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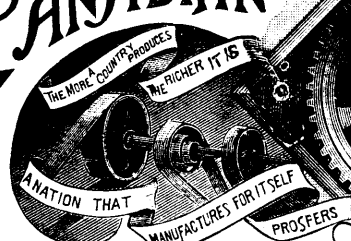
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TORONTO, MAY 17, 1889.

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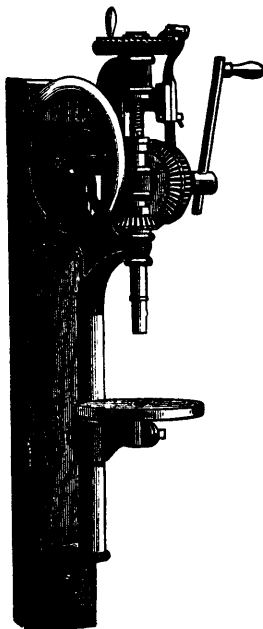
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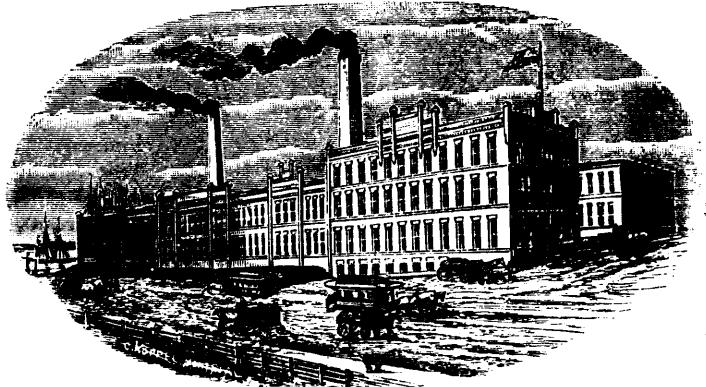
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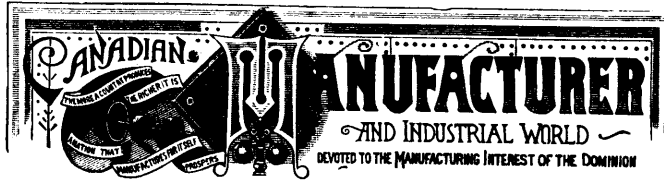
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### "THE SIGNS OF THE TIMES."

LAST Sunday, in a church in this city, Rev. Dr. Lockwood, a pulpit orator from Cincinnati, in delivering a sermon on "The Signs of the Times," speaking of labor organizations, said that he thought that the greatest sign of the present day for the improvement of the majority of the population of the civilized world was such organizations. The local branches of organized laborers have a bond of sympathy interwoven among them, not only with the branches of one country, but among the organizations of the civilized globe. He would hail the day when labor becomes discontented. Men now-a-days have ambition to grow and develop themselves. It is the duty of every man at the top of society to help those below, and he was glad to know that it was being done by labor organizations, which are socially for that purpose. Organized capital, wealthy corporations and trusts are fast becoming the rulers of the governments, and are very menacing to the country's welfare, and labor organization is the only thing that can cope with them.

It is a remarkable occurrence that Yankee preachers are imported into this country to teach intelligent Canadians a short and easy way to counteract the evil influences of "organized capital, wealthy corporations and trusts," and to point out the only way that they can be coped with. We take it that Dr. Lockwood is of that sensational class who seek notoriety by appealing to the prejudices of one class of the community, and in arraying them against other classes. If it is a fact that organized capital is fast becoming the ruler of governments, and that it is "very menacing to the country's welfare," we submit to our Yankee preacher and teacher that organized labor has no commission, either divine or human, to undertake to correct the evil. It is arraying class against class and

interest against interest, and is a usurpation of the functions of government and law. It is incendiarism of the worst sort, and of the character that led to the bloody days of the French Revolution and the anarchist riots in Chicago.

It goes without contradiction that laboring men have an inherent right to organize themselves together for their mutual benefit and protection, and as long as they confine their organized action to lawful methods—as long as they refrain from encroaching upon the rights of others—they are to be upheld and protected by law and by all the moral influences abroad in the community. But capital and wealth have similar rights, and it does not lie with Dr. Lockwood, nor with organized labor, to punish, or attempt to punish, capital and wealth for exercising their rights under the law.

There is entirely too much of this pandering to the prejudices of the laboring classes by preachers who seek cheap notoriety, by politicians who struggle for office, and by some so-called business men who hope that by so doing they can increase their trade and capture the patronage that laboring men have to dispense. An illustration of this propensity, and the evil effects of it on a community, is suggested by a recent occurrence in Canada. A few years ago, when the Knights of Labor were in a more flourishing condition than they are at this time, and the apostles of Powderly were sanguine that the time was not far distant when the whole country would be at their feet, the shopkeepers and so-called business men of a certain Canadian town were taught a lesson which will probably be remembered the balance of their natural lives. A few blatant demagogues had succeeded in establishing a Knights of Labor lodge in that town, and enrolment in the membership of it went on at a most lively rate—not confined or restricted to mechanics or laboring men, but embracing whoever might desire to join. Quite a number of the merchants of the town fancied they saw a fine opportunity to win the patronage of the workingmen, and they became enthusiastic members of the organization. A question of considerable interest discussed in the organization was the wages of the mechanics employed in the different industries there. There was one large and important establishment which, by common consent, it was determined to attack, and soon a spirit of discontent and dissatisfaction was apparent among the workmen, which caused much anxiety to the proprietors; and it soon developed that they were not to be allowed to manage their business—that an irresponsible labor organization and a shop committee had kindly undertaken the job for them. This was at a time when the expansion of the business required a considerable enlargement of the works, but this was rendered inadvisable in the face of the hostile position of the labor element. The situation became known in other towns, and soon inducements were held out to the proprietors to change their location—and the location was changed. The merchants who had lent themselves to the labor movement in attempting to force impracticable conditions upon the proprietors of a large manufacturing establishment that was giving employment to a large number of workmen, helped to kill the goose that had for a long time laid them golden eggs; and to-day no smoke rolls out of the tall chimneys of that factory; no sounds of busy industry are heard there; no large squads of workmen are seen gathering there to their daily labor or returning to

their pleasant homes from their daily toil. The factory is closed. The selfishness and inconsideration of merchants who had really nothing in common with the workmen of the factory had induced them to lend themselves to destroy a valuable industry of their town. As to the proprietors, they felt that the question of shop management and wages was only between their workmen and themselves, and that the merchants had obtained membership in a secret organization whose objects were altogether foreign to mercantile trade, but aimed to directly and injuriously affect manufacturing establishments alone. This was an evidence of hostility which they very properly resented. The removal of the industrial works here alluded to caused a loss of eight per cent. of the population of the town, the emptying of scores of dwelling houses, and a thousand dollars or more each week less of cash paid out to working people, which would have found its way into the hands of the local merchants. A lesson has been taught and learned—if such people can learn anything even by sad experience—that merchants as well as others should attend to their own business.

#### BRITISHERS, TAKE WARNING!

GREAT BRITAIN, Canada, and all British colonies and dependencies are warned that their ships are to be rigorously excluded from all United States ports, and their maritime trade suppressed and destroyed, if Canada does not yield quick and willing obedience to the demands of our rabid neighbors. Hear what *The Manufacturer*, of Philadelphia, says:—

“Our demand upon Canada is of the simplest possible character, and it is based upon considerations of pure equity. What we concede to its people, in a friendly and amiable spirit, we demand that they shall concede to us. If they will not agree to do this, then we will withdraw our concessions and protect our own interests. If we allow them to ship goods in bond through our customs houses, they must permit our fishermen and others to ship in bond through their customs houses. If we permit their vessels to go through our canals upon the same terms that are imposed on our own vessels, then they must not discriminate in their canals against our ships. If we allow their ships to have in our ports all the privileges we give to the ships of any other nation, then they must discontinue the harsh and inhospitable treatment that has been given to our fishing vessels in Canadian ports. If their railroads are to be suffered to do business within our territory, then these railroads must be in complete subjection to our Inter-State Commerce law, and must not use the assumed privileges of alien corporations to cut rates and to injure our commerce and our property. This is all we ask, and no impartial person can fail to admit that it is a demand supported by every consideration of equity and by the requirements of ordinary self-respect. The present administration will ask for nothing less, and it will take nothing less. We predict further, that the report of the Senate Committee will be in perfect harmony with the policy here indicated.

“If, however, the demand shall not be conceded; if, in fact, Canada sooner or later shall manifest again the ugly spirit which was shown so frequently during the Cleveland administration, our policy of retaliation ought not to be directed solely against the Dominion. We do not deal with the provincial governments; we deal with its superiors. The outrages perpetrated upon our ships had the sanction of England; and Mr. Blaine is much misunderstood if he will not hold England responsible for their repetition. What Canada refuses to our vessels, we should peremptorily refuse to British ships of all kinds and conditions. We venture the assertion that such

action will make short work with any foolery that may be attempted on the part of the Canadian government. We may say, further, that we believe it will have the approval of all but a fraction of the intelligent and just people of the Dominion.”

Canada's answer to this is, that Canada will not stultify herself and be driven into subjection to the unfair demands of the United States, even if non-intercourse is the penalty. It is not true that American vessels are not permitted to go through Canadian canals upon the same terms that are imposed on Canadian vessels, and there is no discrimination in our canals against American vessels. Perhaps Canadian railroads will not consent to come under “complete subjection” to the American Inter-State Commerce law; and if said railroads are to be prevented from sending their trains into the United States, it would probably work rather against the interest of American roads that do business in Canada to be shut out from traffic on this side the line. Already are Canadian importers avoiding bringing in their goods via American sea ports, the diverted business going to build up Canadian ports and Canadian roads lying wholly within our own territory. The Canadian Sault Ste. Marie canal is being built, and already Canada possesses the right of way from that place to the Atlantic Ocean, lying entirely within Canadian territory. Canadian vessels, however, are not free to pass through the Erie canal—they never were.

England will never attempt to force Canada to surrender her fishing rights at the demand of the United States, and our American friends would do well to bear this fact in mind. If the United States sees proper to retaliate because such rights are not surrendered, and attempt to shut out “British ships of all kinds and conditions” from American ports, which would be equivalent to a declaration of war, unfortunate as such an occurrence would be, Imperial Federation would quickly cement into one grand whole a new and enlarged empire, which would be able to live and get along comfortably even without the trade of the United States. Annexation of Canada to the United States would never be a result of such an event.

#### THE RAILWAY PROBLEM.

*The Railway Age*, speaking of the attempt to regulate and govern the business of transportation throughout the United States by punitive legislation, administered by federal officials charged with almost despotic power, pathetically enquires, “Where will this national regulation end?” The fact is, pandering to a certain unhealthy sentiment, the Congress of the United States seem determined to go as far as possible in “regulating” railway transportation, even if those who have their money invested in railways are bankrupted. Under that clause of the constitution which allows Congress to regulate commerce between the different States, the Inter-State Commerce Commission was created, and the Senate has seen fit to appoint one or two committees with instructions to inquire into the working of international railways as effecting the railways of the United States. The desire seems to be to bring Canadian roads which do an international business under the control of the Inter-State Commerce Commission. This desire, however, is developed only on the part of such American railways as have no Canadian connections. On the other hand,

all those that have such connections, and are engaged in the transportation of freight between points in the United States via some portion of Canadian territory over Canadian roads, are opposed to the assumption of the Commission, and this interest is supplemented by that of those who are interested in the cheap transportation of the merchandise thus carried. If the authority of the Inter-State Commission is not to be extended over the roads that take merchandise over Canadian soil—if it cannot dictate conditions to Canadian roads—it must inevitably fail in equitably regulating the inter-state traffic of the other roads, and its occupation would certainly cease. The great question, then, is whether the Commission have power and authority to require Canadian roads to conform to their regulations.

The *Railway Age* says:

“Not only does the Commission decline to recognize State lines as barriers to its authority, but it has now leaped over international boundaries. It has just decided that the Grand Trunk Railway Company of Canada is subject to the law and the orders of the Commission, and that it cannot grant a rebate from a point on the American side of the international boundary to a point in the interior of Canada. This is carrying out still further the ultimate logic that the inter-state law is supreme over those engaged in transportation which by any construction can be held to have an inter-state application. But even here it cannot stop. The ocean carriers to foreign lands participate in rates for the transportation of freight from the interior States. Even the charges made by railways in European countries can be connected back to some relation with the rate on wheat from Nebraska to New York, and international power is needed by the Commission in order to work out the theory of absolute control of transportation to its end.”

There are rabid men and papers in the United States who clamor for the exclusion of Canadian railways from American traffic. Some suggest that all merchandise moved from any point in the United States, via Canada, to another point in the United States, shall pay full customs duties as on importations from foreign countries; others want to have duties levied on all importations into Canada that are landed at American ports and transported across American territory. These ideas are supremely ridiculous. If the Western farmer or miller wants to ship his grain or flour to Europe and can get it to an American shipping port cheaper by sending it via Canadian roads than by routes lying wholly within American territory, there would be a breezy time if he was prevented from so doing; and emphatic protests would soon be heard from American seaports if an attempt was made to exclude ships from them loaded with merchandise destined for Canada.

This agitation in the United States has already resulted in calling attention to the fact that Canada can be made entirely independent of American transportation facilities, and that the day of such independence is fast dawning. The jurisdiction of the United States, nor of its Inter-State Commission, can never be exercised on Canadian soil. If the alternative be the prohibition of such international traffic as now exists, while the event would be unfortunate and greatly to be regretted, it would certainly cause greater injury to the people of the United States generally than to the people of Canada. But this is not probable, for while a few American railways and a number of unthinking Americans may desire to force Canada to conform to their views, there are a number of other

American railways and an innumerable host of interested Americans who would very quickly and effectively operate in the other direction.

#### IMAGINARY LOSSES.

IN commenting on the decline in prices for agricultural and live stock products in the United States during the past three years, an American newspaper estimates the total loss to farmers in that country at over \$600,000,000 annually. The decline on wheat is given at 25 cents per bushel, which on 460,000,000 bushels, the usual product of the United States, nets a loss of \$115,000,000 per annum. On corn the decline per bushel has not been so great, but the quantity grown is much larger, and the loss is footed up nearly as large as on wheat. Pork is put down at an average decline of 27 cents per 100 pounds, and beef 33 per cent., showing an average loss per annum of \$100,000,000 on the former and \$150,000,000 on the latter to the producing classes. Regarding which the *San Francisco Grocer* thinks that while at first glance this statement might appear to some as being a correct representation, and that the losses have been sustained, yet the situation is far more imaginary than real.

But analysis shows that if the agriculturists of that country are losing \$600,000,000 per annum, those who consume these products should be reaping these \$600,000,000 annually. Does any evidence present itself, or can any be furnished that consumers have profited to the extent of \$1,800,000,000 in the past three years through the decline in the value of agricultural products? We certainly fail to discover any visible sign of this wealth thus obtained, or of the community at large being benefited to this extent at the expense of the farmer. It would be just as fair to state the reverse, that consumers in former years were losing \$600,000,000 per annum in consequence of the higher prices then paid for farm produce, and were being drained and impoverished to this extent, while the agricultural classes were being correspondingly enriched without giving a just equivalent in return. No charge of this sort has been made, but the reasoning is just as logical in one case as in the other, and is fallacious in both instances. Merchants and manufacturers in former years realized a much larger profit than at present or in the recent past, and following the same style of figuring, the losses on this score would be so enormous as to pale into insignificance those of the farmers in comparison. The merchant who now averages 5 per cent. profit on his gross sales, does not figure up losses to the amount of 20 per cent. on his gross business, because through the changes of times and circumstances he is not able to realize the 25 per cent. profit which he was enabled to exact in previous times. To lose or gain anything implies previous possession of the article itself, with a stipulated value thereon agreed to in its passage from seller to buyer, before the loss or gain can be determined. Thus considered, and this is the only proper way, there has been no loss as above calculated on the agricultural and live stock products of the country. There has been fully as marked depreciation in other channels, and while, like the waters in the ocean, there are irregular commotions here and there at times, the general tendency is invariably to an equilibrium, and to have values of all sorts in as nearly the same relative proportions at all times as is possible.

STRIKES AND LOCKOUTS.

THE startling feature of the recent report of Hon. Carroll D. Wright, United States Commissioner of the National Bureau of Labor, is the enormous cost to the country of the strikes and lockouts resulting from inability of workmen and employers to agree upon terms. The aggregate for six years is over ninety millions of dollars, of which sum two-thirds of the loss falls upon employes. The loss will be partially compensated if the emphasis given in the Commissioner's report leads to some more economical adjustment of the differences between workingmen and employers.

The States of New York, Pennsylvania, Ohio, Illinois, and Massachusetts, with 49 per cent. of the manufacturing establishments, supplied about 75 per cent. of the whole number of establishments affected by strikes, and 90 per cent. of the lockouts.

The following table shows the number of strikes occurring during each of six years; the number of establishments involved, and the average number of establishments involved in each strike:

Years.	Strikes.	Establishments involved.	Average number involved in each strike.
1881.....	471	2,928	6.2
1882.....	454	2,105	4.6
1883.....	478	2,759	5.8
1884.....	443	2,367	5.3
1885.....	645	2,284	3.5
1886.....	1,412	3,893	7.0
Totals.....	3,903	22,336	General average 5.7

As to causes or objects of strikes, it is shown that increase of wages was the principal one,—42.44 per cent. The other leading causes are as follows:—For reduction of hours, 19.45 per cent.; against reduction of wages, 7.75 per cent.; for increase of wages and reduction of hours, 7.57 per cent.; against increase of hours, .62 per cent. Total for the five leading causes, 77.83 per cent.; all other causes, 22.17 per cent.

The results of the strikes in gaining the objects sought are as follows: Success followed in 10,407 cases, or 46.59 per cent. of the whole; partial success in 3,004, or 13.45 per cent. of the whole, and failure followed in 8,910 cases, or 39.89 per cent. of the whole. By lockouts, 564 establishments, or 25.85 per cent. of the whole, succeeded; 190, or 8.71 per cent., partly succeeded, and 1,305, or 59.80 per cent., failed.

Disclaiming absolute accuracy, the report gives the losses of employes resulting from strikes and lockouts as follows: Losses to strikers during the six years, \$51,816,165; loss to employers through lockouts, \$8,132,717, or a total wage loss to employes of \$59,948,883. This loss occurred for both strikes and lockouts in 24,518 establishments, or an average loss of \$2,445 to each establishment, or of nearly \$40 to each striker. The assistance given to strikers for the same period, so far as ascertained, amounted to \$3,325,057; to those suffering from lockouts, \$1,105,538. These amounts, however, the Commissioner says, are undoubtedly too low. The employers' losses through strikes for the six years amounted to \$30,732,653; through lockouts, \$3,432,261.

CANADIAN BEET SUGAR.

It is reported that the Berthier Beet Sugar Company, who have a valuable plant at Berthier, Que., for the manufacture of beet sugar, have abandoned the idea of operating their works this year—probably indefinitely. The trouble seems to be that

the farmers in that section fail to produce the beet in sufficient quantities and of the necessary saccharine quality. It has been demonstrated time and again that many portions of Canada, including the region about Berthier, are particularly well adapted to the cultivation of the sugar beet, and there can be no doubt of the fact that with abundant supplies of beets, the conversion of them into sugar could be made a lucrative and flourishing industry. In Europe where the industry has assumed very large proportions, the beet juice contains only about 9 per cent. of saccharine, while in California the yield is about 13 per cent., and the beet grown in Canada is claimed to yield quite as much as that of California. Therefore, the failure to grow suitable beets in Quebec cannot be charged to a deficiency of saccharine, but to a lack of proper cultivation and attention.

A large portion of the sugar consumed in Canada—and the importations of raw sugar, amount to over 200,000,000 pounds annually—is the product of the sugar beet, and as the crop is an easy one to raise, and as the Berthier manufacturers were willing to pay remunerative prices provided they could be assured of a sufficient supply of beets of desirable quality, it is remarkable that the cultivation of it is not carried on systematically and extensively.

There appears to be no longer any doubt that California is to become famous for its production of sugar beets and their conversion into sugar. The factory established by Mr. Spreckels in that State earned a dividend of five per cent. last year, although it labored under the great disadvantage that all of the workmen were new to the processes. It is also reported that the farmers in that State who engaged in beet-growing realized from \$40 to \$60 an acre for their product. Mr. Spreckels intends to put up ten additional factories in different parts of California and thus to develop the business largely.

Speaking of the capabilities of Canada in this direction, the *World* says: "That Canada can produce as large crops of beets per acre as the average production of Germany, France, Denmark or Austria has been fully established; that its beets contain as large a per centage of sugar as the average obtained in Europe has also been established by the analysis of four different varieties by Professor Saunders, of the Central Experimental Farm, Ottawa. The farmers on the continent of Europe find the sugar beet crop more profitable than any grain crop, and are anxiously seeking to increase the area under beets beyond the capacity of sugar refiners to find a market for. It is most sincerely to be desired that this Province may as soon as possible find that the beet sugar industry is one for which our soil and climate are admirably adapted. The cultivation of beets would prove a most profitable business for our farmers, and their manufacture into sugar would prove an extensive and valuable field of manufacture."

BINDER TWINE.

THE fervor that has been prevailing among the agricultural classes in the United States for some time past regarding the binder twine question has extended to Canada, and the growers of small grain are considerably excited at the prospect of having to pay much higher prices for binding twine this year than last.

There seems to be no doubt that a syndicate of cordage manufacturers in the United States have cornered the market



for manilla and sisal raw materials, and that they are therefore masters of the situation. There is no reason to believe that Canadian manufacturers are in the pool, or that they are taking any undue advantage of the situation to squeeze the farmers. On the other hand, there is abundant evidence to show that such is not the case, and that they will make no more than a fair and legitimate profit on the twine they may supply to farmers this season. It should be borne in mind that manilla and sisal are products of far away countries; that the areas in which they are grown are restricted and not likely to become very much enlarged; that a few men, or even one man, with nerve and money, may corner the market; that the production of these articles does not keep pace with the consumption; that the use of twine-binding harvesting machinery is fast becoming general to the exclusion of all other sorts; that the demand for cordage for rigging for vessels made of these materials is also rapidly increasing, and that in this age when the use of electricity is becoming so general, a new use for such cordage is created that consumes vast quantities of it.

When twine-binding harvesters were first introduced all the twine used upon them was made from flax and hemp, and the use of these materials was abandoned simply because manilla and sisal twine would answer the purpose and could be made cheaper. When it became apparent that the demand for hemp twine could not be met by the few factories then in existence, and in view of the fact that such twine could not be produced for less than about 25 cents a pound, and that manilla twine of suitable quality could be made for half that money, the use of hemp twine was abandoned, and to a certain extent the cultivation of flax and hemp was also abandoned. At this time there is little or no difference in the price of twine made of these different materials, and hemp twine can now be made about as cheaply as manilla.

The farmer's remedy against the inevitably higher price he will have to pay for binder twine this year than heretofore is not in abandoning his twine binding machinery. That would be a retrogressive step that would not pay. It is not likely that manilla and sisal will be cheaper next year, and the relief seems to lie in the direction of a larger acreage of land planted in flax and hemp. Any farmer can, without serious inconvenience, raise more than enough flax to make all the twine he could possibly have use for. The apparatus for breaking it and for preparing it for market is not expensive, and the cordage works already in existence are sufficient to produce the twine.

#### EDITORIAL NOTES.

"STRIKE while the iron is hot" says the proverb, but when the man of the house is off on a strike and his wife is compelled to take in washing to support the family, she has to iron while the strike is hot.

THE Binder twine Trust is forcing the farmers in the United States to seek other means of securing bindings for their wheat. At a recent meeting of the Farmer's Alliance at St Paul, Minn., a delegate exhibited specimens of twine made from the pig-weed, thistle, and sunflower, and declared his ability to furnish 100 tons before harvest at twelve cents a pound.

A SHOE manufacturer of Portland, Me., being asked to assist in providing bread for the suffering poor, said he would contribute to the extent of 100 sacks of flour and 100 bushels of meal, one sack of flour and one bushel of meal to be given to each man in Portland who neither kept a dog, drank rum, nor used tobacco, and was in need of bread. According to the local papers the first man had not appeared to claim the gift.

AN American contemporary says:—

"In 1816 it took just one bushel of corn to buy one pound of nails, now one bushel of corn will buy ten pounds of nails. Then it required sixty-four bushels of barley to buy one yard of broadcloth, now the same amount of barley will pay for twenty yards of broadcloth. It then required the price of one bushel of wheat to pay for one yard of calico, now one bushel of wheat will buy twenty yards of calico. Still there are some farmers who wish for the good old days of yore."

THE *Monetary Times* is opposed to the establishment of any more cotton factories in Canada. Speaking of the one proposed to be built at Montmorenci, near Quebec, the output of which is to be shipped to China, it suggests that the projectors of the scheme be shipped to China. Probably the projectors of the scheme will decline to be shipped to China on the suggestion of the *Monetary Times*, and will go ahead and build their factory, nevertheless notwithstanding.

THE United States Bureau of Statistics shows that while the exports of manufactured woollens from that country have increased thirty-five per cent. since 1881, with the raw material of the industry subject to duty, the exports of manufactures of cotton, of which the raw material is free, have in the same time decreased nearly eight per cent. This shows that the duty upon wool is not an obstruction to the exportation of woollen goods, while the freedom from duty is not an advantage to the export trade in cotton goods.

A CORRESPONDENT of the *British Trade Journal* remarks:—"Canadian trade with Brazil is capable of much extension. The representative of a large firm in Pernambuco is of opinion that Canada can acquire a large share of the export trade to Brazil. He says that Bahia imports large quantities of Manchester cottons, and if the Dominion manufacturers can compete with English cottons in China, they can do the same thing in Brazil. One of the large shipping firms in Canada has promised to cultivate this new trade to its fullest extent."

OUR enterprising young contemporary, *Hardware*, in its issue of May 10th, publishes about three fourths of a page of "Manufacturing Notes"—sixteen in all—of which twelve were copied verbatim from the CANADIAN MANUFACTURER of May 3rd. As the two papers were issued simultaneously on May 3rd, our enterprising young contemporary was unable to crib our items in time for that issue, hence the delay. Our enterprising young contemporary shows considerable enterprise in reproducing our "Manufacturing" notes, but in doing so it was forgetful to give us any credit whatever.

THAT nothing can stop the progress of a determined man was never better exemplified than at the examinations recently concluded at Osgoode Hall, this city. Among the candidates

was Mr. W. Stewart, who is totally blind. His knowledge of law had to be acquired by ear, had to be retained by memory entirely, and at the examination the questions were read to him by a child, and he wrote the answers on a typewriter which he had learned to use; and out of forty-three candidates who passed, Mr. Stewart, the blind man, stood first. His blindness was the result of an attack of smallpox contracted in Montreal during the recent epidemic there while nursing a sister.

MR. ROBERT P. PORTER, who has been appointed by President Harrison Superintendent of the Census, is an Englishman, having been born at Norwich, England, in 1852. He came to the United States in 1867, and in 1873 became an attaché of the Chicago *Inter-Ocean*, where he achieved considerable reputation as a writer on economic questions. In 1879 he was appointed Chief of a division of the Census Bureau; and in 1882 he became Secretary of the Tariff Commission. Since then Mr. Porter has made several visits to Europe, collecting materials to be used as arguments in behalf of Protection, his writings in this direction having been published in book form. The position of Superintendent of the Census is one of the most influential in the gift of President Harrison.

THE authorities of the American Association for the Advancement of Science have chosen Toronto as their next place of meeting, and that important body will accordingly convene in this city on the 27th August next, to remain in session one week. This gathering of probably a thousand prominent scientific men will prove an interesting event for all who desire the diffusion of systematized knowledge, and its outcome cannot fail to be of benefit to the whole country. "The objects of this Association are, by periodical and migratory meetings, to promote intercourse between those who are cultivating science in different parts of America, to give a stronger and more general impulse, and more systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and a wider usefulness."

THE Canadian Pacific line of steamers from Vancouver to Japan have now been running for a little over a year, and are completely cutting out the Pacific mail steamers under the United States flag which sail from San Francisco. The rates of freight are much the same, yet in the past tea season the Canadian Pacific steamers carried 5,357,944 pounds of Japan tea, against only 735,265 pounds carried by their American rivals, and the curious circumstance is that more than nine-tenths of this tea is consumed in the United States. Not in tea only, but in all other goods, is the preference given to the Canadian line, which now carries a large part of the trans-continental traffic, as well as that destined for the United States. The journey to Vancouver is shorter, but this alone would not account for this wholesale transfer of trade.

WILLIAM HENRY HARRISON, the grandfather of President Harrison, was well known, and is much better remembered by his popular name, William Tecumseh Harrison, by citizens of this free and enlightened nation. It is hardly to be expected that foreigners are aware of this, and their ignorance is not surprising.—*Stoves and Hardware*, St. Louis.

Foreigners are not aware of this, nor are Americans outside the office of our esteemed contemporary, for it is not a fact.

Grandfather Harrison was frequently called "Tippecanoe"; and one of the popular political songs of the time when he was a candidate for the presidency, alluded to "Tippecanoe and Tyler too." Our esteemed contemporary is "razzled-dazzled" and badly mixed in the identification of its American heroes. General William Tecumseh Sherman and General William Henry Harrison ought not to be considered one and the same person. It is rather surprising that native Americans are ignorant of this fact.

A NUMEROUSLY signed petition was recently presented to the Dominion authorities, asking for changes in the Canadian patent regulations. The petitioners ask for the introduction of legislation on the subject as soon as possible. It is urged that the full term of a patent of invention be made twenty years, to be divided into four optional terms of five years each, with progressive fees of \$10, \$20, \$30 and \$40 for each term respectively. This would act at once, save the Canadian patentees the loss of two years' duration of their United States patents, and it would do away with the delays and other disadvantages that the Canadian inventors are generally subjected to in order to get priority of issue in the United States. Such priority is sought as the only means at present by which Canadian inventors can save themselves from this serious loss of time; for, although the United States patents are otherwise issued for seventeen years, yet they terminate with the Canadian patent; when issued, the full term of the latter is only fifteen years. The change suggested would, it is said, operate at once in saving the Canadian inventor from loss of time, and the immediate applications for patents in Canada would be facilitated.

WE recommended, incidentally, recently, that the time is near at hand when the constitutionality of the Inter-State Commerce Law must be tested. A new incentive is added in a recent weekly report of the Central Traffic Association, which shows that the Grand Trunk Railway carried nearly thirty-four per cent. of the entire grain and provision freights from Chicago, while no American road carried over sixteen per cent. This means, manifestly, that the Grand Trunk, being a Canadian institution, is enabled to get far more than its due share of the trade by cutting through rates, whereas the American roads are forbidden to adopt such a method of protecting and promoting their interests. In other words, the Inter-State Commerce Law, as at present construed and applied, operates to the direct advantage of the Canadian over the American lines in our own carrying trade. It is now in order to request another construction of the law as it applies to this case, and failing in this the suffering roads must defend themselves in some other way.—*Farm Machinery*, St. Louis, Mo.

How are they to defend themselves? If the Inter-State Commerce law operates to the disadvantage of American railways, the remedy does not lie in extending the operations of that law into Canada. Better revise the law. It is strange that our American friends should be so painfully exercised over the competition of Canadian railways.

A DECISION has just been rendered by the Supreme Court of Minnesota in reference to a point of trade-mark law which will interest the trades unions. The court holds that the labels or stamps adopted by the cigar-makers' unions to distinguish "union" cigars from others do not constitute legal trade-marks. The court says that the right in trade-marks, or the exclusive

right to use certain symbols or devices upon goods offered for sale, is property. A trade mark is a word, mark or device adopted by a manufacturer or vendor to distinguish his productions from other productions of the same article. It must, the court says, indicate by whom the article was made. The right to it cannot exist independent of the business in which it is used, and it cannot be transferred except with the business. Applying these principles to the label of the cigar-makers' unions, the court holds that it is not property, but a mere personal privilege, and that the use of it on cigars is only an advertisement of the fact that they are union cigars. It was not adopted, the court holds, to indicate by what persons the cigars were made, but merely indicated membership in a certain association, and its use was not enjoyed as incident to any business, and therefore it is not a legal trade mark.

In order to encourage originality in industrial design in Canada, the Canadian Manufacturers' Association have for some years awarded medals to the pupils of the Ontario Art School for prize designs for specified subjects. This year the scope of competition has been enlarged by being thrown open to any person resident in Canada, and ten each silver and bronze medals were offered for the best designs, models, and specimens of carving in wood, for subjects selected by the Association. It was intended to close the competition upon the 1st of May, but as in eight of the ten classes competition was not sufficient to warrant any award being made, the time for receipt of competing designs has been extended until the 1st of August for the eight classes referred to, of which full particulars will be sent upon application to Mr. Frederic Nicholls, the Secretary of the Association, 6 Wellington St. West, Toronto. In addition to awarding medals for the designs, which latter remain the property of the competitors, the Association endeavor to sell those which are considered of special merit, and thus open up a profitable business for designers. Apart from the Association medals, Mr. J. B. Armstrong, of Guelph, Ont., offers one each silver and bronze medal as first and second prizes for "Specifications and working drawings, with details, of a 10 H. P. Steam Engine."

As we have before intimated, membership in the Canadian Manufacturers' Association is a sure and certain stepping stone for worth and energy in reaching other positions of honor in Canada. Illustrations of this fact are of pleasantly frequent occurrence. The late lamented Henry Bickford became mayor of Dundas after having become an active member of the Association; and now Mr. John Bertram, an active and influential member, has been called on by his fellow-townsmen, and has responded favorably to a requisition to stand for the mayoralty made vacant by the death of Mr. Bickford. Mr. W. H. Storey, of Acton, who is the honored President of the Association, is now freely spoken of as the next Conservative candidate for the Dominion House of Commons for Halton; and no doubt, if he accepts the nomination, he will be elected by an overwhelming majority. The Canadian Manufacturers' Association is not a political body, and no political discussions are ever held at any of its meetings. But all its members are for "Canada First" and the National Policy that has done and is doing so much for Canada. Composed as it is of the very flower of those engaged in manufacturing and industrial

pursuits—men of vigorous intellect and nerve—this Association is a nursery of able and honorable men upon whom Canada can always rely in emergencies, whether it be the captaincy of base-ball teams, supplying reeves, mayors, and other civic officers, or sending the best men to sit in the councils of the nation. By and by, when Lord Stanley of Preston wants to lay down his insignia of office as Governor-General of Canada, Her Gracious Majesty, Queen Victoria, is hereby advised that, next to that grand old man, Sir John A. Macdonald, who should always have the call if he wants it, the Canadian Manufacturers' Association is always provided with a full hand from which she can most advantageously draw a worthy representative of herself.

*Rowell's American Newspaper Directory for 1889* shows some remarkable facts concerning the number of newspapers published in the United States and Canada. The total number of periodical publications now issued in the two countries is 17,107, of which 12,791 are weekly; and 11,290 out of the 17,107, or nearly two-thirds of the whole, are rated as having an average issue of less than 1,000 copies. The aggregate issue of all these papers amounts to 34,799,500 copies, of which 19,588,000 are bi-weeklies; and of those papers whose circulation is more than 50,000 copies each, 99 of them have a total issue of 8,450,000, which is nearly one-fourth of the grand total of all papers. The papers of only five States have a circulation larger than those of Canada—New York, Pennsylvania, Illinois, Massachusetts and Ohio—the aggregate credited to Canada being 1,538,750 copies a year. In the average circulation of the periodicals in each geographical division, the number credited to Canada is 1,952 copies each, which places this country eleventh on the list. The number of publications having circulations exceeding 25,000 copies is 209, and in this list Canada stands seventh, with ten such publications. Nearly seventy-five per cent. of all the periodicals issued appear weekly; eleven per cent. appear monthly; over nine per cent. appear daily; and all the semi-weekly, tri-weekly, bi-weekly, semi-monthly, bi-monthly, and quarterly publications amount to a total of less than five per cent. of the whole. It is found that the semi-monthly publications have the largest issue, reaching an average of 5,017, and that next to them come the monthlies with an average issue of 3,740. Tri-weeklies have the smallest average editions, 920; and semi-weeklies come next with an average of 1,221. The average issue of the weeklies is 1,507. It is believed that the United States and Canada have a total of rather more than 65,000,000 of people, and that allowing the usual estimate of five persons to a family, it may be presumed that the actual number of families may be set down at 13,000,000. How many newspapers, daily, weekly, monthly, religious, story or magazine, does the average family take? Some take many; many take none. Are there as many who take four daily, religious, agricultural or other papers or monthly magazines, as there are who take no paper at all?

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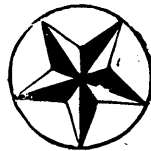
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*St. Louis Furniture News* is a new monthly trade journal recently established in St. Louis, Mo., and conducted in the interests of the furniture and kindred trades. Its appearance is first class in every respect, and, judging from the way it is fairly loaded with business, it is thoroughly appreciated by the trade in that part of the country.

The *Dominion Illustrated* comes to us these lovely May mornings as fresh and beautiful as fine art engravings, delightfully entertaining reading matter, good paper and first class typographical and press work can be produced. The publishers have the wisdom to abstain from illustrating ridiculous caricatures of political situations or politicians, but confine themselves to only those things which are elevating and refining in their tendencies, and calculated to impart correct knowledge regarding Canada; and in doing this they are making a most gratifying success with their most excellent journal.

The lot of the victim of insomnia is not a happy one. It is neither pleasant nor conducive to health to lie awake when one wants to be and ought to be asleep. A writer in *Good Housekeeping* collects a large number of the popular specifics for sleeplessness, and compares them with their results, without, it must be confessed, very great credit to the remedies that are so often declared to be unfailing. *Good Housekeeping* is a most excellent family journal, conducted in the interests of the higher life of the household. Published fortnightly by Messrs. C. W. Bryan & Co., Springfield, Mass., \$2.50 a year.

*Virginia of Virginia*, a novel by Amelie Rives, has been published by J. Theo. Robinson, Montreal, in his paper cover series. This is one of the best stories by Amelie Rives. Its plot is more connected and it is more coherently written than most of her other novels. One of the prettiest and most interesting features in *Virginia of Virginia* is the introduction and sketch of the horse Bonnibel, a description only possible to one who had known and was familiar with horses; and its fresh and natural brightness will remain pleasantly with one after the main incidents of the story have been forgotten. There has risen a demand for Amelie Rives' writings, and it will no doubt be satisfactory to know that they are procurable in cheap form.

BELLEVILLE, not content with the tariff as a means for promoting industry, has organized a little National Policy of its own. The city offers free sites, exemption from taxation, and money bonuses, proportioned according to the number of men to be employed, to manufacturers who will start within its limits. The subsidies are graded thus:—

For employing 25 men.....	\$	3,000
“ “ 35 “ .....		5,000
“ “ 45 “ .....		8,000
“ “ 60 “ .....		10,000
“ “ 80 “ .....		12,000
“ “ 100 “ .....		14,000
“ “ 120 “ .....		16,000
“ “ 180 “ .....		20,000
“ “ 250 “ .....		25,000

Some years ago bonuses were so much money wasted, for they cultivated no new industries, but merely established a manufacturing itinerancy—the manufacturers moving from place to place in search of new grants. Under the new Ontario law, however, the itinerant system is destroyed. A bonus if given must now go to a new enterprise, and must not be offered as a bribe to manufacturers to desert their present quarters. Belleville is excellently situated for industrial operations, and the extremely liberal offers should bring some fish to the hook.—Mail.

# 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.

THE Excelsior Copper Company will erect smelters at their mines at Harvey Hill, Que.

MESSRS. BEARDMORE & Co., Acton, Ont., are making important enlargements of their tannery plant.

THE Ontario Basket Company, of Walkerville, Que., has been incorporated with a capital stock of \$12,000.

MESSRS. J. B. SMITH & SONS' saw and planing mills at Southampton, Ont., were destroyed by fire May 8.

A FORCE of about 250 hands has been put to work in the construction of the Dominion dry dock at Kingston, Ont.

THE Windsor Crimped Stay Company, of Windsor, Ont., has been incorporated with a capital stock of \$10,000.

MR. LAZIER, formerly of Belleville, Ont., has commenced operations in Peterboro', Ont., making custom yarns and cloths.

THE destruction by fire of Mr. Robert Douglas' tannery at Teeswater, Ont., a few days ago, entailed a loss of about \$5,000.

WITHIN a radius of four miles on the Miramichi river, N. B., there are eight large saw mills which give employment to 1,000 hands.

THE lumber and grist mills of Messrs. George Marks & Co., at Bruce Mines, near Port Arthur, Ont., were destroyed by fire May 8.

THE extensive saw mills of Mr. W. C. Caldwell, at Clyde Forks, near Kingston, Ont., were destroyed by fire May 9; loss, about \$60,000.

THE Chambly Mills, Chambly, Que., are running on dress goods at present, and are turning out a splendid line, which is having a rapid sale.

THE Hamilton Steel Wire Nail Company, Hamilton, Ont., have just put in a new steam engine with their works and otherwise increased their capacity.

MR. FAIRGRIEVES, formerly of Pike Falls, Ont., and now manager at Glen Tay, Ont., reports business very good and is running his mill to full capacity.

THE Wilkinson Plow Company, who have extensive works at Aurora, Ont., are about building a large factory at West Toronto Junction, near this city.

MR. A. W. BRODIE has got all his machinery moved to his Hepler mills, and hopes to have all departments of his mill there in full swing in a short time.

A COMPANY is being formed at Niagara Falls, Ont., with \$20,000 capital, to manufacture a burial casket, the invention of Mr. Ripson, of Suspension Bridge, N.Y.

MESSRS. DUFTON & SONS, of the Stratford Woolen Mills, have concluded the purchase of the Mitchell woolen mill in that town, lately owned by D. H. Dorman.

WORK on the Canadian ship canal at Sault Ste. Marie, Ont., is being pushed in much vigor. About 100 hands are now at work, which number is to be largely increased.

WITHIN the last five months the Dominion Cartridge Company, of Montreal, have shipped over 50 tons, equal to 15,000,000 rounds of metallic cartridges, to the United States.

MR. FRANCIS MCCAFFREY'S saw mill at Riviere Noir, near Three Rivers, Que., on the Arthabasca branch of the Grand Trunk, was destroyed by fire May 7th; loss, about \$5,000.

THE output of asbestos last year from Mr. W. H. Jeffrey's mine at Danville, Que., was in the vicinity of 207 tons. A recent blast yielded 11,133 lbs. The daily output is about 4,500 lbs.

MR. H. W. PETRIE, Brantford, Ont., manufacturer and dealer in machinery, is contemplating removing his establishment to Toronto, where he started a branch of his business about a year ago.

THE varnish factory of Mr. J. M. Williams, at Hamilton, Ont., was destroyed by fire May 3; loss about \$3,000. Mr. Williams began the manufacture of varnish only about three months ago.

THE Canada Lumber Cutting Machine Company, Belleville, Ont., now have fifty hands at work, and have orders booked for all the lumber they can cut this season.

It is understood that arrangements are being made for the formation of a company and the establishment of mills for the manufacture of barbed wire at Berlin, Ont.

Ogilvie's flour mill, Winnipeg, Man., is now lighted by electricity. Eighty-five incandescent lights are now used in the mill. The electricity is generated on the premises.

THE Kemptville Lumber Manufacturing Company, Kemptville, N.S., has been organized and incorporated, with \$12,000 capital stock, and will erect lumber mills in that town.

THE Dominion Safety Boiler Company, Montreal, will supply a battery of their Field-Stirling patent safety boilers for the new Toronto Board of Trade building about being erected in this city.

THE contract for the Toronto harbor works has been awarded to Messrs. Murray & Cleveland, of St. Catharines, who are the lowest tenderers. The contract price is understood to be in the vicinity of \$350,000.

SIR W. P. HOWLAND, who owns the Welland Flouring Mills, at Welland, Ont., has contracted with the George T. Smith Middlings Purifier Company, of Stratford, Ont., to convert his mill into a roller process of 400 barrels a day capacity. The work is now in progress.

THE St. Lawrence Foundry Company, Toronto, are offering for sale four cupolas which are more fully described in an advertisement in another page. Any who may be in want of such machinery would do well to communicate with the St. Lawrence Foundry Company.

THE West Beaver Mining Company has been organized in London, England, with £150,000 capital stock, the object being to acquire and work the West Beaver silver mine in O'Connor township, Ont.

SOME half dozen late employes of the Evans Bros.' Piano Manufacturing Company, Ingersoll, have accepted a bonus of \$2,000 subscribed by the citizens of Berlin, and intend to start a piano factory there.

THE machine shop and engine-room of the London and Petrolia Barrel Company, at London, Ont., which were destroyed by fire a few weeks ago, have been rebuilt, and work has been resumed with renewed vigor.

MR. W. PRESTON, of Stratford, Ont., will probably accept the offer of the authorities of Boissevain, Man., and build a roller mill at that place of 100-barrel capacity. The new mill building will be of stone, 48x30 feet, 40 feet high.

MESSRS. J. HARRIS & Co's rolling mills, at St. John, N.B., which were destroyed by fire on March 12, last, have been rebuilt, and work has been resumed in them. The interruption of work extended over less than fifty days.

THE factory of the Dominion Organ and Piano Company, Bowmanville, Ont., is a substantial brick building 365 x 50 feet, four stories high. The company employ 300 hands, and their output is 225 organs and 80 pianos a month.

THE late advance in wool is having a good effect, and has been the means of making textile manufacturers think that it is time they worked for something more than glory. An advance in prices for spring goods is looked forward to.

THE premises of the Upper Canada Furniture Company, Bowmanville, Ont., cover three acres of ground, the main building being 240 x 40 feet, 3½ stories high, with wing 50 x 40 feet, of the same height. About 200 hands are employed.

LA Compagnie Manufacturiere de Laine, de Notre Dame de Laterriere (The Notre Dame de Laterriere Woolen Manufacturing Company), of Notre Dame de Laterriere, Que., has been incorporated with a capital stock of \$10,000.

THE new Beaver Cannery, built by Messrs. J. H. Todd & Son, of Victoria, B.C., is completed. The cannery is situated on the south side of Lulu Island, near the mouth of the river. The cost of the buildings and plant runs close to \$25,000.

THE Blythe Woolen Mills, Peterboro', Ont., are adding two more sets of machinery to their mill. Mr. Masson, the manager, has succeeded in carrying off first prize for an essay on "General Manufacturing," offered by an English textile journal.

A MILL at Eastover, S.C., is turning out a ton of pine straw fibre a day. The fibre is ready after passing through the machines to be woven into cotton bagging, etc., and one ton of fibre will produce about a thousand yards of bagging when woven.

MR. JAMES MORRISON, Toronto, manufacturer of brass goods, plumbers' supplies, etc., has acquired the right for Canada to manufacture the Montgomery sewer gas trap, which is conceded to be one of the most efficacious traps known to the trade.

THE Dominion Hat, Cap and Fur Company, who have for some time been looking for a suitable location, have been offered acceptable inducements to settle in Belleville, Ont., and are now erecting a factory there in which employment will be given to 200 hands.

MR. JOHN LIVINGSTONE, Toronto, has recently patented a super-heater and burner invented by him. The device is intended for use as an attachment to furnaces of all kinds, for the purpose of increasing the efficiency of the furnace and the perfect combustion of the fuel.

MR. M. J. TAYLOR, of the Dominion Dyewood and Chemical Company, Toronto, is about to take a trip to Europe in the interest of the company's business; and Mr. S. Jardine, of the same concern, is attending to the company's interests in Quebec, where he reports a good business being done.

MESSRS. MACGREGOR, GOURLAY & Co., Galt, Ont., having relinquished the idea of going into the business of wire drawing, which they contemplated some time ago, are making arrangements to engage in the manufacture of iron-working tools, for which they believe there is a good opening in Canada.

A NEW application of waste products is the manufacture from cedar wood pulp of a paper for laying under carpets and wrapping wool, furs, and other things on which moths love to feast. The paper makers get the cedar chips from the pencil manufacturers, and the paper has been voted a great success by everybody but the moths.

MESSRS. WM. PARKS & SON, proprietors of the St. John Cotton Mills, and Messrs. James Harris & Co., proprietors of the New Brunswick Foundry, etc., St. John, N. B., now pay out as much money in wages to their employes as was ever paid out in all the ship building yards in that city in the most prosperous days of that industry.

MESSRS. DRYSDALE & Co., of Westminster, B.C., have commenced the erection of a new cannery on Canoe Pass, which is to be known as the Canoe Pass Canning Works. The capacity will be 20,000 cases, which Mr. Drysdale hopes to be able to pack this season. This will make the third new cannery to be established on the Frazer River this year.

THE stave mills of Messrs. Sutherland, Innes & Co., at Harwich Station, near Chatham, Ont., were destroyed by fire, May 7. This establishment was built only two years ago at a cost of about \$17,000. It manufactured syrup barrel stock for the New York Sugar Trust, and was the only one of the kind in Canada. The work of rebuilding has been begun.

DURING the last four years the Villeneuve mica mines, at Villeneuve, Que., have supplied the trade with about 35,000 lbs. of mica, representing an annual output of 9,000 lbs. There has also been taken out a crystal weighing 281 lbs., which yielded about \$500 worth of merchantable mica. At present the pure white felspar is being successfully used in the manufacture of pottery.

MESSRS. NELSON & FORSYTHE, AND HYMEN BROS. & CHAMBERLAIN, of Berlin, Ont., have formed the Howard Furnace Company for the purpose of manufacturing the Howard heating furnace, of which they have acquired the patent for all Canada. The company are preparing the necessary patterns, etc., and will build at least 100 of these furnaces in time for the coming season's trade.

OVER twenty car loads of farm machinery are already at hand this season at Neepawa, Man., and much more will be received before harvest. This will give an idea of the trade implement men are doing this season in Manitoba. The same activity prevails all over the province, and receipts at Neepawa are only a sample of what is going on at other points.—Winnipeg, Man., *Commercial*.

MAJOR WALKER, who returned from Canmore yesterday morning, informed us of an important coal find made by Brinckerdorf the preceding day. The seam is fourteen feet in thickness, of clean, good anthracite, and is located on Mr. Brinckerdorf's own property. It is said to be free of shale and other impurities, and very much superior to any previously found in the mountains.—*Calgary Tribune*.

THE Anthes Manufacturing Co. are sending their children's carriages, chairs and other goods to all parts of the Dominion, and the articles they sell are very popular with the trade and the public. Their slat chairs are still in the greatest demand, and are seen in about every public house in Canada. The factory is excellently arranged to turn out almost any quantity of goods.—Berlin, Ont., *News*.

MESSRS. CLARE BROS., Hespeler, Ont., have arranged to manufacture the Leadbetter patent improved furnace in Canada. The great advantage claimed for this furnace is that it will burn all kinds of hard coal screenings, soft slack, tan bark, sawdust, coke, and coke screenings, or, in fact, anything burnable. The chief improvement is in the fact that the old-fashioned draught is done away with, and in its place is a closed grate, with a pipe connecting direct from the boiler, going under the furnace.

THE Building Committee of the Toronto Board of Trade have awarded the contracts for several portions of the work involved in the construction of their new \$300,000 building in this city. Included in these are the following: St. Lawrence Foundry Company, Toronto, ironwork and iron staircase; John Fletcher, Toronto, ornamental iron and bronze work; Bennett & Wright, Toronto, gas piping, plumbing and steam heating, the steam boilers to be manufactured by the Dominion Safety Boiler Company, of Montreal, of the Field-Stirling type; Hall Elevator Company, Montreal, elevators.

MESSRS. J. A. & S. F. DUNKLE, of Steelton, Pa., and J. B. Ewing, of Harrisburg, Pa., have bought the plant and good will of the Star Steam Heater Company, of Mount Joy, Pa., including the control of all the patents. Large and commodious shops will be erected at Harrisburg, Pa., which it is expected will be completed in July. Meanwhile operations have begun in the old shops at Mount Joy, where work is being pushed to its utmost to supply the demand. Mr. H. H. Lindemuth, the patentee, has connected himself with the new company, and will give the boilers his personal supervision.

THE Ontario Terra Cotta Brick and Sewer Pipe Company, recently incorporated in this city, propose going into business on an extensive scale at Campbellville, Ont., where they have a very large deposit of valuable terra cotta clay. Before the summer is over the company hope to have on the Canadian market the finest sample of pressed brick ever seen in this country and equal to the best imported American. Mr. Dunstan, who is a director of the company, states that the company will also go into terra cotta ornaments and tile drain pipe.

MR. FARQUHARSON, of Montreal, lately a sergeant in a Scotch regiment, has invented and patented a range finder which may prove to be a boon to military men. An exhibition was given a few days ago before Gen. Sir Fred. Middleton, Lieut.-Col. Bacon and Lieut.-Col. Turnbull, M.G.A., at the Ottawa rifle range, where several distances were judged up to a thousand yards. The General was much pleased with the invention. A prize for the best range finder has been offered by the Imperial Government, and Mr. Farquharson will take his invention to England.

THE Ontario Canoe Company, Peterborough, Ont., are now building a canoe of extraordinary dimensions, the largest that has been turned out for some time. It is a veritable ark. A regular passenger boat. The dimensions are thirty feet long by fifty-two inches beam, and the capacity is estimated at twenty persons. The canoe is for the Toronto Canoe Club and will be used as a club boat. When under paddle the crew sit two abreast, eight on each side. The craft will be taken to the Sugar Island canoe camp, on the St. Lawrence and is expected to create a sensation.—*Review*.

MESSRS. MACKENZIE, ROSS AND MADIGAN have completed arrangements with Mr. James Conmee, M.P.P., for water-power privileges at Sault Ste. Marie, for their big mill, the erection of which will be commenced at once. The capacity of this mill will be 1,200 barrels of flour per day. It is proposed to grind in transit chiefly for the export trade. Mr. Conmee has formed a company which, with the exception of about twenty acres of land, has obtained complete control of the water-power privileges at Sault Ste. Marie. These twenty acres are owned by the Ontario Government.

MR. J. B. ARMSTRONG, of the J. B. Armstrong Manufacturing Company, Guelph, Ont., informs us that his company have perfected arrangements for starting a branch of their works at Flint, Mich., and that operations will be commenced there without delay. This is clearly a case of bearding the American Eagle in his den, or words to that effect. This company enjoy a very large American trade for their specialties, and the establishment of the Flint branch of their works is done to save the amount which would otherwise be paid as duties. The goods for the large Australian and other foreign trade which this company enjoy will be manufactured at the Guelph factory.

THE Chatham Manufacturing Company, Chatham, Ont., are doing a larger business this season than ever before. In their wagon works they are turning out an average of twelve of their "Standard" wagons a day, and even this large capacity being insufficient to meet all the demands arising from all parts of the Dominion,

Australia and South America. The company give employment to 120 hands in their wagon works, forty-five in their hardwood lumber mills, and a large number in the woods, and in bringing the timber to the mills. It is expected that upwards of two million feet of hardwood ship plank, and a half million feet of hardwood wagon stuff will be manufactured by the company this season.

LETTERS patent have been issued incorporating The Streets Stable Car Company of Canada, (Limited), with headquarters at Toronto, and a capital of \$500,000. The incorporators are: Adolph Nathan, S. M. Fisher, and O. W. Meysenburg, manufacturers, of Chicago, Ill., R. B. Angus, of Montreal, and E. B. Osler, of Toronto. Messrs. Angus, Osler and Meysenburg are the provisional directors. The objects of the company are stated to be: The manufacture, use, sale and leasing of improved stock cars and apparatus for feeding, watering and loading cattle on cars; the purchase and sale of patent rights for the manufacturing of such improved stock cars and apparatus for feeding, watering and loading cattle on cars; and all other things necessary and incidental thereto.

So satisfied has Mr. Sproatt, the City Engineer, been with the result of his examination into the question of strength and durability of Hamilton-made sewer pipes, that he has authorized their use in the most critical portion of the private drains system, viz., that portion leading from private residences to the main sewers. He is also having an investigation into the condition of a number of street sewers of large calibre, constructed of Hamilton make of pipes, and which have been in use for a number of years. There seems to be no doubt but that the sewer pipes manufactured by the Hamilton and Toronto Sewer Pipe Company will be favorably reported upon by the engineer. These goods are in general use throughout Ontario, and are approved of by a large number of the principal city engineers of the Province.—*Empire*.

MR. CHARLES S. BURT, of Marquette, Michigan, was in Toronto last week making inquiries with a view to the erection of iron smelting works somewhere in Canada. Mr. Burt's father and other members of his family have been engaged in the manufacture of charcoal iron in Northern Michigan for the last thirty years, and with the experience he has of the business and the capital he is able to command, he should be able to make a successful venture in Ontario. Almost all of the charcoal pig iron used by malleable iron

## Bonuses!

TO

## MANUFACTURERS

The City of Belleville offers special inducements to Manufacturers seeking a location.

Besides its situation on the Bay of Quinte, in the centre of one of the wealthiest Agricultural districts in Ontario, possessing superior facilities for shipping by water, it is the principal terminus of the Midland Railway System, which extends its branches to several points on the Georgian Bay, and through the lumber country in and beyond the Muskoka district. It is also the most important station between Montreal and Toronto, on the main line of the Grand Trunk.

Besides the natural advantages for Manufacturing Operations, the city offers inducements to parties seeking location, Exemption from Taxes, Free Site for Building, and Money Aid on certain conditions.

Communications received by the undersigned.

D. B. ROBERTSON,

CITY CLERK.



works in this country is imported from the United States, and more than half of it comes from Michigan. It should be produced as cheaply here as there, and at the present rate of prices the enterprise ought to be a successful one. Mr. Burt examined iron properties in Hastings, Frontenac, and other districts of Ontario, and his action will doubtless be determined by the opinion he forms of the suitability of our ores.

MR. WM. HALL, Manager of the Spring Hill, N.S., mines, gives the following account of the successful completion of a winding plant, situated on the surface, and hoisting from an underground slope. A bore-hole four inches in diameter has been put down from the surface to the bottom of 1,300-foot level (North slope), a depth of 600 feet perpendicular. An engine and boiler have been placed in position on the surface close to the bore-hole. Power is then transmitted by means of a wire rope, and an arrangement of pulleys at the top and bottom of the bore-hole. Beside the wire rope in the bore-hole is placed a signal cord. By means of this cord communication is kept up between the engine-man and the man at the bottom. The first cost of the bore-hole is not nearly so great as that of 1,800 feet of steam pipes, while the cost of repairs, where pipes are suspended from the roof by means of hooks, will be entirely saved. Other repairs necessary to prevent leakages in the pipe will also be obviated, thus effecting a very material annual saving.

MESSRS. T. H. TAYLOR & Co., Chatham, Ont., are making some extensive and important improvements in their flour mills, included in which are new lines of shafting, cleaning machinery, separator, smutter, brush machine, three Goldie & McCulloch packers, thirteen sets 9x30 inch rolls, four scalpings, six purifiers, of which three are Holt's new patent "dustless," the first introduced into western Ontario, bolting reels, three Wilson dust collectors, etc. A new 40,000 bushel elevator immediately behind the mill has power transmitted to it by a wire rope driven from machinery in the mill. The work all through is being done by Messrs Goldie & McCulloch, of Galt, Ont. After it is completed the mill will rank second to none in convenience of adoption and perfection of machinery. There have also been added two tanks between the factory and mill, which will hold two carloads of crude oil, to be used for fuel under the boilers. The ninety horse-power steam engine has been thoroughly overhauled. The output of the mill will be about 300 barrels per twenty-four hours.



## TENDERS.

SEALED TENDERS, marked "For Mounted Police Provisions and Light Supplies," and addressed to the Honourable the President of the Privy Council, Ottawa, will be received up to noon on Tuesday, 18th June, 1889.

Printed forms of tender, containing full information as to the articles and approximate quantities required, may be had on application at any of the Mounted Police Posts in the North-West, or at the office of the undersigned.

No tender will be received unless made on such printed forms.

The lowest or any tender not necessarily accepted.

Each tender must be accompanied by an accepted Canadian bank cheque for an amount equal to ten per cent. of the total value of the articles tendered for, which will be forfeited if the party declines to enter into a contract when called upon to do so, or if he fails to complete the service contracted for. If the tender be not accepted the cheque will be returned.

No payment will be made to newspapers inserting this advertisement without authority having been first obtained.

FRED. WHITE,  
Comptroller, N. W. M. Police.

Ottawa, May 10th, 1889.



SEALED TENDERS marked "For Mounted Police Clothing Supplies," and addressed to the Honourable the President of the Privy Council, Ottawa, will be received up to noon on Friday, 31st May, 1889.

Printed forms of tender containing full information as to the articles and quantities required, may be had on application to the undersigned.

No tender will be received unless made on such printed forms. Patterns of articles may be seen at the office of the undersigned.

Each tender must be accompanied by an accepted Canadian bank cheque for an amount equal to ten per cent. of the total value of the articles tendered for, which will be forfeited if the party declines to enter into a contract when called upon to do so, or if he fails to complete the work contracted for. If the tender be not accepted the cheque will be returned.

No payment will be made to newspapers inserting this advertisement without authority having been first obtained.

FRED. WHITE,  
Comptroller, N. W. M. Police.

Ottawa, May 8th, 1889.

THE Ontario Rolling Mill Company, of Hamilton, Ontario, in connection with some Toronto and American capitalists, have secured a desirable lot of land at the Humber, just beyond the western limits of Toronto, on the lake shore, and are preparing to erect a nail mill plant in which about twenty nail machines will be placed, the number to be considerably increased after the works have been put in full operation. The location is all that could be desired as far as convenience in receiving fuel and supplies and shipping products are concerned, as the premises extend to the deep water of lake Ontario, where suitable docks will be built; the track of the Grand Trunk Railway lies through the grounds, and a switch from the new spur line of the Canadian Pacific Railway will also enter the grounds. Messrs. Knox & Elliott, architects, of Toronto, are preparing the plans for the new works, and will superintend their construction. These plans are not yet completed, but when they are a full and accurate description of this important addition to Toronto's manufacturing industries will be published in these pages.

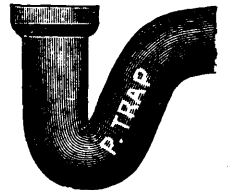
THE Polson Iron Works Company, of Toronto, who recently established a ship yard at Owen Sound, Ont., for the construction of iron vessels, and who about a year ago contracted with the Canadian Pacific Railway Company for the construction of a large steel steamer to ply between Owen Sound and Port Arthur, successfully launched that vessel on May 4, just eleven months after the signing of the contract. The Manitoba, as the new steamer is called, is the largest vessel afloat on Canadian inland waters. She is 305 feet long, 38 feet beam, will have a draught of 13 feet, and a capacity of 3,500 tons; the engines being of 2,000 horse power. The cost of the vessel will be when completed about \$250,000. The Polson Iron Works Company have contracts on hand for the construction of a large steamer for the Parry Sound Lumber Company, and a ferry steamer for the Canadian Pacific Railway Company, for making the crossing of the Detroit River at Detroit, which will be considerably larger than the one they have just launched. The Toronto works give employment to about 300 hands, and the Owen Sound works to 500.

THE Thorold Knitting Company have recently made some important changes and alterations in their knitting mills at Thorold, Ont. Finding their dye house accommodation too small, they moved the preparing machinery to a fire proof basement built under

A. E. CARPENTER, Pres.

J. H. NEW, Vice-Pres.

HENRY NEW, Sec.-Treas.



THE HAMILTON AND TORONTO

## SEWER PIPE CO'Y,

(LIMITED.)

HAMILTON, CANADA.

SUCCESSORS TO

The Campbell Sewer Pipe Co. and  
The Hamilton Sewer Pipe Co.

—MANUFACTURERS OF—

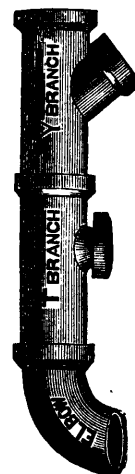
STEAM-PRESSED, SALT-GLAZED

VITRIFIED

SEWER PIPE,

FLUE PIPES, CHIMNEY TOPS and  
SMOKE PREVENTIVES.

Established 1860.



the wool house, leaving the entire wing of the main mill for dyeing and dyeing purposes. The prepared stock is drawn by the suction of a Sturtevant exhaust fan through a galvanized iron tube to bins besides the cards on the second floor of the main mill. By this change, and the addition of improved fulling and dyeing machines, the company have much better facilities for handling their goods in the process of preparing and dyeing, and also reduce the risk of fire in the main mill, besides saving the labor of carrying the stock from one building to the other. These changes are in accordance with the policy of the company to put their property in the best possible condition for turning out goods economically and in good shape for the trade. Messrs. Lockhart, Millichamp & Co., Toronto, Montreal, Winnipeg and Halifax, sell the products of the Thorold Knitting Mills.

The fire-proof building material manufactured by the Rathbun Company, Deseronto, Ont., is meeting with a very large demand. A recent test at the St. Lawrence Foundry, Toronto, shows that the company's 9-inch flat arch blocks, in a span of four feet, sustained, without any indication of weakness, 4,545 lbs. of metal on one square foot of surface. Architects are recognizing the value of this material, latest endorsers being: Messrs. R.A. Waite, of Buffalo, N. Y.; Brown & Love, Toronto; John J. Brown, Montreal, and Knox & Elliott, Toronto. The company's latest orders are from the Bank of Commerce (now building), Toronto; the Royal Insurance Co., rebuilding Head Office, Montreal; the Imperial Fire Insurance Co., new offices, Montreal. Dr. Stephen Smith, of New York, Vice-President of the National Board of Health, and late State Commissioner in Lunacy, after a critical examination of terra cotta porous ware, strongly recommends its use in hospitals, asylums and similar institutions, as "it makes a floor and wall that noise can scarcely penetrate, and capable of taking a finish which will be permeable to air, and may be washed and disinfected."

The beneficial results of the fostering care of the N.P., with respect to Canadian enterprise, are about to receive a new and pointed illustration. One of their effects has been to so build up the Canadian cotton industry that, having succeeded in controlling the best part of the Dominion trade, the promoters of this industry purpose competing with American manufacturers for foreign markets, and have resolved to erect a new mill with this object in view at Montmorenci Falls, near the city of Quebec. The first section,

which will be 160 feet in length and three stories high, will be completed and in working order by September next. Provision is being made for the extension of the factory, which is destined to be the largest cotton mill in America under one roof. It is to be 750 feet long, and probably 1,150. The largest part of the stock of the company is held by a Boston capitalist doing an extensive business with China, and a number of prominent cotton men belonging to Montreal. The present intention is to manufacture nothing in this factory for the Canadian market, the idea of the promoters being to ship the entire output of the establishment to China. They feel confident that they can successfully compete for this trade with the manufacturers of Manchester and Lowell.

MACHINERY cannot do everything, after all, and the best brushes are made by hand in the old way. To make a first-rate brush an amount of painstaking care is required that cannot be put into the workings of a machine. Unfortunately for the credit of American industry, the bristles of the American hog are fit only for the coarsest brushes, and most of the bristles used are imported, coming chiefly from the black swine of Russia, though the finest ones are grown on French hogs. Much pains is taken in sorting, cleaning and arranging the bristles, and also in drying and bleaching certain kinds of them. All bristles have a natural bend, and care must be taken to keep this bend in just the right direction, in putting the brush together, or the result will be disastrous to its usefulness as a brush. This is accomplished by skilful handling. For a paint-brush, the bristles are shaped into a round bundle, with the bend inward, tied with a string and the butts made even. A wire ferrule is put over the end of the bundle, which is then smeared with glue and inserted in a round hole in a wooden block. The handle is then driven up through the middle of the bundle, tightening it and holding it in place. Shaving-brushes are made from badgers' hair, which is deemed the very best for that purpose. The Russian bristles are combed and sorted in a curious way by means of a stick, which operates on the barbs of the bristles. In making dusting-brushes, the workman selects enough of the bristles to fill one of the holes, guided only by his eye, dips the ends in tar, ties them and slips them into the holes very rapidly and skilfully. Drawn brushes are made by passing a fine wire through the holes in a wooden plate, thrusting the bristles into the loop and pulling them through.—*Good Housekeeping.*

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WRITE TO **W. H. STOREY & SON,**

**ACTON, ONTARIO,**

For CIRCULARS and PRICE LISTS.

**ERATED FUEL.**

A good deal has been written and said in regard to petroleum for fuel, but it has been mostly in connection with raising steam. A new use of it, however, is coming into favor, and that is for heating, melting and the working of metals. For these purposes some other medium besides steam must be used for breaking up the oil, and devices and patents almost without number have been tried for that purpose, but for this, as well as in all others, the simplest and most direct application is the best and, so far, air under more or more or less pressure is claimed to do the work in a perfectly satisfactory manner.

It has been alleged that welding cannot be accomplished with oil. We are informed a piece of steel of two inches on each side was welded to a piece of iron and finished in seven minutes from the time it was put into the fire. Wagon tires  $\frac{1}{2}$  and  $1\frac{1}{2}$  inches are welded at the rate of one per minute. Car axles which with coal required  $1\frac{1}{2}$  hours to heat, are heated by this process in thirty-five minutes. One shovel company are heating to a rolling heat and finishing at same heat eighty dozen per day, which weigh over 5,000 pounds, at an expenditure of less than 110 gallons of oil; or, to be exact, 2,000 pounds of the above blanks are heated with 294 pounds of oil, when these same blanks, when heated with the best hard coal possible to buy, required, it is said, one pound of coal to every pound of steel heated. The above furnace was the same that used coal, and when coal was used only sixty dozen per day could be produced. The manufacturer of these shovels has stated that the saving by use of oil in this furnace alone was \$10.40 per day. Another shovel company are welding two pieces together, each piece being about  $\frac{3}{8}$  inch thick; between these pieces a thinner one is placed, which, in the finished shovel, will be the cutting edge when rolled into proper form. These are heated at the rate of one in two to three minutes, and at a saving over coal in fuel alone of sixty per cent., besides an increased production.

In making hay and manure forks, hoes, rakes, etc., this process is said to be used with the most complete success. One company who is using it for this purpose stated that they were running four more fires now than when using coal, and their oil bill was \$83 per month, against \$425 per month for coal, or, as the president of the company said, "We shall pay for our outfit, pay for our oil, and have \$1,000 left over what our coal cost us last year."

A cartridge company who are using it for heating lead and annealing cartridge shells, report a saving of more than fifty per cent. by its use for that purpose.

Manufacturers of brass goods report a great saving, one manufacturer stating that there is a net saving of \$1,000 per year in each muffle in their works.

A large nut and bolt works are using 150 of these fires, and are putting in more. Another writes the company that \$1.75 of oil is equal to \$4 worth of coal, the coal costing this company \$4.95 per ton, while the oil costs them three cents per gallon, or \$10.35 per ton; besides this, their furnaces produce about twenty per cent. more work.

These figures and statements can be made and substantiated in an almost endless variety of uses, from the enamelling of false teeth and baking of the most beautiful china, to the melting of copper, brass, glass, and the welding of wagon and car axles to the tempering of the finest tools used in the watchmakers' art; in fact, there is no place where heat is required, it is asserted, to which this process is not adapted.

Tests innumerable have been made to determine the effect of the heat on the metal operated upon, and they have invariably resulted in favor of oil. Rivets for boilers, bridges, etc., show a greater strength when heated with oil than when coal is used. Dies used for drop forgings show a wear of from two to three times longer than with a coal fire, and the same is true in the manufacture of horseshoe nails and other similar work.

A superintendent of a large locomotive works says that "iron that is heated in a coal fire does not come out as good as when it goes in, while with an oil fire the iron is invariably better."

The foreman of another railroad company says: "I don't know just what it does to iron, but it works softer under the hammer than when heated with coal, and when hammered or rolled it seems to work the slag out of it more completely."

People who have used natural gas will never be satisfied to go back to the use of coal again, and, at the present price of natural gas in many places, oil is the cheaper fuel; then again it has some advantages over gas: among them are the perfect independence of the user, he not being dependent upon a pipe line for his supply, or suddenly called upon to close his works without warning because the supply of fuel has failed. Another great advantage is its ease of transportation, it being handled with about the same ease as water, and giving the manufacturer a more even chance with his favored competitors in or near the gas fields.

Mr. Chilion Jones, Gananoque, Ont., is the sole agent in Canada for the company who controls the patent for the manufacture of aerated fuel.

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**Cast Steel Files and Rasps, Anchor Brand.****Cotton Waste, white and colored.****Asbestos Cement** for covering Steam Pipes and Boilers**Asbestos Piston and Joint Packing. Asbestos and Rubber Piston and Joint Packing. Plumbago Packing.****HOSE—Rubber, Canvas and Linen.****HOSE—Cotton, Rubber-Lined for Fire Brigades.**

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FOR BOTTOMS OF BRICK SEWERS.

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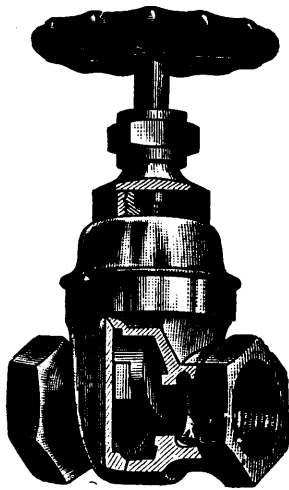
**The Standard Drain Pipe Company, St. John's, P.Q.****ROBT. CARROLL, Agent for Toronto.**

LAST year the growth of the wood-working interest has been phenomenal. From a published report it is learned that during the year 1888, there were established in the United States, agricultural implement works, 8; bridge works, 3; car works, 12; canning works, 84; cigar and tobacco factories, 31; cotton and woollen mills, 163; electric light works, 74; flour mills, 103; foundries and machine shops, 145; blast furnaces, 30; glass works, 4; ice factories, 30; mining and quarrying companies, 217; street railways, 87; wood-working establishments, 483; and 533 miscellaneous industries. The preponderance of wood-working industries, thus indicated, shows a surprising growth as compared with that of any other class. But when it is considered that the range of manufacturing in this department of industry includes everything from the lumber camp to the production of coaches, pianos, bridges, buildings, railway cars, and ten thousand minor forms, shapes and purposes into which wood is converted for the use of mankind, from mere utility articles to positive forms of art, the reason for this distinction is manifest. It is now stated that there is a movement on foot to form an organization of these firms, the Egan Co., of Cincinnati, itself one of the most prominent of them all, having taken the initiative. The object is an interchange of ideas, the adoption of uniform standard of quality, sizes and systems, a systematic method of correcting trade difficulties, and of regulating affairs and matters of interest to the trade, all of which is commendable and prudent. The buyers and users of this class of machinery will be benefited beyond a doubt, as the aim of the projectors is to bring about a proper adjustment of conflicting opinions as to the best method of serving their customers. — *Wagon Maker.*

CANADIAN SEWER PIPE

THE Hamilton and Toronto Sewer Pipe Company, whose works and head offices are at Hamilton, Ont., is one of the encouraging results of Canada's National Policy, the products of whose factories are well and favorably known throughout the country, and which are rapidly supplanting and taking the place of similar goods imported from foreign lands. In 1860, Messrs. Wm. Campbell & Sons, of

Hamilton, began the manufacture of sewer pipe in that place, drawing their supplies of raw material from the inexhaustible clay banks in that vicinity. This clay was particularly well adapted for the manufacture of sewer pipe, drain tile, etc., and the durability and excellence of the "Campbell" pipe soon won for it an enviable reputation. In the year 1883, the concern became merged into the Campbell Sewer Pipe Company, in which Mr. A. E. Carpenter and Mr. Henry New, two of Hamilton's most energetic business men, became largely and actively interested. In 1885, the Hamilton Sewer Pipe Company was formed in that city, and engaged in the manufacture of sewer pipe, but in 1888, the two companies—the Campbell Sewer Pipe Company and the Hamilton Sewer Pipe Company—became merged into one concern under the name of the Hamilton and Toronto Sewer Pipe Company, and although the two factories are in different parts of the city, they are both operated to their fullest capacity. The plant of the Campbell factory includes a main building of brick, 180 x 60 feet, two stories high, five kilns and kiln houses, a complete outfit of grinding and mixing machinery, elevators, steam pipe presses, coils of steam pipe for drying, and in fact all the appliances necessary for carrying on the business in the most expeditious and economical manner. These works are upon a five-acre lot, easy of access, and are provided with all the buildings necessary for storage purposes, stabling, etc. The other works are equally well equipped, the main building being of stone, 250 x 65 feet, two stories high. The company are now putting into this factory a new 70 horse-power steam engine, and are erecting a new brick building covering several of their kilns which are now exposed, which improvements will greatly increase their capacity for production. A railroad siding enters the grounds, enabling the delivery of the raw material at the door of the crusher and mixer room, and the loading of the finished goods directly from the storage sheds. The products of these factories include the very best steam pressed, salt glazed, vitrified sewer pipe, flue pipes, chimney tops, smoke preventers, etc. The supervision of the entire works is in the hands of Mr. Henry New, with able and competent foremen in each factory. Mr. J. H. New, vice-president of the company, represents the company's interests in Toronto, his office being at 30 Colborne street.



**WEBER'S PATENT**  
**Straightway Valves**

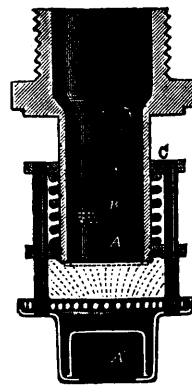
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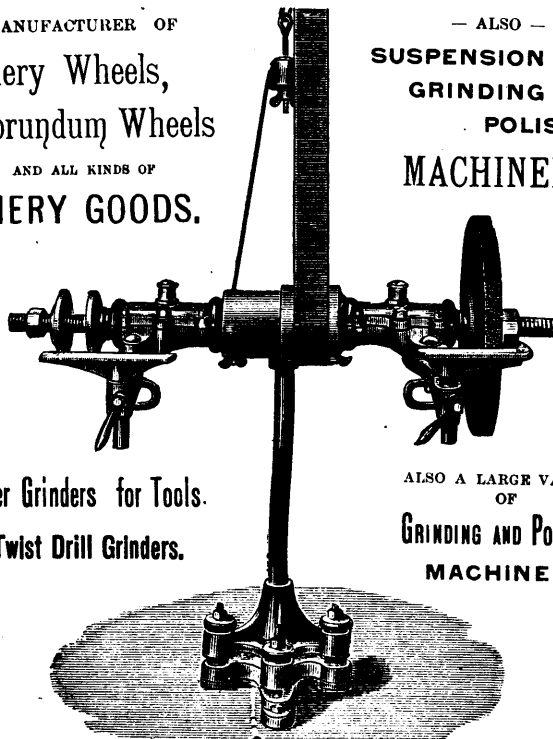
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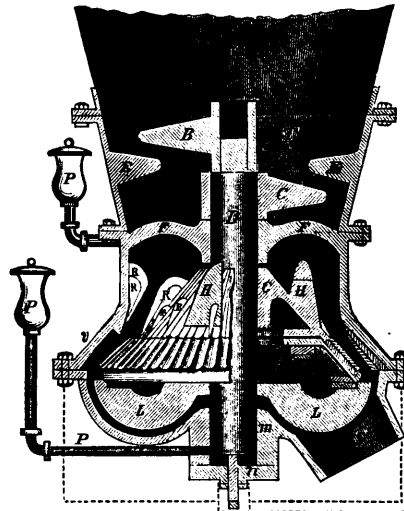
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It has the following good  
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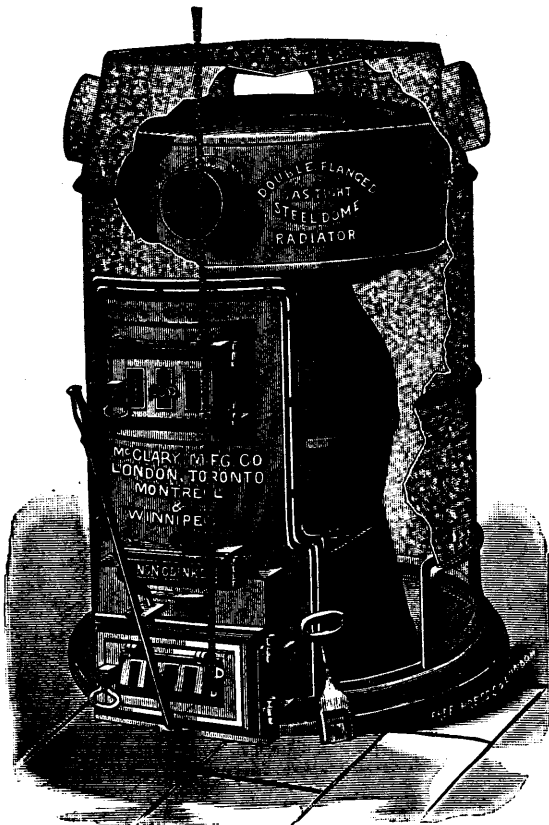
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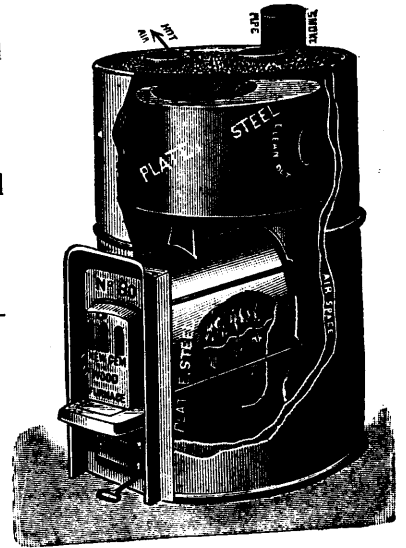
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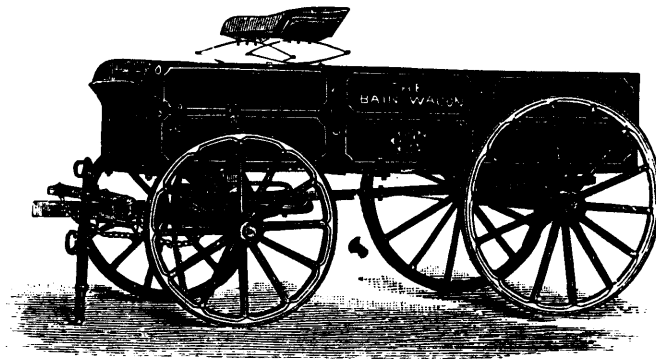
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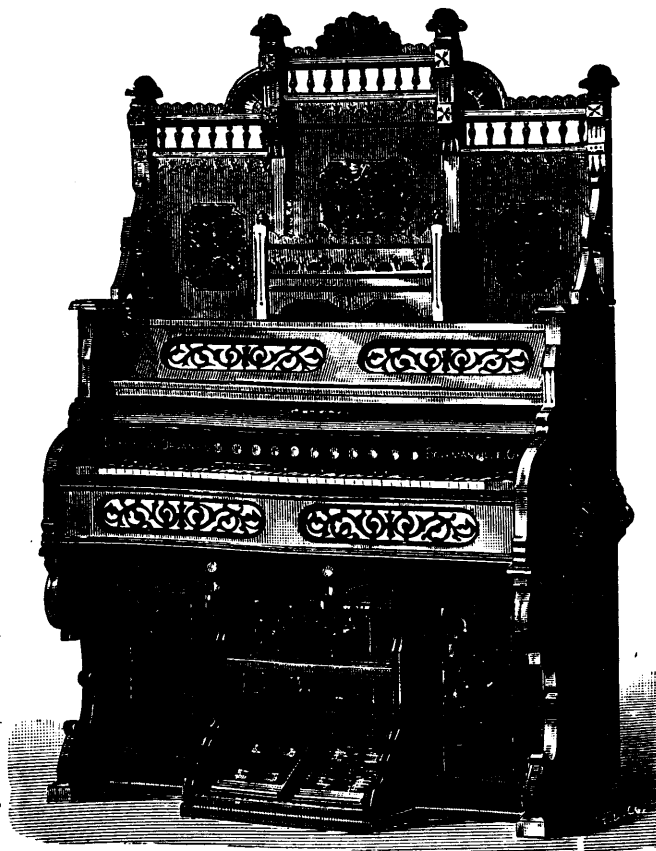
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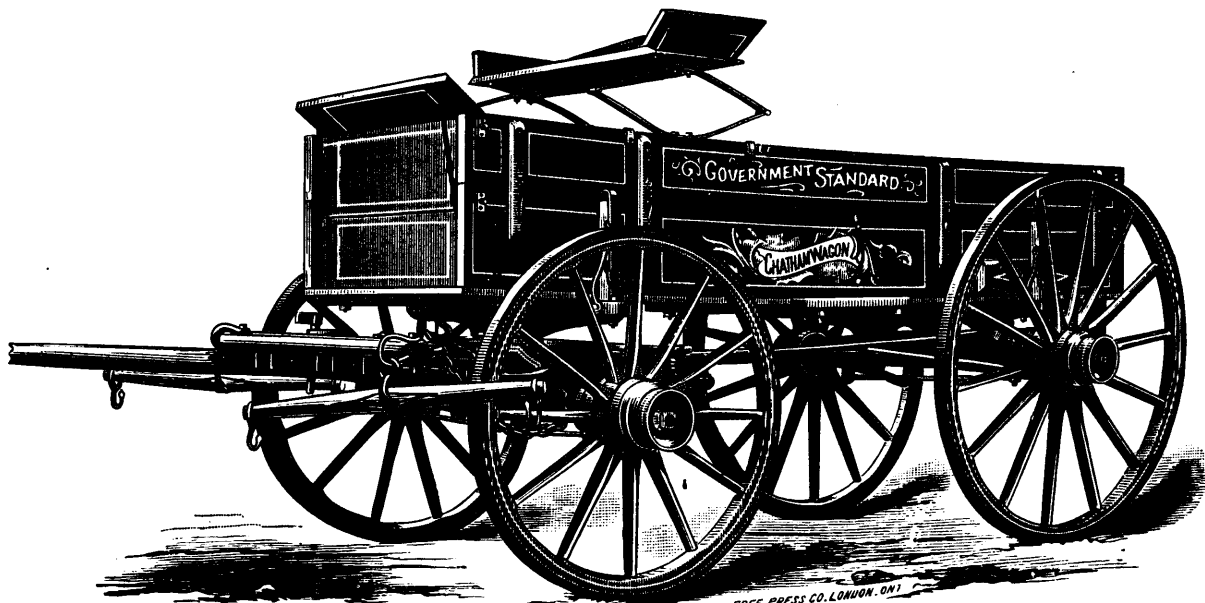
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I am prepared to supply in any desired quantities first-class **CANADIAN SALT GLAZED VITRIFIED FIRE CLAY DRAIN PIPE**, manufactured by the Standard Drain Pipe Company, of St. John's, Que.

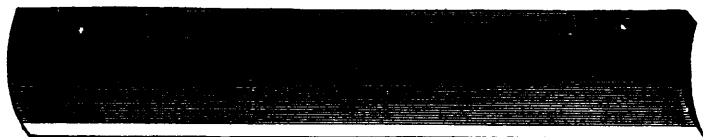
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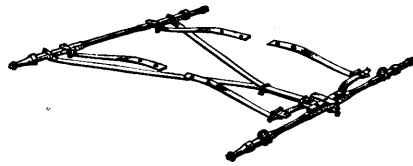
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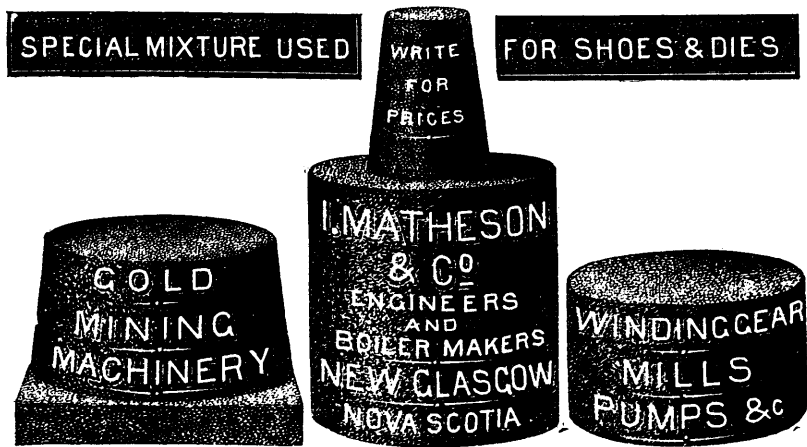
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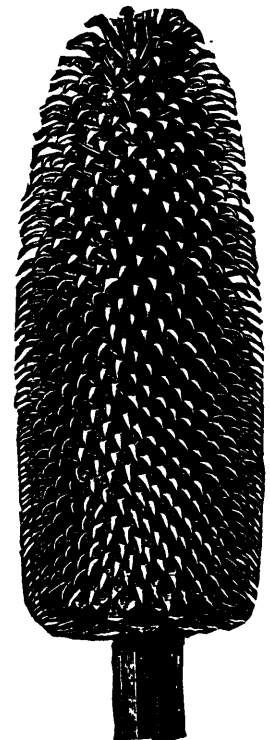
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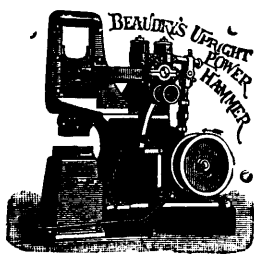
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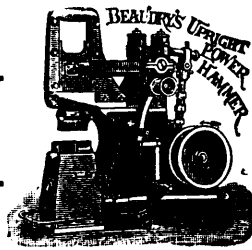
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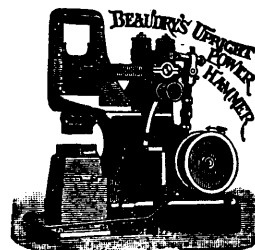
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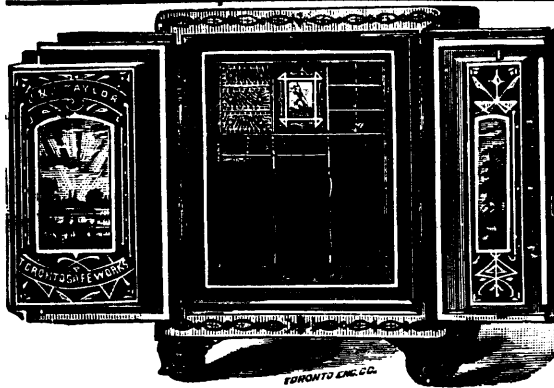


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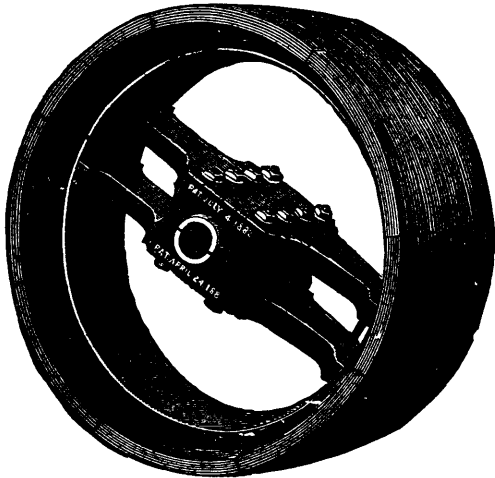
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*Best Belt Surface, Lightest, Strongest, Best Balanced, and Most Convenient Pulley in the World.*

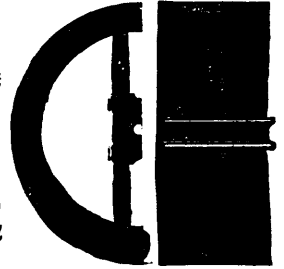
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*Strong enough for any power required. Made in any size and width, from twelve inches to sixteen feet diameter.*

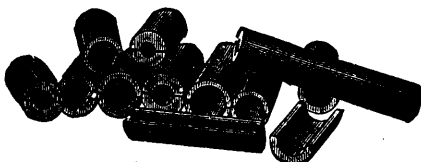
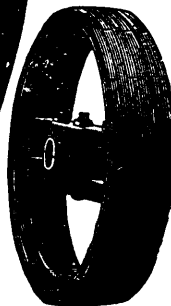
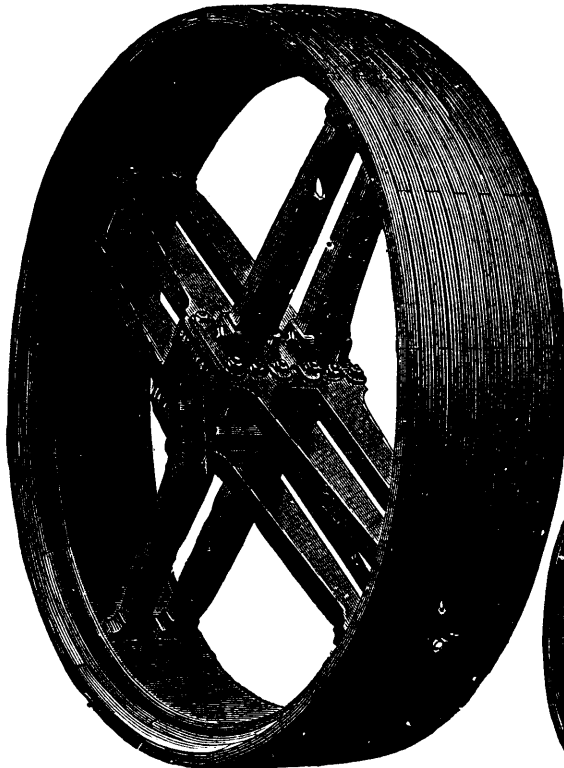
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*Gentlemen:* You ask why we use the Dodge Patent Pulley. I answer because we consider them the cheapest, most convenient and satisfactory in all particulars.  
Yours truly, S. R. STIMSON, General Manager.

**OFFICE OF NEWTON WAGON CO.**  
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*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; K. 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.  
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Yours very truly, S. H. GILMAN, Chief Consulting Engineer.

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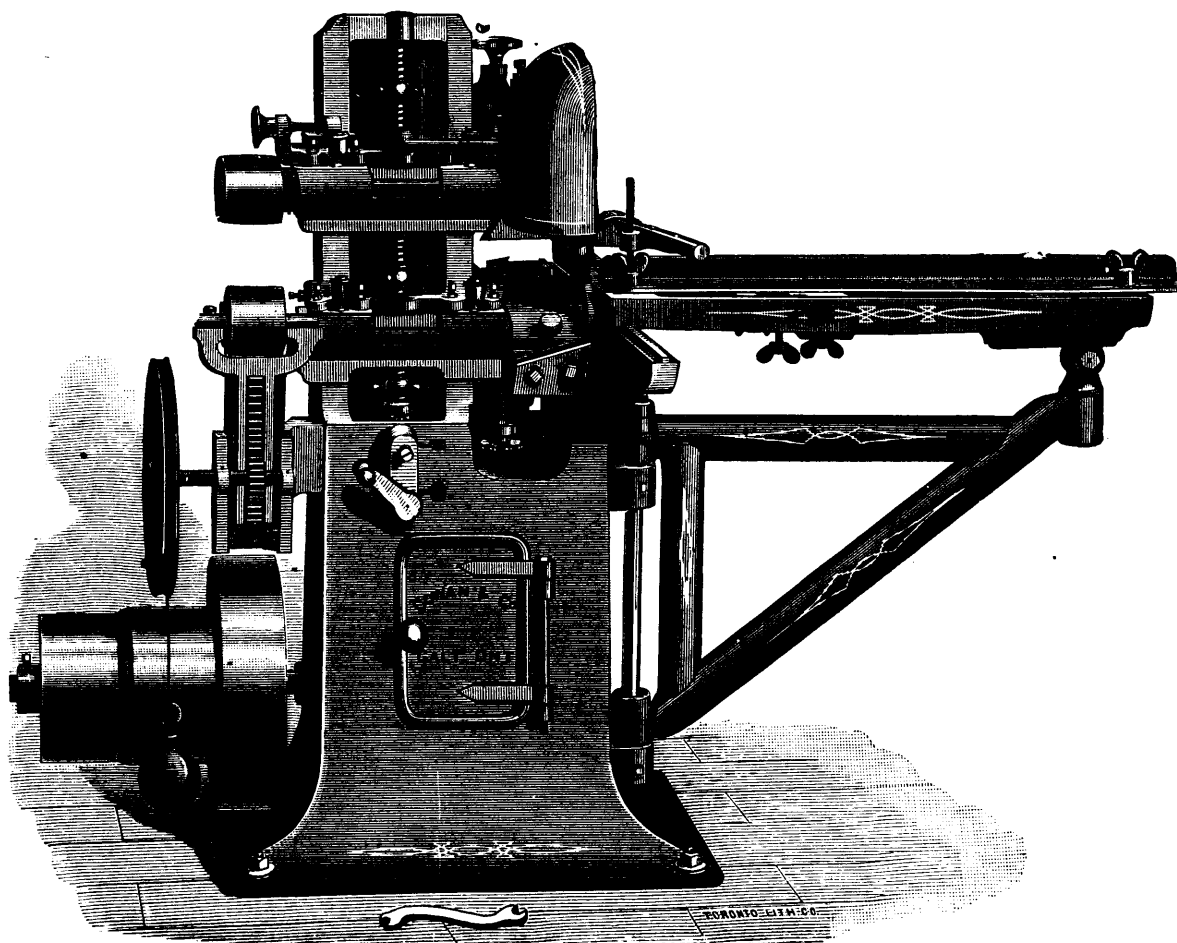
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A special feature in this machine is the Bed, or Carriage, which is at once light and strong. The outer end works on rollers and is moved very easily.

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.

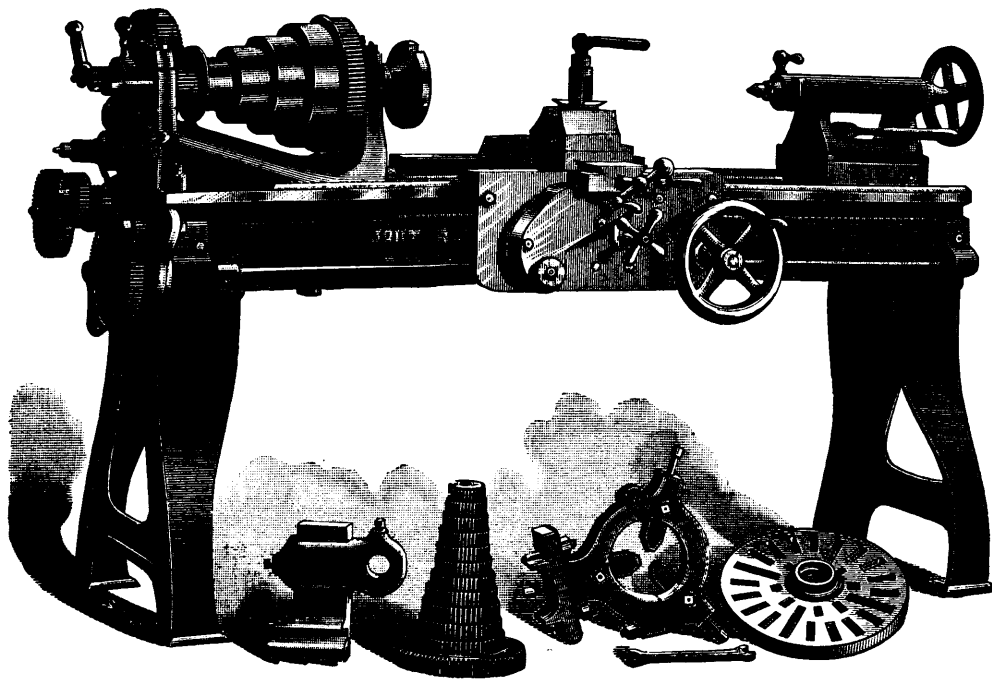
This Machine is supplied with single or double Copes, as ordered, and for furniture work it is without Copes, and with an adjustable cut-off Saw.

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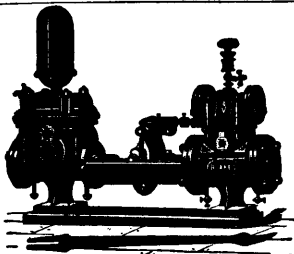
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MOULDERS,  
TENONERS,  
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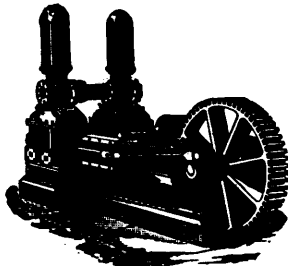
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Warerooms: Permanent Exhibition, Toronto; Polson Engine Co, 38 Yonge St.; Machinery Supply Ass'n, Montreal.

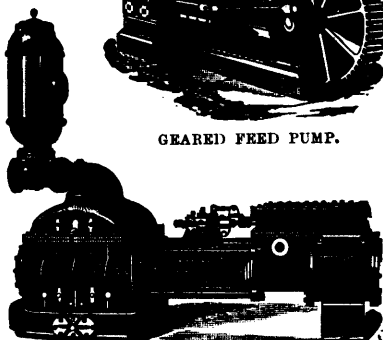
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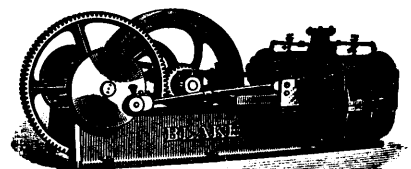
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NEW YORK,

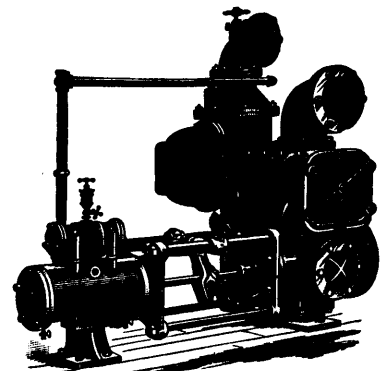
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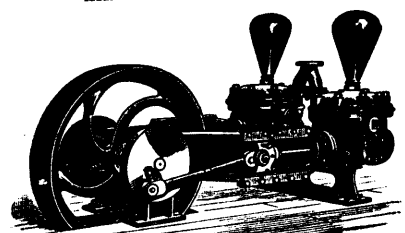
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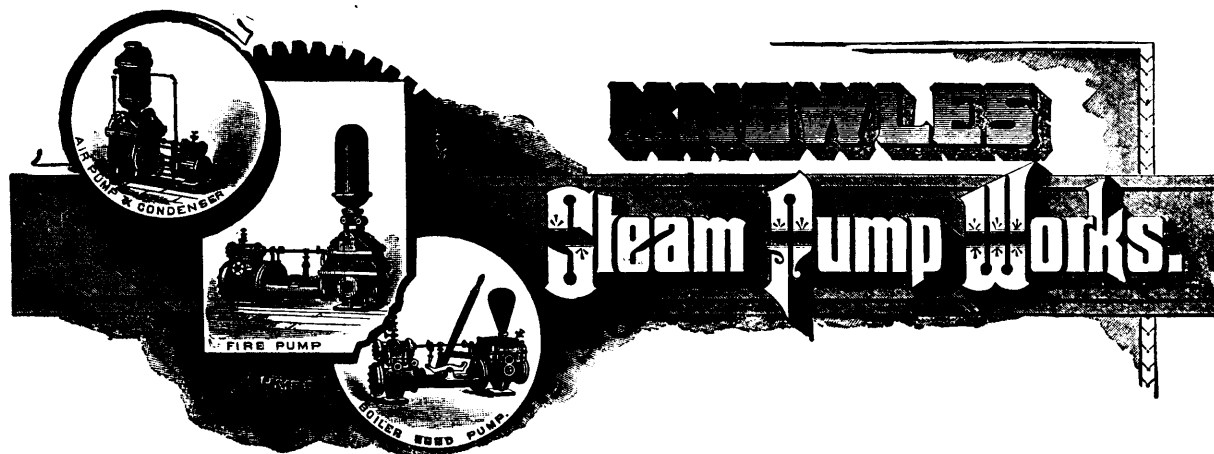
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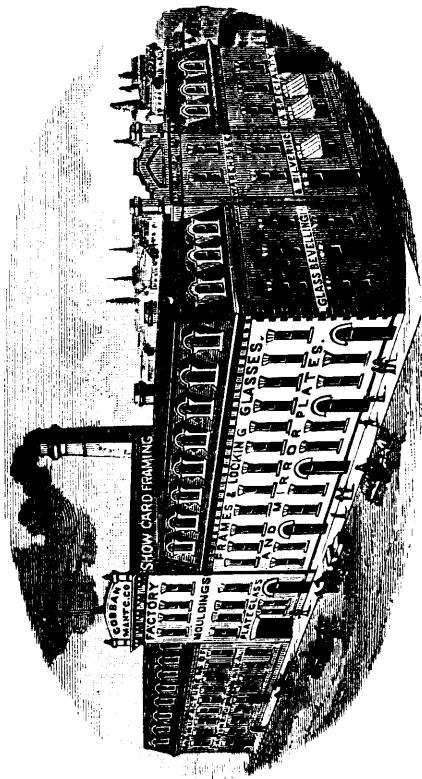
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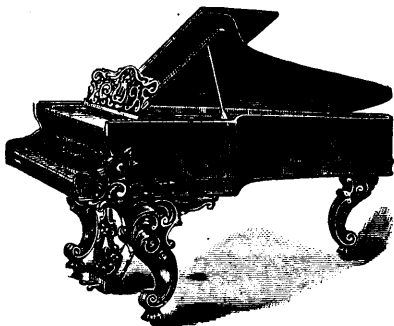


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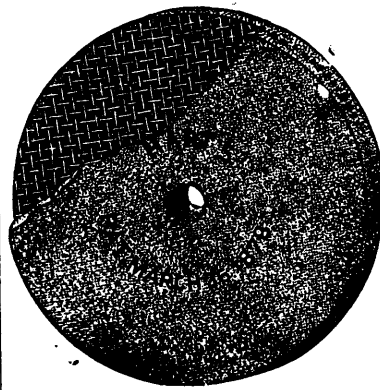
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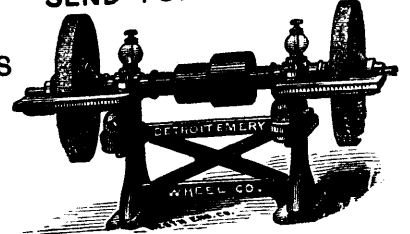
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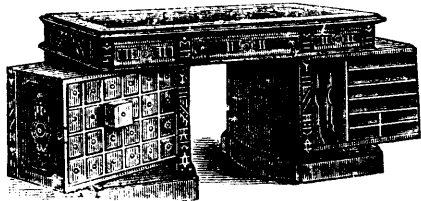
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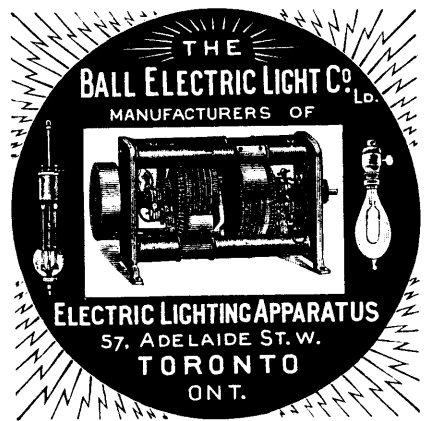
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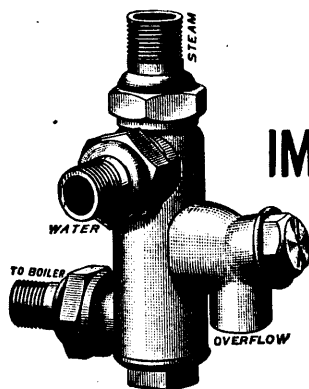
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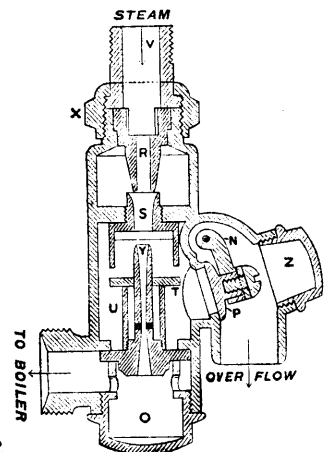
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