will raise the water of Redstone Lake some twelve or fifteen feet. The object in view in constructing the dam is to reserve the water now lost by the spring freshets and make it available for use by the lumbermen in driving their logs and also to assist in keeping up the waters of the Sturgeon, Pigeon, Stony and the lower lakes for navigation purposes and to assist the milling interests. The dam is situated about sixteen miles north of Haliburton Village. The Gull River is joined by the Burnt River at Cameron Lake, near Fenelon Falls, and between that lake and Sturgeon Lake the stream is known as Balsam River; after flowing through Sturgeon, Pigeon and Stony Lakes it is called the Otonabee, and below Rice Lake it is known as the Trent River. The dam under construction is expected to materially improve all these streams by maintaining the flow at a more nearly uniform level.

The Buffalo Forge Co. Buffalo, N. Y., have sent us a card containing certain information re the Pan-American Exposition which reads as follows:—

All correspondents are invited to make inquiries of any nature concerning the Pan-American Exposition, which will be cheerfully furnished by return mail. Data as to features at different periods, location, bookings and rates of hotels, rooms in private families, etc., will be constantly on hand. Mail will be forwarded or held

according to instructions. You are invited to visit us at the General Exhibit, Machinery Hall, Section 12, where our booth may be utilized as headquarters whilst inside the grounds. A commodious space is provided for storage of parcels, etc. Other installations in actual service at the Exposition are as follows: Heating, ventilating and air washing plant in New York State Building; compound engine at Service Power Plant; mechanical induced draft outfit at Service Power Plant; biograph views of down draft forge shop in operation U. S. Government Building, shown at 10.30 a. m. and 3 p. m. We shall also be pleased to see you at our works and general offices, Broadway and Mortimer Streets, Buffalo.

The complete line of Buffalo disc wheels of the pulley, steam and electric types, are shown and described in a new Buffalo disc wheel catalogue of twenty pages sent us by the Buffalo Forge Co., and in addition, applications of this type of fan to numerous uses are treated of. The various tables and descriptions are arranged in a condensed form so as to comprise a complete, condensed catalogue of the Buffalo disc wheels.

Lord Strathcona, Canadian High Commissioner at London, writes to the Ottawa Government that he had been endeavoring to secure the co-operation of the War Office so that Canadian lumber might be used in the construction of the new barracks to be erected on Salisbury Plains or elsewhere. The High Commissioner received a reply from the War

Office, dated June 27, in which it was stated that as the bills of quantities were already in the hands of the contractors who had been invited to tender, the Secretary for War could not see his way clear to make any alteration in the specifications with reference to any further buildings which might be constructed by the War Department. "The claims of Canadian timber for utilization therein will not be lost sight of."

The superintendent of the dairy division of the Pan-American Exposition has given out a report of the awards in the exhibit of export cheese—the only classes in which Canada was an exhibitor. The report produced a sensation. The uniform excellence of the entries astonished even the judges, who awarded a premium to each one of the fifty-seven exhibitors. All the exhibits came from the near-by province of Ontario and there is intense curiosity as to the success of the exhibit of August cheese promised by the Canadian committee for the September competition.

James Playfair, Midland, Ont., will in a few days have on the great lakes a steel steamer of Canadian canal dimensions that will compare favorably with the best ships of that type now in service. The vessel was built by the Caledon Ship Building & Engineering Co., Dundee, Scotland, through the agency of Wm. Peterson, Montreal and Newcastle-on-Tyne. She is named Midland Queen and is 225 feet long, 42 feet 6 inches beam, and 23 feet 8 inches depth. She has been given the highest class in the British Corporation Registry. Ample accommodation, fitted up in the most comfortable style, has been provided for owners, officers and crew, as well as provision for a few passengers. There are two steel deck houses amidship, as well as a large house aft, containing dining room, steward's quarters and state-rooms. Engines are of triple expansion type, with cylinders of 18, 30 and 50 inch diameter and 36 inch stroke. Steam is supplied by two Scotch boilers at 170 pounds pressure. During construction the vessel and machinery were superintended, on behalf of the owner, by Capt. Fetherstonehaugh, Toronto, and Mr. F. Piercy, superintendent engineer to Wm. Peterson. The Midland Queen is expected to arrive in Montreal about August 10. —Marine Review.

INGERSOLL-SERGEANT Rock Drills

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When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Quaiatouan Pulp Co., Quaiatouan, Que., has placed an order with an American firm for two 1,000 horse power high pressure turbines, one 500 horse power high pressure turbine, and one 100 horse power turbine. The two largest wheels will be utilized for driving grinders, the 500 horse power wheel is to drive screens and a wet machine, and the 100 horse power wheel is to operate the electric light equipment. The turbines will work under a 240-foot head. The pulp mill will have a daily capacity of thirty tons.

New and important discoveries of iron have been reported to the Ontario Department of Crown Lands as having been made in the Thunder Bay district, to the east of Lake Nipigon. The deposit consists of two easily observable veins, separated by an interval of about three miles, running parallel to each other to a distance of about ten miles from the lake shore. The surface deposits show the ore to be of the hematite variety of low grade, about forty per cent. purity. It cannot, of course, as yet be estimated how the deposit will pan out, but apparently there exists a larger body than either in the Mattawan or Atikokan ranges further west, although the ore in the latter places is of a higher quality. The existence of iron in the Thunder Bay district has been suspected for some time, but only recently has any prospecting been done there. The American Steel Co. has taken and applied for about 8,000 acres of mineral land, while one of Mr. Clergue's enterprises, the Algoma Commercial Co., has from prospectors the choice of between 4,000 and 5,000 acres.

The Consumers Electric Co., Ottawa, Ont., has applied for incorporation with a capital of \$300,000, to manufacture electricity for light, heat and power, etc. The applicants include J. W. McRae, H. K. Egan and W. C. Edwards, all of Ottawa.

Some of the Indians who hunt in the country north of the Gulf of St. Lawrence, in the Province of Quebec, have brought out to the coast some very rich specimens of silver and lead galena, which they claim to be abundant in the mountains about eighteen miles inland.

The Saginaw Lumber Co., which has secured lumber limits on the north shore of Lake Huron, are preparing to move

their big mill from Saginaw City to the Canadian side. The Cleveland Lumber & Sawing Co. have already commenced erecting a mill. They have purchased timber limits in the Township of Foster, on the north shore of Lake Huron. Both of these companies have been compelled to transfer their operations to the Canadian side owing to the prohibition of the exportation of sawlogs. They will give employment to about 200 men.

The taxpayers of Orangeville, Ont., have voted favorably upon a by-law to grant a loan of \$5,000 to the Dufferin Coffin & Casket Co., and also favorably upon another by-law to grant a loan of \$10,000 to H. F. G. Pett who proposes to start a biscuit and confectionery works there. It is expected that both factories will be in operation at an early day.

Assuming it to be historically correct, as stated in the text-books, that the Chinese used cannon eighty years before the Christian era, the two brass field pieces recently presented to Canada by the commander of the British forces at Tien-Tsin, China, and now lying at the drill hall in the city of Ottawa, are the evolution of over 1,500 years of artillery manufacture in the Celestial Empire. The full particulars of their inception are recorded on their metal sides, with much attention to details. They bear, besides the dates of their manufacture, the name of the sovereign in whose reign they were produced, the name and title of the provincial governor, the imprint of the gun-maker, and even the name of the man who built the gun carriage. The characters cast on the first gun may be thus rendered in English:—"Gun No. 42. The Emperor Au Kong, 1st March, 1439. Gun name, 'Luke Irresistible.' Weight (force), 700 pounds. Powder charge, 3½ pounds. Ball, 2½ pounds." The second piece is inscribed as "Gun No. 183," bears also the name of the Emperor Au Kong, and is dated "1st June, 1439." The names of the manufacturer of the gun and the maker of the gun carriage are the same as those on the first gun, but the name of the provincial governor is different, showing that they had their political ups and downs in China even 500 years ago.

The ratepayers of the town of Forest, Ont., have voted favorably upon a by-law to grant \$7,000 to William McGregor to establish a carpet factory there.

The plans and profiles for the Fort Erie Ferry Electric Railway have been submitted to the Ontario Minister of Public Works for approval. The plans show an electric road about twenty miles in length, running along the west side of the Niagara River from Chippewa to Fort Erie. By the terms of the 21-year charter which the company secured at the session of the Ontario Legislature in 1900 the company is to buy sufficient land where required to make the roadway along the bank sixty-six feet wide. The twenty-six feet nearest the river is for the company's tracks, and the company is to build a wagon road on the inner forty feet, which after construction is to be kept up by the municipalities through which it passes.

A letter has been received at the Ontario Bureau of Mines from Prof. Coleman, in which he says he has completed his work in the Michipicoten district and has proceeded to Port Arthur. Things were apparently going well at the Helen mine. A thousand tons of ore a day were being taken out. The owners of the mine were then pumping out Boyer Lake in order to expose lower levels of ore. Prof. Coleman reports that great interest is taken in iron mines all through northwestern Ontario, and that American companies have many prospectors in the field.

The Commissioner of Crown Lands has been apprised that the Algoma Central Railway will be in a position to call upon the Ontario Government for a good portion of its per mile bonus this summer. Trains are running from Sault Ste. Marie to Goulas station, and beyond that forty miles of roadbed is graded, and the line is to be completed over that stretch within three months. At Goulas station the Clergue syndicate is erecting a sawmill, with a capacity of 60,000 feet per 10-hour day. It is estimated that it will keep 1,000 lumbermen employed in the woods during the winter to keep the mill going. The output of the mill will largely be used in the construction of the railway.

The Buffalo Forge Co. have sent us a copy of a catalogue just published, illustrating their line of Buffalo steel pressure blowers. The various types are fully illustrated and described, together with all the various accessories needed for their application. Full tables of dimensions, speeds and capacities of the

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blowers are also presented. It is a very neat and handsome little publication, and will well repay sending for by any one interested in the application of blowers for forced draft, cupola blowing or like service.

The J. L. Jones Engraving Co., have sent us a circular announcing that their place of business was being removed from their old quarters in Adelaide street to more commodious ones at 168 Bay street, Toronto.

German newspapers announce the invention of a new artificial leather, called fibroleum. It consists of pieces of refuse skins and hides, cut exceedingly small, which are put into a vat filled with an intensely alkaline solution. After the mass has become pulpy, it is taken out of the vat, placed in a specially constructed machine, and after undergoing treatment therein, is again taken out and put through a paper-making machine. The resulting paper-like substance is cut into large sheets, which are laid one upon another, in lots of from 100 to 1,000, and

put into a hydraulic press to remove all moisture. The article is strong and pliable, and can be pressed or molded into all kinds of shapes and patterns. It is said to make the best kind of wall paper. Decorators who have used this article speak of it in the highest terms.

The Garfield Oil Co., Cleveland, Ohio and Toronto, are offering a dust-proof floor dressing which they inform us is specially adapted for use in dry goods and other stores, for school rooms, assembly rooms, public halls etc. Dust absolutely prevented from rising, air pure and free from dust, a hygienic factor not to be disregarded. Dries over night, gives the floor a rich lustreless finish, will not soil skirts, useful as well as ornamental; a chemical solution of wax and other ingredients made for this purpose alone.

Mr. Hugh Whaley is installing a plant for the manufacture of peat fuel in the Township of North Easthope, about five miles from the city of Stratford, Ont.

The city's revenue from the Toronto Railway Co. during July was \$2,500

greater than the revenue for the same month last year, and over \$1,000 greater than during June of this year. The figures as given out by the City Treasurer, are as follows:—

	Receipts.	Percentages.
July, 1901.....	\$150,620.50	\$15,062.05
July, 1900.....	125,722.60	12,572.26
July, 1899.....	117,688.80	11,768.88
July, 1898.....	103,670.00	8,293.60
June, 1901.....	139,063.40	13,906.34

A rich deposit of copper, two miles in length, according to information received by the Ontario Government officials, has been discovered in the Michipicoten district south of Lake Wawa. The land has been acquired by A. W. Fraser's Ottawa syndicate and the Clergue syndicate, in the proportion of about two to one in area. It is said that some of the ore is of the sensational richness of twenty-seven per cent.

It is stated that the Clergue gold mine in the Lake Wawa district, has turned out to be an excellent body of ore. A trial shipment has just been made. Gold

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

THE STANDARD



GOLD WATER PAINT

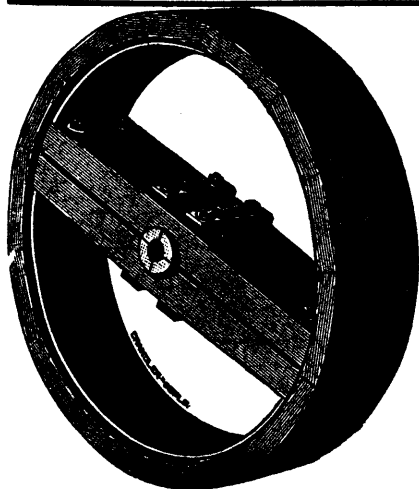
**WEATHER PROOF, FIRE PROOF
 WHITE AND COLORS.**

MILL SUPPLIES

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

W. A. FLEMING & CO.

Montreal and St. John, N.B.



“The Reeves”

A HIGH GRADE

BUILT HONESTLY

BUILT RIGHT

Wood-Split

PULLEY

It Does the Work.

No Trouble.

No Worry.

SEND FOR CATALOGUE

REEVES PULLEY MANUFACTURING CO., Limited

14 Pearl Street, - Toronto, Ont.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

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



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



BUTTERFIELD & CO., - Rock Island, Que.

discoveries are reported to have been made about seventeen miles west of Sudbury. Of the large body of ore, one vein eighty feet wide is said to be going \$8 a ton, and another, eighteen feet wide, \$16 a ton. Extensive work is being done by the Fraser syndicate on the Lakoose gold mine, nine miles from Dymont Station, to which point a spur line of railway has been laid.

An important extension of the Manitoulin & North Shore Railway, now in course of construction between Meaford and Sudbury, Ont., is proposed for Bruce and Huron Counties. Negotiations to this end are proceeding between the Clergue syndicate and the representatives of some of the municipalities affected. The extension would be about seventy-five miles, and would run between Park Head, a station between Owen Sound and Wiarton, and Goderich, passing through Southampton, Port Elgin, Underwood, Tiverton and Kincardine. This is a district at present unconnected by rail. Should the extension be carried out it will be an important feeder for the northern portions of the Manitoulin Railway and would give the Lake Huron towns an opportunity of participating the year round in the trade which will flow northward. It would also give direct connection with southwestern Ontario and with Buffalo, by way of the Buffalo & Goderich line of the Grand Trunk.

The Garfield Paint Co., Cleveland Ohio, have sent us "A Short Study in Black" which has reference to the Zanzibar anti-rust paint manufactured by them. This

paint is intended for application to roofs, bridges and iron works of all kinds; is elastic and indestructible; is warranted rust, spark and water proof; will not blister, crack or peel off. Some of the well-known concerns in Canada who use Zanzibar paint are: The Grand Trunk Railway, of Canada; the E. B. Eddy Co. Hull, Que., and the Toronto Industrial Exhibition Association.

Robert Bell, proprietor of the Seaforth Engine & Machine Works, Seaforth Ont., has sent us an illustrated catalogue descriptive of the sawmill and wood-working machinery manufactured by him. Besides describing the large variety of these special lines, the catalogue makes allusions to many others made at these works, in which are included belt tighteners; mortise gears; fly wheels; wire rope sheaves; picture clutch couplings; boring machines; gas and gasoline engines; steam pumps; governors; feed water heaters; portable and stationary engines and boilers, etc.

"Who Uses Mechanical Draft?" is the title of a very effective publication recently issued by the B. F. Sturtevant Co., Boston, Mass., in which it is stated that the question is simplest answered by the accompanying lists, incomplete though they are, for only the larger plants equipped by this company have been included. No record now exists of the uses made of a multitude of smaller fans sold during the past forty years. But the names presented are sufficient to emphasize the very general substitution of mechanical draft for chimney draft in

steam boiler practice. In stationary plants alone these lists represent an increase of over 250 per cent. since their first publication, a little over two years ago. Even limited as the lists are, they contain over one thousand names, and most clearly indicate the extent of the work done by the Sturtevant Co. in this, only one of the many branches of its extensive business.

As the workmen were erecting the large steel framework for the new buildings of the McKinnon Dash & Metal Works, at St. Catharines, Ont., some of the supports of a large girder which was being placed in position for the roof gave way, which carried with it almost the entire massive steel structure which was almost completed. The foreman of the construction gang, named Armstrong, was seriously injured, and a number of other workmen were more or less hurt, but none seriously.

The River-du-Loup Pulp Co., Toronto, has been incorporated with a capital stock of \$500,000, to manufacture pulp, pulp-wood and paper of all kinds, etc. The provisional directors include J. W. Hutt, Liverpool, N.S., J. R. Stratton, Peterborough, Ont., and A. G. Ross, Toronto.

The Burt Mfg. Co., Akron, O., have recently made a large shipment of cross oil filters and Burt exhaust heads to Copenhagen, Denmark.

The British Trade Journal contains a full page photo engraving of the exhibit of the Metallic Roofing Co., Toronto, at

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.

RICE LEWIS & SON, LIMITED, Hardware and Metal

MACHINIST TOOLS, PIPE FITTINGS, COMPLETE STOCK OF STOCKS AND DIES, PIPE VICES.

STILLSON AND TRIMO WRENCHES. STEAM PIPE.

CORNER KING AND VICTORIA STREETS, TORONTO.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

the Glasgow International Exhibition, showing a building erected entirely of their metallic plates, embossed in various patterns, and which, the Trade Journal, says, are coming into extensive use both at home and abroad for the construction of buildings, and more particularly for decorating walls and ceilings.

The ground for the new plant of the B. F. Sturtevant Co., at Hyde Park, Mass., is now effectually cleared of the various buildings which originally encumbered it, and displays more clearly the character of the location upon which will be erected one of the largest blower manufactories in the world. Through the rapid growth of the allied branches of manufacture which provide the engines and motors for fan driving, the new establishment will also rank among the leading manufactories in these lines. Over 8,000 Sturtevant engines are already in use, and the blower record is fast approaching the 200,000 mark, while the work turned out by the electrical department is increasing by leaps and bounds.

The Toronto Bolt & Forge Co., are putting in a number of new tools and machines in their works at Swansea, on the Lake Shore Road near this city. Manager Watson says he is too busy even to go fishing this summer.

It will be seen by the advertising columns that the Government of Ontario proposes holding a timber sale by public auction September 17 next. Some of the berths are those which were intended to be sold on March 15 last, but were withdrawn as the prevalence of smallpox prevented prospective buyers from examining and estimating. Several townships in the vicinity of Sault Ste. Marie are also offered. These townships have been surveyed for a great many years, but being inaccessible were not required for settlement. Now, owing to the good land in the vicinity of Sault Ste. Marie all being taken up, and the construction

of the Algoma Central Railway giving miners and settlers easy access to these townships, a number are going in, and the timber is exposed to danger from fire. It is, therefore, considered expedient to dispose of the pine timber so that the townships can be thrown open for sale or settlement and that the Province may get the benefit of the value of the timber.

The United States Steel Corporation, the largest concern in the world, have in use over 100 Cross oil filters in their mills. They were furnished by the Burt Mfg. Co., Akron, O.

One of the special features of the extensive manufacturing plant of the Wellman & Seaver Engineering Co., now in process of erection at Cleveland, O., will be a complete installation of the Sturtevant system of mechanical ventilation and heating regarding which the builders have been instructed that the best possible equipment shall be provided for the comfort of the employees.

The contract for the second water power canal at Sault Ste. Marie, Ont., is likely to be awarded to Mr. George Goodwin, Ottawa. The canal will be the same length as the present power channel, but will be 26 feet deep and 150 feet wide. The excavation will include 500,000 cubic yards of rock, and 40,000 cubic yards of earth.

The Clergue syndicate intend building at Sault Ste. Marie, Ont., one of the largest flour mills on this continent, with a capacity of nearly 4,000 barrels per day. The output of this mill it is intended to ship direct to England by the new ocean-going steamers to be constructed with a view to the utilization of the St. Lawrence canals.

The saw mill of Howe & Leighton, at Harriston, Ont., was destroyed by fire a few days ago.

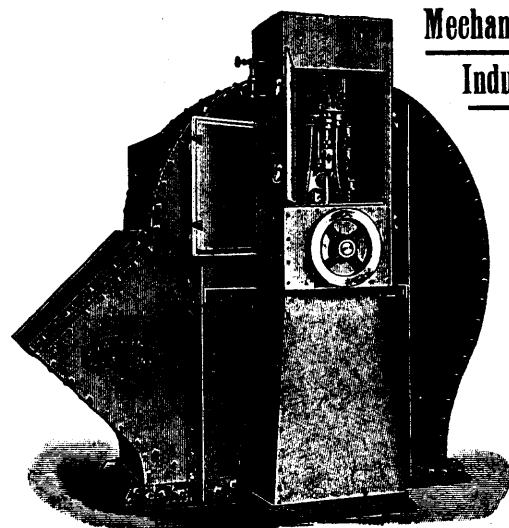
There is at present being constructed at the shops of the C.P.R., at Hochelaga,

near Montreal, a magnificent train for the use of the Duke and Duchess of Cornwall and York during their stay in Canada. The train, will be composed of seven magnificent cars, furnished in the most luxurious fashion.

The Cramp Steel Co., are calling for subscriptions to one issue of \$1,000,000 7 per cent. cumulative preferred stock, the entire capital being \$2,000,000 of preferred stock and \$3,000,000 of common stock. Subscribers to the preferred receive as a bonus one share of common stock, payments to be made 25 per cent. on application, 25 per cent. on August 1 and 50 per cent. on September 1. The proceeds of the sale of the preferred stock are to be used to build a blast furnace and an open hearth steel plant at Collingwood, Ont., the town having granted a cash bonus of \$115,000 and eighty acres of land. The company own iron lands in Ontario which are said to carry Bessemer ore and own coal mines in Wise and Dickenson counties, Virginia, which have been reported on by A. S. McCreath, of Harrisburg, Pa.; E. V. D'Inwilliers, of Philadelphia; and P. L. McCully, of Pittsburgh. It is estimated that the bounties during their existence will aggregate \$1,755,000. The Board of Directors includes William M. Cramp, of Philadelphia; Dr. W. Seward Webb, Chas. D. Cramp, Col. A. B. Chandler, H. L. Burrage, J. Wesley Allison, Sir Chas. Tupper and J. A. Currie.

THE NATIONAL IRON WORKS.

The formal opening of the National Iron Works, at Wingham, Ont., was held on July 30, as alluded to in our last issue. Some 1,500 people interested in the works were in attendance. After the machinery had been put in motion by the little son of Mr. W. C. Bullock, the manager, speeches appropriate to the



Bottom Angular Up Discharge Right Hand Fan.

Mechanical Induced **DRAFT FANS**

Installed in connection with a Boiler Plant, will prevent smoke, will give greater fuel economy and increased boiler capacity, besides which the initial cost is far less than that of a chimney.

Mechanical Draft may be applied to old boilers to increase draft at a minimum initial outlay.

FOR PRICES and PLANS WRITE

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

MARINE Engines

FROM 1 TO 200 H.P.

HYDRAULIC RAMS

—AND—

FORCE PUMPS

STEAM and HAND POWER CAPSTANS
AND STEERING GEARS.

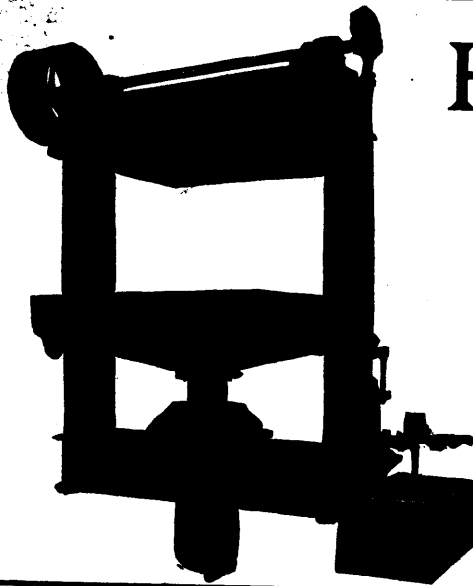
Sole Agents in Canada for the Hoffman Detachable Screen Door Hinge and Bronzite Anti-Friction metal

A TRIAL ORDER IS SOLICITED

Raneys Specialty Mfg. Co.

33 PRINCESS STREET

KINGSTON, ONT.



Hydraulic PRESSES

We Build Presses
for...

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

SEND FOR
CATALOGUE
AND PRICES

William R. Perrin & Company

TORONTO, - CANADA

occasion were made by Mr. John Galt, president of the company, Dr. McDonald, deputy speaker of the Dominion House of Commons, Mayor Clegg, of Wingham, Mr. Bullock and others. The contractors and a number of friends took advantage of the occasion to show their appreciation of managing director Bullock's efforts by presenting him with a handsome gold watch, and Mrs. Bullock with a beautiful tea service. In an able address, Mr. Bullock returned thanks for the unexpected present. He eulogized Canadian skill and enterprise as second to no other class in the world. The company starts under exceptionally favourable auspices with a good capital and a large number of orders. In the evening splendid displays of fireworks and music closed an eventful day for Wingham.

VULITE.

The Vulite Syndicate, Limited, 40 Wilson Street, Finsbury, London, E.C., England, are requesting the attention of Canadian steam users to the Vulite manufactured by them, and in very extensive use by steam users in that country, particularly in ships of the British Navy. It is described as a powerful vegetable disincrustant in which are no acids or alkali.

Alluding to this article, Engineering, one of the best known engineering journals published in Great Britain, says:—

To the increase of boiler disincrustants there is no end, and the use of them tryeth the temper of men. Undoubtedly many nostrums offered have a limited efficiency, while others, though effective, hardly produce results justifying their cost; this being the case, we are pleased to have met with a compound called Vulite, which does fulfil what the makers claim. We have tried this compound for some considerable time in boilers under our charge, with most satisfactory results, and find it does remove old scale, and prevent new formation, without affecting plates or fittings.

Mr. Frank Thatcher, consulting analyst, connected with Messrs. J. Marston-Thompson & Sons, Brewers, Bunton-on-Trent, was requested by the Vulite Co. to make a thorough examination of the article. As to its suitability for use in breweries, who reported that after a series of severe experiments, and after practically testing the utility of the preparation, reported that he had no hesitation in recommending it as being the best composition that had come under his notice. Following are some of the results of his examinations as reported by him:—

Vulite prevents both pitting and corrosion; in fact, where regularly used, no

scale can possibly be formed; it promptly removes all incrustation; does not contaminate or render useless naked steam for direct heating purposes; has no injurious effect upon metal plates or fittings, such as steam valves, etc.; is composed entirely of harmless vegetable matter; it is absolutely free from acids and alkalis, and equally from poisonous ingredients; and prevents priming.

The syndicate desire agents in Canada to handle this article.

The reports of the Northern Ontario exploration parties, which are now being received by the Ontario Department of Crown Lands, give encouraging statements of the existence of spruce north of the height of land. It has been known for some time that there was some pulpwood in this region, but the reports of the surveyors have shown that, with the exception of comparatively small burnt areas in places, the spruce extends in a dense mass all the way to James Bay. As the latter is approached, however, the trees become smaller. The discovery is heralded as an omen of future great paper and pulp industries in the northland, and as establishing still further our claim to possessing the greatest amount of raw material for paper of any country in the world.

CONTRACTORS, ATTENTION!

If you are excavating in stone, use

THE "LITTLE GIANT" ROCK DRILL

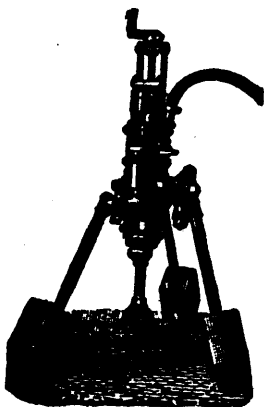
... NINE SIZES ...

Adapted for Steam or Air

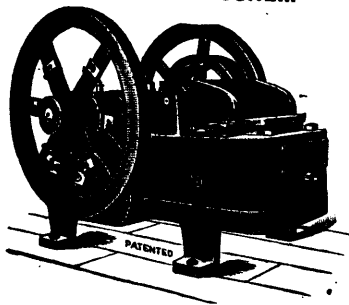
THE CANADIAN RAND DRILL COMPANY

SHERBROOKE, QUE.

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ROLL JAW CRUSHER.



Crushes

Large Rock

to

4

inch.

Send for Circular.

STURTEVANT MILL CO.,

104 Clayton St.
Boston, - Mass.

designed a full line of fan motors and thus gave the purchaser an opportunity to choose between an engine-driven and a motor-driven fan.

To-day they have patterns for over 100 sizes and types of engines, ranging from 2 to 250 h.p., and a record of over 8,000 engines sold since they first entered this field. In their various motor designs they are likewise equipped with an equal variety. A corresponding line of generators is also built by utilizing the essential parts of these motors. Both engines and motors have been developed under the exacting conditions usually incident to fan practice, namely, high speed and constant operation with comparatively little attention.

With these elements of the ideally perfect generating set at hand it has been a relatively simple matter to combine

them in a complete line of many sizes, ranging from 1½ to 100 k.w. Only those machines and combinations which are distinctly standard are enlisted in the new catalogue which is now in preparation. But others may be made almost without limit to meet any possible requirement within the range of capacity above specified.

A BEET SUGAR FACTORY FOR ONTARIO.

A special telegram from Sarnia, Ont., says:—

Michigan capitalists, who control a number of successful beet-root sugar refineries in that State, have completed negotiations for a similar venture in the Province of Ontario. They will erect a

\$600,000 plant at some point in Western Ontario, where the soil is suitable and where railway facilities secure reasonable freights. This point will likely be in the County of Kent or Lambton. The company will be organized and the building started forthwith, so as to take advantage of the rebate in custom duties on beet-root sugar plants, which, at the last session of parliament, was authorized for one year. Seed will be distributed among the farmers this fall, and contracts signed to purchase whatever roots they can grow next season, by which time the refinery will be in running order. It is calculated that a refinery on a large scale can handle all the beets that can be profitably grown within a radius of fifty miles. Ontario has territory and market for several such factories, and if this one succeeds others will follow. As to its success there is no

“Our Country's Welfare is Our First Concern.”

MANUFACTURERS'

WILL MISS A

GRAND OPPORTUNITY

IF THEY FAIL TO EXHIBIT

This Year

AT.....

CANADA'S GREAT EXPOSITION, TORONTO
August 26th to Sept. 7th, 1901

Increased Accommodation

VISITORS FROM ALL PARTS of the WORLD

APPLICATIONS FOR SPACE

SHOULD BE MADE

AT ONCE

ENTRIES CLOSE AUGUST 3rd

FOR PRIZE LISTS, ENTRY FORMS, AND ALL PARTICULARS, ADDRESS

ANDREW SMITH, F.R.C.V.S.,
PRESIDENT.

W. K. McNAUGHT,

Chairman Manufacturers' Committee.

H. J. HILL,
MANAGER, TORONTO.

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question: in Michigan, where all the conditions are exactly similar to Ontario, the investment has proved highly profitable, notwithstanding that the bonus which the State voted to the industry was held to be illegal and was not paid. Stock in several of the Michigan and other northwestern refineries is at fifty to seventy-five premium.

CANADIAN EXPORTS OF PULP.

Mr. W. P. Ryrie, of the Lyrie Paper Co., Toronto, has written a letter regarding the exports of pulp from Canada, in which he says:—

It may be of interest to the general public to know that while Canada is not making much noise regarding the exports of wood pulp to Great Britain there is a steady and rapid growth to be recorded during the first half of this year as compared with the months of January to June of 1900.

The following figures will show the relative position of this country as compared with other sources of supply for Great Britain's requirements:—

	Tons.	Value.
Norway.....	128,455	£550,630
Sweden.....	49,271	401,045
Canada.....	33,757	162,822
United States....	6,741	54,400
Other countries ..	6,454	52,003

The shipments from Norway and Sweden have fallen off very materially, the reduction in quantities being re-

spectively 12,759 tons and 6,390 tons from the 1900 figures.

The depreciation in the value of Norway's export was over £90,000, though Sweden's showed an addition of over £24,000, which is accounted for by the higher range of prices obtained.

Canada has shipped nearly 15,000 tons more during this period, at an increased value of over £88,000, which amount practically balances the falling off in Norway's export.

Taking the latest British Board of Trade reports, we find the following figures, showing the growth in Canada's trade in quantities and values during the month of May for the years 1899, 1900 and 1901:—

1899—1,768 tons; value, £5,632 (being 5 per cent. of total quantity imported).

1900—3,150 tons; value, £14,447 (7½ per cent. of total quantity imported).

1901—5,614 tons; value, £28,340 (13½ per cent. of total quantity imported).

It will thus be seen that, though our people may be accused of being slow in developing the resources in this country, there is a steady and healthy growth, which must eventually place us in the position to which we are justly entitled.

STREET LIGHTING WITH ACETYLENE GAS.

Judging by the results of a bye-election held a few days ago to fill a vacancy on the council board, the residents of Am-

herstburg, Ont., are very much in favor of having acetylene gas for street-lighting purposes. D. D. Wigle, who ran as a candidate of the gas people, was elected by 103 majority over his opponent, who favored the interests of the electric light advocates.

Some months ago the electric light plant of the town was burned and has not been rebuilt. A few weeks ago Simon Fraser had an acetylene gas plant put in his mill, and, having more gas than he required, he supplied a number of his neighbors with it. It gave such satisfaction that Fraser was asked to pipe the town and give all residents a chance to use the gas. He got permission from the council to lay gas mains on the streets, but an opponent applied for and secured an injunction restraining Fraser piping the streets until a by-law could be passed by the council.

In due time the by-law was presented to the council, but the vote stood three to three on the measure and the matter had to be dropped until an election could be held to fill the vacancy caused by the resignation of John Gibbs. A. E. Rondet was chosen by the electric light people to make the run against Wigle, but notwithstanding that such men as J. A. Auld, M.L.A., former-Mayor McEvoy and other influential persons were behind Rondet, he was defeated by the largest majority ever given a councilman in the town's history. It is now expected that the by-law will be passed by the council, in which event Fraser is prepared to supply gas for street and house lights.

PERSISTENCE IN ADVERTISING..

In the expansion of business now bringing profit to so many manufacturers, advertisers who have made themselves regularly prominent in past years have been notable in reaping the rewards of persistent publicity by advertising in

The Canadian Manufacturer.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

BRASS FOUNDERS' AND PLUMBERS' SUPPLIES.

The Syracuse Smelting Works, Montreal, inform us that they have recently imported a large quantity of ingot aluminium which they are offering at specially low prices.

Aluminium is used quite extensively as a flux by iron and brass founders, and in steel works with the most satisfactory results.

Regarding their phosphor tin, they desire to say that, to avoid delays in deliveries of the article, customers should place their orders at an early day.

Phosphor tin is an excellent flux when remelting old brass. It prevents pin holes in castings, and causes the melted metal to flow freely.

THE MANUFACTURERS' \$10,000 COLONNADE.

Out of some twenty-two competitors who sent in designs for the arch which the Canadian Manufacturers' Association proposes to erect on the occasion of the visit of the Duke and Duchess of Cornwall and York, the design of Mr. C. J. Gibson, architect, of this city, was accepted.

Besides from Toronto, there were competitors from Ottawa and Hamilton, and the designs embraced a wide range. Mr. Gibson sent in a front view only of the proposed arch, and rear and side views

will be submitted on Monday next. As winner of the first prize Mr. Gibson will receive five per cent. of the total cost of the arch, which, it is understood, will be erected in front of the Parliament buildings, at the entrance to Queen's Park. Three prizes were offered altogether, the second \$100, the third \$75. Mr. Henry Simpson of this city was the winner of the second prize, and Mr. W. P. Whitten, Hamilton, winner of the third prize.

The design of Mr. Gibson shows a structure of staff on a wood framework, finished in strong colors and gilding. At the four inner corners and on top of the abutments are fountains and basins embellished with hardy floral decorations. From niches on each side of the abutments fountains flow into the basins filled with water plants. The ornament is designed to symbolize manufacturing. On the face of the boussoirs are bold relief figures and groups representing manufacturing. The coat of arms of the Duchess of Cornwall and York surmounted by trophies of flags are placed at either side of the entrance. The Union Jack, beaver and British crown form the keystone, and the beaver rests at the bottom of the keystone. Surmounting the whole is a globe with the map of Canada prominent.

Suitable inscriptions are placed on the abutments and around the arch. The bunting will consist of flags of all the British possessions, and the panels on the base are relief-symbolical of the history of manufacturing in Toronto. The whole

structure is strongly gilded and colored, and profusely illuminated with electric lights, so as to obtain brilliant light effects.

In addition to the arch the Manufacturers' Association have arranged to spend five or six hundred dollars in the approaches. There will be elaborate approaches in the form of colonnades and flag staff approaching from north and south. The end of the approaches is emphasized by a pavilion.—The Globe.

ROSSENDALE BELTING.

Messrs. R. H. Buchanan & Co., Montreal, inform us that they are Canadian agents for the Rosendale Belting Co., a prominent English concern, and that they will always carry in stock a full assortment of the Rosendale M. A. Y. Belting. This belting is described as being more than double the strength of leather, has great biting power, and is much cheaper. It is being worked satisfactorily in engineering works, paper mills, collieries, brickworks, rolling mills, corn mills, cotton mills, saw mills, pulp mills, mortar mills, print works, iron works, for dynamos, graineries, and in many other manufacturing industries.

The Rosendale solid woven carrying belts for coal, cement, grain, etc., are described as being surface hardened, by a patent process, which renders them specially adapted for this purpose.

COWAN & CO.

GALT, - ONT.

Wood-Working Machinery

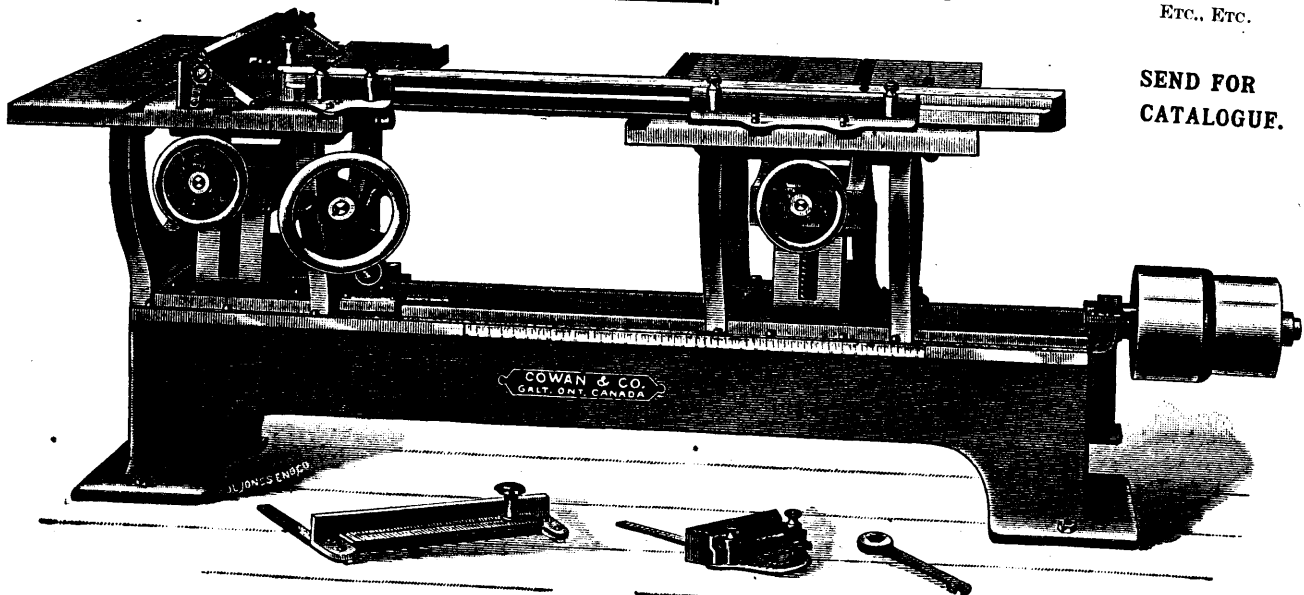
Patent Feed Water Heaters and Purifiers

Engines AND Boilers

SAW MILL MACHINERY,

Etc., Etc.

SEND FOR CATALOGUE.



NEW IMPROVED PATENT RIP AND CROSS-CUT SAW.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

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.

544. A Manchester firm desire to take up the agency in Lancashire of a Canadian leather and boot and shoe exporter.

545. The manufacturers of iron stable fittings, harness and stable room fittings, etc., are desirous of getting in touch with firms in Canada who are prepared to push these goods in the Dominion.

546. A firm manufacturing gold dredging plants are anxious to extend their business in Canada, and are open to appoint agents in suitable localities.

547. Enquiry is made for the Canadian makers, if any, of "meat meal," the residue of meat after extraction, or of sheep's heads prepared for such purposes, the article being used as a mixture for poultry feed.

548. A provincial correspondent asks to be placed in communication direct with exporters of Canadian bacon, cheese and other dairy products.

549. A commission house in London asks for names of Canadian firms exporting produce of any kind who require representation in the United Kingdom and on the continent.

550. A foreign and colonial merchant in London is desirous of acting as agent on commission for produce firms in Canada exporting to the English market.

551. **THE CANADIAN MANUFACTURER** is authorized to give names and particulars to reliable concerns in Canada who would accept agency for responsible manufacturers in Great Britain of metallic packing, also for another manufacturer of a disincrustant boiler compound which is being used largely in the British Navy and by many of the largest steam users in the Kingdom. Write for particulars.

552. A Devonshire dairy company enquire for the names of wholesale houses importing Canadian dairy products.

553. Enquiry is made by a Liverpool house interested in mines and minerals, ferro-alloys, etc., who desire to be placed in touch with parties in Canada open to do business.

554. The names of some Canadian lumber merchants are asked for by a Danish house who wish to import spruce for racing oars.

By the fire in the Canada Paper Co's premises at Windsor Mills, Que., a couple of weeks ago, two hundred tons of paper for the Montreal Star was consumed, besides sixty tons for other parties.

Toronto Elevator Co.

MILLWRIGHTS AND ELEVATOR SPECIALISTS

Estimates Given and Losses Adjusted

OUT-OF-TOWN WORK PROMPTLY ATTENDED TO.

PHONE **JOHN H. SHALES,**
1535 Manager

AGENTS FOR....

Miller Bros. & Toms,
Elevators
Leitch & Turnbull Co.,
Limited, Elevators.
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TORONTO

ALEX. GARTSHORE, President. J. G. ALLAN, Sec.-Treas. JAS. THOMSON, Vice-Pres. and Gen. Mngr.

GARTSHORE-THOMSON PIPE & FOUNDRY CO. Limited

GAST IRON PIPE

3 in. to 60 in. diameter.

For Water, Gas, Culverts and Sewers

Special Castings and all kinds of

FLEXIBLE AND FLANGE PIPE.

WATER WORKS SUPPLIES

HAMILTON, ONT.

PACKARD

ELECTRIC COMPANY LIMITED

MAKERS OF

LAMPS AND TRANSFORMERS

SOLE AGENTS FOR CANADA

SCHIEFFER RECORDING WATT METERS

ST. CATHARINES, - CANADA

DON'T BURN YOUR BOILER

Save it by removing the incrustation. Give a long life to your steam boiler, valves, engine, steam pipes, etc., which is sure to be done by the use of

SUTTON BOILER COMPOUND . . .

Every up-to-date steam user is alive to its many good qualities. For everything in the mill supply line ask

THE WM. SUTTON COMPOUND CO., OF TORONTO LIMITED.

186 Queen Street East.

The Wm. Hamilton Mfg. Co.
Peterboro, Ont., Can.

Acting as the Patentee's Licensee

Are prepared to manufacture
and supply

SAVERY'S PATENT SHAKE FRAMES

-FOR-

Fourdrinier Paper Machines,

AS DESCRIBED IN

Canadian Patent No. 57,819.

—ALSO—

SAVERY'S PATENT COMBINED DRYER STEAM JOINT AND SAFETY VALVE

AS DESCRIBED IN

CANADIAN PATENT No. 68,093.

ABOUT 2,000 NOW IN USE.



BALE'S Fire Cement

FOR
LINING AND REPAIRING

STOVES, FURNACES, RETORTS

And all work where
great heat is required.

BALE & CO., Newgate St., LONDON, ENG.

GAS PURIFICATION and GENERAL
IRON MERCHANTS



Auction Sale of Timber Berths.

PUBLIC NOTICE is hereby given that pursuant to authority of Orders in Council, the Red and White PINE TIMBER in the following townships in the DISTRICT OF ALGOMA, namely:—The Townships of GRAHAM (part), HART, CARTIER, LEVACK, JARVIS, ANDERSON, CHESLEY, GILMOR, WHITMAN, CURTIS and RUTHERFORD (part), and certain areas between the PIGEON RIVER and the ARROW RIVER waters in the District of THUNDER BAY, will be offered for sale by Public Auction at the Parliament Buildings, in the City of Toronto, on TUESDAY, the SEVENTEENTH day of SEPTEMBER next, at the hour of ONE o'clock in the afternoon.

At the same time and place certain forfeited and abandoned Berths in the Townships of DIGBY, SHERBOURNE and LUTTERWORTH, in the District of HALIBURTON and County of VICTORIA, will be offered for sale, the purchasers of these latter Berths to have the right to cut all kinds of timber.

Sheets containing terms and conditions of Sale and information as to Areas and Lots and Concessions comprised in each Berth will be furnished on application, either personal or by letter, to the Department of Crown Lands, Toronto, or the Crown Timber Agencies at OTTAWA, SAULT STE. MARIE and PORT ARTHUR.

E. J. DAVIS,

Commissioner Crown Lands.

DEPARTMENT OF CROWN LANDS,
TORONTO, June 1, 1901.

N.B.—No authorized publication of this advertisement will be paid for.

MARKETS.

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

TORONTO, August 16, 1901.

In every respect the crop and trade situation has an improved outlook save, indeed, as to the steel strike which seems, through the uncompromising attitude of both parties to have become a test of endurance with the corporation in somewhat the strongest position. Rumors that the end was at hand have proven false, and all predictions will have to be taken with incredulity.

A protracted strike will, of course, affect trade. Otherwise, the crop outlook, greatly improved, has restored the somewhat shaken optimistic feeling, and it is seen that the extent of the loss in western crops has been greatly exaggerated. A large winter wheat crop has been harvested, and spring wheat, while damaged in quality in some localities, will show a large yield.

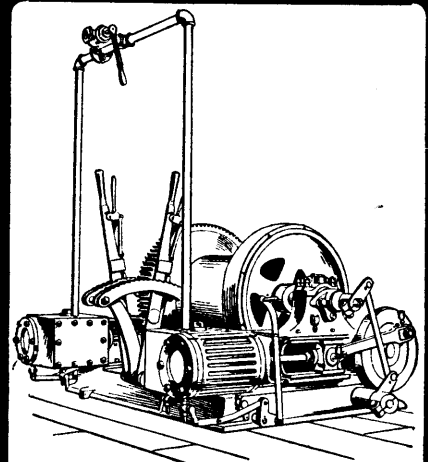
The West is prosperous; and farmers are better able to meet a shortage than in any previous year. The export demand for wheat is good, and it is recognized that, owing to the crop shortage abroad, Europe will need all the surplus we have to ship.

The monetary situation is most satisfactory. In New York money on call is quoted at two to three per cent. and time loans at 4½ to 5 per cent. The international situation is improved, the discouraging spot being Germany, where there is a reaction from a long period of extravagant speculation. The bank clearings and trade reports reveal great prosperity throughout the country, notwithstanding the labor troubles in the iron and steel industry. Railway earnings continue heavy, and the traffic outlook in the immediate future is bright.

An interesting feature of the situation is the record of pig iron production, which for the first half of the year was 7,674,713 tons, beating the record of 1900 for corresponding period, by 32,044 tons. The furnaces are notably active with a prospect of a larger output for the present half year. Large contracts for early delivery have been placed and mills outside the United States steel corporation are getting the benefit.

As a result of the strike the local market for hardware and metals is beginning to show an upward tendency. Dealers are experiencing considerable difficulty in securing goods even at advanced prices. Coke plates have advanced 25 cents per box. Linseed oil is 2 cents dearer, and there are a number of lines where prices have hardened slightly.

Traders in Canadian securities are



BACON'S 1901

Hoisting Engines

These engines are designed with special reference to efficiency, durability and convenience in operation.

Besides various standard sizes and styles, modified types are built, specially adapted for underground use, contractors, bridge builders, ships and docks, operating cableways, etc., etc.

Whether your requirements are small or large, we shall be glad to receive your inquiries, and to submit attractive figures for your consideration.

JENCKES
The **JM** MACHINE
COMPANY.
SHERBROOKE, QUE.

Branch Offices in
Principal Canadian Cities.

COAL JAS. H. MILNES & CO. COKE

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

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

following closely the movement in Dominion steel. The recent decline of 1½ in the common and 6 points in the preferred is attributed to the fact that development of the property has been slower than some holders of the stock anticipated.

Manufacturers report that it is impossible to obtain cold rolled steel from the United States. Orders in England cannot be filled before September, on account of the heavy demand. A continuance of the strike will compel Canadian firms to place their orders in England, although, manufacturers say, the Old Country steel is not of as good quality nor as low in price as the American material.

BUFFALO PIG IRON MARKET.—Office of Rogers, Brown & Co., Buffalo, N.Y., August 13, 1901.

The buying movement which is now due appears to be held back by the uncertainties arising from disturbed labor conditions, so that with the exception of occasional buyers placing contracts for blocks of five to eight thousand tons each, there is little doing in the way of ordering. Of this kind, however, there are enough to give a fair volume of new business.

The conditions of supply and of prices are uneven. Several furnaces tributary to this market have already sold beyond their ability to supply during the balance of this year, trusting to some postpone-

ment of deliveries to keep them at peace with their customers; other brands less popular are not well sold ahead; the one set firm in prices, held well up to the top of the market, the other a little tender in its solicitude to fill order books for the next four months.

The attitude of buyers is well expressed in two transactions which are before us to-day; the one buys boldly five thousand tons for a delivery running through the first quarter of next year, the other after considering for a week the purchase of one hundred tons postponed the act to await further developments. Meanwhile the consumption of pig iron is going on at a tremendous rate and so far as we can see locally, stocks are rapidly vanishing.

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

No. 1, X. Tonawanda Scotch iron.	\$16 50
" 2, " " " "	16 00
" 1, " Niagara iron.....	16 50
" 2, " " " "	16 00
5.0/° Silicon Mannie Charcoal softener.....	16 50
3.0/° Silicon Mannie Charcoal softener.....	16 00
Connellsville 72 hour Foundry coke.....	4 95

GARFIELD OIL Co.—This concern, who are manufacturers of Zanzibar anti-rust paint, high grade lubricants, giant boiler compound, etc., Cleveland, Ohio, inform us that they are about to transfer

the Canadian branch of their business at Windsor, Ont., to Toronto, on account of increased business and to take better care of their Ontario customers. The various products of this company are well known in Canada.

PROSPERITY IN WESTERN CANADA.—Mr. T. C. Irving, Manager of Bradstreet's, returned to Toronto a few days ago from an extended trip through Manitoba, the North-West Territories and British Columbia. Mr. Irving expresses his firm belief in the permanence and the marvellous fertility of the West. The reports published of the abundance of the Manitoba wheat crop he found upon enquiry among the most practical and hard-headed wheat buyers to be well founded. The crop is estimated at from 40,000,000 to 65,000,000 bushels for sale, averaging the farmers probably fifty cents a bushel, so that at the lowest estimate, if all goes well, the comparatively small number of farmers in the West will divide among themselves \$20,000,000.

In Manitoba he met a prominent director of one of the largest eastern loan companies, who explained that he was looking over the West, as his company would probably have more than half its money loaned out there this year. In British Columbia Mr. Irving found the people to be hopeful and enthusiastic. In Victoria the business men felt that the place was in better shape than a year ago, as a number of concerns of a specu-

N.Y. & Boston Limited
Kniekerboeker Special
South-Western Limited

Famous Trains between

BOSTON	CINCINNATI
NEW YORK	CHICAGO
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Big Four Route

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NEW YORK CENTRAL
 BOSTON & ALBANY

Cafe, Library, Dining and Sleeping Cars

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 W. P. DEPPE, Asst. Gen. Pass. and Tkt. Agt.
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THE CANADIAN
COLORED COTTON
MILLS COMPANY.

Cottonades, Tickings, Denims,
 Awnings, Shirtings,
 Flannelettes, Gingham,
 Zephyrs, Skirtings,
 Dress Goods, Lawns,
 Cotton Blankets,
 Angolas, Yarns, etc.

Only Wholesale Trade Supplied.

D. MORRICE, SONS & CO.
 AGENTS
MONTREAL and TORONTO.

Electrical Construction
Co. of London, Limited.



MULTIPOLAR MOTORS & DYNAMOS
 And Direct Connected Plants
 for Isolated Lighting.

Repair Work a Specialty.

HEAD OFFICE AND FACTORY:
90 YORK STREET, London, Canada.
 760 Main St., Winnipeg.
 24 York St., Toronto, 134 Granville St., Halifax.

lative character had been wiped out and more healthy conditions had been established. At Rossland business was dull, owing to the miners' strike, which involves 1,200 men, and the result of which

is uncertain. The strike appeared to be partly one of sympathy with strikers at Northport, but its immediate effect on Rossland has been disastrous, as these men have been getting from \$2.50 to \$3.50

a day, and that money was freely distributed among the merchants. The miners had little saved, so that now they have nothing to spend.

The canners, Mr. Irving found, expect an immense catch this season, as this is a "fourth year," and the catch has been found to be uniformly good every fourth year. It will probably run to \$2,500,000 this year, notwithstanding the strike, which has now been settled.

MATCH MAKING.—In view of the extensive use of electricity for lighting purposes, one might imagine that the demand for matches would have fallen off of late years. But the product grows steadily from year to year. Gas is yet burned to a considerable extent, fires in stoves must be lighted, and the smoker alone consumes enormous quantities.

By far the greater number of matches are made of wood, tipped with a composition which ignites by friction. But fastidious smokers, especially in foreign countries, much prefer the wax match. And it is a curious fact that while Americans have been able to produce wooden matches in the cheapest possible manner, they have never been particularly successful in the manufacture of high grade wax matches. The famous English house of Bryant & May, recently absorbed by the Diamond Match Co. of the United States (popularly known as the "trust"), has long enjoyed a high reputation for its wax matches. Probably the best wax matches used in this country are imported, and come from England. No other manufacturer in the world, it is asserted, has mastered the art of making a wax match that will remain stiff in the warmest climates. Moreover, the English wax match has an ivory finish which others have never been able successfully to imitate.

At the present time Europe probably turns out about 500,000,000 matches a day, and the United States twice that quantity. Fifty million feet of lumber are consumed annually in this country alone by the matchmakers, and yet not over 15,000 people are employed in the industry.

Austria was for many years famous as a producer of matches. Subsequently Sweden and England also became prominent in the industry. Generally speaking, foreign matches make less noise when igniting than American matches. The majority of the latter crack like a pistol shot when scratched. This effect results from the peculiar composition with which the American matches are tipped. Sweden, to which country the world is indebted for several other innovations in this line of business, originated what is called the "safety match," which will light only when scratched upon its own box. This result is attained by putting one important ingredient of the friction compound, the phosphorus, on the box rather than on the match.

The most serious drawback to the manufacture of matches is that common yellow phosphorus, used in the art, is liable to affect the health of the operatives who handle it. A painful disease,

IF YOU CAN'T COME, WRITE

to our nearest office for information about

E. HOWARD & CO., Watchman's Clocks.

THEY WILL SAVE YOU 10 ON YOUR INSURANCE

Established 1842

The E. HOWARD CLOCK CO.

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

DIXON'S

DOES TWO THINGS

AND DOES THEM THOROUGHLY

STOPS THE BELT FROM SLIPPING.

PLEASES THE MAN WHO USES IT.

SOLID Belt Dressing.

NOTHING EQUALS IT.

SAMPLE SENT FREE. SEND FOR ONE.

Joseph Dixon Crucible Co., Jersey City, N. J. U.S.A.

"Zanzibar

Anti-Rust

.. Paint ..

MADE TO ENDURE

GARFIELD PAINT CO.

WINDSOR, ONT., CANADA

W. A. FLEMING & CO., Montreal, Que.

Eastern Agents

Write for Booklet

"A STUDY IN BLACK."

For Roofs of all kinds, Bridges, Iron Work.

THE SMART-EBY MACHINE CO. LIMITED,

191 Barton Street East, Hamilton, Ont.

High Speed Engines, Brown Automatic

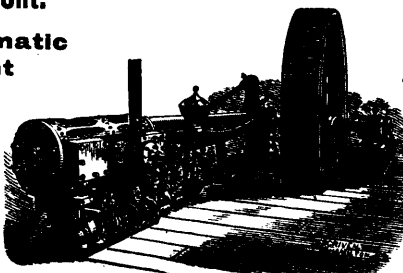
Engines, Boilers, Rogers' Patent

Shaking and Dumping Grate Bars, Pumping Machinery,

Electric and Hand Power Travelling Cranes, Shafting, Pulleys,

General Machinery, Etc.

Western Office—419 Hasting St., Vancouver, B.C.



When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

known as "phossy jaw," often attacks those who work in match factories. It has been found that when, by special treatment, this substance is converted into "red phosphorus," it becomes innocuous. But it is hard to persuade the manufacturers to use the latter, possibly because it is more costly. However that may be, the subject has been agitated so vigorously in Europe that large rewards have been offered for the discovery of a way to make a match without any phosphorus in it at all. Again, there has been much talk of prohibitive legislation. It is said that Sweden has already enacted a law forbidding the further use of yellow phosphorus in this industry. The New York representative of one of the principal Swedish match companies evinced great reluctance to talk on this subject last week, but from other sources it was learned that the law in question will probably prove a serious injury to the industry in Sweden. In a corresponding degree it will doubtless benefit the American producer, who has suffered from Swedish competition hitherto.—New York Tribune.

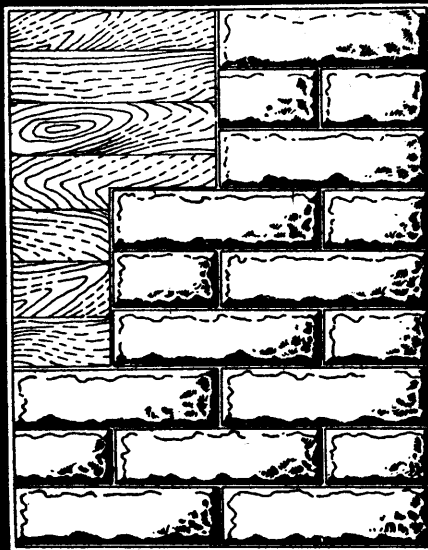
THE BOUNTY ON IRON.—Additional regulations governing the payment of bounties on iron and steel made in Canada have been approved by the Governor-General, and are issued by the Department of Trade and Commerce, for the information of all concerned. Under the act of last session these bounties which had hitherto been paid by the Department of Customs will hereafter be paid by the Department of Trade. The bounty on steel ingots is \$3 a ton if manufactured before April 23, 1902. Thence, by a descending scale the bounty is reduced each year until in 1907 it is sixty cents per ton. The bounty will not be paid until the manufacturer has furnished to the Government satisfactory evidence that such steel ingots were manufactured in Canada from ingredients of which not less than fifty per cent. of the weight thereof consisted of pig iron made in Canada. The evidence must be taken upon oath before a collector of customs or a justice of the peace. The bounty on puddled iron bars is the same as on steel ingots, but it is necessary for the manufacturer to produce evidence that the bars were manufactured from Canadian pig iron. The bounty on pig iron is to expire on the first day of July, 1907. Commencing the first year the bounty on pig produced from Canadian ore is \$3 per ton, and on pig iron from foreign ore \$2. The proportionate difference is the same for the seven years that the bounty is to run.

COLUMBIA PHOSPHOR TIN.—The Syracuse Smelting Works, Montreal, have sent us the following formula for using the Columbia Phosphor Tin made by them:—

Melt your copper or brass in the usual way. When all is melted pull your crucible, add the amount of phosphor tin required, stir it well and it will bring all the impurities containing in the metal to the top, then skim it thoroughly and pour your castings. When using either

COVER YOUR BUILDINGS

WITH OUR ROCK FACED STONE



IT COSTS VERY LITTLE

It is a steel siding, either galvanized or painted—in great demand

M.R.C.C.

for new structures as well as for improving old ones. It can be readily applied, makes a most attractive looking finish, and also gives fire, cold and damp-proof protection. Fullest information, if you write.

The Metallic Roofing Co.,

Manufacturers

LIMITED,

TORONTO.

old scrap-brass or brass turnings you should add from one to three per cent. of phosphor tin according to quality you require. If any common brass that you make should chill in your crucible or ladle, add a small quantity of phosphor tin. It will heat it up and increase the fluidity.

For rolling, drawing into wire, rods tubes, bolts, springs, screws, etc., ninety-five per cent. copper, five per cent. phosphor tin.

For pinions, valves, steam and boiler fittings, pumps, general ornamental castings, etc., the following is a strong metal harder than the preceding: ninety-four per cent. copper, six per cent. phosphor tin.

For bearings, slide valves, bushes, cog wheels, and all parts of machinery exposed to friction, ninety per cent. copper, ten per cent. phosphor tin.

For heavy bearings, locomotive and machine use, eighty-five per cent. copper, fifteen per cent. phosphor tin.

For fine toned bells, eighty per cent. copper, twenty per cent. phosphor tin.

For remelting old brass use one per cent. phosphor tin.

For cheap bronze ninety per cent.

THE PACKING OF THE CENTURY
HAUGHTON'S PATENT METALLIC PACKING CO.
6 LOMBARD COURT LONDON E.C.

Composed of ribbons of anti-friction metals, combined with metallic and other lubricants, therefore in this form will fit any size gland.

USED IN THE BRITISH and FOREIGN NAVIES.

Always elastic. Lasts for years without re-packing. Packed in cases of 10 and 20 lb., and drums of 1, 1, 2 and 5 cwt.

SPECIFY-HAUGHTON'S PATENT PACKING.

copper, nine per cent. tin, one per cent. phosphor tin.

THE PAINT INDUSTRY OF THE UNITED STATES.—The British Board of Trade have published a report on the paint industry of the United States, drawn up at H.M. Consulate at Chicago, as follows:

The paint industry of the United States is a very important one, and perhaps in no country in the world is there a larger consumption of paint than in the United States. This arises from the fact that there are many millions of homes throughout the land which are built entirely of wood, varying from the cottage costing £100 to the mansion valued at £5,000; the mass of the farm buildings and out-houses are built of wood. All these require painting every three years, as climatic influence affects the structures, heat and cold causing expansion and contraction which is very severe on the paint covering the exterior, and necessitates frequent painting; while the large agricultural implement and wagon factories require an immense quantity of paint annually for their goods, which are marketed the world over.

The competition for the supply to meet this demand is very great, and expenses have to be kept down in manufacturing; the very best of machinery is used for crushing, mixing and grinding the pigments, no slow process is any longer profitable, thus double-decked mills are in use for grinding lead.

The last few years have brought about great changes in the paint trade, and

every large city in the United States has from one to three paint factories, whilst the largest have from six to twenty, all grinding every conceivable article convertible into paint. Competition has become very keen, and whilst it does not seem possible that British paint manufacturers can find a market for their wares in the United States, a report on the method of paint manufacturing in that country may be of use, and serve to induce the British paint manufacturer to use every effort to secure the colonial and African market before the American competitor enters seriously into the field with mixed paints, which up to the present time he has only supplied to his own countrymen.

There is no deposit of chalk in the United States satisfactory to the paint and putty manufacturer. American whitening or carbonate of lime is lime stone, not chalk, consequently Great Britain supplies largely the requirement of the market in this article, which is crushed and washed, and floated from one cistern to another, making various grades of whitening.

Strong red oxides, Tuscan reds, and Indian reds also come largely from Great Britain. These are, together with French ochres, Italian siennas, German umbers and siennas, the principal importations, and are used in the best grades of colors in oil and japan, whilst the domestic goods are rarely used in the best grades by paint grinders, but are sold extensively for primers.

The ingredients most in use and their

cost are as follows, the pigments all in a dry state:

Carbonate of lead, corroded by the old Dutch process, is 2½d. per pound, and is considerably used. It is ground in pure linseed oil, one gallon of oil being used to 100 pounds of dry lead, or an average of about 8 per cent. oil. While this pigment has first claim as having been longest in use, it does not follow that it is the best. The paint grinders follow the rule that it can be improved in combination with other pigments.

Sublimed lead or sulphate of lead is a pigment greatly in favor. It is claimed to be unaffected by exposure to air, lasting, and practically non-poisonous.

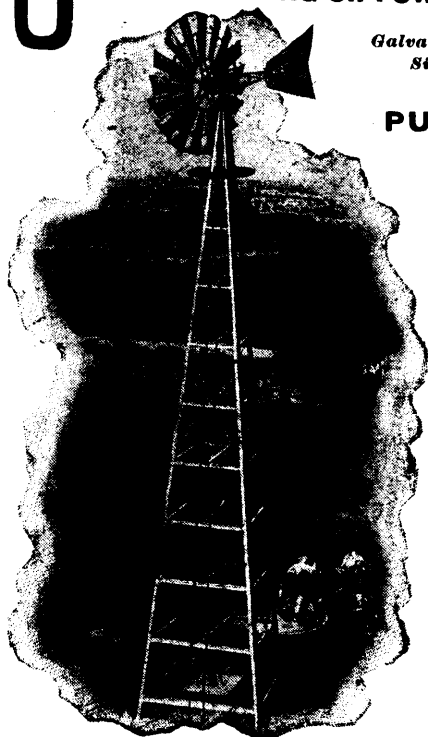
Galena ore or native lead sulphide, when heated to nearly white heat, vaporizes slowly, and the vapors in contact with air burn into lead sulphate; but simply heating a bulk of galena ore to vaporization is not practical.

If the lead ore is properly prepared, it burns rapidly when treated in a specially-adapted furnace. The temperature required is far below that of vaporization of lead sulphide. The ore is rapidly heated, and under favorable conditions will burn at a cherry red heat.

The direct product from the combustion of galena ore is, however, not yet sublimed white lead, but after combustion it passes through hot flues kept at the temperature which by experiment and practice has been found to be effective. This densifies the particles and changes them into sublimed white lead. At the same time a part settles down in

STAR WIND MILLS

FOR PUMPING OR POWER PURPOSES



Galvanized Steel or Wood, all Sizes, 4 to 26 feet in Diameter.

PUMPING MILLS

FURNISHED WITH OR WITHOUT TANK ELEVATED IN TOWER.

GALVANIZED

Steel Towers

Any height, either Three or four post, with substantial ladder.

TANKS

Any Capacity, Any Purpose Made in Pine, Cypress, Fir or Galvanized Steel.

Our windmills are self-regulating and self-governing, and with our Hoosier Automatic Anti-Freezing Force Pump the windmill outfit takes care of itself, night or day, in calm or storm.

"Hoosier" IRON
—AND—
"Fast Mail" PUMPS.

Designs and Prices Furnished. Write for Catalogue.

Address **FLINT & WALLING MFG. CO.**
"STATION A" KENDALLVILLE, IND.

Buffalo Disc Wheels

Steam-Pulley-Electric

FOR EXHAUST VENTILATING



Buffalo Disc Wheel, with Double Vertical Engine.

BUFFALO FORGE COMPANY

BUFFALO, N.Y.

E. A. WALLBERG, - 410 Temple Building, Toronto.
Merchants Bank Building, - Montreal

the flues and carries with it whatever impurities may have entered the furnaces. On leaving the hot flue we have true sublimed white lead suspended in the air. This is drawn through a series of cooling flues where a further purification takes place by part of the product settling and carrying down small quantities of impurities escaping the hot flue, and then the sublimed white lead is arrested by forcing the gases and lead into strainers of textile fabrics where the gases escape by filtration. It is taken from the strainers and packed in barrels for shipment. It absorbs a great quantity of oil. It has peculiar properties, and must be treated by paint grinders in a special manner. If ground as a stiff paint with linseed oil, it has a tendency to become dry and cake, but by a change in the process of grinding the difficulty is overcome and the paint does not cake. Mixtures of sublimed white lead and zinc have a special interest as an iron paint under water. It protects the iron perfectly, does not soften and absorb water, nor does it peel off, like zinc. Price, 2½d. per pound.

Oxide of zinc maintains a very prominent place, and has become indispensable in paint manufacturing for many reasons. Its whiteness enables the manufacturer to produce the more delicate tints. It is also very light and bulky, and in combination with other material adds value to them. Present price, 2d. per pound.

Barytes is used in very large quantities, its specific gravity being about the same as carbonate of lead. Composition leads, or "off brands" as they are called, contain various proportions of barytes; mixed paints also contain more or less. Barytes, when used moderately, does not depreciate the value of the paint from the standpoint of durability. Price, £3 6s. 3d. per ton.

Silax or silica is preferred in many instances to barytes, on account of its not being so heavy. It is much higher in price, ranging from £5 3s. 6d. to £9 6s. 4d. per ton, according to fineness. A number of other white minerals are used.

Carbonate of lime, such as ground marble finely bolted, is bulky, and is sold at £2 17s. 11d. per ton.

English Paris white furnishes a very large part of many mixed paint formulæ. Present price, £3 6s. 3d. per ton, in barrels 1s. extra each; tons are 2,000 lbs.

English chalk, crushed and floated from one cistern to another, makes various grades of whitening: first precipitation is called commercial whitening; second precipitation, finer grade, gilders' whitening; third precipitation, still finer, extra gilders' whitening; fourth precipitation, best grade, Paris white. Carbonate of lead, sulphate of lead, oxide of zinc, barytes, silica, marble flour, Paris white, whitening and China clay are some of the white pigments entering into paints.

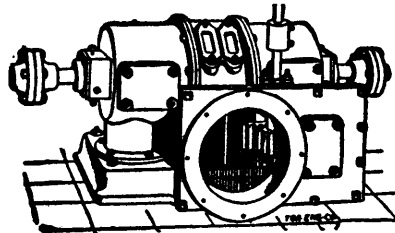
As to the deposits in the United States, carbonate of lead made from metallic lead is found in many States, particularly in Missouri. Sublimed or sulphate of lead is manufactured in Joplin, Mo., where there is a large factory, and the lead is made from the ore mined in that district.

Oxide of zinc is found in large quantities throughout the States. Several large furnaces are erected in the east and west. The finished product is controlled by the New Jersey Zinc Co.

Barytes is extensively mined in and near St. Louis, Mo., where two large plants are in operation; also in Quincy, Ill., where one large plant is at work. Other large quarries are located in Lynch-

burg, Va. From these points shipments are made to the paint grinders. German barytes, which at one time was much preferred, has ceased to compete in the American market.

Silax is found as a pure rock crystal, and vast quarries are found in New Milford, Conn. It is hydrated, then crushed and milled to a fine powder. From this factory comes the best for paint manufac-



Horizontal Type.

**"LITTLE GIANT"
TURBINE**
....FOR ALL PURPOSES....

HORIZONTAL AND VERTICAL
BUILT IN 44 SIZES.

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

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

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

**BELL
PIANOS and ORGANS**

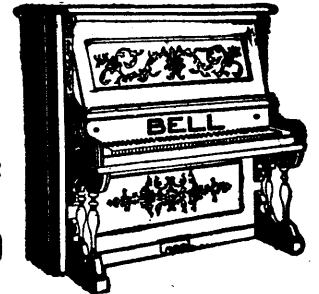
BUILT TO LAST A LIFETIME
AND USED THE WORLD OVER

Send for Catalogue No. 47 to

THE BELL ORGAN AND PIANO CO., LIMITED

QUELPH, - - ONTARIO.

LARGEST MAKERS IN CANADA.



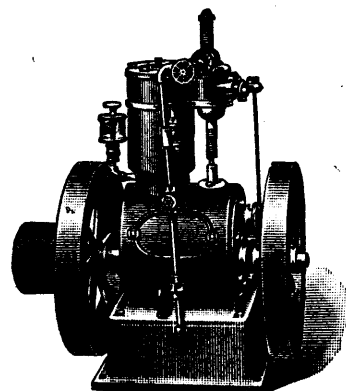
**THE WELLINGTON MILLS, London, Eng.
GENUINE EMERY**

Oakey's Flexible Twilled Emery Cloth. Oakey's Flint Paper and Glass Paper.
Oakey's Emery Paper, Black Lead, Etc.

Prize Medal and Highest Award Philadelphia, 1876, for Superiority of Quality,
Skilful Manufacture, Sharpness, Durability, and Uniformity of Grain.

Manufacturers, **JOHN OAKEY & SONS, Limited,** Wellington Mills, Westminster Bridge
Road, London, England.

ENQUIRIES SHOULD BE ADDRESSED TO **JOHN FORMAN,** 650 ORAIG ST., MONTREAL



**THE SYLVESTER
GAS and GASOLINE ENGINES**

Are beyond doubt the most complete and economical engine in the market. They are compact and perfectly under control, easily managed, get up speed immediately, thoroughly reliable, and where intermittent power is required they are just the thing.

They are built in sizes from 1 to 20 h.p., upright and horizontal, for pleasure yachts, boats, shops, farm work and any purpose where light power is required. Tell us to what use you want to put the engine, and what power you require, and we will name you prices.

SEND FOR CATALOGUE.

SYLVESTER BROS. MFG. CO., Lindsay, Ont.

CUPOLAS

FOUNDRY EQUIPMENT

CRANES

E. A. WALLBERG, C.E.

Temple Building, TORONTO

Merchants Bank Building, MONTREAL

ture, and the only product suitable for scouring soap. Large contracts are entered into yearly for this article. Decomposed silax is found in many places, but it is not satisfactory as an ingredient for paint.

Marble dust is made from the marble quarried in Ohio. This quarry has not yet developed good block marble, so the stone is crushed and ground to a very fine powder, and is found to be very satisfactory in the composition of paint.

A white mineral of a very fine quality comes from Cape Girardeau, Mo., on the Mississippi River. It is a carbonate of lime, and worth £2 17s. 11d. per ton.

Chalk or English cliff stone is imported in very large quantities. No article in the paint manufacture is used more extensively.

Cookson's Venetian red at one time was most extensively sold. It is now being manufactured by the American Steel and Wire Co., who use up their scraps, converting the same into an oxide and supplying the market with Venetian red and copperas.

A good iron paint is known as Prince's mineral, and is used in considerable quantities for painting roofs, barns, freight cars, etc. It is mined, crushed and roasted until it becomes a bright red color. It is then bolted. Price £3 10s. 4d. per ton. The mines are situated at Le-high Valley Gap, Pa.

Colors in oil are used mostly for tinting,

and are valuable according to strength and tone.

Chemical colors, chrome greens, yellows, vermilions, and blues, are made by a number of manufacturers. There is hardly a city without one or more color works.

Orange mineral, litharge and red lead are manufactured by the National Lead Co., and others, price being lower than the English or German goods. English orange mineral is much preferred for manufacturing vermilionettes, but the high tariff debars the use of same to a large extent. A large variety of paints are made to suit various purposes. Brands of lead are ground and sold according to quality. A pure white lead ground in linseed oil, when bearing the maker's label, is known to be pure goods. Then come combination leads or "off brands." To illustrate the quality of goods, a few formulæ for lead in oil, also mixed paints, are here given:

Strictly pure white lead ground in linseed oil: 100 lbs. of lead, 8 lbs. of oil.

Strictly pure zinc in refined linseed oil: 100 lbs. of zinc, 22 lbs. of oil.

Combination lead ground in linseed and corn oil mixed: One-third carbonate of lead or sublimed lead, one-third oxide combination lead; 100 lbs. oxide of zinc, 40 lbs. sublimed lead; 60 lbs. English paris white, 1 gal. benzine dryer; 6½ gal. linseed and corn oil mixed in equal quantities.

Strictly pure lead: 70 lb. sublimed lead, 30 lbs. carbonate of lead.

Combination lead: 75 lbs. sublimed lead, 75 lbs. oxide of zinc; 425 lbs. barytes.

Solutions for mixed paints:

1. Dissolve enough sugar of lead in lime water to make 3 degs. solution (Baume). Make silicate solution 8 degs. (Baume). Mix above in equal parts as may be necessary.

2. Slake one bushel of lime in 40 gal. of water, let it stand 24 hours, decant and use pure liquor.

3. To make a silicate of soda solution 8 degs. (Baume) requires 1 lb. of soda to 1 gal. of water.

4. White sugar of lead 2 lbs., sulphate of zinc 4 lbs., dissolve in 6 gals. of water.

Emulsion: Linseed oil 3 gals., 2 solution, 3 gals., (b) 1½ gals., (c) 1½ gals., naphtha 5 gals.

Oil dryer: Take 5 gals. raw linseed oil, place in varnish kettle, heat to 300 degs. Fahr., and 10 lbs. of powdered flake litharge, 1 lb. of varnish lime. Heat three or four times till it has a consistency equal to thick molasses and will string strongly. Cool to 250 degs. (Fahr.), add 150 gals. naphtha and 1 qt. ditronella.

Mixed paint formula:

(a) 400 lbs. of sublimed lead and 100 lbs. corroded lead ground to a paste with 12 gal. linseed oil. To be thinned with 7 gals. oil dryer, 14 gals. raw linseed, and 7 gals. emulsion.

FOR SALE

One LOCOMOTIVE BOILER

Length over all,	25'
Diameter of Shell,	5'
Width across front,	5' 2"
Height in front,	7' 6"

SMOKE BOX —Length,	2' 3"
---------------------------	-------

FURNACE

(Inside) Length,	6'
" Height,	5' 8½"
" Width,	4' 7"

TUBES.

Number of	112.
Length,	16' 3"
Diameter,	3"
Water Leg Space,	4½"

FURNACE DOOR,

16" x 18"

SMOKE STACK

Height,	33'
Diameter,	3'

FOR FURTHER PARTICULARS APPLY TO

JOHN LUMSDEN, & CO., - 375 St. James St., Montreal, Que.

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

Wire Screens for Every Class of Material.

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

Special Attention given to Miners Requirements.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

(b) 250 lbs. sublimed lead, 150 lbs. oxide of zinc, 100 lbs. corroded lead ground to paste with 14 gals. raw linseed oil. Thinned with 14 gals. oil dryer, 14 gals. raw linseed, and 3 gals. 300 degs. headlight oil.

(c) 1,400 lbs. sublimed lead, 340 lbs. oxide of zinc, 450 lbs. Paris white, 100 gals. linseed oil, 25 gals. benzine, 40 gals. silica solution, 4 gals. oil dryer, and 25 gals. turpentine.

(d) 600 lbs. sublimed lead, 600 lbs.

oxide of zinc, 300 lbs. carbonate of lead and 250 lbs. raw linseed oil ground to a paste and thinned with 44 gals. boiled linseed oil, 32 gals. raw linseed oil, 11 gals. oil dryer, 11½ gals. headlight oil, 63 degs., and 16½ gals. silica solution.

The size cans used for packing the paint are 1, ½, ¼, ⅓, and ⅙ gallon. The labels are attractive, and color contained in the cans is shown on color cards on which numbers or letters denote the colors.

Vermilionettes are made from many formulæ varying in quality, as per example: 200 lbs. orange mineral, 200 lbs. barytes, 25 lbs. China clay, 25 lbs. zinc oxide, 15 lbs. eosine, and 15 lbs. mordant (for fixing colors). Mordant is made by mixing 200 lbs. litharge, 250 lbs. muriatic acid, and 200 lbs. barytes.

Vermilionettes vary like other colors, according to the adulteration fixed by the chemically pure colors.

Coach colors are ground in Japan, and the colors are all imported. None but the best will answer the purpose. Yellows and greens may be excepted from imported colors.

Consumption of paint by the large agricultural implement concerns is very great. An illustration of one year's contract will suffice; 50 tons dry vermilionette, at 9d. per lb.; 30 tons dry vermilionette, at 5d. per lb.; 30 tons primer ground in oil, at 2½d. per lb.

This is for red painting, the color adopted by most agricultural implement makers. There are some very large manufacturers in Illinois, Wisconsin, Ohio and New York States, many of them using as much as fifty tons of vermilionette. Considering the small amount used on a single machine, and idea can be formed of the vast number made and distributed throughout the world.

Wagons are next on the list of farm implements made extensively, and mostly colored green.

Advertising is largely resorted to by the paint manufacturers of the United States, and with each country order a supply of sample cards is sent, so that everyone buying a tin of paint can be supplied with one of these advertisements. By this means the dealers in smaller towns and villages are able to order just what is required, and have not to carry a large stock of paint on hand.

WINDOW DISPLAYS.—What are we in business for but to make money? How can we make money unless we can sell goods? How can we sell goods unless we show them? How can we show them to the public without the show window?

These are practical questions that every hardwareman should ask himself. We look upon the show windows as of more importance than the show cases. One can so arrange goods on the inside as to make a display without the use of cases that will be attractive and interesting for the customer who was led to examine the line by the display he noticed in the windows.

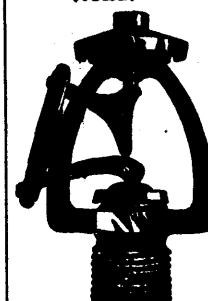
The frequency of changing the display depends largely upon the variety of goods sold. If the dealer's stock consists not only of staples, but also of hardware

W. J. McGUIRE & CO.,

TORONTO and MONTREAL.

THIS COMPANY makes complete installa-

"International" tions of either the



The Best!

WET or DRY SYSTEMS

OF AUTOMATIC ...FIRE...

EXTINGUISHING

APPARATUS

Systems, Devices and Workmanship fully approved by Insurance Companies and Bodies. Systems in extensive use, and have stood the test of time.

Write for full particulars and Catalogue.

40 to 70 % OF INSURANCE SAVED

Dominion Oil Cloth Co.

(LIMITED)

Manufacturers of....

OIL-CLOTHS of Every Description

Floor Oil-Cloth, Table Oil-Cloth, Carriage Oil-Cloth, Enamelled Oil-Cloth, Stair Oil-Cloth, etc.

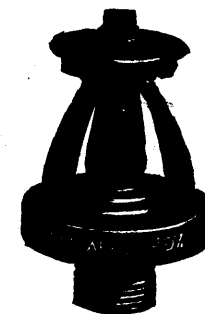
Office and Works:

Cor. St. Catherine and Parthenais Sts. MONTREAL, Que.

Protection Against Fire

Apart from the protection it affords, it pays as an investment to use an

AUTOMATIC SPRINKLER SYSTEM



From 40 to 70 per cent. of cost of insurance saved by putting in an

AUTOMATIC SPRINKLER EQUIPMENT

No charge for estimating.

Endorsed by Insurance Companies.

The General Fire Equipment Co.

72 Queen Street East, TORONTO.

SILICIA BRICKS

Highest Grade for all Purposes

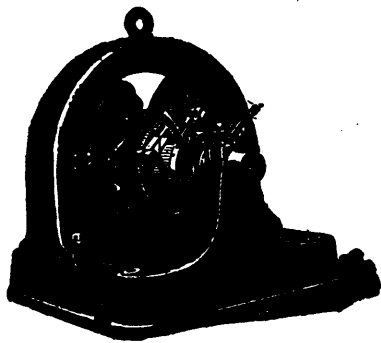
MAGNESIA BRICKS

FOR LINING

Smelting, Refining and Matte Furnaces, also Converters Rotary Cement Kilns.

F. HYDE & CO. 31 WELLINGTON ST. MONTREAL.

TORONTO and HAMILTON ELECTRIC CO.



MOTORS and DYNAMOS

MODERATE and SLOW SPEED OF HIGH EFFICIENCY. EITHER BELTED OR FOR DIRECT CONNECTION.

REPAIRS PROMPTLY EXECUTED ON ALL ELECTRICAL APPARATUS.

T. & H. ELECTRIC CO.

99-103 McNAB N., HAMILTON, ONT.

PATENTS PROVISIONAL PATENTS, Caveats, Etc.

H. DIXON, REGISTERED ATTORNEY, MECHANICAL EXPERT, ETC.

124 VICTORIA STREET, TORONTO, ONT.



Decided improvement. Less friction. Can be changed from a roller to a three-wheel cutter. Extra wheels in the handle. Send for catalog. TRIMONT MFG. CO., Roxbury, Mass., U.S.A.

.. TO MANUFACTURERS ..

GORDON, DRUMMOND & CO.

134 LONDON WALL

LONDON, E. C., ENG.

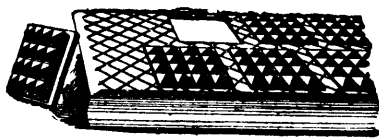
Desire the representation in Europe of a
FIRST-CLASS MANUFACTURER.

References kindly permitted to the Editor
of this journal. Address as above.

Telegrams: "Bierenate, London," A B C code used.
Bankers: London City and Midland.

**THE PATENT INTERCHANGEABLE
RUBBER TREAD**

14 Gold Medals &
other Awards.



Slip, No Slip,
Wear, Unwearable

For Public Institutions, Warehouses, Offices, etc.
The Treads consist of a metallic keeper, fitted with
pieces of rubber (specially prepared), which form
the wearing surface, and can be renewed when
worn, by anyone in a few minutes.

WILLIAM GOODING, Manufacturer,
North Road Works, Holloway, London, N. Eng.

novelties, and special goods, the windows should be changed quite frequently, always using staple goods throughout the display to advertise the main business. Seasonable goods should be used for displays some time before they come into use. If the shop has two or more show windows, change one of them at least once a week. Fill one with hardware, the other with novelties or sporting goods, and the third with house furnishing goods, using a nice sample range, washing machine, etc. These will make it attractive for the house-wife. Place short locals in the county or daily papers, calling attention to the window displays. This will lead the public to notice the windows more particularly, and will often bring them in the store.

Increased sales are most assuredly traced to window displays. Goods are sold by window displays, and no store is more attractive to-day than the up-to-date hardware store with its large variety of goods that are used by all classes of people. The time was when the hardware store was looked upon as a dirty black place, and such a thing as window displays or lady clerks and customers were almost unthought of, but to-day one cannot do without the very best window displays. They will quietly work up sales.

The most attractive goods carried in stock should always be found on exhibition in the show windows. Without the use of these one cannot make windows attractive enough to cause special notice. Use all the talent at hand in arranging the displays to the very best advantage. New goods should always find a place in show windows as soon as they are opened up if seasonable. Special goods that have not been handled or something new for which the agency has just been taken cannot be placed before the public with as little expense nor with as good results as are obtained by the show windows.

Use the windows as show-cases to prevent goods from becoming shop worn. If possible have the window protected on the inside by glass fitted in a sash and hung on weights, the same as used in a house, giving the advantage of forming a better shop window display on the inside as well as outside, and at the same time permitting the windows to be used to sell from the same as show-cases. If this is done the customer can have the sample on exhibition, which should be replaced with a bright one from the stock, thus avoiding the accumulation of shop-worn goods. After several years' experience this has proved very practicable and a great saving of time and labor.

Prices should generally be marked on goods shown in the windows. No window display is as attractive to the inquiring mind as that one nicely arranged with prices marked in plain figures, thus not only impressing the public with the display, but also the price, and at the same time leading to future sales, often preventing a competitor, the department store or a catalogue house, from receiving the order.

Be practical in the displays. Have some certain line of goods to display. Give them the most prominent place.

KINLEITH PAPER COMPANY

MANUFACTURERS OF

LIMITED

Book, Writing
Envelope and Cover **PAPERS**



AND SPECIALTIES

MILLS AND HEAD OFFICE

St. Catharines, Ont.

EDWARD FINLAY

MANAGING DIRECTOR.

McLaehlan Electric & Gasoline Motor Co., LIMITED.

94 ADELAIDE
ST. WEST.
TORONTO

MAKE Gas or Gasoline Engines from 1 h.p. to 6 h.p.
Stationary or Marine and Electric Motors from 1/2 h.p. up.
Motor Carriages for Pleasure or Business.

One cent spent for a postal
will bring you any informa-
tion you wish.

"GENUINE OAK" BELTING

More SOLID LEATHER to the Foot than any Belt made.

"LANCASHIRE" HAIR BELTING

FOR EXPOSED SITUATIONS

ENGLISH CARD CLOTHING

D. K. McLAREN

Head Office and Factory, - MONTREAL.

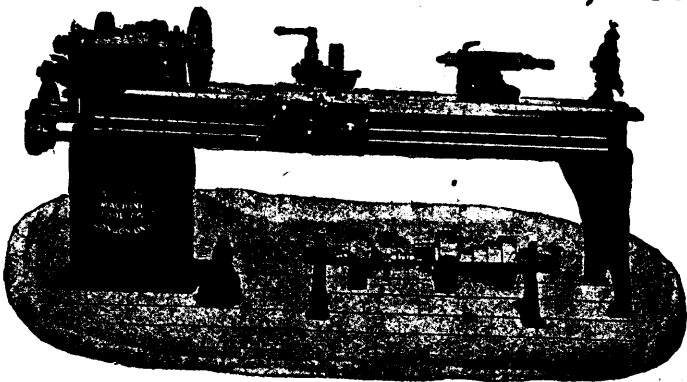
Western Trade, - TORONTO STOCK DEPOT, 88 Bay Street.

The London Machine Tool Co., LONDON, ONT.

MANUFACTURERS
OF

**General
Machinery**

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



When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Fill in with such goods as far as possible as are used in connection with those displayed. Offer suggestions by attractive signs, leading the public on as far as possible to inquire more about the line being displayed.

AMERICAN PIG IRON PRODUCTION.—
The American Iron and Steel Association has received from the manufacturers com-

GALVANIZING

We are prepared to attend to all orders Promptly and Economically.

WINDMILLS, PUMPS, TANKS, Etc.

ONTARIO WIND ENGINE and PUMP CO.
LIMITED,
95 ATLANTIC AVE., TORONTO.

Bellhouse, Dillon & Co.

30 ST. FRANCOIS-XAVIER ST.
MONTREAL

**DYESTUFFS, CHEMICALS
AND
EXTRACTS**

SOLE AGENTS IN CANADA FOR

KUTTROFF, PICKHARDT & CO'S
ANILINE and ALIZARINE COLORS

TORONTO OFFICE :
JAS. HAYWOOD, Agent, 30 Wellington St. E.
NEW YORK OFFICE :
DILLON & CO., 20 Cedar Street.

STEAM USERS

TRY.. **VULITE**

As used by His Majesty's Government.

VULITE is a powerful vegetable disin-
crustant. No acids. No alkali.

VULITE will not affect the naked steam
in color, taste or smell.

VULITE will save you time, money and
vexation.

VULITE is what Canada wants.

WRITE FOR PARTICULARS.

Vulite Syndicate, Limited

40 William Street,
Finsbury, London, E.C., Eng.

Wanted—An Active Representative for Canada

WANTED.

A man capable of managing a machinery and stove manufacturing business. Must be able to design and figure on machinery. Reply with references, and state if able to take an interest in the business. Address, MACHINERY, care of THE CANADIAN MANUFACTURER.

plete statistics of the production of all kinds of pig iron in the United States in the first half of 1901; also complete statistics of the stocks of pig iron which were on hand and for sale on June 30, 1901. Following is the summary :

The total production of pig iron in the first half of 1901 was 7,674,613 gross tons, against 7,642,569 tons in the first half of 1900 and 6,146,673 tons in the second half. The increase in production in the first half of 1901 over the first half of 1900 was only 32,044 tons, but the increase over the second half of 1900 was 1,527,940 tons. Indications now point to a decreased production in the second half of 1901 as compared with the first half. The production in the first half of 1899, the boom year, was 6,289,167 tons, and in the second half it was 7,331,536 tons.

The production of Bessemer pig iron in the first half of 1901 was 4,582,187 gross tons, against 4,461,391 tons in the first half of 1900 and 3,482,061 tons in the second half.

The production of basic pig iron in the first half of 1901 was 645,105 gross tons, against 581,868 tons in the first half of 1900 and 490,508 tons in the second half.

The production of charcoal pig iron in the first half of 1901 was 194,231 gross tons, against 167,146 tons in the first half of 1900 and 172,728, tons in the second half. In addition there were produced in the south in the first six months of this year 17,979 tons of pig iron with mixed charcoal and coke.

The production of spiegeleisen and ferromanganese in the first half of 1901 was 135,920 gross tons, all made in New Jersey, Pennsylvania, Alabama, Illinois and Colorado, against 148,102 tons in the first half of 1900 and 107,875 tons in the second half.

The association's statistics of unsold stocks do not include pig iron sold and not removed from the furnace bank, or pig iron in the hands of creditors, or pig iron manufactured by rolling mill owners for their own use, or pig iron in the hands of consumers. The stocks which were unsold in the hands of manufacturers or their agents on June 30, 1901, amounted to 372,560 tons, against 442,370 tons on Dec. 31, 1900, and 338,053 tons on June 30, 1900.

Included in the stocks of unsold pig iron on hand on June 30, 1901, were 8,831 tons in the yards of the American Pig Iron Storage Warrant Co., which were yet under the control of the makers, the part in these yards not under their control amounting to 1,569 tons, which latter quantity, added to the 372,560 tons above mentioned, makes a total of 374,129 tons which were on the market at that date. The total stocks in the above named warrant yards on June 30, 1901, amounted to 10,400 tons, against 16,400 tons on Dec. 31, 1900.

The whole number of furnaces in blast on June 30, 1901, was 259, against 232 on Dec. 31, 1900, and 283 on June 30, 1900.

THE DOMINION REVENUE.—The interim returns of the Dominion Finance Department show the public debt on June 30 to have been \$3,035,203 greater than at the close of the fiscal year 1900. The

**ELECTRIC WORK
WHICH LASTS**

We do work which proves a lasting testimonial to us.

No matter what the job is, whether the installing of Electric Bells, or the equipping of a factory for Light or Power, the material used is right, and the important little details closely watched.

Let us quote you on your next job.

R. A. L. GRAY & CO.
85 YORK ST., . TORONTO.



By Special Warrant

The Publishers announce the preparation of the Sixteenth Edition of the Directory of

MERCHANTS, MANUFACTURERS & SHIPPERS of GREAT BRITAIN & THE WORLD

Containing Classified Trade Lists of the Importers and Exporters, Merchants and Manufacturers of the United Kingdom and all principal trading centres of the World. The work contains nearly 4,000 pages, and includes in addition to the above the Customs Tariffs for every Country and all classes of Goods.

HIGHEST AWARD, GOLD MEDAL, PARIS, 1900.
Also in course of preparation, the ninth edition of

THE BUILDING TRADES DIRECTORY OF GREAT BRITAIN

Comprising every trade and profession in any way connected with Architecture and Building. The only work of its kind published.

For further particulars, charges for advertisements, etc., apply.

Kelly's Directories, Ltd., London, Eng.

(ESTABLISHED 1799).

Dominion Branch—71 Victoria St., Toronto, Ont.
W. P. DENT, - Manager.
Branches at Paris, Hamburg, New York, Bombay, Calcutta, Cape Town, Melbourne, Sydney, Dunedin, etc.



NOTICE—The following are the Factory Inspectors for the Province of Ontario :

JAS. T. BURKE, Parliament Buildings, Toronto.
JAS. R. BROWN, Parliament Buildings, Toronto.
MARGARET CARLYLE, Parliament Buildings, Toronto.
O. A. ROCQUE, Orleans, Ont.

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

JOHN DRYDEN, Minister of Agriculture.

W. G. McNEILL THOMPSON
CONSULTING ENGINEER

M. Inst. C. E.,
M. Can. Soc. C. E., M. Am. Soc. C. E.
59 JAMES ST., - ST. CATHARINES, ONT.

Manufacturing Concerns will find it to
their interest to correspond with
ULRICH PETERS, M.E.
3527 N. 17th St.
FOR PHILADELPHIA, PA.
DESIGNS OF PULP and PAPER MACHINERY

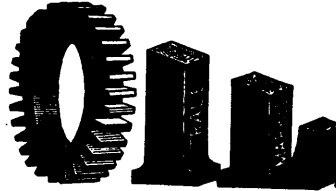
"Capitol" Cylinder

"RENOVN" ENGINE

"ATLANTIC" RED

RELIABLE WELL-KNOWN BRAND

ALL ORDERS PROMPTLY FILLED



THE QUEEN CITY OIL CO. LIMITED
SAMUEL ROGERS, Pres. TORONTO, Canada.

THE EUGENE F. PHILLIPS ELECTRICAL WORKS

MONTREAL, CANADA (LIMITED)

BARE and INSULATED ELECTRIC WIRE

ELECTRIC LIGHT LINE WIRE,
INCANDESCENT AND FLEXIBLE CORDS,

RAILWAY FEEDER and TROLLEY WIRE

RUBBER-COVERED, MAGNET, OFFICE AND
ANNUNCIATOR WIRES.

CABLES FOR AERIAL and UNDERGROUND USE.

— THE —

"Yeakley" Vacuum Hammer

PATENTED

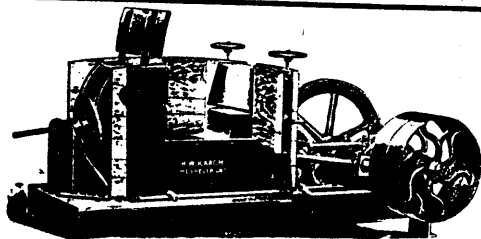
Is unique and unequalled by any other Power Hammer for its
Simplicity, Power, Ease in Operating and Fewness of Parts;
Nothing to Break, no Steam to Leak, no Pipes to Freeze,
no Delays, no Expense for Repairs.

SEND FOR CATALOGUE

GEORGE BRUSH,

Sole Canadian Manufacturer.

MONTREAL.



H. W. KARCH

HESPELER, ONT.

IRON FOUNDER and MACHINIST

Manufacturer of

WOOLEN MACHINERY,

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

revenue for the month of July, \$3,800,367, is slightly less than for the first month of the preceding fiscal year. Customs receipts fell off \$143,514. There was a comparative increase of \$81,044 in excise, of \$10,000 in post-office receipts, and of \$33,800 in public works and railway revenue. While the revenue was less for the month the ordinary expenditure was \$58,340, and the capital expenditure \$67,273 greater than during July, 1900.

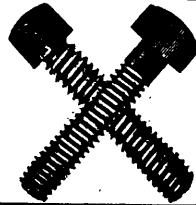
AS TO FREIGHT RATES.—Mr. Tarte, the Minister of Public Works, will hold an important conference in Montreal during the coming week, with the representatives of the railway and steamships interested in connection with the question of the slow development of trade at that point. Mr. Tarte will find that there is a wide divergence of opinion amongst the different interests. The railways place the blame upon the steamships, claiming that ocean freight charges are much too high from Montreal, higher, indeed, than those of other competing ports. It is also charged by the railways that there are not enough ocean steamships coming to the port, and that, owing to the exorbitant charges of the steamships, the railways are frequently compelled to carry freight at a loss. The steamship companies vigorously repel the insinuation that they are at all to blame for the present situation. They say that lower freight rates would never bring more ships to the port, and that the only way to make the business of the port grow is to make it attractive and profitable. The steamship people ridicule the idea put forward by the heads of the G.T.R. and C.P.R. that the chief reason for the great decrease in the export trade of the St. Lawrence is the high rate of freight exacted by the agents of ocean ships.

THE UNITED STATES CORDAGE INDUSTRY.—Before a recent session of the Industrial Commission in Washington, H. W. Grimwood, Secretary of the Cordage Association, gave some facts of interest concerning the manufacture of rope and binder twine in the United States and the concerns by which they are made. He said that the annual consumption of binder twine in the United States amounts to about 80,000 tons and of rope to about 60,000 tons. Speaking of the difficulty of naming an average price for these products, he said it depends entirely upon the cost of fibre, and to illustrate the variability of this cost he said that manila fibre had advanced from 3½ to 14½ cents during the past three years. He said that manila could be grown outside the Philippines, but that the fibre was without strength, and, therefore, comparatively useless. Mr. Grimwood said that at present most of the manila fibre comes to the United States through England, and is controlled by a syndicate. He sketched briefly the careers of the National and the United States cordage companies, saying that the failure in each case was due to bad business. He said that at present there is no cordage company which does more than twenty per cent.

The Diamond Machine and Screw Co., Limited



MANUFACTURERS OF
CAP AND SET SCREWS, STUDS, Etc.
Finished and Semi-Finished Nuts
TORONTO. - CANADA



The Rehder Plating & Mfg. Co.,
THOROLD, - ONT.
Manufacturers of
Stove and Piano Trimmings and Novelties
Fine Grey Iron Castings a Specialty.
Nickel, Copper and Brass Electro Plating.
WRITE FOR PRICES.

of the business, and that there is no understanding concerning prices between the leading manufacturers. Mr. Grimwood also said that there is not now and has not for years been any great profit in the business. His own association was, he said, a concern for mutual interest, and the Secretary is the only officer of it. He said that at present the capacity of the cordage factories in the United States is thirty per cent. in excess of the consumption and that the competition is very strong among manufacturers.

THE ONTARIO EXTRA-PROVINCIAL CORPORATIONS' ACT.—Within the last few days the big American railway corporations doing business in Ontario have been shocked by a circular notice, sent out from the Attorney-General's Department, which notified the companies of the operation or the "Act Respecting Licensing of Extra-Provincial Corporations," passed in 1900, and which is now in effect.

Special attention is drawn to a clause which provides that the corporations doing business in Ontario not covered by

special charter under the old Upper Canada law or an Act of the Dominion of Canada, are subject to license fee.

There are many of these corporations doing business in Ontario. Of the big railway corporations there are the New York Central lines, Lehigh Valley, Pennsylvania, Lackawanna, Erie, Wabash, Chicago, Milwaukee and St. Paul, Chicago and Northwestern, Great Northern, and Northern Pacific. They have offices in Toronto and the business transacted is largely in the way of supplying information, advertising and arranging for carrying freight and passengers, but none of the companies have any revenue in Canada as the initial lines. The Grand Trunk and Canadian Pacific sell all tickets, way-bill all freight and collect all revenues.

The Ontario Act stipulates that these corporations shall pay a license fee. The tax, when the capital of the corporation is \$1,000,000, will be \$385, and \$2.50 for every \$10,000 of the capital, or fractional part thereof, in excess of \$1,000,000.

Figure this out and some interesting results are obtained. For instance, many of the big railway corporations are capi-

talized at \$100,000,000, or even more. A company with a capital of \$100,000,000 will have to pay to the treasury of the Province of Ontario, as a license fee for doing business in Ontario, no smaller a sum than \$25,000.

If the license is not paid forthwith, the companies are subject to a fine of \$50 a day, and agents of the companies to a fine of \$20 a day.

A VALUATOR OF MACHINERY.—Mr. James Broughner, of Brantford, Ont., has been appointed by the Dominion Department of Customs, valuator of agricultural machinery imported into Canada, with headquarters at Ottawa.

AN ENCLOSED FOUR-POLE MOTOR.

The B. F. Sturtevant Co., Boston, Mass., is building a line of bi-polar enclosed motors ranging from 1 to 5 h.p., inclusive, and has now designed to complete the series four sizes of four-pole enclosed motors ranging from 7½ to 20 h.p. These motors are intended to fill

Northrop Iron Works

**IRON and BRASS
FOUNDERS**

Heating and Ventilating Engineers,

OFFICE and SHOWROOMS :

296

ST. JAMES STREET,

MONTREAL

'Phone Main 4180



WORKS and HEAD OFFICE :

Valleyfield, P.Q.

Canada

'Phone No. 2

MANUFACTURERS OF

"HANDY" ELEVATORS
STEAM, HOT WATER
and GAS RADIATORS

"HANDY"
DUMB WAITERS
SECTIONAL HEATING
BOILERS

PLAIN AND
AUTOMATIC LOOMS
SPOOLERS, WARPERS

FIRE
DOOR FIXTURES

SANITARY OUTFITS
FOR MILLS AND
FACORIES

VENTILATING and
EXHAUST FANS

TOOL GRINDING
MACHINERY

NICKEL AND BRONZE
PLATING

PATENT HANGERS
AND COUPLINGS

MODEL AND PATENT
MACHINERY

WRITE FOR QUOTATIONS

**STURTEVANT
BLOWERS**

**ENGINES
MOTORS
GENERATING SETS
FORGES
STEAM HEATING
APPARATUS**

B.F. STURTEVANT & CO.
BOSTON · MASS · U.S.A.
NEW YORK & PHILADELPHIA & CHICAGO & LONDON

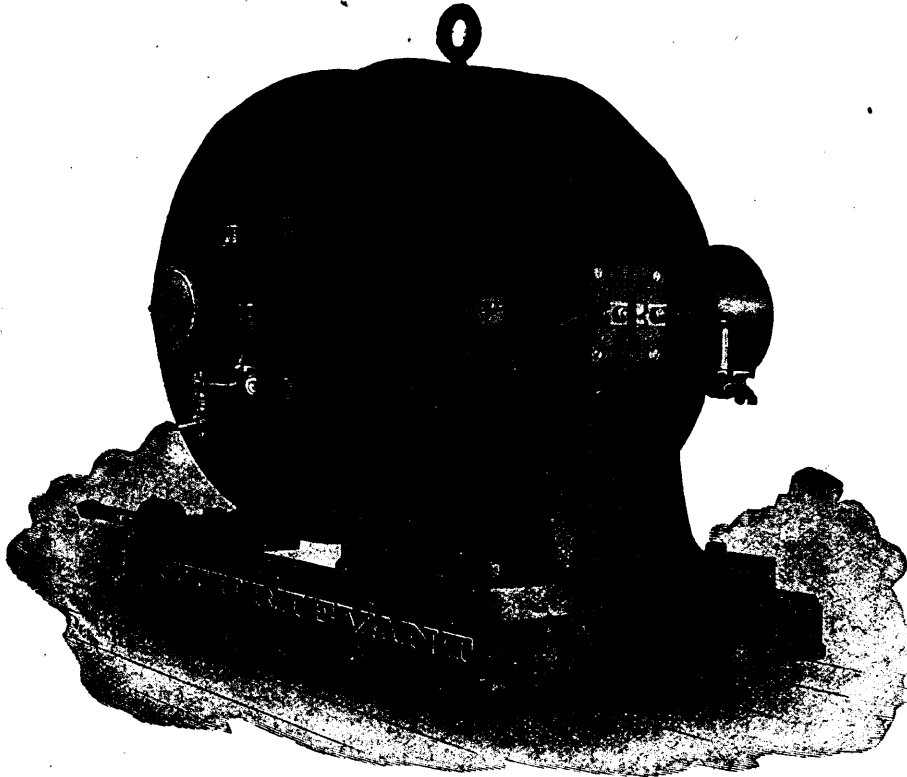


all requirements for a high-class medium speed machine, and have all the latest and most improved features of construction, and are adapted for either belted or direct connection.

The magnet frame is of special magnet steel and has the field cores cast with the frame. On the small sizes the ring is cast in one piece, but in larger sizes it is split to facilitate the removal of the armature so as to reduce the weight of each individual part. Pole shoes are of cast iron secured to the field cores by cap screws, and being readily detachable allow the field coils to be easily repaired

In the design of this machine special care has been taken to provide for the most perfect circulation of air through the commutator and armature, and for ample radiating surface in the casings so as to avoid all possibility of overheating. As a result machines of this type can be operated constantly for ten hours at full rated load without sparking, and with a temperature rise not exceeding fifty degrees centigrade above that of the surrounding atmosphere.

The armature is of the barrel wound toothed drum type. Ventilation is effected by the use of specially constructed



ENCLOSED FOUR-POLE MOTOR.

if necessary. The bearings are of the ball and socket type of ring-oiling, self-aligning construction, and are formed in the hemispherical cover casings which are attached to the magnet ring, one upon either side. The front casing is provided with closely fitting doors which afford ready access to the brushes and other portions of the motor.

The entire machine is thus rendered absolutely dust-proof, and practically water-proof. A removable cap is attached to the centre of the casing at the end of the shaft.

air ducts which connect with radial ducts between the laminae of the core. These convert the armature into a blower and create a strong draft through the windings. The windings for low voltage machines is of copper bars with easy bends. High voltage machines are wire wound with machine formed coils.

The commutator consists of drop forged segments of pure copper secured by cast-iron flanges of spider construction which allow free circulation of air. All machines are fitted with carbon brushes mounted on holders of the sliding socket type.

KERR'S
"COPPER-ALLOY"
DISC VALVES

ARE THE BEST

— FOR —

HIGH STEAM

ASK YOUR DEALER
 FOR THEM.
 CATALOGUE SENT
 ON APPLICATION.

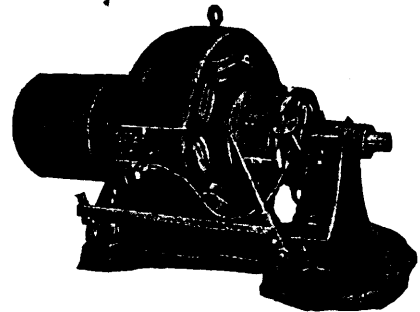
THE KERR ENGINE CO.

LIMITED

WALKERVILLE, - ONTARIO

The Jones & Moore
ELECTRIC CO.

ELECTRICAL CONTRACTORS



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

We manufacture Direct Current Machinery in all sizes and for any purpose.

**20 and 22 ADELAIDE W.,
 TORONTO.**

CHARLES F. CLARK, President. JARED CHITTENDEN, Treasurer.
 Established 1849.

BRADSTREET'S

Capital and Surplus, \$1,500,000

Offices Throughout the Civilized World.

EXECUTIVE OFFICES,

346 & 348 Broadway, New York City, U.S.A.

Correspondence Invited.

OFFICES IN CANADA:

- Halifax, N.S.
- London, Ont.
- Ottawa, Ont.
- St. John, N.B.
- Vancouver, B.C.
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- Montreal, Que.
- Quebec, Que.
- Toronto, Ont.
- Victoria, B.C.
- Winnipeg, Man.

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

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

THE BOURNE-FULLER CO.

IRON, STEEL

AND

PIG IRON

CLEVELAND, OHIO, U.S.A.

Shipping Tags. Invoice Tags.

DUPLICATING BOOKS

HEAD OFFICE:

THE MORTON COMPANY, Limited

(Successors to Automatic Check Book Co.)

46 & 48 Richmond St. W., Toronto.

We are the largest manufacturers of shipping Tags in Canada. We make all the standard sizes and a great variety of special sizes.

Branch Office: 260 St. James St., MONTREAL.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Garfield Paint Co., Cleveland, Ohio, inform us that they will have their usual fine display of Zanzibar and other paints on exhibition at the forthcoming Toronto Fair, which will be in charge of their Mr. Flint. Heretofore Zanzibar paint has been offered only in black, but the company are now producing it in all the usual shades, all of which are of standard excellence. This feature will be welcomed by the trade, particularly in view of the fact that for many purposes colored paints are more desirable than black for exterior covering. Many of the public buildings in Toronto are covered with Zanzibar paint

BUSINESS CHANGES.

FROM BRADSTREETS.

ONTARIO.

BRIDGEBURG—Elijah W. Doane, tinsmith, assigned.
 CHATHAM—Ross R. Ball, hardware, stoves, etc., stock sold to King, Cunningham & Drew.
 HAMILTON—Gurney Scale Co., sold to J. P. Steedman.
 HARRISTON—Howes & Leighton, saw mill and electric light, burned out.
 NEWTON—Wm. Attig, hardware, etc., advertising business for sale.
 OSHAWA—Lander Bros., hardware, etc., assigned.
 OTTAWA—Wright Mfg. Co., obtained charter.
 SARNIA—Cleveland & Sarnia Saw Mills Co., obtained charter.
 Folland & Co., stoves and tinware, assigned.
 TORONTO—Bradley, Levy & Weston Machinery Co., obtained charter.

QUEBEC.

LACHINE—McCormack & Brochie, mfrs. door guards, dissolved.
 MONTREAL—Aylmer Drill Mfg. Co., registered as incorporated.
 Canadian General Engineering Co., registered.
 H. Chagnon & Co., sash and door mfrs., registered.
 B. J. Pettener & Co., machinists' supplies, etc., C. H. Pettener registered.
 Quebec Combination Rack Co., registered.
 O. St. Jean, hardware, assets sold.
 Strathcona Rubber Co., applied for charter.
 QUEBEC—Quebec Observation Car Co., registered.
 WINDSOR MILLS—Canada Paper Co., one mill burned, loss \$150,000.

NEW BRUNSWICK.

FREDERICTON—John Palmer, mfr. larrigans and tanner, succeeded by John Palmer & Co.

NOVA SCOTIA.

NEW GLASGOW—Nova Scotia Steel Co., assets conveyed to Nova Scotia Steel & Coal Co.
 SYDNEY—Sydney Hardware Co., stock advertised for sale.

BRITISH COLUMBIA.

GRAND FORKS—E. Spraggett, saw mill, fire loss.

I BUY all Minerals at Mines by contract or otherwise. Mineral Lands and Timber Properties bought and sold.
H. FAWCETT HARTLAND,
 Room 309-310 Merchants Bank Chambers,
 205 St. James Street, - Montreal.
 Correspondence Solicited.

MILL TELEPHONES
F. O. PLUMMER
 Boston, Mass., U.S.A.

PATENTS
 Home and Foreign Patents Procured at Lowest Rates
 Patent Rights Sold on Commission.
 Prompt Attention guaranteed to all business entrusted. Write for full particulars.
THE TORONTO PATENT AGENCY, Limited,
 Confederation Life Bldg., Toronto, Can.

TALISMANIC BELT DRESSINGS
 WILL INCREASE YOUR POWER



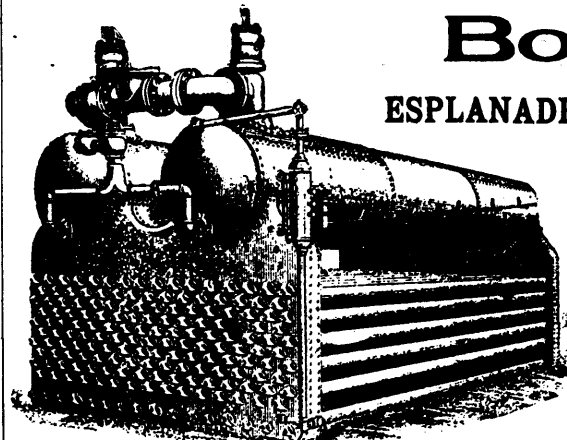
"What We're On We'll Cling To."

TALISMANIC BELT CLING—For Leather Belts
TALISMANIC RUBBER FACING—For Rubber Belts
TALISMANIC ROPE PRESERVER

JOHN W. BOWDEN & CO.
 330 Clinton Street. Toronto, Ont.

The Canadian Heine Safety Boiler Co.

JOHN J. MAIN,
 MANAGER.



ESPLANADE (Opp. Sherbourne St.)

TORONTO

HIGH-CLASS
Water Tube Steam Boilers..

FOR ALL PRESSURES
 DUTIES AND FUEL

From 75 to 600 H.P. Each

REFERENCES :

N.B.—We do not make small Boilers

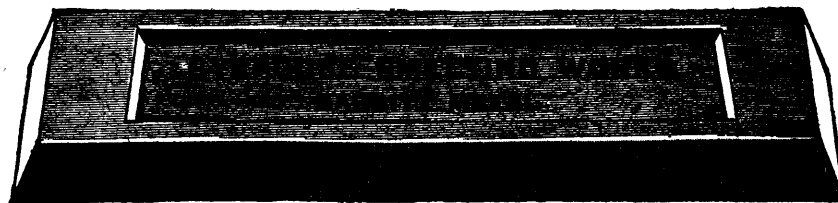
The Toronto Electric Light Co., Limited; The T. Eaton Co., Limited; The Massey-Harris Co., Limited; The Gutta Percha Rubber & Mfg. Co.; The Wilson Publishing Co., Limited; Sunlight Soap Co., Dominion Radiator Co., Central Prison, Foresters' Temple, Toronto City Hall, Canada Biscuit Co., Confederation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

THE BEST IS NONE TOO GOOD.

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

Importers and Dealers in

**PIG TIN, ANTIMONY
 INGOT COPPER
 ALUMINUM
 NICKEL, BISMUTH
 IRON AND STEEL
 SCRAP**



Manufacturers of

**BABBITT METALS, SOLDER
 TYPE METALS
 COLUMBIA PHOSPHOR TIN
 AND
 ALL OTHER WHITE METAL MIXTURES**

SYRACUSE
BABBITT
BEATS THEM ALL

SYRACUSE SMELTING WORKS

WILLIAM AND ST. THOMAS STREETS, - - MONTREAL

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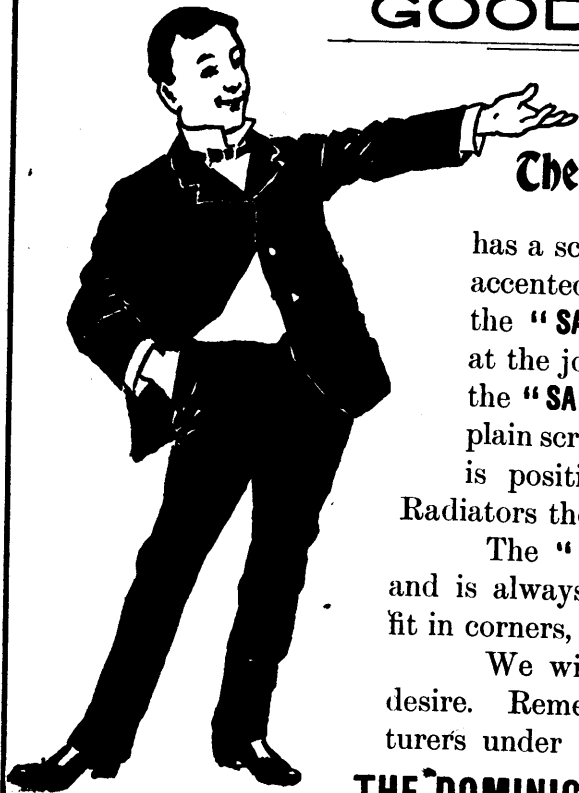
HARDWARE, METALS, PAINTS and OILS

Current Prices, Revised August 16, 1901.

The following quotations represent the prices current in the market, as obtainable by the trade, whether from the manufacturers or the jobbers. Small orders and broken packages usually command higher prices, while lower prices are usually given to larger buyers. The Canadian Customs Duties imposed upon all imported articles enumerated in these lists are published in full in the 1900 Tariff Edition of THE CANADIAN MANUFACTURER. Price 50 cents per copy. The publishers request the trade to suggest any changes and improvements which might be made in these lists, with a view to rendering quotations as correct and useful as possible.

ADZES.—Duty 30%. \$13 to \$20 per doz.	Shot, Buck, Seal or Ball, \$6.62½ per 100 lb. net. (duty 35%). " Chilled, \$6 per 100 lb. net. " Common, \$5.50 per 100 lb. net. Prices are f.o.b. Toronto, Hamilton, Montreal, St. John and Halifax. Terms 3% cash, freights equalized.	AXLE GREASE.—Duty 25%. Ordinary, box, \$5.75 to \$6 per gross.
AMMUNITION.—Duty 30%. Caps, Gun, gross. Cartridges, B.B. Cap, Dom., 50 & 5% discount, Can. list. Cartridges, B.B. Cap, Amer., 40% discount, Amer. list. Cartridges, Central Fire, Military and Sport- ing, Amer., add 5% to list. Cartridges, Central Fire, Military and Sport- ing, Dom., 15 & 5% discount. Cartridges, Central Fire, pistol size, Dom., 30% discount. Cartridges, Central Fire, pistol size, Amer., 10% discount. Cartridges, Central Fire, rifle size, Amer., 10% discount. Cartridges, Rim Fire, pistol, Amer., 40% dis- count. Cartridges, Rim Fire, pistol, Dom., 50 & 5% dis- count. Powder, sporting, Can., \$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.	ANCHORS. Small, 30 to 50 lbs., \$7.00 per 100 lbs). 100 lbs. and larger, \$5.00 per 100 lbs).	AXLES.—Duty 20%. Half patent, short beds, 60% discount per set. " " long " " 60% " "
	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.	BAGS.—Duty 20%. Cotton, seamless, \$14 @ \$24.50 per 100. Jute, \$7.75 @ \$9 per 100.
	AUGERS.—Duty 30%. Eye Augers, 60% discount. Forstner's, 20 " " Gilmore's, 50 " " Irwin's, 30 " " Jenning's, 30 " " Nut Augers, 60 " " Ship Augers, 10 " "	BANDS.—Duty 30%. Carriage Hub, 2" x13", \$13.00 per set. " " 2½" x13", 14.00 " " " " 2¾" x13", 15.00 " " " " 3" x13", 16.00 " " " " 3½" x13", 17.00 " " " " 4" x13", 18.00 " " " " 4½" x13", 19.00 " " " " 5" x13", 20.00 " " " " 5½" x13", 21.00 " " " " 6" x13", 24.00 " " " " 6½" x13", 25.00 " " " " 7" x13", 26.00 " " " " 7½" x13", 27.00 " " " " 8" x13", 28.00 " " " " 8½" x13", 29.00 " " " " 9" x13", 30.00 " " " " 1" x13", 31.00 " "
	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.	BARROWS.—Duty 30%. See Wheelbarrows.

GOOD POINTS



The Safford Radiator

has a score of them, but there is one which success has accented—its simplicity. Like all other great inventions, the "SAFFORD" is ingeniously simple. It is connected at the joints by patent screw nipples. That's what made the "SAFFORD" successful—no bolts, no packing—just a plain screwed connection. This means that the "SAFFORD" is positively non-leakable—positively durable. Of all Radiators the "SAFFORD" alone possesses this simple device.

The "SAFFORD" is made in many designs and heights, and is always graceful in its lines and bulk. It is made to fit in corners, to circle pillars, and for bay windows.

We will be pleased to give you any information you desire. Remember, we are the Largest Radiator Manufacturers under the British flag.

THE DOMINION RADIATOR COMPANY, Limited, TORONTO

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%.
Boker's Center, 75 cents to \$2.60 per doz.
Countersink, \$1.50 per doz.
Gimlet, U.S., \$1 per doz.
Marple's Centre, \$1.30 to \$4.50 per doz.
Reamer, \$1.50 per doz.
Morse, blacksmiths', 45% discount.
Morse, straight shank, 45 " "
Morse, taper shank, 45 " "
Morse Bit Stock, 50 " "

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

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

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

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

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

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

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

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

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

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.; 13", 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 " " 6½ " "
" 1 " " 7½ " "
" ½ " " 8½ " "
" ¼ " " 9½ " "

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, \$2.50 to \$2.80.
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), 40 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 30%.
Blacksmiths' bit, \$6 to \$15 each.

DYES (Aniline).

DYNAMITE.
30 to 50 cents per lb.

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

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

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

EMERY STEELS.—Duty 25%.
\$2 per doz.

EMERY WHEELS.—Duty 25%.
65% discount.

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

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

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

FENCING (Wire).—Duty 15%.
Galvanized, barb, f. o. b. Toronto, \$3.05.
Galvanized, plain twist, f. o. b. Toronto, \$3.05.
Galvanized, barb, f. o. b. Cleveland, \$2.82½ in less than car lots, and \$2.70 in car lots.
Mesh, 5½x10, 20 rod rolls 55% discount, Can. list.
" 4 x8, 20 " 50 & 5% " "
" 3 x6, 20 " 55 & 5% " "

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

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

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

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

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

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

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

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

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

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

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

GLUE.—Duty 25%.
Cabinet, sheet, 12 to 13 cents per lb.
Common, 8½ to 9 cents per lb.
Coopers', 19 to 20 cents per lb.
French Medal, 14 to 14½ cents per lb.
Gelatine, 22 to 30 cents per lb.
Huttner, 18 cents per lb.
Strip, 18 to 20 cents per lb.
White, extra, 18 to 20 cents per lb.
LaPage's, 25% discount.
Progressive, 25 " "

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

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

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

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

HALTER MOUNTINGS.—Duty 30%.
1x¼ inch, 10c. per lb.
(Evans), 1x¼ in., doz. set packages, \$3.00 per gross.

HALTERS.—Duty 30%.
Leather, 1 in. strap, \$3.87½ to \$4 per doz.
Leather, 1½ in. strap, \$5.15 to \$5.20 per doz.
Rope, ½, \$9 per gross.
Rope, ¾ to 1, \$14 per gross.
Web, \$1.87 to \$2.45 per doz.

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

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

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

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%.
Blind, Parker's, 50 & 10 to 60% discount.
Heavy T and strap, 4 in., 6½ cents per lb.
" " " 5 in., 6½ " "
" " " 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, \$5.50.
Spring, \$12 per gross pairs.

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

HOOCS.—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., \$3.70 per keg.
Snow, \$3.95 per keg.
Steel, \$3.80 to \$5.25 per keg.
Toe weight steel, \$6.15 per keg.

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

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

IRON.—See Metals.

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

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

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

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

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

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

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

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

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

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

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

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

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

MALLEABLES.—Duty 30%.—See Castings.

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

MATCOCKS.—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 (Cockson'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.
Babbit Metal (duty 10%).—Lewis, 7 to 10 cents per lb.; Magnolia, 25 cents per lb.; Post's Zero, 25 cents per lb. Spooner's Copperine No. 2, 12½ cents per lb., 12½ to 18 cents per lb.; finest, 25 cents per lb. Syracuse Smelting Works, dynamo, 29 cents per lb.; special, 25 cents per lb.
Sheets, Black (Steel), Duty \$7 per ton.
" 10—\$2.75, 100 lbs.
" 12—\$2.85, "
" 14—\$3.20, "
Sheets, Black, Duty 5%.
" 17—\$3.20, 100 lbs.
" 18—\$3.20, "
" 20—\$3.50, "
" 22—\$3.75, "
" 26—\$4.00, "
" 28—\$4.25, "
Sheets, Tinned—7½ cents per lb., Base price.
Sheets, Galvanized Iron,
" 18—\$4.40 per 100 lb.
" 18 to 24—\$4.50 per 100 lb.
" 26—\$4.75 per 100 lb.
" 28—\$5.00 "
" 18—(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.
Shingles, 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).—\$1.75 per 100 lb.
" Bar, "Swedes."—\$4.50 per 100 lb.
" Lowmoor.—\$6.50 per 100 lb.
" Refined Bar.—\$2.60 per 100 lb.
Iron, Planished Sheet (duty 5%)
" A.—\$6.00 per 100.
" B.—\$5.00 "
" Russia.—\$10.00 per 100 lb.
Iron, Galv. Sheet, see Sheets,
and Corrugated, see Sheets.

Pig Lead (duty 15%).—Domestic, \$3.75 per 100 lb.; pigs, imported, \$4.25 per 100 lb.; bars, \$5 per 100 lb.; sheets, \$5.50 per 100 lb.
Solder bar (duty 25%).—1st, refined, 18 cents per lb.; half-and-half, 18 cents per lb.]

Iron, Pig (duty \$2.50 per net ton).—Ranges about \$16.50 per ton.

Iron, English Horse Shoe.—\$2.85 per 100 lb.
Iron, Band.—\$2.05 per 100 lb.
Iron, Hoop.—\$2.90 per 100 lb.
Beams, Steel.—\$3 per 100 lb.
Rods.—Brass, 24 cents per lb., base price; hard sheets, 20 to 30 cents per lb.; soft sheets, 20 to 30 cents per lb.
Rails, Small Steel.—\$3 per 100 lb.
Steel, Cultivator.—\$4.50 per 100 lb.
" Channel.—\$3 to \$4 per 100 lb.
" "Firths."—12 cents per lb.
" "Crescent."—9 cents per lb.
" Mushets.—55 cents per lb.
" Cant Hook.—7½ cents per lb.
" Machinery (in the rough).—\$2.25 per 100 lb.
" Machinery.—\$2.75 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.
" Mild.—\$1.90 per 100 lb.
Steel, Cast.—Firth's, 12 cents per lb.; Jessop's, 14 cents per lb.; Black Diamond, 12 cents per lb.; Silver, 15 cents per lb.; Crescent, 9 cents per lb.; Mushet's, 55 cents per lb.
Steel, Blister.—12½ cents per lb.
Steel, Hammer.—7 cents per lb.
Steel, Decarbonized Sheet.—7 cents per lb., base.
Steel, Black Sheet (duty 5%).—10, \$2.75 per 100 lb.; 12, \$2.85 per 100 lb.; 14, \$3.20 per 100 lb.; 17, \$3.20 per 100 lb.; 18, \$2.85 per 100 lb.; 20, \$3.50 per 100 lb.; 22, \$3.25 per 100 lb.; 24, \$3.75 per 100 lb.; 26, \$4.00 per 100 lb.; 28, \$4.25 per 100 lb.
Tank Steel Plate (duty 10%).—3-16, \$2.60 per 100 lb.
Plates, Steel Boiler (duty 10%).—¼ and larger, \$2.50 per 100 lb.
Steel Boiler Heads (duty 10%).—\$2.60 per 100 lb.
Canadian Plates.—All dull, 52 sheets, \$2.90 half polished, \$3.

MOPS.—\$1 per doz.

NAIL PULLERS.—Duty 30%.
German and American, \$1.85 to \$3.50 each.

NAILS.—Duty, cut, ½ cent per lb.; wire, 3-5 cent per lb.
Chair nails, 35% discount.
Clout nails, blued, 65 and 5% discount.
Coopers', 25% discount.
Copper nails, 50% discount.
Cut, 2d \$3.35; 3d, \$3; 4 & 5d, \$2.75; 6 & 7d, \$2.65; 8 & 9d, \$2.50; 10 & 12d, \$2.45; 16 & 20d, \$2.40; 30, 40, 50 & 60d (base), \$2.35.
Flour barrel nails, 25% discount.
Galvanizing, 2 cents per lb. net, extra.
Horse (C brand), 50 & 74% 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, \$2.74.
Miscellaneous wire nails, 70 & 10% discount.

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

OILERS.—Duty 30%.
\$1 per doz. up.

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

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

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

PAINTS.—Duty 25%.
Elephant Snow White, 8 to 9 cents per lb.
Pure White Zinc, 8 to 9 cents per lb.
No. 1, 6 to 7½ cents per lb.
No. 2, 5 to 6½ cents per lb.
Prepared, in ¼, ½ and 1-gallon tins, \$1.25 per gal.
Barn, in barrels, 75 to 85 cents per gal.
Canada Paint Co's Pure, \$1.25 per gal.
Second qualities, \$1.10 per gal.
Sherwin-Williams Paints, \$1.45 per gal.

Toronto Lead & Color Co's Pure, \$1.25 per gal.
Zanzibar, 75 cents per gal., f.o.b. Toronto or Windsor.

PAINTS.—Duty 30%.
Copper, \$3.50 per gal.

LEAD, DRY WHITE.—Duty 5%.
Pure, in casks, \$5.75 per cwt.
Pure, in kegs, \$6.25 per cwt.
No. 1, in casks, \$5.50 per cwt.
No. 1, in kegs, \$5 per cwt.

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

LEAD, RED.—Duty 5%.
Genuine, 560 lb. casks, \$5.50 per cwt.
Genuine, 100 lb. kegs, \$5.75 per cwt.
No. 1, 560 lb. casks, \$5.25 per cwt.
No. 1, 100 lb. kegs, \$5 per cwt.

COLORS (Dry).—Duty 25%.
American Oxides, \$1.75 to \$2 per 100 lb.
Brussels Ochre, \$2 per 100 lb.
Burnt Sienna, pure, 10 cents per lb.
" UMBER, pure, 10 cents per lb.
Raw, 9 cents per lb.
Canadian Oxides, \$1.75 to \$2 per 100 lb.
Chrome Greens, pure, 12 cents per lb.
Chrome Yellows, pure, 18 cents per lb.
Drop Black, pure, 9 cents per lb.
English Oxides, \$3 to \$3.25 per 100 lb.
English Vermillion, 80 cents.
Fire Proof Mineral, \$1 per 100 lb.
Genuine English Litharge, 7 cents per lb.
Golden Ochre, 3½ cents per lb.
Mortar Color, \$1.25 per 100 lb.
Pure Indian Red, No. 45, 90 cents per lb.
Super Magnetic Oxides, \$2 to \$2.25 per 100 lb.
Ultramarine Blue, in 28-lb. boxes, 8 to 24 cents per lb.
Venetian Red (best), \$1.80 to \$1.90 per 100 lb.
Whiting, 12 cents.
Yellow Ochre (J.C.), bbls., \$1.35 to \$1.40 per 100 lb.
Yellow Ochre (J.F.L.S.), bbls., \$2.75 per 100 lb.
Yellow Ochre (Royal), \$1.10 to \$1.15 per 100 lb.

COLORS (In Oil).—Duty 25%. 25 lb. tins, Standard Quality.
Chrome Green, 8 cents per lb.
Chrome Yellow, 11 cents per lb.
French Imperial Green, 10½ cents per lb.
French Ochre, 5 cents per lb.
Golden Ochre, 6 cents per lb.
Marine Black, 9 cents per lb.
Marine Green, 9 cents per lb.
Venetian Red, 5 cents per lb.

PAPER.—Duty 25%.
Brown Wrapping, 2½ to 4 cents per lb.
Manilla Wrapping, No. 1, 4 cents per lb.
" No. 2, 5½ "
Carpet Felt, \$45 per ton.
Plain building, 35 cents per roll.
Tarred lining, 45 cents per roll.
Tarred roofing, \$1.65 per 100 lbs.

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

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

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

PITCH.
85 cents 100 lbs.

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

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

PIPE.—Duty 30%.
Galvanized Iron.
½, \$5.15 per 100 ft.; ¾, \$5.50 per 100 ft.; 1, \$7.95 per 100 ft.; 1¼, \$10.80 per 100 ft.; 1½, \$12.95 per 100 ft.; 2, \$17.35 per 100 ft.

PIPE, BLACK IRON.—Duty 30%.
¾, \$4.65 per 100 ft.; 1, \$3.40 per 100 ft.; 1¼, \$3.45 per 100 ft.; 1½, \$3.75 per 100 ft.; 2, \$4.75 per 100 ft.; 2½, \$5.75 per 100 ft.; 3, \$6.00 per 100 ft.; 3½, \$7.50 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, 45 "
Radiator Valves, 55% discount.

RLUMBERS' BRASS GOODS—Continued.
Standard Angle Valves, 65% discount.
Standard Globe Valves, 65% discount.
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% "

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

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

REGISTERS—Duty 30%.
Floor and Wall, 30% 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 ¼-lb. cartoons, 1 cent per lb.
Extras on Tinned or Coppered Rivets, ¼-lb. cartoons, 1 cent per lb.
Iron Rivets, black and tinned, 60 & 10% discount.
Iron Burrs, 55% discount.

ROPE, ETC.—Duty 25%.
Cotton, 3-16 in. and larger, 16 cents per lb.
" 5-32 in., 21 cents per lb.
" ¼ in., 22½ cents per lb.
Crucible Steel Rope, 25% discount.
Galvanized Wire Rope, 25% discount.
Jute, 8 cents per lb.
Lath Yarn, 9½ cents per lb.
Manila, 7-16 in. and larger, 13½ cents per lb.
" ¼ in., 14½ cents per lb.
" ½ and 5-16 in., 15½ cents per lb.
New Zealand Rope, 10 cents per lb.
Russia Deep Sea, lines 15½ cents per lb.
Sisal, 7-16 in. and larger, 10 cents per lb.
" ¼ in., 11 cents per lb.

RUBBER.
Reclaimed.

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, nickle-plated, 67½ cents set.
"Sensible," 55 and 60 cents set.
"Toy," \$13.00 gross.

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

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

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

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

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

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

SCREWS—Duty 35%.
Bench, iron, \$4.25 to \$5.75 per doz.
" wood, \$3.25 to \$4 per doz.
Drive Screws, 87½ & 10% discount.
Hexagon Cap, 45% "
Set, case-hardened, 60% "
Square Cap, 50 & 5% "
Wood, F. H., bright and steel, 87½ & 10% discount.
" R. H., bright, 82½ & 10% discount.
" F. H., brass, 80 & 10% "
" R. H., brass, 75 & 10% "
" F. H., bronze, 75% "
" R. H., bronze, 70% "

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

SCYTHES—Duty 25%.
Grass, \$3 to \$10.
Grain, \$12 to \$14.

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

SHELLS (Cartridge)—See Ammunition.

SHOT. See Ammunition.

SHOVELS AND SPADES—Duty 35%.
Burns, 40% discount.
Ely's, 40% "
Gray's, 40% "
Jones', 40% "
Steel, Snow.
Wood.

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

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

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

SOLDER (Plumbers)—See Metals.

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

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

SPRINGS—Duty 30%.
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.
" Green River, 25% "
" Reece, 30% discount.
" Jardine, 25% "
Pipe, Solid, 70 & 10% discount.
" Duplex, 35½% discount.
" Jarecki, 33½% "
" Oster, 30% "
" Armstrong, 35% "
Wiley & Russell's, 25% discount, Canadian list.

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

TACKS, BRADS, etc.—Duty 35%.
Carpet tacks, blued, 80 & 15% discount.
" tinned, 80 & 20% "
" in kegs, 40% discount.
Cheese-box tacks, blued, 80 & 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.
" gimp, blued, tinned and jappanned, 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.
" " Trimo," 25% "

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

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

TURNBUCKLES—Duty, ½ cent per lb., 25%; 33½% 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.
Tarrad Lath, 11 cts.
Wrapping, 22 to 27 cts.

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

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

WASHERS—Duty ½ cent per lb., 25%.
Buggy, 75% discount.
Wrought iron, 40% discount.

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

WIRE.
Barbed Wire, see Fencing.
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 guage, \$2.90 per 100 lbs.
" 9 " 2.80 "
" 10 " 2.87 "
" 11 " 2.90 "
" 12 " 2.95 "
" 13 " 3.15 "
" 14 " 3.37 "
" 15 " 3.50 "
" 16 " 3.65 "

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

Fine Steel Wire, 17½ off. List of extras, in 100 lb. lots. No. 17, \$5; No. 18, \$5.50; No. 19, \$6; No. 20, \$6.65; No. 21, \$7; No. 22, \$7.30; No. 23, \$7.65; No. 24, \$8; No. 25, \$8; No. 26, \$9.50; No. 27, \$10; No. 28, \$11; No. 29, \$12; No. 30, \$13; No. 31, \$14; No. 32, \$15; No. 33, \$16; No. 34, \$17. Extras net: tinned wire, Nos. 17-25, \$2; Nos. 26-31, \$4; Nos. 32-34, \$6; coppered, 5 cents; oiling, 10 cents; in 25-lb. bundles, 15 cents; in 5 and 10-lb. bundles, 25 cents; in 1-lb. hanks, 50 cents; in ¼-lb. hanks, 75 cents; in ½-lb. hanks, \$1; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

Galvanized Wire, per 100 lb.: Nos. 6, 7, 8, \$3.50 to \$3.85; No. 9, \$2.85 to \$3.15; No. 10, \$3.60 to \$3.95; No. 11, \$3.70 to \$4.10; No. 12, \$3 to \$3.30; No. 13, \$3.10 to \$3.40; No. 14, \$4.10 to \$4.50; No. 15, \$4.60 to \$5.05; No. 16, \$4.85 to \$5.35. Base sizes, Nos. 6 to 9, \$2.67½ 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, \$3 per 100 lb.

WHEELBARROWS—Duty 30%.
Garden, \$2 to \$4.50 each.
Navy, \$19 per doz.
Iron wheel, \$22.50 per doz.
Steel tubular, \$7.50 to \$10.50 each.

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

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

ZINC—See Metals.

INDEX TO ADVERTISEMENTS.

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

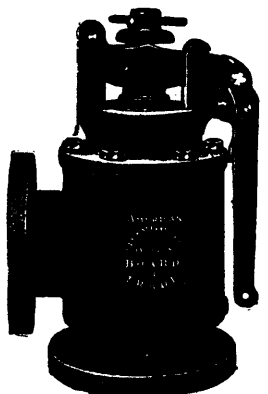
Table listing various manufacturers and their locations, such as Adams, G. H. & Co., Melbourne, Australia; Garfield Oil Co., Cleveland, Ohio; Northrop Iron Works, Valleyfield, Que.; and many others, with corresponding page numbers and codes (ibc, ifc, ofc).

ofc outside front cover.

ifcinside front cover.

ibc.....inside back cover.

obc.....outside back cover.

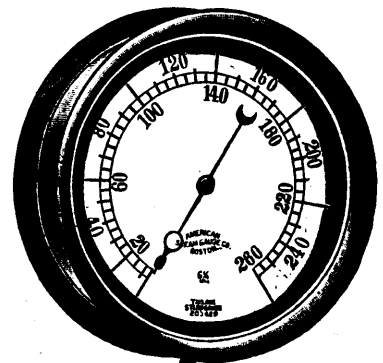


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