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AND INDUSTRIAL WORLD

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THE MORE COUNTRY PRODUCES THE RICHER IT IS

ANATION THAT MANUFACTURES FOR ITSELF PROSPERS

J.L. JONES TORONTO.

Vol. 15.

TORONTO, NOVEMBER 16, 1888.

No. 10.

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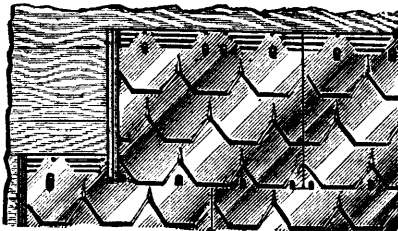
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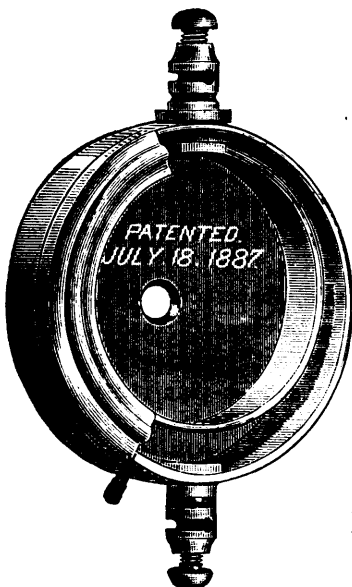
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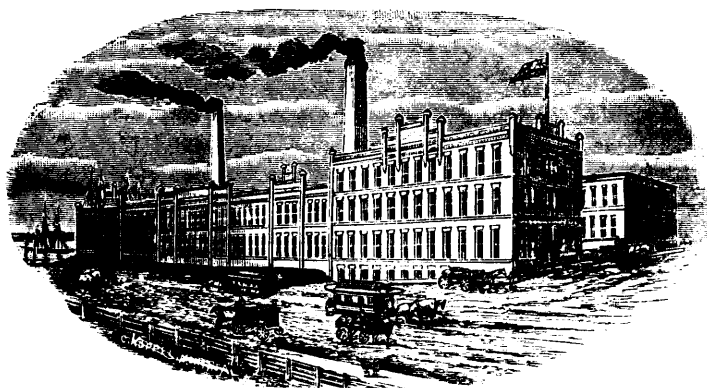
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THE management regret that circumstances over which they had no control prevented the presentation of the usual portraits of "Captains of Canadian Industry" in this issue. Among the preventing causes were the absence of Mr. Frederic Nicholls on an extended tour in the United States, investigating the respective merits of systems for electric lighting; the devotion of much time anent the copyright question, which will receive due consideration in these pages; and the necessary preparation incident to frequent meetings, in the near future, of the Canadian Manufacturers' Association. An elegant group of artotype portraits will be presented in our next issue.

TARIFF VS. COPYRIGHT.

THE Canadian Customs Tariff imposes a duty of 15 per cent. upon all printed books brought into the country, and a further duty of 12½ per cent. upon reprints of British copyright works; but upon bibles, prayer books, psalm and hymn books, the duty is only 5 per cent. The duty upon printing type is 20 per cent.; upon printing ink 25 per cent.; upon printing presses 10 per cent.; upon bookbinders' tools and implements 10 per cent., and upon printing paper 25 per cent.

As we have before shown, the English copyright holds good in Canada, and no English copyright work can be manufactured in this country without the consent of the owner thereof. But the English copyright does not hold in the United States; and unless the work is actually manufactured in Canada, according to law, there is no restraint upon bringing into the country cheap American reprints of it, on the payment of the duty.

If these English copyright works are manufactured in Canada, the reproduction of them here gives employment to the book publishing section of Canadian manufacturers; but English publishers are of course opposed to this, and they are now seeking to circumvent it by bringing Canada under the terms of the Berne law, which would prevent the reproduction in Canada of any literary work of any author in any of the countries embraced within the terms of the Berne treaty, except at the good will and pleasure of the owner of the copyright. Under existing circumstances the conditions are very hard on Canadian publishers; but if the Berne law should become operative in Canada, the result would be to depress if not destroy to a great extent the book publishing business here; and at the same time deprive the general public of the advantages they now enjoy from the cheap American reprints of foreign works.

As we have said, the existing conditions are hard on the Canadian publishing business. Canadian publishers do not object to being taxed with a 20 per cent. duty on type; 25 per cent. on ink; 10 per cent. on printing presses; 10 per cent. on bookbinder's tools and implements, and 25 per cent. on the white paper on which their books are printed. They concede this feature of the National Policy on general principles; although they are handicapped by the lighter duty of 15 per cent. on all imported printed matter except that on bibles, prayer books, etc., where the duty is only 5 per cent. But in our opinion even this anomaly demands reform, for if the tariff was really intended to foster and protect our manufacturing interests, it seems strangely inconsistent to tax raw white paper 25 per cent. and admit manufactured white paper, to wit, printed books at only 15 per cent. The white paper viewed as a "raw" material is favored by a discrimination of 10 per cent. in favor of the foreign publisher. Surely, when Canadian publishers pay heavy duties upon their imported type, ink, presses, tools and white paper, the products of foreign publishers should be equally taxed.

Not only the publishers' section of the great fraternity of Canadian manufacturers are interested in the rejection of the bill now pending in the Canadian Parliament, which would bring Canada under the operation of the Berne law, but all book readers in the country are also interested. And they are also interested in the enactment of a law which would give the publishing interests of the country the relief they are asking for through the Canadian Copyright Association. If the Berne law prevails in Canada, all cheap American reprints of British and foreign works would be shut out from the country, Canadian publishers would be unable to reproduce them, and the only access Canadian readers would have to the current literature of the day would be by buying books printed in British and foreign countries, paying therefor several times as much as is now demanded.

CANADA'S WATERWAYS.

PERHAPS Canadian affairs may have lost a great deal of their interest to Mr. Cleveland; and perhaps in the light of November 6th he may not care very extensively whether the European commerce of Canada is transacted over railroad lines travers-

ing the United States or not, but Canadians are interested in learning that this country is rapidly approaching a period when it will be entirely independent of the United States, or any portion of that country, for any accommodation whatever in transacting its European business. The Canadian ship canal at Sault Ste. Marie is an assured fact, and as soon as that work is accomplished, Canada will have its own water communication from Lake Superior eastward. The St. Clair Flats channel is, without a doubt, within Canadian territory, and the Welland and St. Lawrence canals are Canadian works, of course.

But one of the most important of Canadian waterways is the recently opened ship channel between Quebec and Montreal, by which a depth of 27½ feet is obtained, and through which the largest class of merchant steamers, with full cargoes, can enter the port of Montreal as easily as they can that of New York.

Of course the value of this deepened channel to Canada cannot be fully estimated. Under the previous conditions the ocean trade of Montreal was very large. The tonnage of ocean going vessels arriving at that city during and since 1849, was as follows:—

1849	tons,	37,703
1859	"	94,660
1869	"	259,863
1879	"	506,968
1887	"	870,773

The newly opened channel here alluded to is what is known as the Lake St. Peter Flats Channel, which, in 1853, was dredged to a depth of 16 feet. In 1859 the depth was increased to 18 feet, and in 1865 to 20 feet. At that time this was considered sufficient depth for the largest vessels, but it was soon found that greater depth was required, and in 1882 the channel was deepened to 25 feet. Recent dredging, as we have shown, has increased this depth to 27½ feet, which is sufficient to admit the passage of any merchant steamer that floats the ocean.

Montreal has now a harbor of unsurpassed shipping facilities, which is open to navigation more than half the year; and Halifax and St. John are two of the best and safest deep water harbors on the Atlantic coast, into which the largest vessels may have access every day in the year.

Canada is the arbiter of her own destiny.

THE PRESIDENTIAL ELECTION.

GENERAL HARRISON, the Republican candidate for the Presidency of the United States, carried 21 States at the recent election, which will give him 239 votes in the Electoral College, Mr. Cleveland having carried but 17 States, controlling but 162 electoral votes. Mr. Cleveland carried the "Solid South" and New Jersey and Connecticut, while the balance of the country went overwhelmingly for General Harrison. Unlike the issues joined at previous elections, the battle which was waged between the contending parties was as to whether the policy of tariff protection to American industries should give place to free trade. The Democratic party declined to call it "free trade," but that is what they aimed at under the specious cry of tariff reform, and all other issues were but secondary thereto. The Republican party, which will again

come into power next March, held the ascendancy there from the inauguration of Abraham Lincoln in 1861 to the advent of Mr. Cleveland in 1885. From the time the Senators of the Southern States abandoned their seats in 1861 and joined the Secession movement, the Senate has been dominated, uninterruptedly, we believe, by the Republicans, but the Democrats held the House of Representatives several years before the advent of Mr. Cleveland four years ago. The recent election, however, not only displaces a Democratic president, but enlarges the Republican holding in the Senate, and places the House of Representatives in the hands of the Republicans by a good working majority. There is no doubt that the Republicans will inaugurate suitable measures looking to the reduction of the revenues of the Government, but these will be on very different lines from what the Democrats have advocated. Tariff reform will be effected by the friends of the tariff, not by its enemies. Meanwhile the quieting of the question in the United States will have a salutary effect in Canada, and will make our own N. P. more popular and impregnable than ever.

NOT ACQUAINTED.

OF the large number of American journals and newspapers that come to our table it is surprising how many of them are in ignorance concerning the matters in dispute between Canada and the United States, and also of the sentiments of Canadians generally regarding commercial or political union of the two countries. The *Australasian*, of New York, is one of these, and its ignorance leads it into making some ridiculous expressions. It announces itself as being in complete accord, with that portion of President Cleveland's message which relates to the canal traffic, and thinks that in that matter retaliation would be alike just and reasonable. It says: "We throw open our canals and inter-lake waterways to Canadian craft; we naturally expect Canada to do the same; in reality, by the partial remission of dues in favor of Canadian boats, we are placed at a disadvantage, our commerce on Canadian waters being handicapped by a tax. It would be eminently just and proper to make Canada pay just as much toll in American waters as our vessels pay in Canada, viz., full rates."

The fact is, Canada does not discriminate against American vessels passing through Canadian canals; does not discriminate in favor of Canadian vessels, nor is there any discrimination whatever. The misapprehension arises in the fact that all vessels, whether Canadian or American, pay a certain tax on passing through the Welland Canal from Lake Erie to Lake Ontario, and that to such vessels as pursue their way through the St. Lawrence canals to Montreal, a large portion of this tax is remitted, regardless of the nationality of the craft. A Canadian vessel passing through the Welland Canal bound for any port on Lake Ontario, whether on the American or Canadian side, pays precisely the same tax as an American vessel would pay bound for any such port—no more, no less. When any vessel passing through the Welland Canal, however, proceeds to Montreal, a part of this tax is remitted, and in this the Canadian government shows no discrimination, and there is no partial or other "remission of dues in favor of Canadian boats," as our contemporary

says. In discussing the railroad phase of the question, inveighing against the Canadian Pacific Railway, which is a disastrous competitor against American roads, and over which American authority cannot be exercised, the *Australasian* says: "We have a perfect right to shut out this intruder, to keep all our trade and all our money in our own territory as far as Canada is concerned." No doubt the United States has that right; but the exercise of it as retaliation against Canada because of the rebate on canal tolls on vessels going to Montreal, is inconsistent. As we have shown, no discrimination is made against American vessels using Canadian canals, but Canada certainly has a perfect right to encourage traffic to a Canadian port.

Our American friends, including Mr. Cleveland, should study the situation before attempting any retaliation business. In the first place all American canals are not thrown open to Canadian vessels—the Erie canal, for instance, which is accessible from Lake Erie, and there is but one canal on American territory that Canadian vessels have occasion to use in passing from the westernmost waters of the Great Lakes to the Atlantic Ocean, that at Sault St Marie. Retaliation might close this canal to us, but the St. Clair Flats canal is as much on Canadian territory as is the Welland canal, and the closing of these two works to American craft, in retaliation for the closing of the Sault canal, would be quite disastrous to American interests.

Canada is not seeking a quarrel with the United States, but she will not be deterred from protecting her own interests and managing her internal affairs in her own way. It would indeed be a sorry comment on our modern civilization if existing disputes could not be adjusted without recourse to hostile measures; but bullying and blustering on the part of the United States will never disconcert Canada. Meantime our Yankee friends had better post themselves on the true issues at stake, and the sentiments of Canadians concerning them.

SPECIAL ADVERTISEMENTS.

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EDITORIAL NOTES.

MR. CLEVELAND found Lord Sackville to be a *persona non grata* and told him so. The people of the United States found Mr. Cleveland to be a *persona non grata* and told him so. Lord Sackville retires to private life in his English home, and Mr. Cleveland sinks into obscurity in Buffalo.

THE Port Hope *Guide* suggests a "farmers' combine" as an offset to and remedy for the combines that depress the prices

of his produce and raise the price of his supplies. It says:—"A farmers' combine, conditioned that the farmers would neither sell to nor buy from anybody for two or three months, would knock all the other combines into a cocked hat." This is similar to the Irishman's effort to teach his horse to subsist on shoe-pegs instead of oats. The horse died before the experiment was brought to a satisfactory solution.

"MADAM," said Dr. Cleveland to Mrs. Columbia, your child has got the protection small-pox. Small-pox is a pustular disease, and I know nothing about pustular diseases of the protection sort. But you give your child this Mills' Free Trade powder and it will have fits. Then you call for me. I'm death on fits, and it will be a bleak day in November when fits occur that I can't cure." Madam Columbia, however, insisted on Dr. Cleveland taking some of his own medicine, and he is now suffering from the "fits." What's the matter with the pustular disease? Protection is all right. But Madam Columbia don't feed her children on Mills' Free Trade powder. Not much.

It is probable that the Chignecto ship railway will be built and in successful operation within two years. This important public work is intended to admit of the passage of vessels overland between the headwaters of the Chignecto channel, which is an arm of the Bay of Fundy, and Bay Verte, which is on the south-west side of Northumberland Strait. It is about twenty-two miles between these navigable waters, and the railway is intended to facilitate the passage of vessels between the Gulf of St. Lawrence and the Bay of Fundy, thereby avoiding the longer passage through the Gut of Canso or the still longer and more dangerous route around the Island of Cape Breton. The location of the railway is along or near the line dividing the provinces of New Brunswick and Nova Scotia, and will intersect the Intercolonial railroad between Moncton, N.B., and Amherst, N.S.

THE recent presidential election in the United States decides, for many long years to come, the issue upon which the Republican and Democratic parties will contest for supremacy. Under the plea of burying the bloody shirt, the Solid South, with the aid of a disaffected element in the North, obtained control of the Government, and gave Mr. Cleveland the presidency. True to its instincts, the Democratic party, feeling safely seated in the saddle, began manœuvring for Free Trade. The Republicans quickly dropped the bloody shirt business, and planted themselves squarely upon the Protection platform, by which sign they conquered. The South, solid for Free Trade, is now confronted by the North, equally solid and much more powerful, for Protection. These lines will hereafter distinguish political parties in Canada also. The Conservative party in Canada inscribes "Protection" upon its banner and shouts "In Hoc Signo Vinces."

THE Toronto Employing Printers' Association, at their annual reunion last week, discussed the bill recently drafted by the Canadian Copyright Association, and decided that they would lend their assistance in impressing the Government with the importance of passing the measure. It was pointed out

by some of the gentlemen that all classes of manufacture were protected by the N. P., except those engaged in the printing business. It seems not to have occurred to these gentlemen that about all classes of manufacturers in Canada, except those engaged in the printing business, had associated themselves together as the Canadian Manufacturers' Association, and as such had obtained from the Government the protection for their respective industries spoken of. "In union there is strength." This is a maxim which the employing printers and the members of the Canadian Copyright Association should bear in mind. The Canadian Manufacturers' Association possess considerable influence which might be made available in obtaining the desired Dominion copyright law.

Light, Heat and Power, in its editorial report of the recent meeting in Toronto of the American Gas Light Association, speaking of the annoyance experienced by some of the delegates when crossing the boundary because they had to pay duties upon dutiable articles in their possession, conveys a gratuitous and mean insult to the Canadian customs authorities at Suspension Bridge in the remark: "We trust that the secretary will place this matter before the proper authorities, and if he cannot secure return of the money paid, at least make sure that the Canadian Government gets the money." As business men, the aggrieved gentlemen should have informed themselves of the fact that articles for other than personal use were liable to import duty, and that the officials were acting only in the discharge of their duty when they collected the amounts exacted. They were all well treated while in Canada, and every attention bestowed upon them; and it is the veriest rudeness and impertinence to suggest that the Government officials with whom they had to deal were not honorable gentlemen.

In a previous issue mention was made of the departure made by Messrs. Nicholls & Howland in inaugurating a series of musical entertainments in their Permanent Exhibition of Manufactures in this city. The attraction alluded to was the Archduke Joseph's Celebrated Hungarian Gypsy Band; and the great favor with which it was received exceeded the most sanguine expectations of the proprietors. As an advertisement of their business it was a decided success; and this success confirmed Messrs. Nicholls & Howland in their determination to produce similar entertainments at frequent intervals. Their building is well fitted for the new use which they have found for it; and the idea of offering such delightful and refined entertainments at the small cost of twenty-five cents, is highly appreciated by all lovers of good music. Of course, those who have exhibits there are greatly benefited by the prominence with which they are brought to the attention of the public; and that this feature of the Permanent Exhibition is appreciated by those who wish to have their goods more widely advertised and better known, is shown in the fact that many new exhibitors have secured space and will also make displays there. Other entertainments have been and are being offered which meet with much favor from the music-loving public; and some exceedingly attractive programmes will be offered during the approaching holiday season.

THE CANADIAN MANUFACTURER, Toronto, official organ of the protectionist manufacturers, discovers that commercial union and annexation are synonymous terms; that "our Yankee friends are a covetous people," "grounded in conceit and sordid avarice;" that their "ulterior object is to denationalize Canada;" to "give the north pole to their screaming eagle as a roosting place," and to "force a quarrel" which will lead to war, and "the war to subjugation and annexation." Terrible, isn't it? Such people can have no hope of heaven. Our contemporary's way to prevent these horrid people compassing their wicked designs is to give Canada "more protected industries."—St. John's, N. B., *Globe*.

Just so. In the light of history and of recent events occurring on this continent, this journal thinks that the best interest of Canada lies in the establishment of such industrial enterprises as will put Canada in a position of independence as regards the manufacture of vital necessities to an independent and self-contained nation. Canada should have gun foundries, arsenals for the manufacture of small arms, blast furnaces, rail mills, and all sorts of manufacturing industries, the products of which would be of vital importance in the event of war, and a struggle for national existence. If these establishments can only be brought into existence through the operation of a protective tariff, and through the liberal patronage of the Dominion Government, why not extend such inducements to them? Does our respected contemporary object to their establishment through "protection" when it is clear they could never exist under any other influences?

THE *Dominion Illustrated* maintains the strong hold it took on public favor on its first appearance. There is no diminution of zeal displayed in the production of this most creditable Canadian Art Journal. Messrs. G. E. Desbarats & Son, Montreal, publishers. Mr. Geo. E. Macrae, Toronto, western agent.

MR. CHARLES MORRISON, for over five years city editor of the *Toronto Mail* has resigned his position on that journal to enter into the employ of the Massey Manufacturing Company, of this city, where his duties will be partly journalistic and partly commercial. Mr. Morrison has had a thorough business training and is also one of the foremost journalists in Toronto; consequently will be a decided acquisition to the Massey Company.

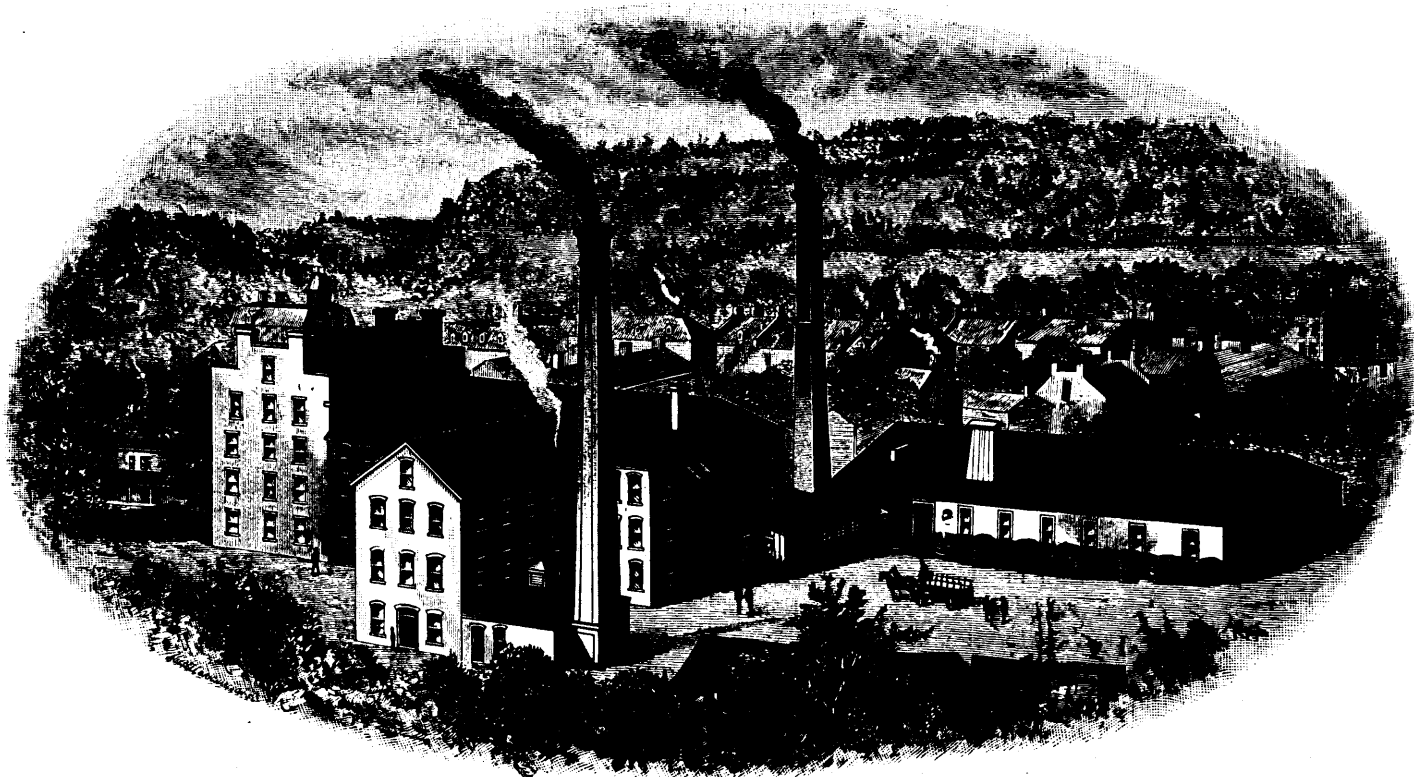
Wide Awake, for November, closes the twenty-seventh volume of one of the most delightfully interesting publications ever got up for the special benefit of young people. Always abounding in most instructive reading matter, and profusely illustrated with beautiful pictures, the head of the family is pretty sure to detain it at the office until he has himself looked it through, well knowing that when he takes it home his chance to peep into its pages is lost until all the girls and boys have read it over and over. Good agents are wanted for it. At \$2.40 a year it is within the means of every family in Canada, and they ought to have it. Bright, intelligent young people can make money canvassing for it, and obtain their own copy besides. D. Lothrop Company, Boston, Mass., are the publishers.

THE publishers of the *Buffalo Morning Express* have sent us a souvenir of the International Industrial Fair, held in that city in September. In many respects it is a remarkable production, noticeable first for the extra fine quality of the paper on which it is printed, for the beauty of its typography, and the artistic taste displayed in the pictures of the persons, places and things illustrated. To study it thoroughly is to acquire a knowledge of Buffalo and the men who make it a great city that could not be so readily obtained in any other way, and which would make the student feel "at home" there on visiting the city, though he may never before have been there. It also illustrates the fact that as manufacturers of the very highest class of typographical work, our contemporary across the lake "takes the cake."

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Manufacturing.

This department of the "Canadian Manufacturer" is considered of special value to our readers because of the information contained therein. With a view to sustaining its interesting features, friends are invited to contribute any items of information coming to their knowledge regarding any Canadian manufacturing enterprises. Be concise and explicit. State facts clearly, giving correct name and address of person or firm alluded to, and nature of business.

MESSRS. HENRY LOVEL & SONS are building a steam clapboard mill at Coaticook, Que.

MESSRS. D. ACKLAND & BRO., late of Almonte, Ont., will start a carriage factory at Emerson, Man.

THE soap works of Mr. F. J. Cross, Windsor, Ont., were destroyed by fire Nov. 4; loss about \$8,000.

THE capital stock of the Polson Iron Works Company, Toronto, has been increased from \$60,000 to \$300,000.

MR. WM. ORR, Shelburne, Ont., will build a saw mill there on the site of the mill recently destroyed by fire.

MESSRS. COLTHART & NELSON'S furniture factory at Chatham, Ont., was destroyed by fire Nov. 2; loss about \$3,000.

THE mill and crusher of the Pleasant River Mining Co., near Bridgewater, N.S., were destroyed by fire Oct. 29. Loss about \$6,000.

MESSRS. FRENCH, WELLS & BURNIE'S sash and door factory at Dresden, Ont., was destroyed by fire November 3; loss, about \$7,000.

THE BIRTLE MILLING Co., Birtle, Man., intend asking the municipality of that town to grant them a bonus to aid in the erection of a roller mill.

THE grain elevator recently in course of construction at Berlin, Ont., has been completed and is in operation. Its capacity is 30,000 bushels.

MR. GEORGE O'CAIN, St. Johns, Que., is introducing a patent asbestos fuel kindler, which for simplicity, safety and economy, is said to be unrivalled.

THE new lumber mill of Messrs. Fader Bros., at Vancouver, B.C., is being rapidly pushed to completion. Its capacity will be to cut about 100,000 feet per day.

THE twin saw mills at Midjic, near Sackville, N.B., owned by Messrs. John Robinson and Harvey Copp, were destroyed by fire Nov. 1; loss about \$4,000.

MESSRS. HALL BROS. & BROWN have commenced the erection of a small mill at Keewatin, Ont., which they expect to have ready for operation early next spring.

MESSRS. E. G. DE LAVELLE & Co., Montreal, have been awarded the contract for building the water-works at Picton, Ont., the consideration being \$27,950.

THE American Rattan Company, Toronto, are asking the city authorities to exempt their factory, plant and machinery from taxation for the term of ten years.

HON. T. H. PHAIR, Presque Isle, N.B., is making forty tons of starch a day, and will manufacture 1,200 tons this year. This will consume some 300,000 bushels of potatoes.

THE Wm. Hamilton Manufacturing Company, Peterboro, Ont., are building a 166x34 foot two-story brick addition to their already extensive works, for a machine shop and construction room.

E. L. DREWRY, brewer, Winnipeg, Man., is expending between five and six thousand dollars on improvements to the Redwood Brewery, to meet the requirements of his increasing trade.

THE MONCTON SUGAR REFINING COMPANY, Moncton, N.B., will erect an 80x40 foot building for the purpose of manufacturing hoops, and will operate it in connection with their barrel factory.

THE carriage factory of Mr. Wm. Baker, at Belleville, Ont., together with all the contained tools, patterns, and a large number of sleighs, carriages, waggons, etc., were destroyed by fire Nov. 6th, loss about \$4,000.

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MR. W. B. UNDERHILL, of Brantford, Ont., is organizing a company for the purpose of manufacturing binding twine. The capital stock of the proposed company will be \$57,000. The new factory will be erected in Brantford.

MR. GAVIN RENNIE, St. John, N.B., has invented an arrangement intended for holding the trucks of railway cars in position on the rails, and for preventing the liability of accident by the breaking of a wheel when the car is in motion.

MESSRS. J. A. & W. A. CHESLEY, St. John, N.B., have been awarded a contract for the construction of twenty sets of locomotive engine frames for the Canadian Pacific Railway Company. The weight of each set will be about three tons.

THE INTERCOLONIAL RAILWAY COMPANY have ordered the immediate construction of 200 freight cars for their road, the order being equally divided between Messrs. James Harris & Co., of St. John, N.B. and Mr. James Crossen, of Cobourg, Ont.

MESSRS. ROUSSEAU & MATHERS, proprietors of the Montreal Bridge Company, Montreal, have been awarded the contract for the construction of a steel bridge over the Chaudiere Falls. It will be of but one span, 236 feet long, and 45 feet wide.

MESSRS. CHARLES SCOTT & Co., of Philadelphia, Pa., will probably establish an extensive hub and spoke factory at Port Colborne, Ont., in the vicinity of which place are large quantities of elm timber specially adapted to the manufacture of such goods.

THE sash and door factory of Mr. Joseph Paquette, Montreal, was destroyed by fire Nov. 5th, loss about \$80,000. About 120 hands are thrown out of employment. But a few months ago about \$7,000 worth of new machinery was placed in these works.

THE MANITOBA & NORTHWEST PICKET WIRE FENCE COMPANY have established a factory at Moosomin, N.W.T., for the manufacture of a newly patented fence, invented by J. G. Carroll. The works are under the management of Mr. S. J. Emanuels.

SOME time ago a bonus of \$6,000 and exemption from taxation for twenty years was offered for the erection of a roller flour-mill at Treherne, Man. Messrs. R. Muir & Co., of Winnipeg, have accepted the offer, and will establish the mill. It will have a capacity of 125 barrels.

MR. ROMAINE CALLENDER, St. Thomas, Ont., has sold the right to manufacture and use his patent organ action for church organs to the Roosevelt Organ Manufacturing Co., of New York. He was offered \$14,000 for the patent, but has negotiated the sale of the patent on a royalty basis.

THE Albion Iron Works Company, Victoria, B.C., have completed the alterations they have been making in the steamer "Robert Dunsmuir." This was formerly a side-wheeler, but now changed into a twin screw steamer, the new boilers, machinery, etc., having been built at the Albion Works.

MESSRS. MURRAY & CLEVELAND, St. Catharines, Ont., have been awarded the contract for deepening the Galops Canal, on the St. Lawrence River. This work includes the construction of two new locks and an improved entrance at the Iroquois end of the canal. The cost of doing the work will approximate \$700,000.

THE Cobourg Car Works, Cobourg, Ont., of which Mr. James Crossen is proprietor, have recently turned out some very fine passenger coaches and baggage cars for the Canadian Pacific Railway. The sleepers were most beautifully upholstered, equipped with electric light, and embodied every modern convenience.

MR. J. H. KILLEY, of the Osborne-Killey Manufacturing Company, Hamilton, Ont., has been granted a patent on eighteen out of twenty-one claims made by him on a new and improved low-pressure exhaust steam injector, to feed steam boilers by the exhaust steam only, against the usual boiler pressure.

THERE is a good prospect of the Atlas Woolen Mills, at Whitby, Ont., resuming work shortly. The special committee of the town council to whom was referred the business of dealing with the late Atlas Woolen Company, now in process of being wound up, have before them a favorable proposition from a new company.

MESSRS. J. HARRIS & Co. are building an extensive addition to their car shops. When completed they will have a shed 700 feet long. At one end of the shed the lumber will go in the rough, and from the other it will emerge in a finished car. They have recently received a large contract for box cars for the I.C.R.—St. John, N.B., *Globe*.

THE Canada Jute Company, Montreal, make a special feature of their business in the manufacture of Hessian cloth, every quality and every width of which they say can be supplied on the same day as ordered. They also make a specialty of bag printing in colors, and are now printing from 5,000 to 10,000 bags a day. Messrs. Stark Bros. are their Toronto agents.

THE Dingle Manufacturing Company are preparing for a busy season's trade. The firm have received large orders for their seeders from Manitoba and the North-west Territory, beside these from Ontario and Quebec, which will make things hum in the hollow for the winter. They intend manufacturing 500 machines to supply next season's demands.—Oshawa, Ont., *Vindicator*.

MR. C. W. TAYLOR, of the Gananoque Carriage Company, Gananoque, and Mr. W. Andrews, of R. J. Latimer, Montreal, have favored us with a call. It is reported that if Messrs. Heney & Lacroix establish themselves in St. Johns, that a branch of the Gananoque Spring Works will also be set up here. Messrs. Heney & Lacroix use 25,000 springs in a year.—St. Johns, Que., *News*.

IN the last issue of this journal mention was made of the fact that Mr. W. F. Hutchinson, of Sherbrooke, Que., had invented a machine with which he could manufacture 60,000 wooden tooth-picks per hour. We have a letter from Mr. Hutchinson in which he informs us that he is now manufacturing the article at the rate of 60,000 per minute, and that the capacity of his machine is even much greater than that.

LAWRIE, representing the Greeys, of Toronto, is here with flour in his eye. Bowerman is showing him all the water-powers in the country. They will build nothing less than a 500 barrel mill. When they start the McVicars will give them a site. The town has promised \$8,000, and the Water-Power Company will either furnish them or assist them in building a dam and race of their own.—*Port Arthur Herald*.

THE immense water power of Sturgeon Falls, Ont., which has remained so long almost idle, is about to be utilized on a large scale. Mr. Baxter is about to erect a mill for grinding coarse grains for



SEALED TENDERS, addressed to the undersigned and endorsed "Tender for McGregor's Creek," will be received at this office until Friday, the 23rd November next, for the construction of pile protection work at McGregor's Creek, town of Chatham, Kent county, Ontario, in accordance with a plan and specifications to be seen at the Department of Public Works, Ottawa, and on application to Mr. A. McDonnell, C.E., P.L.S., Chatham.

Tenders will not be considered unless made on the form supplied, and signed with the actual signatures of tenderers.

An accepted bank cheque payable to the order of the Minister of Public Works, equal to five per cent. of amount of tender, must accompany each tender. This cheque will be forfeited if the party decline the contract, or fail to complete the work contracted for, and will be returned in case of non-acceptance of tender.

The Department does not bind itself to accept the lowest or any tender.

By order,

A. GOBEIL,

Secretary.

Department of Public Works,
Ottawa, 29th October, 1888.



SEALED TENDERS addressed to the undersigned, and endorse "Tender for Hot Water Heating Apparatus, Cayuga, Ont.," will be received until Friday, the 23rd instant, for the construction of a Hot Water Heating Apparatus at the Cayuga, Ont. Post-office building.

Plans and specifications can be seen, and form of tender and all necessary information obtained at this Department and at the office of Messrs Snyder & Snyder, Barris ters, Cayuga, on and after Friday, 9th instant.

Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied, and signed with their actual signatures.

Each tender must be accompanied by an accepted bank cheque made payable to the order of the Honorable the Minister of Public Works, equal to five per cent. of the amount of the tender, which will be forfeited if the party decline to enter into a contract when called upon to do so, or if he fail to complete the work contracted for. If the tender be not accepted the cheque will be returned.

The Department will not be bound to accept the lowest or any tender.

By order,

A. GOBEIL,

Secretary.

Department of Public Works,
Ottawa, November 5th, 1888.



TENDERS.

TENDERS addressed to the undersigned at Ottawa, and endorsed "Tender for Pointe au Baril Range Lights," will be received up to the 1st December next, for the construction of two Wooden Framed Towers for Range Lights at Pointe au Baril, in the District of Parry Sound, Ontario.

Plans and Specifications can be seen, and forms of tender procured at this Department, Ottawa, and at the Post-offices at Collingwood and Parry Sound.

WM. SMITH,

Deputy Minister of Marine.

Department of Marine,
Ottawa, 29th October, 1888.

feed. Mr. Slinger is importing machinery for the erection of a door and sash factory, and a paper company is negotiating for the purchase of a site for the erection of a pulp factory, which will employ 100 men constantly.

THE British North America Bank Note Company's building in Ottawa is nearly completed, and it is expected that the transfer of the company's business from Montreal to Ottawa will be made in a few weeks. The company print all the Dominion notes, postage and other stamps, etc., and one of the conditions of its last contract was that they should do all this work at the capital. The new works will give employment to about 100 hands.

MR. JOHN Y. MILLER, of Montreal, has just purchased the Pokiok Extract Works, and commences operations immediately, which means the employment of between 200 and 300 men and a large number of horses. Mr. Miller expects to have fully 500 men in the woods. The works in future will be known as the Miller Extract Works. The amount paid for the property by Mr. Miller is in the vicinity of \$50,000.—St. John, N.B., *Telegraph*.

THE Ball Electric Light Company, Toronto, inform us that they have just completed the installation of a 50-arc light plant for the town of Leamington, Ont. Messrs. Snider, Stares & McSween, of that town, are the owners of the electric light plant there, and express themselves as highly pleased with the Ball lights. Parties from other towns, where other systems are in use, who have seen the Ball lights, say they are the steadiest they have seen.

MANUFACTURERS who may be desirous of securing an exceptionally fine factory in Toronto, are directed to the card of Mr. J. D. Henderson, of this city, in another page of this journal. The property offered is in splendid condition, well equipped with power, shafting and other conveniences, and centrally located. The abandonment of the property by the late occupants is because of great increase of business, requiring removal to much larger premises.

THE Kay Electric Company, Hamilton, Ont., manufacturers of dynamos for arc and incandescent lighting, etc., inform us that the combination of arc and incandescent lighting, and the extending of the system for the same to long distances, is not new in Canada. They say they have long been successfully operating incandescent lamps from their compound arc dynamos, and sustain but very little loss of electric energy in a circuit containing five miles of wire.

MR. ISAAC USHER, Thorold, Ont., manufacturer of cement, etc., has obtained suitable accommodation and will begin the manufacture on a small scale of sewer pipe, table tops, mantels, etc., from his cements, by a peculiar process of his. If his experimental efforts prove to be as successful as he expects they will be, he will engage in this business on a large scale. Mr. Usher is a man of large experience, and the cement manufactured by him is of the very best quality.

MESSRS. ANDERSON & GRADY are about building a sawmill at Burrard Inlet, near Victoria, B.C., with capacity to cut about 75,000 feet per day. The machinery has been manufactured for them by the Wm. Hamilton Manufacturing Co., Peterboro, Ont. In the course of two or three months, if the firm has no misfortune, they will be ready for operations. A large force of men will be employed, and wharf accommodation for the largest sea-going vessels is to be provided.

MR. WM. CHAPLIN, of St. Catharines, Ont., with his two sons, Messrs. William and James Chaplin, will, it is said, become incorporated as the Woodburn Sarven Wheel Company, for the purpose of manufacturing the Woodburn sarven wheel at that place. These gentlemen now comprise what is well and widely known as the Welland Vale Manufacturing Company, of St. Catharines, whose axes, scythes, forks, hoes, rakes, handles, etc., are in general use throughout the Dominion.

J. H. EVELETH, ESQ., of Greenville, is finishing one room in his new house at Shirley Mills in a novel way. It is plastered with mortar made with common spruce sawdust in the place of sand, which is applied as cheaply and adheres to the laths as well as common mortar. The same experiment has been tried in another house at Greenville, and the masons in that part of the State think this use of sawdust may become general. People are just beginning to find out what can be done with what has been wasted.—Lewiston, Me., *Journal*.

MESSRS. THOMAS MACDONALD & Co., proprietors of the Queen City Galvanizing Works, Toronto, inform us that they are the sole manufacturers in Canada of the Walters' patent metallic shingle, heretofore illustrated in these pages; and of the Walters' broad rib sheet-steel roofing. Regarding this latter article this concern have recently perfected machinery for manufacturing it, making the claim that it can be laid as cheaply as a shingle roof. It is specially designed for factories, mills, elevators, etc.; and any ordinary workman can put it on.

MR. JOSEPH LOWRIE, proprietor of the Lowrie Works, Sarnia, Ont., informs us that during the present season he shipped to Winnipeg over 800 bob-sleighs. We understand he has already accepted several large orders for spring delivery. He is now erecting a 160x22 foot addition to his already extensive premises, which will be used for storage and stock room purposes. The specialties manufactured by Mr. Lowrie are: the Lowrie truss rod wagon; the Lowrie wagon with steel skein; the Buffalo road buggy; the Acme road cart, and the Paragon road cart.

MR. T. D. GRAHAM, who until recently operated the Cleveland Nail Works, Cleveland, Ohio, has removed his plant to Toronto and will engage in the business here at 57 Adelaide street west. In our issue of September 7th last, allusion was made to the fact of Mr. Graham's visit to Toronto for the purpose of selecting a suitable lo-

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SINGLE COLUMN BAND MILLS. WILKINS' PATENT COMPENSATING BALANCE GANG, NO FOUNDATIONS REQUIRED.

Circular Saw Mill, and everything required in first-class Saw Mills. Send for Circular.

cation for his proposed Canada business. His special lines will be small steel finishing, casing and barrel nails. His "raw material," to wit, steel nail plates, will be manufactured by the Nova Scotia Steel Company, New Glasgow, N.S.

MESSEURS. RHODES, CURRY & Co. have been awarded contracts for all the buildings to be erected on the Short Line, from Oxford to Tatamagouche, at a cost of about \$45,000. The principal buildings will be:— Engine-house at Oxford Junction; station and freight-houses at Oxford village; station-house at Pugwash Junction (one of the best on the line, costing \$3,500); station-houses at Pugwash, Wallace, and Tatamagouche, besides several coal-sheds and water-tanks. The buildings at Oxford and Oxford Junction are to be completed about mid-winter, and the remainder next summer.— *Amherst, N.S., Gazette.*

THE Woodstock, Ont., *Sentinel-Review*, speaking of the improvements being made in the Patterson Agricultural Works in that town, says that the 100 horse-power engine now in use has been found insufficient, and a new fifty-horse power automatic cut-off engine of the latest Wheelock pattern, and made by Messrs. Goldie & McCulloch, of Galt, Ont., is being put in to supplement it. In the wood work department a new force feed saw, of large capacity, for rip and re-saw, is just being put in. This was made especially for the Patterson & Bro. Co., by Goldie & McCulloch, and will require ten horse-power to run it.

MESSEURS. LOUIS & E. WERTHEIM, manufacturers of asbestos goods, Frankfort-on-Main, Germany, are in the city, with a view of making inquiry about an asbestos property near Buckingham, which they expect to acquire. These gentlemen annually purchase about 600 tons of the raw material in Canada. Their principal supply has been obtained from the Eastern Townships. The Canadian asbestos is of a much better quality than any that can be obtained in Europe. Their factory has been established for twenty-five years. Formerly the asbestos was got from Italy. Now the supply is almost entirely furnished by Canada.—*Ottawa Citizen.*

A NEW scheme of utilizing the sawdust of the Ottawa River for the purpose of fuel is proposed. It is claimed that by a system of grinding the refuse into a uniform fineness, mixing it with the refuse gas tar from the gas house, and compressing the substance into cakes, a fuel can be made in every way superior to soft coal for open fires. Sawdust rolls were common forty years ago in England and Scotland, and were considered far ahead of peat and grate fires. The cost of manufacturing this kind of fuel is merely nominal, and it is expected that it can be sold at a very much lower price than soft coal. The formation of a company to give the scheme practical effect is mooted.

THE use of sulphuric acid in the arts already reaches enormous proportions, and is still increasing. Any new or cheap source of supply of material for its manufacture is of importance. Many attempts have been unsuccessfully made to utilize gypsum (sulphate of lime), containing forty-six per cent. of sulphur, as a source from which to obtain this acid. A new process claims to successfully accomplish this, and at the same time to produce by-products valuable enough to pay all expenses of the manufacture. The finest deposits of gypsum known are in Nova Scotia, and there are others in Ontario; and in this connection they may prove to be an unsuspected addition to the mineral resources of the Dominion.

THE DANGLER STOVE & MANUFACTURING COMPANY, Cleveland, Ohio, have sent us a circular anent the tenth anniversary of their engaging in the business of manufacturing gasoline stoves. An illustration shows a two-burner stove made by them ten years ago, and another illustration is of the stove made by them now. The contrast is very striking, and shows the great improvement made in the manufacture of the article within the decade. The entire production and sale of gasoline stoves in the United States ten years ago was less than 3,000. In 1888 over 120,000 were made and sold. Thousands of families throughout the United States are now using these stoves, and all are willing to bear testimony as to their labor saving and economical merits.

THE Co-operative Association of Glass Manufacturers, of St. Helen's, Lancashire, Eng., propose establishing extensive glass works at Port Hope, Ont. The authorities of that town have entered into an agreement with Mr. Richard Davis, representing the English company, to provide a suitable site for the factory and erect a 70x60 foot frame building thereon, and exempt the concern from taxation for ten years, in consideration for which the Co-operative Association agree to erect their other necessary buildings; provide all necessary plant and machinery, and to employ an average of 500 hands. The probable expenditure of the works will be about \$1,200 a day. The proposed works are expected to be in operation early in the coming year.

Leeds Foundry and Machine Works.

E. E. ABBOTT,

MANUFACTURER OF

Vertical Drills, Shears,

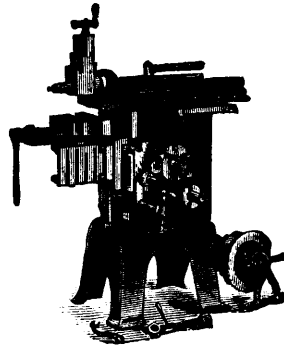
IRON PLANERS,

Punching Presses, Rolls,

BOLT CUTTERS

AND

SPECIAL TOOLS FOR WORKING
IRON AND WOOD.



GANANOQUE, - ONTARIO.

HENRY PORTER,

MANUFACTURER OF

LEATHER

BELTING

432 to 442 Visitation Street, Montreal, Que.

AND

36 FRONT STREET EAST, TORONTO.

Mill owners will do well to write for estimates before placing their orders.

G. & J. BROWN M'F'G CO.

(LIMITED),

BELLEVILLE, ONT.

Engineers, Machinists, Boiler Makers,

Foundrymen and Bridge Builders.

RAILWAY and CONTRACTORS' SUPPLIES A SPECIALTY.

Frogs, Diamond Crossings, Switches, Hand Cars, Lorries, Velocipede Cars, Jim Crows, Track Drills, Semaphores, Rail Cars, Double and Single Drum Hoists, etc., etc.

COWAN & BRITTON,

GANANOQUE, ONT.

MANUFACTURERS OF

Strap and T. Hinges, Screw Hooks and Hinges,

Wrought Steel Butts for Builders and Cabinet

Makers, Washers, Staples, Hooks, Hasps, Hay

Carrier Hooks, Patent Hasp Locks, Bed

Fasteners, Steel and Iron Cut Nails,

Clout, Truck and Finishing Nails.

Brads, Tacks and Shoe Nails.

We are also prepared to make special Nails or Hinges, or other articles made from iron from samples. The quality of our goods is always A. 1 and our facilities for making them are unequalled.

Messrs. D. W. HOEGG & Co., Fredericton, N.B., own and operate a large number of factories in that town and other places for packing fish, lobsters, fruits, berries, vegetables, etc. During the past season, although the firm had bought up all the available corn grown along the valley of the St. John river, they were unable to fill half of their orders for this article. They did a big business in the other lines, included in which was 60,000 quarts of blueberries and many thousand cases of baked beans. During the past season they shipped to Boston over 150,000 pounds of fresh salmon, packed in snow; also some 18,000 cases of herring and 6,000 cases of lobsters. The firm employ an average of twenty-five men and fifteen girls and women at each of their factories.

In the Canadian Pacific shops at Montreal there are at present under construction thirty locomotives of the standard Mogul type, twenty of which have already been built and put in service. Their dimensions are—cylinders, 18 x 24 in.; wheels, 57 in. in diameter; weight in working order, 98,000 lbs. They are built with wide, shallow fire-boxes over the frames, extended smoke arch and straight stack, and are fitted with metallic packing throughout, sight-feed lubricators, and other improvements which are found of value in modern practice. The tenders have a capacity of 2,800 imperial gallons. These engines are built with a view to operate on any part of the Canadian Pacific system where the freight offering requires the services of such a class of engine. The work is being done under the supervision of Mr. Francis F. R. Brown, mechanical superintendent of the works.

Mr. T. S. SIMMS has just returned from Central Illinois, where he has bought about eight tons of broom corn from the farmers of that district, which is celebrated as growing the finest quality of broom corn in the world. As it takes about three acres of land to grow a ton of broom corn, it will be seen that Mr. Simms' purchase would be the product of about 24 acres, which he estimates will make about 100,000 brooms, or about 35 dozen to the acre. Messrs. Simms & Co. are employing over sixty hands at present, having largely increased their sales during this year over any previous one. A specialty is their painters', household and stable brushes, which are meeting with a large demand, the prices and quality being such as to command a large part of the trade of the Lower Provinces and Newfoundland. Only last week quite a shipment was made to British Columbia on an order from that Province.—St. John, N.B., *Globe*.

ONE of the handsomest and most complete pieces of work in the way of a railway car was at the C.P.R. station on Wednesday, having just come from the Crossen Car Works, Cobourg. It was a dining car that had been built at a cost of about \$18,000. The seats were finished in Russian leather, and the sides of the car inside were covered with plate glass between the windows. The range with which the car was fitted was a splendid one, and everything necessary—refrigerators, ice-boxes, etc. for a run from Montreal to Winnipeg can be carried. The tables are fixed between the seats, which face each other, and are made so as to turn back when not in use. The car, of course, is not meant to travel in, as upon getting your meal you pass out again to your carriage. There were also two more of the handsome first-class carriages and a new baggage car along with the dining car. All these coaches now turned out are fitted for electric light, the wires being in all ready for the introduction of the new system. Peterborough, Ont., *Review*.

A MANUFACTORY, of which the machinery was made in different parts of the world, that the secret might not be disclosed, has been set up in Brooklyn, New York, for the purpose of refining sugar. All that is generally known of the process is that it is electrical. Actual sugar of the most beautiful crystal, made by this process, has been exhibited. The inventor was a German, who died some time ago, and left the secret with his wife and one other person.—*Cleveland Iron Trade Review*. In the October 5th issue of this journal, in the sketch relating to Mr. Thomas Robertson, a "Capatin of Canadian Industry," whose portrait was also given, mention was made of the fact that Mr. Robertson was the inventor of machinery for the manufacture of lozenges. There are but four sets of this machinery in existence, all of which was constructed in Toronto under the immediate supervision of Mr. Robertson. The parties who are using this lozenge machinery are the Messrs. Robertson Bros., Toronto, Messrs. A. Slauson & Co., New York City, and Messrs. Keiller & Sons, London, England, who also have a factory at Dundee, Scotland. This is said to be the most efficient machinery for the manufacture of lozenges in existence.

THE bonus of \$5,000 in aid of the new winey mill at Paris, proposed by Mr. W. F. Wylie of Brantford, has been carried by a large majority. The main conditions of the by-law are as follows: The buildings with shafting and power to cost about \$14,000, and machinery about \$16,000; that not less than forty hands shall be employed;

TO LET. TO MANUFACTURERS.

FACTORY, with water privilege, near Black's Bridge, Montreal. Building 60 x 60, five flats, extra well lighted and very strong; rare opportunity for party wanting cheap power. Apply

WM. JOHNSON & CO.

14 St. John St., Montreal.

To Manufacturers and Others

THE ONTARIO INDUSTRIAL LOAN AND INVESTMENT CO.

Having now in course of erection a Large Building on the north side of Lombard Street, between Church and Victoria, are prepared to receive offers for the renting of the same, with or without steam power, in flats or portions to suit lessees.

The proximity of the location to the wholesale houses and all the railroads entering the city, makes it particularly suitable for light manufacturing purposes.

By applying at once alterations in the plans can be made to suit convenience of lessees.

For full particulars apply at office of the Company, 32 TORONTO ARCADE, TORONTO.

E. T. LIGHTBOURN,

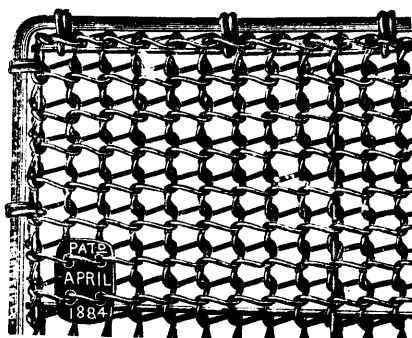
Manager.

VICTORIA WIRE MILLS

ESTABLISHED 1859.

PATENT

Reversible Steel Mat



Having purchased from the Toronto Steel Wire Mat Co. their plant, stock and sole right to manufacture their celebrated mat in Canada, we offer the same for sale at the new reduced price list.

B. GREENING & CO.
HAMILTON, ONT.

FOR Cylinder, Machinery & Wool Oils

WRITE TO

ROYAL OIL COMPANY,
1, 3 & 5 Sherbourne Street,
TORONTO.

OUR MOTTO: "High Class Oils at Low Prices."

that seventy-five per cent. of the bonus money shall be advanced as the building progresses, and the balance when the machinery is put in, the amount of the bonus to be raised by debentures redeemable in twenty years at five per cent. per annum, the debt to be paid off by the corporation, of course. Of Mr. Wylie himself, the Brantford *Expositor* says:—"Mr. W. F. Wylie, who has been connected with the wincey mill here since its establishment some six years since, is severing his connection here, and purposes erecting a mill in Paris, for the manufacture of woollen goods. The matter was laid before the Town Council last evening. Paris may consider herself fortunate in her chances for securing another factory to fill the vacancy created in her manufactures by the removal of the Maxwell reaper works. Mr. Wylie is a gentleman who has had wide experience in the manufacture of woollens in England and this country, and will be not only an acquisition to business circles, but also to Parisian social circles." Contracts have been let for the building and it is expected the machinery will be ready by January next.

THE St. Johns, Que., *News*, speaking of bonuses and the desirability of towns which possess desirable natural advantages offering such as inducements to manufacturers to locate their works in them, says:—"It was no doubt in this spirit that Three Rivers this past year voted \$20,000 cash down, and \$3,000 per annum for five years with interest to Mr. Smardon's boot and shoe factory; that Port Hope has guaranteed Messrs. A. W. Morris & Bros. \$2,500 cash bonus and a loan of \$30,000 for five years, on the simple condition that the firm should establish there a binding twine factory; that Brantford gave \$20,000 to the Brantford Carriage Factory, a new concern just starting; that Morrisburg gave the St. Lawrence Paper Co. \$25,000; that St. Hyacinthe granted Mosely & Co. a bonus of \$15,000 and a loan of \$10,000 at four per cent.; that the same city gave Seguin & Lalimne a bonus of \$14,000, and the St. Hyacinthe Mfg. Co., (to assist them to rebuild) a loan of \$25,000 at four per cent. for twenty-five years; and that Waterloo and even Lachine (now almost a part of Montreal) are now offering bonuses to assist in the manufacturing development of their respective places. The instances quoted are only a few of the most recent bonuses that prosperous towns in Canada have voted; but they serve to show the spirit that animates shrewd business men in different parts of Canada. St. Johns has a chance of imitating their example, and of adding to the material prosperity of our town. Those large and successful manufacturers, Messrs. Heney & Lacroix, are still available. They have in fact accepted the reasonable proposition made to them by a committee of our council, and now all that remains to be done is for the council to pass the by-law and the ratepayers to ratify it. To give our readers an idea of the business done by Messrs. Heney & Lacroix, we are permitted to quote a list of the goods manufactured by them in one year. It is as follows:—About 5,000 sets of harness, 50,000 horse blankets, 5,000 sweat collars, 5,000 surcingles, 8,000 doz. halters, 1,000 vehicles of all kinds, and several thousand buggy tops, gears, bodies, etc., etc. These represent a pretty large business. In fact, Messrs. Heney & Lacroix purpose concentrating three factories here, and once they are fairly under way they naturally anticipate that their trade will grow with the expanding business of the country.

THE HORSE NAIL INDUSTRY.

RECENTLY the Boston, Mass., *Herald* stated that "American manufacturers of horse nails produced twenty-five per cent. more goods in their factories than Canadian manufacturers. It also stated that in Germany the workmen employed in the industry receive only about forty cents a day wages, while in the United States the rate is \$2.50 a day, yet the American can undersell the German in this commodity, and for the reason here given." Regarding these statements Mr. John Pender, of St. John, N.B., a large manufacturer of horse nails, says:—"The statement is decidedly at variance with the truth. We use the Dodge forging machine and to each machine we employ three hands (two men and a boy). These hands attend to all the operations connected with the manufacture of horse nails, including the working of the motive power, forging, finishing, blacksmithing, sorting, packing, etc. For each forging machine operated, we complete 214 pounds of finished nails per day. The average wages paid men and boys is over \$1.50 per day. The sizes of nails manufactured are: 26 per cent. of No. 9 and larger, 33 per cent. of No. 8, and 41 per cent. of No. 7 and smaller, thus averaging smaller than No. 8. It is very doubtful if any like establishment in the United States pays 25 per cent. more on the average for wages than we do, nor do we think any United States establishment manufactures 25 per cent. more per machine. In regard to the Germans only paying only 40 cents per day and the Americans paying \$2.20 per day, the statement, to put it mildly, is quite incredible. If the statement is made that the United States manufacturers paid

twice as much as the Germans, it would seem far from the truth, but when it comes to six times as much, it is beyond all question an exaggeration. Then with reference to the Americans underselling the Germans, here are the facts. The price of the American nail is about 15 cents per pound for No. 8. Say the Americans give 10 per cent. to dealers from that price for selling, which would leave them 13½ cents. For export they get about 1 cent per pound drawback, which would, therefore, reduce the price to 12½ cents, and say they sold them for 2½ less per pound for export than for home consumption, that would reduce the price for No. 8 nails to 10 cents per pound. A late German price list shows that No. 8 nails are sold in ordinary quantities at eight shillings per box of twenty-five pounds, which is less than 8 cents per pound, or 2 cents lower than the American article, with all allowances deducted. This does not look much like underselling the Germans. The German concern, which sells nails at the price quoted, produces fully two-thirds, if not as many as all the horse nail manufactories in the United States put together. The capacity of this German establishment is 25 to 30 tons per day. It runs 450 machines, about two-thirds of which are forging machines and the balance finishing. This factory has been working since 1870, and has displayed more enterprise in developing its business than any similar United States institution." In reference to the statement that "the United States can undersell the Canadian market," etc., Mr. Pender said he found no difficulty whatever in competing with the United States on neutral ground.

THE PERFECTION SMOKE CONSUMER.

Editor CANADIAN MANUFACTURER :

ENCLOSED we beg to hand you copy of Chief Engineer's report regarding the tests made at this city's waterworks, with the Perfection Smoke Consumer and Fuel Economizer manufactured by us, which must be interesting to every steam user, for few, if any, such tests of so elaborate a character, are made in this locality. For your guidance we may state that the fuel used was partially destroyed slack, saved from a late fire at the wheelhouse, and thoroughly saturated with rain water. Under most unfavorable conditions the saving of from 1,500 to 2,000 pounds of coal, per day and the entire prevention of smoke, on three boilers only, are achievements unprecedented on this continent. As a result of this conclusive test the city have ordered the apparatus to be placed in their other boilers. We may state also that the appliance is being attached to the boilers of some of the larger public works in Chicago, where the municipal authorities have hitherto been utterly helpless in mitigating the evil of smoke. At the Canadian Rubber Company's works, the Canadian Pacific Railway's works, and the Montreal Warehousing Company's works, the apparatus is as perfect and effective as when placed in position over a year ago.

Yours truly,

DOBSON & BRODIE.

COPY.

Chief Engineer's Report to Supt. of City's Water Works.

LOUIS LESAGE, ESQ.,

MONTREAL, SEPT. 4, 1888.

Supt. Water Works.

DEAR SIR,

I herewith present a report of a five days' trial of No. 2 battery of boilers with the Dobson & Brodie smoke consumer in commission, and a five days' trial of same battery with said smoke consumer thrown out of order.

TIME OF RUNNING WITH THE CONSUMER. 50 HOURS.

Strokes made.	Gallons Pumped.	Pounds of Coal Consumed.	Pounds of Water Evaporated.	Pounds of Water Evaporated per pound of Coal.	Pounds of Water raised to Reservoir per lb. of Coal.	Average Temp. ° of Feed Water.
31,877	13,898,372	71,950	555,187	7.71	1,931.7	114°

TIME OF RUNNING WITHOUT THE CONSUMER. 50 HOURS.

32,440	14,144,276	75,940	571,249	7.52	1,862.5	114°
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REMARKS.

The weather was unfavorable to the consumer, three of the five days being wet, causing the coal to weigh heavier. East winds and poor draught, in my opinion, caused a loss of from 1½ to 2 per cent.

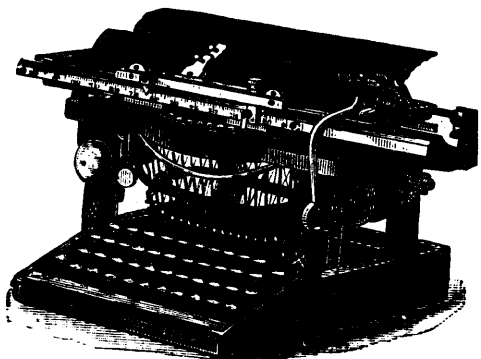
REMARKS—WITHOUT CONSUMER.

Weather fair, good draught, and coal comparatively dry. Balance in favor of consumer, 69.2 more lbs. of water raised to reservoir per lb. of coal, or 3.6 per cent.

Signed.

D. KEARNEY, Engineer.

Remington Standard Typewriter



AWARDED FIRST AND SECOND PRIZES
Gold & Silver Medal
BY
CANADIAN
Shorthand Society
Aug. 13, '88.
Geo. Bengough,
AGENT,
36 KING ST. EAST
TORONTO.

MUNDERLOH & CO.

MONTREAL,

SOLE AGENTS FOR THE DOMINION

OF

Meyer's Watchman Control Clock.

REDUCED PREMIUMS ON FIRE INSURANCE
SECURED BY USING THIS CLOCK.

Description and particulars on application.

CANADIAN TEAZELS.

PATRONIZE HOME INDUSTRY

Every user of Teazels should purchase those of
Canadian Growth in preference to Foreign
Importations.

ORDERS FILLED BY

F. W. SCHWENDIMAN, DRAYTON, ONT.

OR

THE DOMINION DYEWOOD & CHEMICAL CO
TORONTO, ONT.

IMPORTANT TO TEXTILE MANUFACTURERS AND ALL WHO DESIRE
TO SELL TO THE MILLS.

THE BLUE BOOK

A Pocket Directory of the Cotton, Woolen and Worsted Mills, Dyers,
Bleachers and Print Works of the United States and Canada.

Compiled to meet the demand for a small, compact Directory (as the large and cumbersome Directories contain a mass of matter of no interest to mill men). It gives name of place, county, railroad (or nearest railroad station), hotel, telegraph and express; name of mill, proprietor or company agents, and superintendents; class of goods made; number of cards, looms, spindles, knitting and sewing machines, boilers, water wheels, and IF THERE IS A DYE-HOUSE.

It contains full particulars of ALL NEW MILLS under construction, with probable date of completion.

As much care has been taken, and as full particulars are given of a 1-set mill as of the largest.

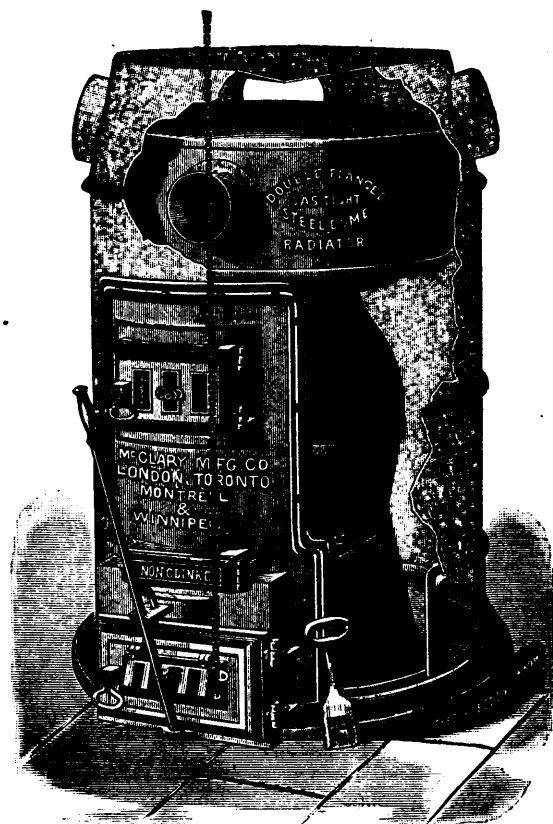
Manufacturers and travelling salesmen who subscribed for it, and have received their copies, pronounce it the most accurate and complete Directory of the Trade ever published. Size, 7 by 4 inches.

Price, postpaid, \$2.00, bound in cloth; \$2.50, bound in leather.

(Canadian Bills accepted).

JAMES E. PALMER, 176 Broadway, New York.

FAMOUS TOP RETURN FLUE FURNACE.



IN THREE SIZES, FOR BRICK OR PORTABLE SETTING.

WITH EITHER CAST IRON OR STEEL RADIATOR.

Unequalled for economy of fuel, simplicity of construction,
ease of management and heating capacity.

NEW GEM

Wood Furnace

Entirely new and of novel design.

A Powerful and Economical
Heater.

Thoroughly tested. Specially adapted for medium sized dwellings.

SURE TO SELL

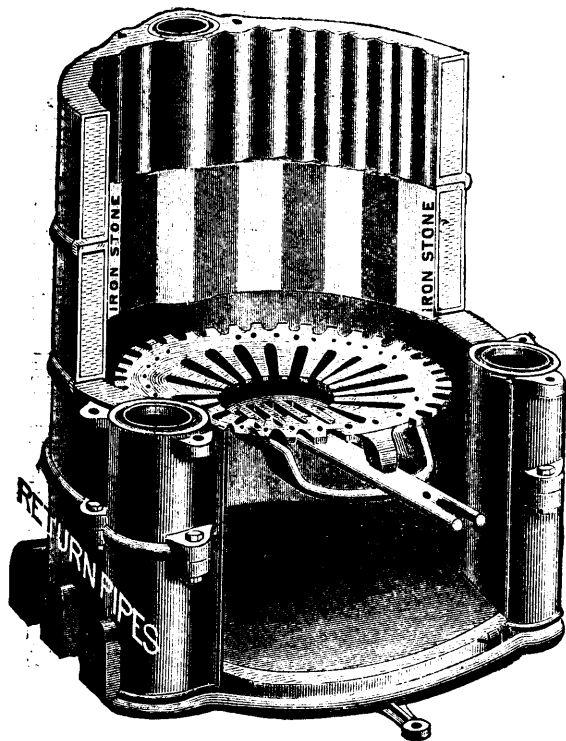
Any dealer who has not received our price list for
1888 will please advise us.

McClary Mf'g Co.

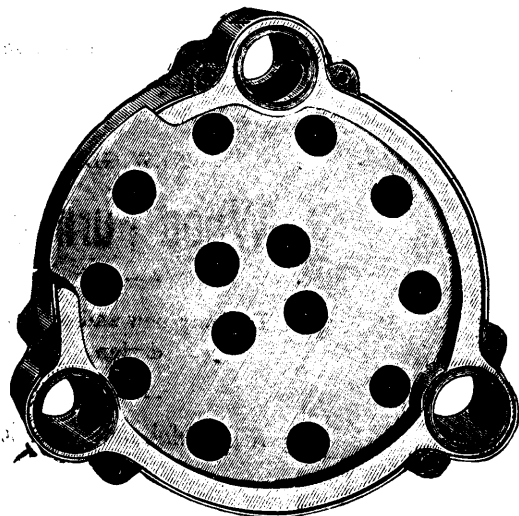
London, Toronto, Montreal and Winnipeg.

New Improved Gurney Hot Water Heater.

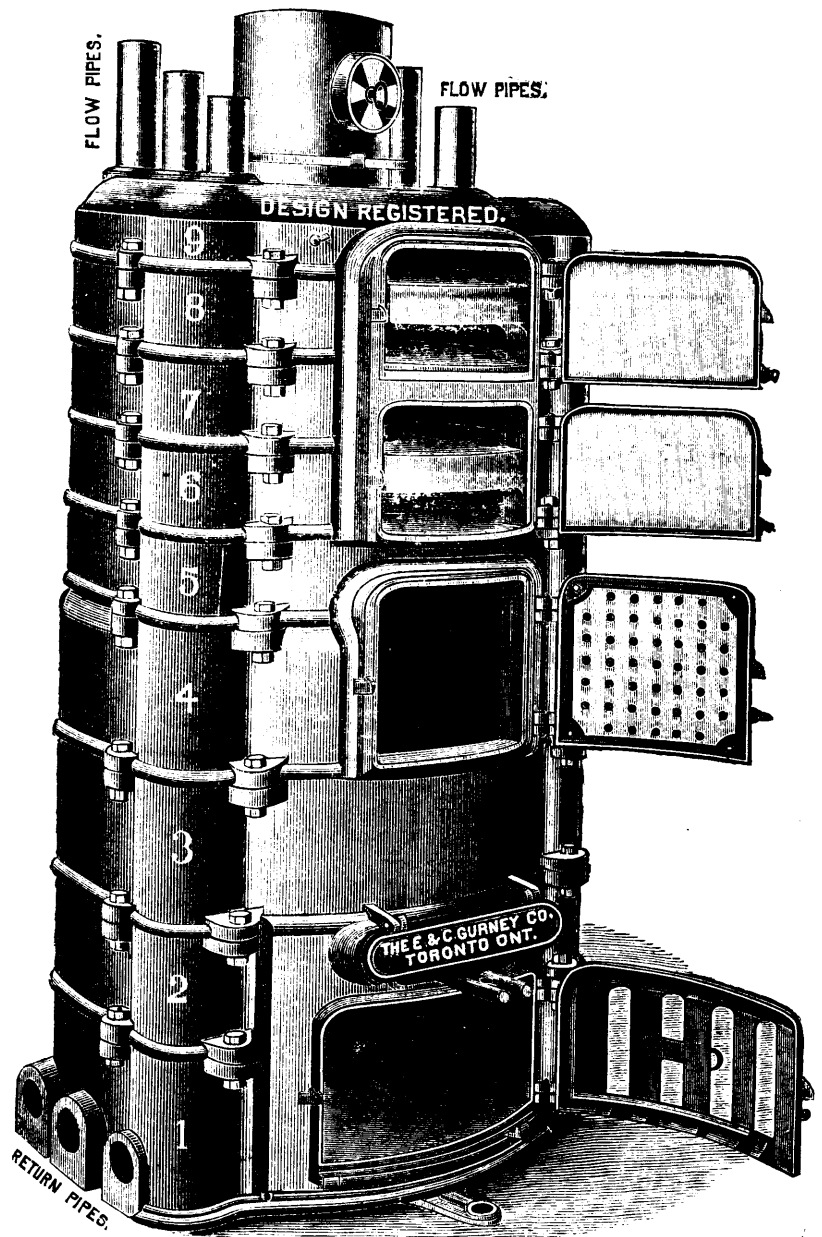
1888



Ash Pit, Grate, Fire Pot and Corrugated Section.



Top Radiator with Deflector.



Front and Side View.

SECURING INCREASED ECONOMY, DURABILITY, UTILITY.
 SEE IT OR SEND FOR OUR CIRCULAR.

MANUFACTURED BY

The E. & C. GURNEY CO.

TORONTO, WINNIPEG, HAMILTON, MONTREAL.

BARREL TRUCK

FOR MOVING BARRELS WITH HEADS IN OR OUT.

WILL CARRY FROM 700 LB. BARRELS DOWN TO A NAIL KEG. (WILSON'S PATENT. 1887.)



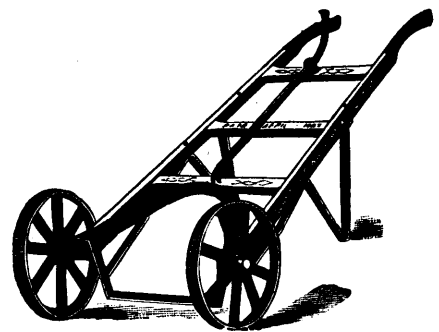
These Trucks are now ready for the market. Nothing to equal them for the purpose designed. Send order early.

Read the following Testimonial for the first Truck purchased from the Inventor.

Office of THE MORSE SOAP CO'Y.
JOHN TAYLOR & Co., Proprietors.
TORONTO, April 25th, 1887.

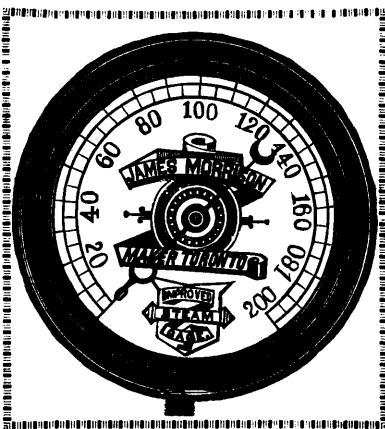
We have pleasure in saying, that the Barrel Truck we bought from George Wilson, for moving liquids unheaded is quite a success, and has already saved us much labor and material, on account of its convenience.

Respectfully,
[Signed], MORSE SOAP CO.



Manufactured only by GURNEYS & WARE SCALE COMPANY, HAMILTON, ONT.

Crown Water Closet.
Inodoro Water Closet.
Perfect Water Closet.
Denning's Valve Closet.
Demarest Valve Closet.
Alexander Valve Closet.
A full stock of Wash-basins, Urinals, etc.
Also, complete stock of Wrought Iron Pipe and Fittings.
Brass and Iron Valves.
Plumbers' and Steamfitters Brass Work.
Rubber Hose, Belting, Packing, etc.
Sole Canadian representative of the Celebrated Hancock Inspirator.

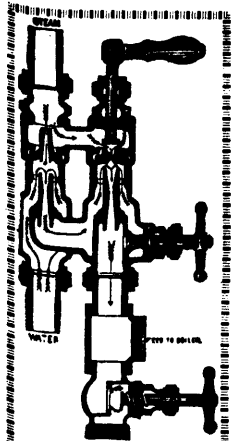


JAMES MORRISON,

IMPORTER AND MANUFACTURER OF

Steamfitters' and Plumbers' Supplies

75 & 77 ADELAIDE ST. WEST, TORONTO.



SANITARY EARTHENWARE Now in Stock: Morrison's Washout Hopper National Water Closet.

PRESCOTT EMERY WHEEL CO.

PRESCOTT, ONT.

MANUFACTURER OF
Emery Wheels,
Corundum Wheels
AND ALL KINDS OF
EMERY GOODS.

— ALSO —
SUSPENSION
GRINDING AND
POLISHING
MACHINERY

Water Grinders for Tools
Twist Drill Grinders.

ALSO A LARGE VARIETY
OF
GRINDING AND POLISHING
MACHINERY



Discounts and Price Lists on application.

NEW BRUNSWICK CORDAGE WORKS,

THOS. CONNOR & SONS,

MANUFACTURERS OF ALL KINDS OF

HEMP and MANILLA CORDAGE,

BINDER TWINE, ETC. ETC.

VESSELS' OUTFITS A SPECIALTY.

BINDER TWINE,

MANILLA CORDAGE,

CLOTHES LINES,

LATH AND PALING TIES,

LOBSTER MARLINE,

RATLINE,

LANYARD ROPE

PORTLAND, N.B.

To Manufacturers!

THE LAND SECURITY COMPANY

OF TORONTO

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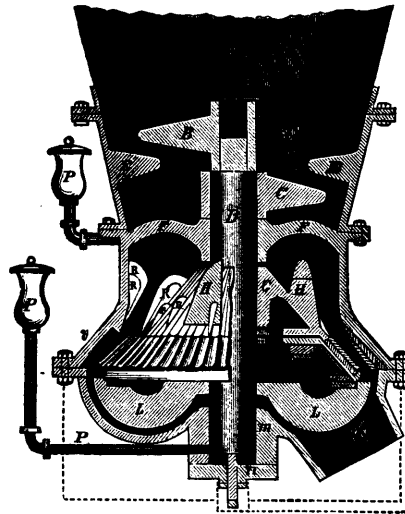
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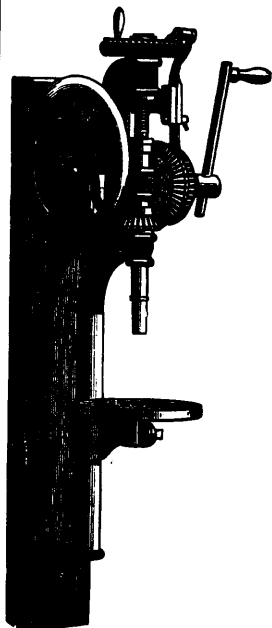
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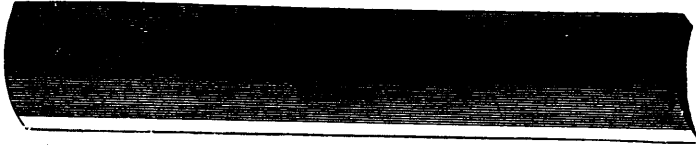
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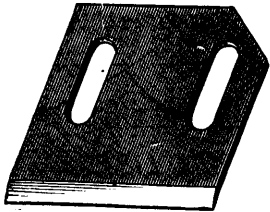
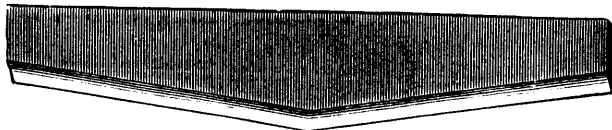
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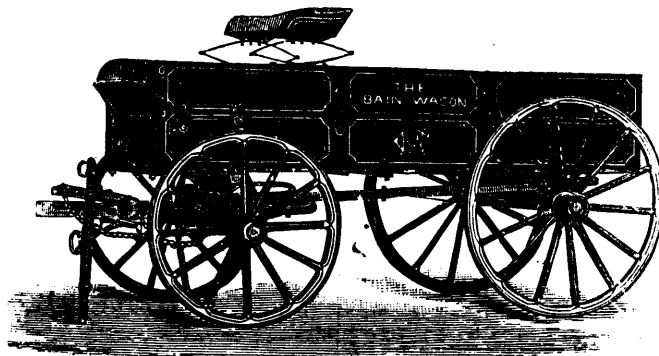
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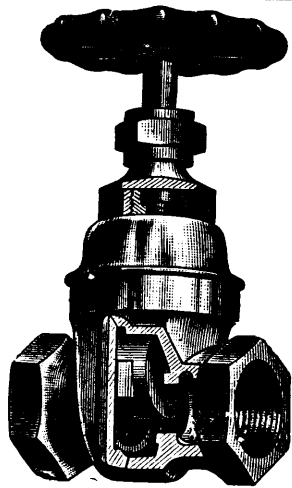
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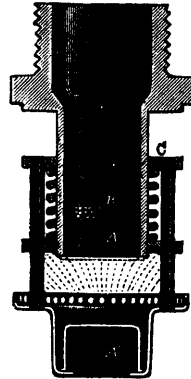
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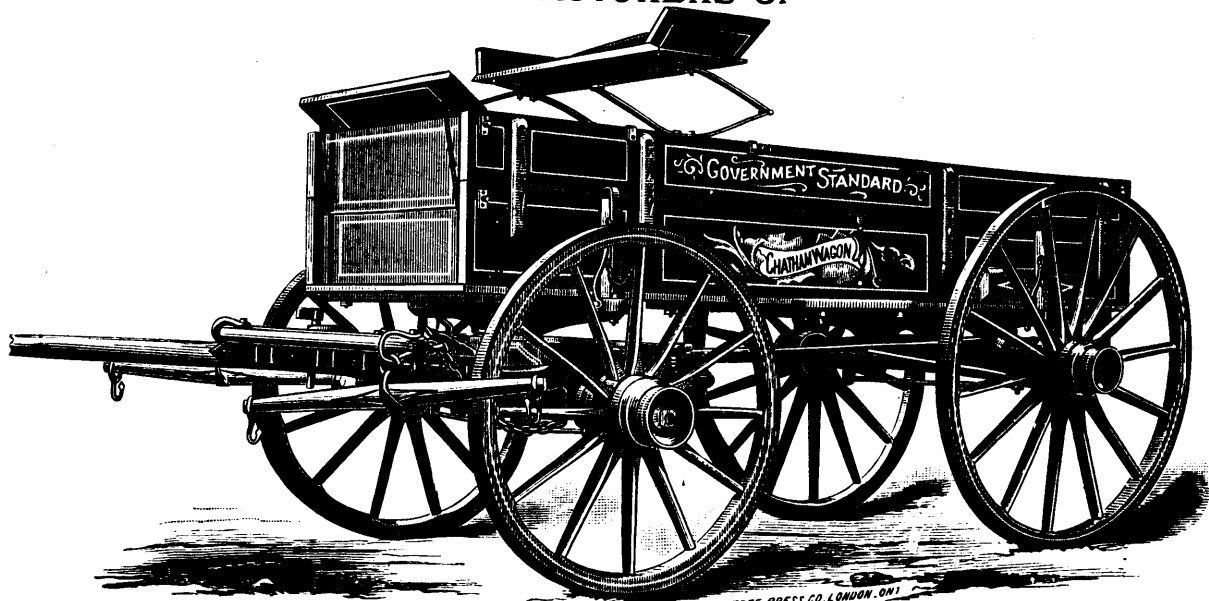
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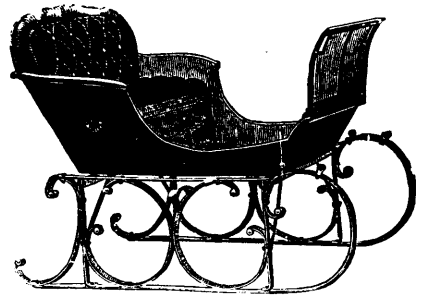
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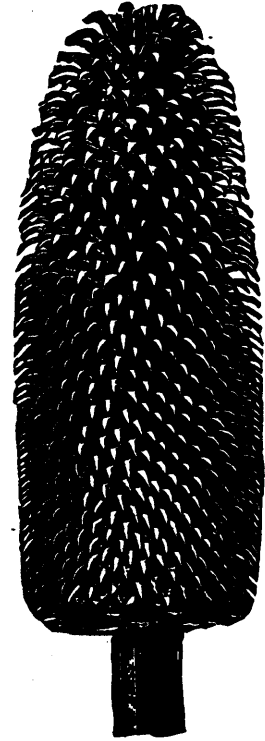
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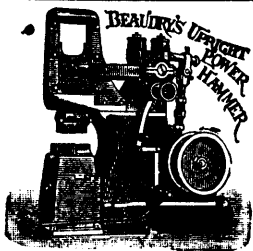
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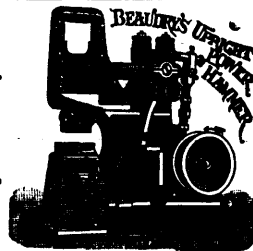
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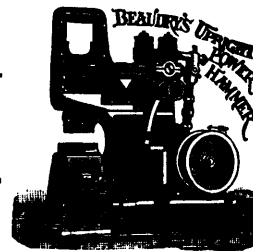
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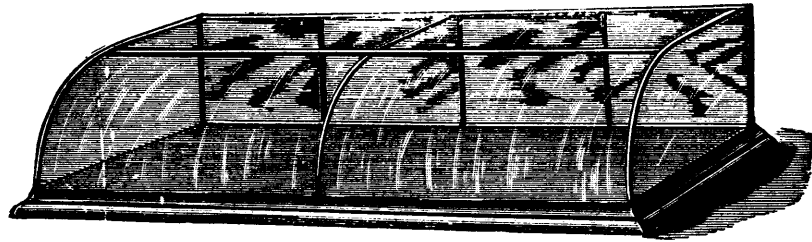
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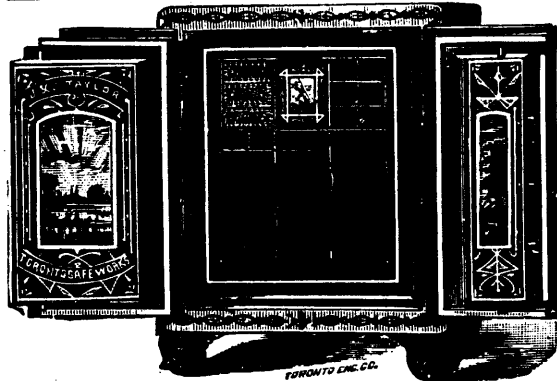
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Double Tongue
and Groove
FIRE-PROOF

SAFES

(Patented
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Established 33 years.

All our new style Fire-proof Safes are fitted with **TWO COMPLETE TONGUES AND TWO GROOVES** on both the door and door frames, which effectually prevent the heat from passing between the door and frame into the interior of the safe.

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RAILWAY OF CANADA.**

**The Royal Mail, Passenger and Freight
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Direct Route between the West and all points on the
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TO USERS OF LEATHER BELTING

SOME PERTINENT SUGGESTIONS.

FIRST

{ We tan our own Leather especially for Belting.
 { We have increased our trade threefold during the last few years.
 { We sell our Belting according to a list that is 25% to 30% lower than the American list, which some sell by in Canada.

BUT

{ We have heard some consumers who are N.P. manufacturers say that they cannot get good Belting made in Canada.

NOW

WE HAVE CUSTOMERS
 AMONG THE
BEST MILLS IN CANADA.

{ To whom we have sold 3,000 to 40,000 Dollars worth of Belting.
 { One firm alone buying from us last year to the amount of \$10,000 for their Mill.

CAN YOU

HARMONIZE THESE FACTS WITH ANY OTHER THEORY THAN

{ 1st. That our PRICES are RIGHT?
 { 2nd. That our LEATHER is GOOD?
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IF NOT

{ Send us a Sample Order and see if we cannot please you.

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Canadian Leather,
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Thoroughly Stretched,
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 Runs Straight.

— AND —

LACE LEATHER,
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OUR BELTING IS MADE FROM

CANADIAN TANNED LEATHER

Tanned in the most careful manner expressly for Belting in our own Tannery. We warrant it equal to any imported, either American or English, or any made from imported American or English Oak Leather. All widths, single or double, for any duty Saw Mills, Cotton Mills, Woollen Mills, Electric Light, etc., etc.

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Specimens of these goods are to be seen at the Permanent Exhibition of Manufactures 63 to 69 Front Street West, Toronto.

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The DODGE "INDEPENDENCE" WOOD SPLIT PULLEYS



WITH PATENT BUSHING SYSTEM

Best Belt Surface, Lightest, Strongest, Best Balanced, and Most Convenient Pulley in the World.

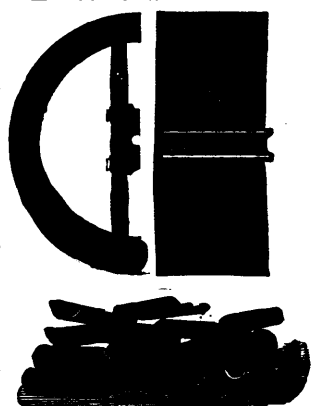
EVERY PULLEY A SPLIT PULLEY.

The hole in every pulley can be readily bushed to fit any sized shaft. Bushings furnished with each pulley. Guaranteed to give from

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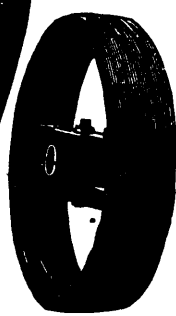
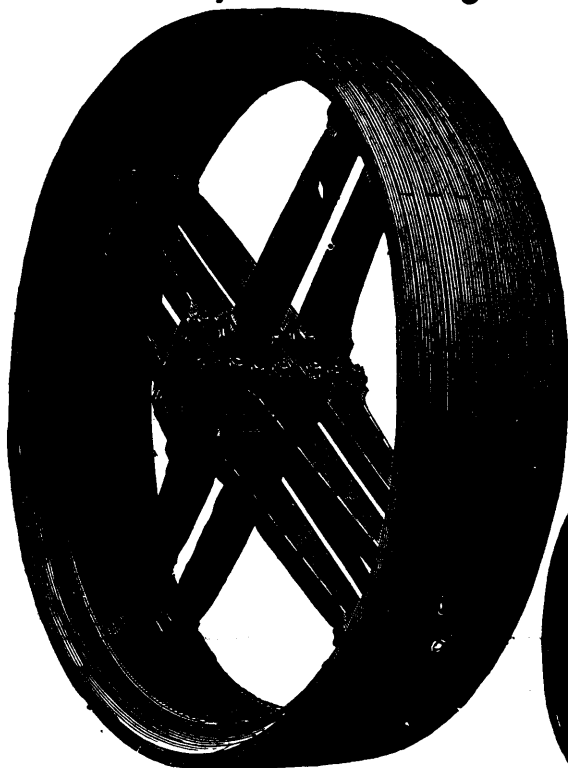
Strong enough for any power required. Made in any size and width, from twelve inches to sixteen feet diameter.

EVERY PULLEY WARRANTED.



We will furnish a Pulley for any service for 30 days free of charge, if it does not meet the warranty. Prices as low as any other good Pulley. Send for Catalogue, Price List & Guarantee

70 PER CENT. LIGHTER THAN CAST IRON
And 50 per cent. Lighter than Wrought Iron or Steel Pulleys.



READ THE FOLLOWING.

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 SHATTO & DENNIS, MINNEAPOLIS, MINN. STILLWATER, MINN., August 15, 1884. }
Gentlemen: You ask why we use the Dodge Patent Pulley. I answer because we consider them the cheapest, most convenient and satisfactory in all particulars.
 Yours truly, S. R. STIMSON, General Manager.

OFFICE OF NEWTON WAGON CO., }
 C. L. RICE, AGENT, CHICAGO, ILL. BATAVIA, ILL., Feb. 17, 1885. }
Dear Sir: Replying to your favor, will say that after using the Dodge Wood Split Pulley for a year or more we are satisfied they are a good thing, if not the best Pulley made, and shall use them hereafter in preference to any other we know of.
 Yours truly, NEWTON WAGON CO.

We have sold these pulleys for one year, and they have been put to every kind of service, and their popularity is wonderful. We refer to the following users for proof of the above statements: Pillsbury & Hulbert Elevator Co., Minneapolis; R. M. Pratt & Co., Elevators; Northern Pacific Elevator Co.; The Pacific Elevator Co.; Minneapolis Harvester Works; Minneapolis School Furniture Co.; M. & St. L. R. R. Co.; Willford & Northway; Washburn, Crosby & Co.; St. Paul Electric Light Co.; St. Paul Roller Mill Co.; Minneapolis Brick Co.; N. W. Mfg. & Car Co., Stillwater, Minn., and very many others.
 SHATTO & DENNIS, MINNEAPOLIS, MINN.

THE WORLD'S INDUSTRIAL AND COTTON }
 W. H. DODGE, PREST. CENTENNIAL EXPOSITION. }
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According to the best scientific authority it costs one horse power to keep in motion one ton of metal or weight; thus for every unnecessary 2,000 pounds weight on your line shaft, cost you one horse power. To maintain a horse power costs from \$25 to \$125 per year. Any manufacturer who will take the pains to investigate the unnecessary weight by Heavy Iron Pulleys, too tight belts, etc., will be surprised to find the enormous waste of power consumed in this manner. 50,000 Dodge Patent Wood Split Pulleys now in use. Our capacity being now equal to 100 Pulleys per day, we shall hereafter keep in stock for immediate shipment all sizes.

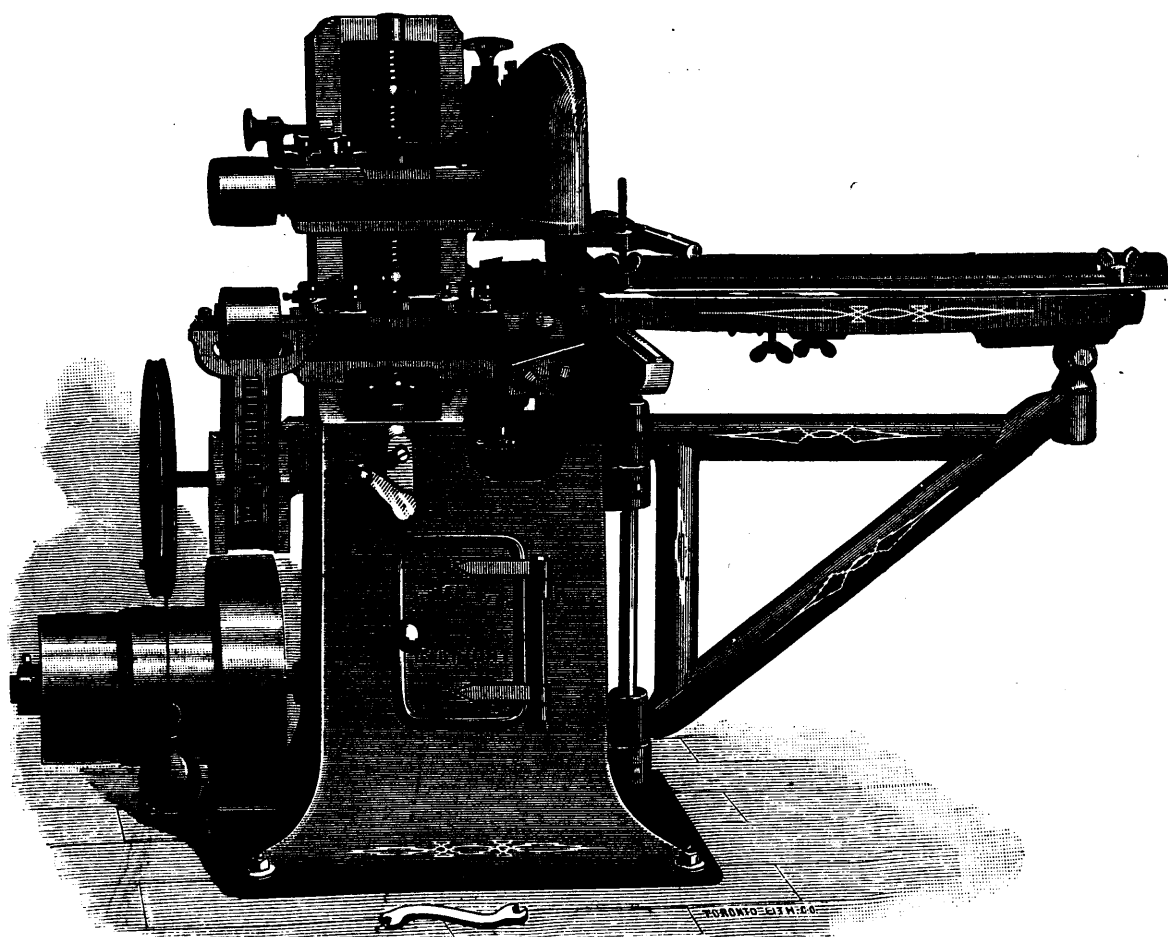
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THE DODGE WOOD SPLIT PULLEY CO.,

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TAKE NOTICE:---Our List of Prices for the DODGE PATENT WOOD SPLIT PULLEYS is for ALL SPLIT-PULLEYS.
 We beg you will note this fact when comparing our List with others which are for SOLID RIM, and NOT for Pulleys in HALVES.

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This is an entirely new style of Tenon Machine. The frame is cast in one piece, and the working parts stand solidly on a pedestal, avoiding all vibration.

The Cutter and Cope Heads are connected and are moved all together, or separately, as required. The Upper Head and Boxes also adjust horizontally to suit shoulder of tenon, the Cope Knives moving with the Heads to prevent re-adjustment.

A special feature in this machine is the Bed, or Carriage, which is at once light and strong. The outer end works on rollers and is moved very easily.

In cutting the tenon the Bed and Carriage move entirely past the Heads and Cutters, the operator having full control of the work. It has also the advantage of leaving the Heads and Cope Knives clear, and of ready access by the operator.

The Carriage is so arranged that it cannot tip over the Slides nor be thrown into the Cutters, and is also supplied with extension bar for long stuff, as in all Tenoning Machines.

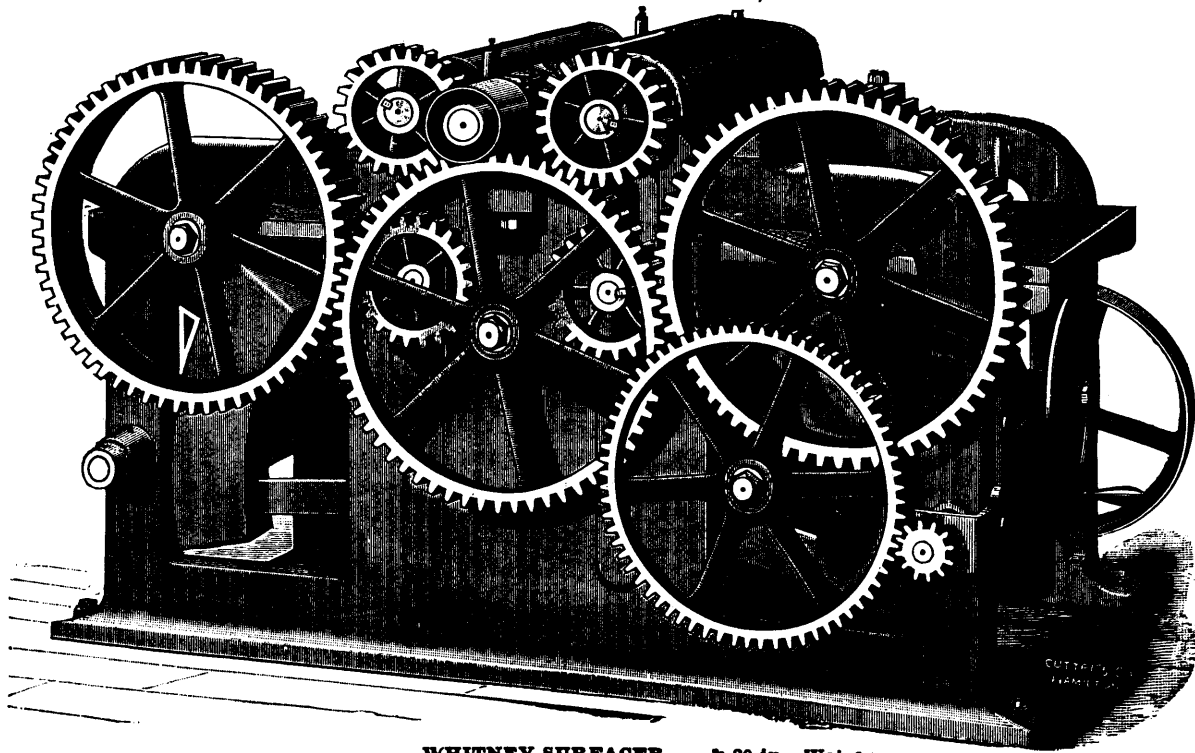
This Machine is supplied with single or double Copes, as ordered, and for furniture work it is without Copes, and with an adjustable cut-off Saw.

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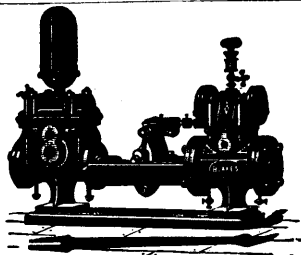
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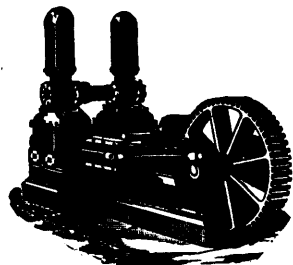
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- SHEARS,
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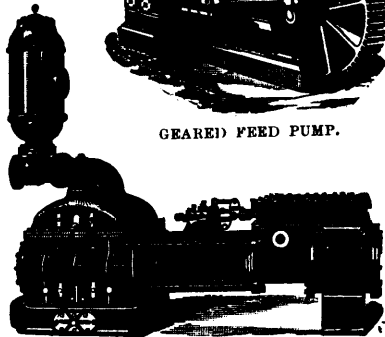
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BUILDERS OF

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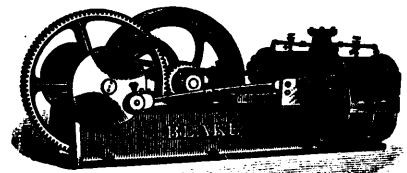


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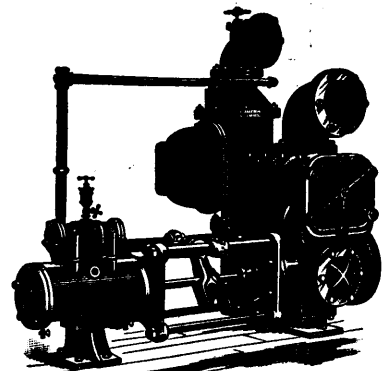
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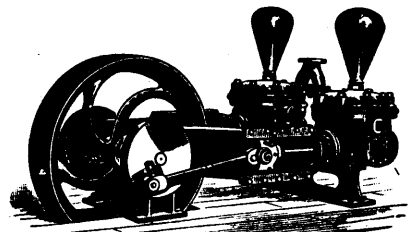
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Hammered *and* Rolled Steel

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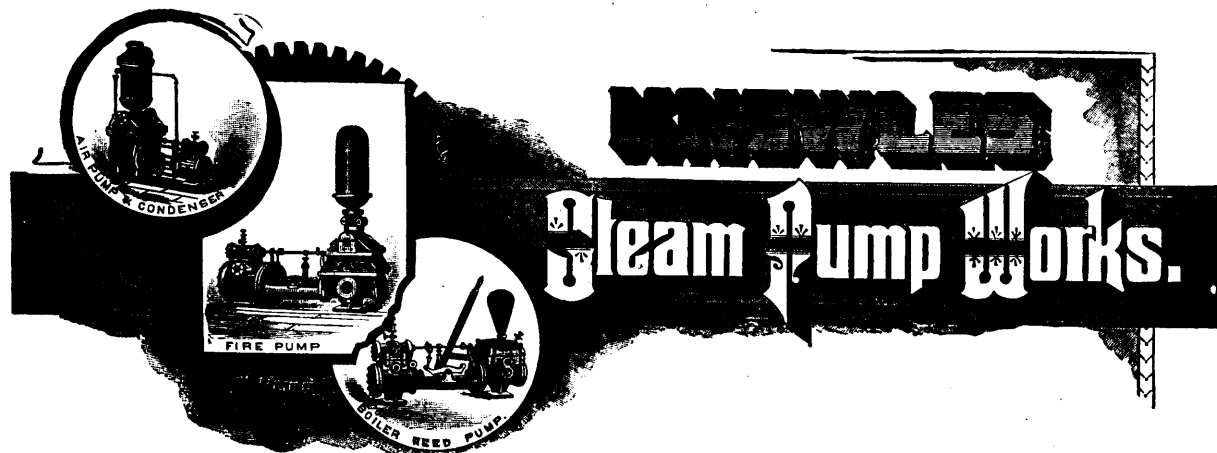
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Particular attention given to the manufacture of Rake, Cultivator and Harrow Teeth, and other
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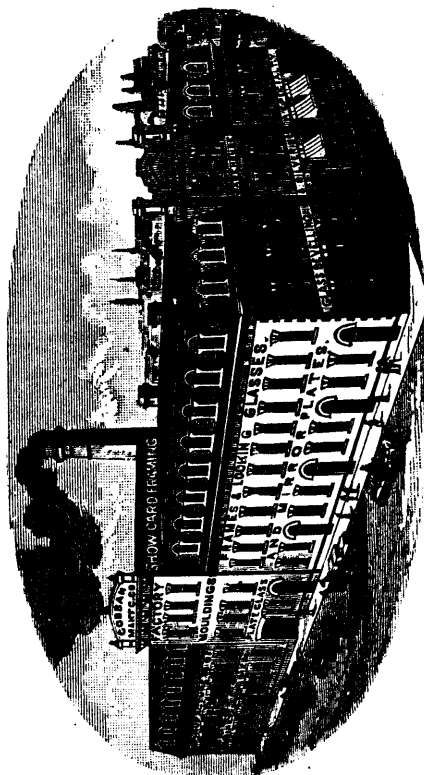
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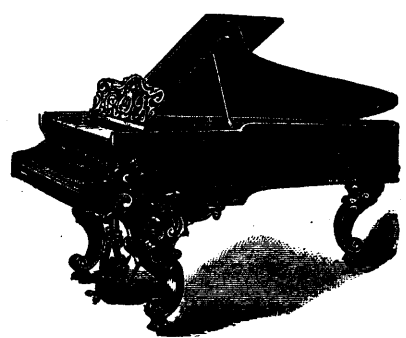
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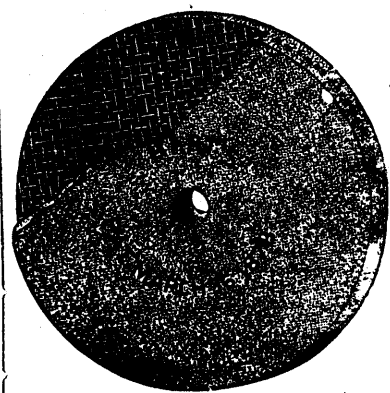
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 OF ALL COMPETITORS IN BINDER TWINE
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And we open our NEW BAG WORKS early in 1888 with strong expectations of being
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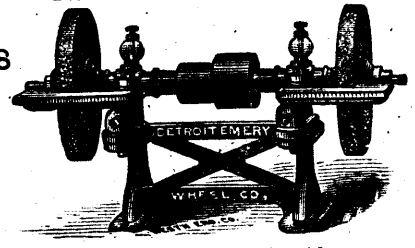
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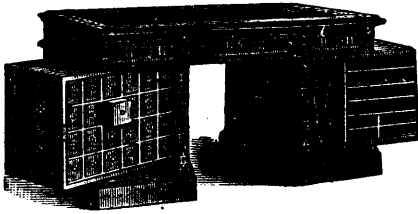
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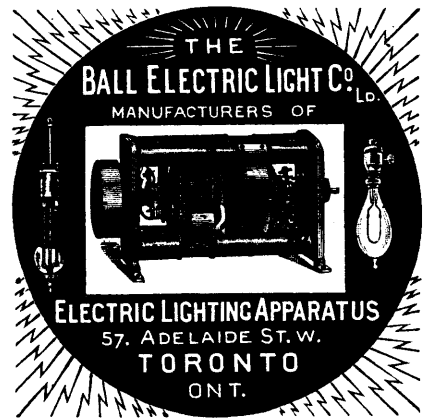
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