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DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

VOL. 17. TORONTO, SEPTEMBER 6, 1889. No. 5.

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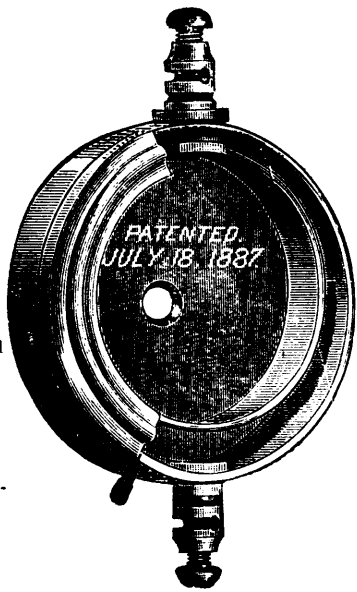
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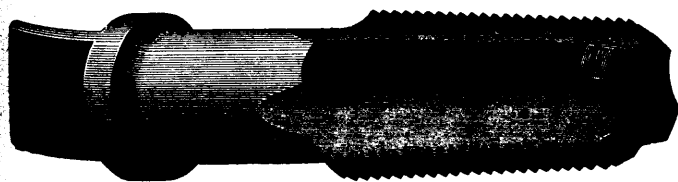
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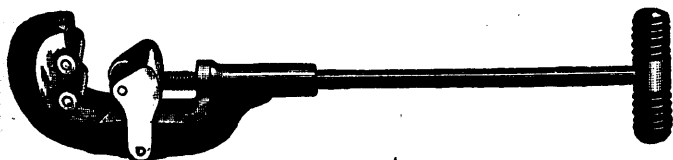


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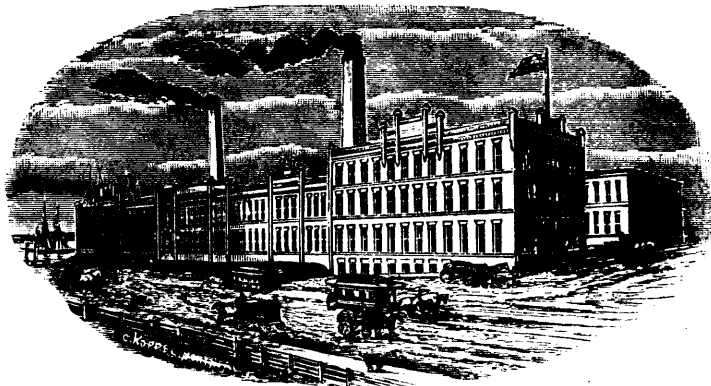
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TO OUR PATRONS AND FRIENDS.

FOR several years past, and ever since the erection of the Press Building on the Fair Grounds, the CANADIAN MANUFACTURER has been assigned one of the ground floor offices in that building, and at each recurrence of the Toronto Industrial Exhibition our Fair Grounds office has been open for the reception and entertainment of our friends. Those who have visited that office will bear in mind that without doubt it was the best arranged and most comfortable in the building for the entertainment of guests.

This building is in the management of a committee appointed from the different Toronto papers, under the supposed supervision of the Board of Directors of the Industrial Exhibition Association, and until a few days ago we had no reason to suppose but that we would occupy our accustomed place in the Press Building. But it has developed that a hole and corner meeting of the newspaper committee was recently held, of which this journal had no notification, and at which it was decided that the CANADIAN MANUFACTURER should be ousted from the office in the Press Building previously occupied; and in reporting their action to the Directors of the Industrial Exhibition Association, it was with the declaration that unless their action was endorsed and recognized the representatives of the Toronto daily newspapers would decline to occupy the building or have anything to do with it. This ultimatum was accepted by the Board of Directors of the Industrial Exhibition Association, the effect being to dispossess this journal, and to deprive it of the privilege of offering its accustomed hospitality to its patrons and friends.

Our friends will judge in this matter. A fair of the Toronto Industrial Exhibition Association without the countenance and support of Canadian manufacturers would resemble a representation of the play of Hamlet minus the character of Hamlet. This journal is the acknowledged organ of the Canadian Manufacturers' Association, and of Canadian manufacturers generally, and it is the only exclusively manufacturing trade journal published in Canada. The facts present a singular condition of things. The life and success of the Industrial Exhibition depend entirely upon the displays made by Canadian manufacturers; and the object which the Toronto daily newspaper men have in view in maintaining offices in the Press Building on the Fair Grounds, is that they may be the better prepared to buttonhole manufacturers and exhibitors, and obtain reading notices for their journals at so much per line. Yet some of these very newspapers never lose an opportunity to do all they can to injure and destroy Canadian manufacturing industries by attacks upon Canada's National Policy, and by efforts to bring about Commercial Union, Unrestricted Reciprocity and Annexation with the United States. Those of these papers which do not countenance these political fads and heresies, although they may proclaim from their housetops their love and affection for Canadian manufacturers, are quick and ready to combine with their political enemies to deprive this journal of its office in the Fair Grounds Press Building, and to which exceedingly selfish act the directors of the Toronto Industrial Exhibition Association lend themselves without the least murmur of remonstrance.

ENCOURAGED BY THE ASPECT.

A PRESS telegram from Galt, Ont., a few days ago said:—
"Three of the moulders who have been working in the shops have come out, two from Messrs. Goldie & McCulloch's and one from Messrs. MacGregor, Gourlay & Co. The men feel greatly encouraged by the present aspect of affairs."
"The men feel greatly encouraged." Taken in the light of circumstances which prompted them, these are sad words. Several hundred workmen were employed in the establishments in Galt in which the moulders were at work, and the whole number of moulders who went out on strike amounted to only about thirty men. The strike was not for increase of wages, but to enforce the supremacy of the moulders' union, and to compel the owners of the foundries to deal with the union in all labor matters instead of with the workmen individually. The proprietors decline to do this, and therefore the strike. The balance of the several hundred workmen have been put on short time because the castings necessary in the work they were employed at cannot be had, and it is likely that one of the results of this strike will be that a large portion of these men will be discharged. Not discharged because of anything they have done; not because they are unwilling to work; not because their employers want to discharge them; but because about thirty moulders and their union demand the right to regulate the business of the pro-

proprietors, to which demand the proprietors refuse to accede. Many of these moulders have families to support, and many of them own the homes in which they live, bought by their savings from wages earned in the shops which they now seek to plunge into silence and idleness; and many of the other workmen are similarly situated. In fact, the town of Galt justly boasts that a large, influential and respectable portion of its population consists of the laboring mechanics and workmen who toil in its industrial establishments, and their wives and children. The storekeepers and small traders are supported, to a great extent, by this element; the congregations of the churches are composed, in large part, of them, and the public schools would have but few pupils in attendance if the children of these workmen did not attend them. But while as a class the workmen of Galt are entitled to all the favorable mention that may be made of them, it is to be regretted that there are some hot-headed ones among the moulders who are so obtuse to their own interests and the interests of their beautiful town; who are so devoid of that noble, sympathetic manhood which is so essential in the character of good citizens, as to "feel greatly encouraged by the present aspect of affairs." A few rash and inconsiderate men in the councils of a labor union overslaugh and suppress the judgment and advice of wiser heads, and precipitate a condition of affairs that deprives innocent and willing men of their employment; that causes helpless women and children to go hungry; that paralyzes trade and forces storekeepers and traders in the direction of bankruptcy and financial ruin, and that engenders bad feeling between those who would otherwise be friends. If they could be cheered by the honest, reasonable belief that they would ultimately gain their point, this might be offered as a reason, or an excuse, for beginning and continuing the strike. But they do not seem to know the character of the men with whom they have to deal. It is said that one of these proprietors—a sturdy Scotchman, who always means just what he says—remarked to one of the strikers to this effect:—"There is my factory, it is a large one, it is built of brick and stone. You might begin and take it away piecemeal—one brick at a time, one stone at a time—carrying the particles on your own shoulder over into the next county, going as slowly and as deliberately as you please; let the job extend through as many years as you please, and then, when all has been taken away, I will be no nearer to yielding the management of my business to your trade union than I am now. I will never do it." And those who know the character of the man know that he will never do it. He is of those who will never yield under compulsion, and sooner than yield he would allow his factory to become the undisputed resting place of bats and owls. And this is the "aspect of affairs" over which the striking workmen of Galt "feel greatly encouraged."

TYRANTS AND DUPES OF TYRANNY.

A FEW days ago a Knights of Labor organization in Toronto, composed of longshoremen, issued a boycott against two of the principal coal dealers of the city, the circular being signed, "By order Executive Board 6564 K of L., sanctioned by D. A. 125 K. of L." The circular appealed to all members of labor organizations, and all friends of organized labor, to deal

only with certain coal merchants in Toronto, a list of their names being given, the names of the two firms whom it was intended to boycott being significantly omitted. The circumstances are these:—The boycotted firms are Messrs. Elias Rogers & Co. and S. Crane & Co., importers and dealers in coal. Recently Messrs. Rogers & Co. bought out the coal business formerly conducted by Messrs. Ray & Co., whose receiving yard was at the foot of Church street. This being a desirable central location, Messrs. Rogers & Co. determined to move their receiving business to it, and in doing so they transferred to it some workmen whom they had at work at another yard. The offence of Messrs. Crane & Co. was their refusal to discharge a man in their employ on the demand of Assembly No. 6564 K. of L. It is understood that the men employed by Messrs. Rogers & Co. were members of No. 6564, but in employing them it was in their individual characters and not as members of a Knights of Labor Assembly. It appears that this longshoremen's assembly has Toronto divided into districts, certain of its members being appointed to each section, the men of one district being prohibited from working in any other district. The original Rogers yard was not in the same district with the Ray yard, but when the Rogers people removed to the Ray yard they took their old hands along with them. These men had been long in the Rogers employ, and, being attached to them on account of their faithfulness, Messrs. Rogers & Co. refused to discharge them on the demand of the K. of L. Assembly. Being members of the assembly, pressure was brought to bear on these men to force them to quit the Rogers employ, but because they would not so quit they were expelled from their assembly. These events precipitated the boycott. Master Workman P. Shea, of the longshoremen's assembly, is reported as saying regarding the affair that Mr. Elias Rogers' offence consisted in that he refused to deal with the assembly instead of with the individual workmen—that the union undertakes to appoint and apportion the men to work at the coal docks—that the men about whom the trouble arose broke the rules of the union which they themselves had helped to frame, and that they had refused to pay the fines which the union had imposed upon them for this refusal, in consequence of which they had been expelled the order.

This is another exhibition of the tyranny of labor organizations in their efforts to force their recognition from all who have occasion to hire the services of men. There is no dispute as to wages; there is no question as to the competence of the men to do the work assigned them; these men involved in the matter were all members in good standing in their assembly; their employers were satisfied with the services rendered by them, and there was nothing in the situation that suggested misunderstanding or trouble. But, unfortunately, the longshoremen constituting this K. of L. Assembly were not free men; for they have their necks submitted to a yoke of tyranny quite as galling as that which they desire to impose upon Messrs. Rogers & Co. and Messrs. Crane & Co. They allow themselves to be assigned to certain districts, and if they can find work therein they are permitted by their assembly to perform it; but they are not permitted to take a job on the other side of the street, if that street happens to be the boundary of his district. If his employer desires to change his place of business, and moves into another district, these slaves

of the K. of L. Assembly are not allowed to follow their employer and their employment to the new location; if they do, they subject themselves to a fine, and if they do not abandon their jobs on the demand of their assembly, they are expelled from their assembly and are thenceforth known only as black sheep. On the other hand, long years of faithfulness in the service of one concern, where there is no dispute about either the quality or quantity of the work done, or the remuneration therefor, and where the most kindly feelings exist between employer and employee, count for nothing if the tyrannous assembly decide that the slave of a workman must quit his job or suffer expulsion and blacklisting, and the employer must discharge his good and faithful servants or suffer the penalty of the boycott.

It is such exhibitions of senseless tyranny that lead to revolt. Some unthinking workmen may submit to the dictation of the cunning schemers whom they may have chosen to rule over them, but thinking men are not apt to allow their individuality and their manhood to be thus ignored; not apt to long submit to being thrown out of employment by their tyrant masters; not apt long to walk the streets in idleness while their wives and little ones go hungry.

MUNICIPAL OPPRESSION.

In a recent issue of this journal allusion was made to the disadvantages some Canadian manufacturers are under in the lack of police protection to their interests in the matter of preventing hostile demonstrations toward workmen who may be employed to fill places made vacant by other workmen who may have gone out on strike. We showed that while municipal corporations are willing and anxious to offer bonuses, tax exemptions and similar favors as inducements to manufacturers to locate in their midst, in many instances the authorities of such municipalities show no fervor whatever in protecting the interests of manufacturers against the demonstrations of striking workmen and their foolish and mistaken sympathisers whenever labor troubles occur.

Another feature of municipal blundering (if it may be called that instead of viciousness) is the desire too often shown to impose unnecessarily high taxes and restrictions upon manufacturers; the idea being, seemingly, that factories and heavy and expensive machinery are fixtures that cannot be removed from the pernicious influence of such legislation, and therefore the proprietors must submit as best they may to such imposition. A case in point illustrating this idea is that wherein the municipal authorities of West Toronto Junction propose to impose a license of three hundred dollars a year upon all billiard tables. These astute legislators have recently been making strong efforts to induce a number of manufacturers of Toronto, whose business demanded much larger accommodation than what they possessed in the city, to erect works there; and indeed the inducements offered had the desired effect in a number of instances and West Toronto Junction at this time can boast of quite a number of as fine, large factories, employing large numbers of hands, as can be found in any town in Canada. The chief proprietor of one of these industries is a large manufacturer of billiard tables; and he is, or rather has been so well pleased with his new location, that he had determined to also move

his Toronto billiard table factory to that place, erecting extensive works for the purpose; but he is now confronted with such hostile legislation as will probably cause him to defer the consummation of this idea, if not to abandon it entirely.

The opinion seems to prevail with the West Toronto Junction town council that billiard tables are the invention of the devil, and that as conservators of the morals of their town it is their duty to discourage or prevent their use; and it is regarding this matter that Mr. Samuel May, the manufacturer here alluded to, has written a letter to the council in which he says:—

“My attention has been drawn to a resolution of your Finance Committee recommending the council to fix the billiard license at \$300 per table per annum, and, as your committee are well aware that no sane man would purchase billiard tables in the face of such a license, it is plain to me that their principal aim is to kill the industry in which I am engaged, for should such laws prevail there would be no billiard tables, balls or cues manufactured in Canada. The works and agencies throughout the Dominion would soon be closed and the capital and operatives would have to seek employment in the United States or elsewhere.

“At a time when the merchants, manufacturers and property-owners of West Toronto Junction are endeavoring to attract business men and capital to the town, this recommendation of your committee seems out of place and behind the age.

“I have already established a large factory and a new industry at the Junction, and have also purchased grounds with a view of erecting a billiard table factory next year, to be ready for occupation at the expiration of our lease in Toronto. But this action of your honorable body would certainly cause me to halt—as I said before, no factory will be required if such laws come in force.

“Why should the business in Canada be so hampered? They have no such laws in England, because there the billiard table is looked upon as a means of healthful exercise and innocent amusement. The public tables there have to pay a small license fee for the issuing of their license, simply to bring them under the law governing public houses, but the expense per table does not exceed ten shillings. There is nothing done to injure business; on the contrary the British Parliament in the past have made large appropriations—£60,000 on one occasion—for the purchase of billiard tables for the army. Billiard tables are also supplied to many educational institutions, asylums and reformatories. Billiards is a British institution. No gentleman's residence is considered complete without a billiard table. The game is indulged in by everybody, not excepting the clergy of the Established Church. Consequently the industry is extensive. In Great Britain and Ireland there are over forty firms and companies engaged in the manufacture of billiard tables and appurtenances, not including those engaged in preparing slate for beds, manufacturing billiard cloth, billiard rubber, billiard hardware, etc., thus giving lucrative and steady employment to thousands of workmen.

“The day is past when an argument is needed in favor of the game of billiards as a healthful and elevating amusement. It has won its way through all classes until to-day, when the exception in society is found among those who do not play and are prejudiced through being misinformed.

“Billiard tables, unlike pleasure boats and vehicles, are not hired for use on Sundays, neither is their use attended by deplorable accidents and loss of life.

“Believing that your honorable body would not knowingly injure a Canadian industry that has taken many years of hard work to establish, I would most respectfully ask you to dispose of the billiard license question in that wise and liberal spirit most conducive to the best business interests of the Junction.”

Mr. May's argument seems to have covered the ground in showing the ridiculousness of the proposed tax; and it is to be

hoped that the matter will subside. At the same time the incident shows the inclination of some over-zealous officials to do things that are very much against the interests of their towns and the constituencies they were chosen to represent.

NATURAL RIGHTS.

THE *Toronto Mail* publishes a long editorial regarding the great dock laborers' strike in London, and in discussing the subject generally, says:—

"The persons actually engaged in a strike are not the sole sufferers. Other individuals altogether innocent of any offence or of any complicity in the dispute are thrown out of employment while the trouble continues, and are thus deprived of their livelihood. It has been found difficult to protect these people or devise means whereby differences between employer and employed can be adjusted promptly and satisfactorily to all concerned. But the Labor Commission which sat last year has proposed Boards of Arbitration for each locality, every board to be composed of three members, one appointed by the employers, the second by the workmen, and the third by the other two. It is suggested that when these local boards cannot effect an adjustment, a Dominion Board, attached to the projected Bureau of Labor Statistics, shall intervene, and after hearing both sides, render a judgment which shall have the same binding force as a decision by a court of law. There is much in this proposition to commend itself to the interests concerned. But Parliament will have to lay down specific principles for the guidance of the arbitrators. There is a strike in progress just now over the question of the employment of members of a labor organization. The employers are alleged to have declared that they will engage no union men, and the employés are reported to have declined to surrender their right to belong to a union. The arbitrators, unless directed by the law, would find it difficult to decide whose natural right should prevail, that of the employer to employ whom he pleases, or that of the employed to belong to such organizations as he may select, free from the dictation of capital."

The *Mail* thinks that there is much to commend itself to the interests concerned in the proposition to establish local Boards of Arbitration, supplemented by a Dominion Board, acting as a court of appeal, with power to adjudicate upon labor disputes, their judgments to have the same binding force as decisions in courts of law. Allusion is made to some "natural rights" held by the respective parties to the dispute to be adjudicated by the arbitrators; and in this the *Mail* seems to misapprehend the question. It cites an existing strike where the employers refuse to employ union men, and the employés decline to surrender their right to belong to a union. The *Mail* is mistaken in supposing that employers care a straw whether their workmen belong to a union or not. The point with them is that in all transactions with employés it shall be with them as responsible individuals, and not with their union acting in their behalf. The man is supposed to be an intelligent human being, and it is with him as such that employers insist on dealing. On the other hand, no employer desires to interfere with the "natural rights" of the men to belong to unions if they so desire; but he insists on maintaining his "natural right" to bargain with the men for their services, and not with their union acting for them.

It is difficult to see in this any necessity for the interference of any Boards of Arbitration. What possible action could any such board take in the case of the Toronto longshoremen and their boycott against Messrs. Elias Rogers & Co., the question

being whether Messrs. Rogers should continue in their employ men who had been in good and regular standing in their union, but who had been expelled because they complied with a requirement to work on one side the street instead of on the other side, the street being an arbitrary dividing line established by the union for its own purposes. Will the *Mail* indicate the locality of the invasion of "natural rights" in this matter? It appears to us that the oppression lay in the expulsion of the men by their union, and in the attempt of the union to force Messrs. Rogers & Co. to discharge them, failing in which they still further invade "natural rights" by instituting the boycott. The *Mail* suggests that arbitrators, "unless directed by law," would find it difficult to decide as to whose "natural right" should prevail in such disputes. It might as well ask "the law" to direct as to how and when a man should enjoy his "natural right" to breathe the free air of heaven. Left to the decision of labor organizations, who would in all cases say who should and who should not accept work from any employer, the employment of laboring men would be very much like going to a teamster and making a requisition for a certain number of horses or oxen with which to accomplish a certain job. The only "natural right" the laboring man would enjoy would be, not to bargain with his employer regarding his services, but to do uncomplainingly whatever his union bosses instructed him to do. And this is the sort of "natural rights" that the *Mail* and the labor organizations offer to free men.

EDITORIAL NOTES.

A COMPANY has been formed in St. Louis for the purpose of introducing writing telegraph machines. It is proposed to operate these machines on the telephone system, having a central office connecting with all the private or public instruments. If a business man wants to hold a conversation with a customer or friend, he pulls a little lever, which rings a bell at the central office. He then writes down on his plate the number he desires, the connection is made, and he proceeds to write down his message, which is immediately reproduced at the other end. If the party the message is addressed to is in, he answers in the same way, and the conversation can be carried on indefinitely. The questions and answers being all in writing, they can be filed away for future reference. When the party called up is not in, the message is ready for him on his return to the office.

TAYLOR BELTON, a colored man, residing at Camden, S.C., has invented a cotton chopper which is pronounced to be a decided success. A gentleman from Savannah, Ga., who saw it thoroughly tested lately, bought an interest or share for \$20,000, and the choppers are to be manufactured on an extensive scale. The latest invention of the colored man Belton is a self-pumping machine, which is said to be almost a perpetual motion machine. The contrivance is put in a well, and pumps water from the time it is started until it is stopped. Belton desires the principle of the pump kept secret until a patent has been obtained. In a short time a model will be set up, and the feasibility of the invention will then be demonstrated to a select few. Those who have seen Belton's rough drawings of this pumping machine think the plan feasible, and

one gentleman has offered to put up some money to carry out the project.

IN a recent issue of this journal we gave an account of the remarkable work done by a Canadian mowing machine, and challenged Yankee manufacturers to match it which they haven't yet done. We now call attention to another Canadian invention, which will no doubt come greatly into favor. It is an upholstered front gate intended for use where interesting young maidens live in the adjoining residences. It includes a cushioned footboard, and there is a warm soapstone step on each side, the inside step being adjustable, so that a short girl can bring her lips to the line of any given moustache on the other side without trouble. If the gate is occupied at half-past ten p.m., an iron hand extends from a gatepost, takes the young man by the left ear, turns him around, and he is at once started towards home by a steel foot. The girl can, if she likes, set this part of the mechanism so as not to operate till a later hour than half past ten.

A DETERMINED effort is being made to start a tin-plate factory in Pittsburg, Pa., and the British tin-plate makers are considerably exercised thereat. The American factory will be quite a small affair, built specially to demonstrate the feasibility of the industry being successfully conducted in the United States; and there seems to be no doubt that if this is done, the United States Congress will place a protective duty on all imports of tin-plates. In 1888 the exportation of tin-plates from Great Britain aggregated nearly seven million boxes, nearly all of which went to the United States; and this vast amount represented the consumption of about 300,000 tons of iron and steel. The successful establishment of tin plate works in the United States would mean the employment of millions of capital and thousands of workmen in that country in an industry that would be new; but it would mean ruin to the English and Welsh tin-plate trade.

READERS of this journal will remember a description that was herein given some time ago of a cooking apparatus invented by Mr. Edward Atkinson, of Boston, Mass. Mr. Atkinson has had a novel experience with his cooker, which forcibly illustrates the value of having such things patented. Expecting that by not patenting it he would make its adoption much more general, he has found the result to be exactly the reverse. Because no manufacturer can be granted a monopoly, the cooker cannot be made on a large scale and placed on the market at a low price. Every buyer has to pay the cost entailed in the uneconomical manufacture of a few dozen of the apparatus. It would seem, then, that an inventor cannot do good to the public without first taking pains to do good to himself. Much the same experience as Mr. Atkinson's befell Herbert Spencer. His mother during the last years of her life was a bed-ridden invalid. For her convenience and comfort Mr. Spencer designed a bed mounted on a universal joint, and it was so arranged that a touch from its occupant brought its inclination lengthwise or sidewise to any desired angle. That all invalids might be free to adopt its use, the bed was not patented, and, therefore, remains practically unknown. Patented, and sold at a comparatively low price, it would have been to

the interest of its manufacturer to have given it the widest possible introduction.

Two years ago the Permanent Exhibition of Manufactures in this city was first opened to the public. It was an entirely novel enterprise, nothing of its specific character being in existence in Canada, and nowhere else as far as our information goes. It was a success from the beginning, and the utility of it as a means of bringing special lines of manufactures to the favorable attention of the public is testified to by the large number of manufacturers who have availed themselves of its advantages. This establishment is now entirely in the management and control of Mr. Frederic Nicholls, and some changes, alterations, additions and improvements have recently been made in it which render it decidedly more beautiful and attractive than ever. During the present season, when Toronto has been thronged with tourists and visitors from all portions of the habitable world, the Permanent Exhibition has been a favorite resort for them; and as an educator of the possibilities of Canada as a self-sustaining and manufacturing country, its influence has been large and fully appreciated. The exhibits, however, are not by any means confined to Canadian products, as is testified to by many specimens brought from the United States and from Europe, by those who desire to avail themselves of the opportunity to display their goods in a community wherein they hope to find a large and lucrative market. As large as the Permanent Exhibition building is, it is well filled up, and desirable spaces are in request. Being a bonded warehouse, foreign exhibits may be placed on view without the previous prepayment of duty, and it is only when the goods are withdrawn from bond that the duty has to be paid. An important feature of the enterprise is the numerous cosy and convenient offices in the building which are offered to manufacturers or their agents who may be on the spot where possible business is most likely to originate. It is open free to the public at all business hours, and visitors are requested to carefully inspect the exhibits, information regarding which will always be cheerfully given by polite and intelligent attendants.

SPECIAL ADVERTISEMENTS.

Advertisements will be accepted for this location at the rate of two cents a word for the first insertion, and one cent for each subsequent insertion.

TISDALE'S BRANTFORD IRON STABLE FITTINGS.—We lose no job we can figure upon. Catalogue sent free. The B. G. Tisdale Co., Brantford, Canada.

200 LIGHT GAS MACHINE for sale, only used two winters. Apply Wagner, Zeidler & Co., West Toronto Junction.

FOR SALE—at Merrickville, Ont., within five minutes' walk of the C.P.R. station or the Rideau canal wharf, a first-class Water-Power with substantial buildings suitable for roller mill or other heavy machinery. Apply to MRS. M. P. MERRICK, Merrickville, Ont.

FOUNDRY AND MACHINE SHOP FOR SALE IN DUNDAS—Formerly occupied by Thomas Wilson and Co., and lately by

Cochrane Roller Mill Co., very suitable for manufacturing purposes; steam engine, boiler (new), also water power; a quantity of machinery and shafting in building. Apply to Thomas Wilson, Dundas; Kingsmill, Cattanaeh & Symons, Toronto; or Bruce, Burton & Bruce, Hamilton.

I WILL give a free deed of ten lots on the Scugog River to anyone who will start a manufacturing establishment employing a certain number of hands. A. D. MALLON, Lindsay, Ont.

IRON TURNING LATHE—12 inch over sheens, 20 inches in gap, 6-foot bed, in good order—for sale or exchange for small shaper. Standard Needle Co., Paris.

FACTORY TO LET.—About eleven thousand square feet floor space, with engine, boilers, shafting and hangers; steam, water and gas fittings complete. Apply SAMUEL MAY & Co., 111 Adelaide street west.

NEW YORK druggists have their city directories put in brass frames, which are locked. On one side is a slot, above which is the sign, "One cent," and the person who wants to use the volume unlocks the frame by dropping a penny. That can hardly be the proper city to invite some millions of strangers to in 1892.

A NEW process for producing in five minutes "dry natural flax straw of the color of cotton and as fine as silk" has been, it is reported, discovered in Ireland. Just how much truth there is in this report has not been made public, but the inventor of the process claims that the product can be spun and woven with almost as much ease as cotton or wool, and that it does away with all the costly manipulation that is now necessary in the manufacture of linen.

In his opening address at the recent convention of the National Electric Light Association, President Weeks said that during the last six months the number of arc lamps in use in the United States had increased from 219,924 to 237,017, and incandescent lights from 2,504,490 to 2,704,768. At present there are 109 street railroads, with 575 miles of track, operated by electricity, on which 936 motor cars are used. The financial importance of electrical industries can be estimated when it is considered that \$275,000,000 is invested in it in that country.

An electrical writer has calculated that the firing of a small pistol sets free about 600 foot pounds of energy, while a watch consumes about 54-millionth of a horse-power, the energy of a bullet being sufficient to keep the time for two years. An Edison Telephone transmitter requires about a thousandth of the energy of a watch; it would therefore be worked for 2,000 years on the energy exerted in the pistol. A lightning flash of 3,500,000 volts and 12,000,000 amperes, lasting one 20-thousandth of a second, would run a 160-horse-power engine for ten seconds.

The Patent Review, published at Ottawa, seems to be enjoying a liberal share of the prosperity that is flowing to all meritorious Canadian enterprises. It has recently been considerably enlarged, an agreeable feature being the addition of a neat and attractive cover. As its name indicates, its special field of usefulness lies in the direction of giving in detail accounts of all the more recent patented inventions, particularly those patented in Canada; and it would evidently be to the interests of all who desire information in this direction to seek it in the *Patent Review*.

The Philadelphia Ledger says that the great Spreckels sugar refinery at Philadelphia, which will be completed in September, is to be doubled in size. As soon as the present buildings are finished, which are now among the largest of the kind in the world, work will be commenced on the new buildings, which will be counterparts of those now nearly finished. When all are completed they will form the greatest sugar refinery in existence, having a capacity of 4,000,000 pounds of sugar per day, necessitating the employment of about 1,000 men, and representing an investment in plant alone of between \$4,000,000 and \$5,000,000.

At a recent general meeting of White's Asbestos Company at London, Eng., discussing the value of the company's property in Canada, it was stated that asbestos mining, as regards Canada, is a comparatively new industry, having only become of importance during the last few years. It seems to be generally admitted that Canadian asbestos is superior in quality to that found anywhere else, and the demand for it is increasing rapidly, and is now in excess of the supply, as is evinced by the steady advance in price. Further developments will undoubtedly take place, but, so far as can be seen at present, good mines will continue to yield very handsome returns.

OUR valued and esteemed contemporary, *The Trader*, of Toronto, comes to us this month resplendent with a new outfit, special new large front page head and smaller heads for all other pages, and lots of other devices and improvements that render it a thing of beauty and an everlasting joy to its owners, its patrons and its friends. All this sweetness cumulates at the beginning of the eleventh year of its existence, through the grace of the enterprising merchants who know a good thing when they see it, and through the artistic skill and inborn good taste of Mr. W. K. McNaught, who presides over its destinies, though he is too modest to fly his name at his editorial masthead.

THE decline of the Knights of Labor, an organization which at one time promised to do much for the amelioration of working men and women, is an interesting phenomenon. The order in its most flourishing days probably had a membership of over half a million. At the convention held in Indianapolis last November it was admitted that the membership had fallen off 300,000 within a year, and measures of retrenchment were taken in accordance with the diminished resources. Now, according to the *Chicago Knights of Labor*, which gives numerous figures showing the wiping out of assemblies, there are less than 100,000 members, and in the opinion of that journal the order "has ceased to be a factor in the labor problem."—*New York Tribune*.

A RECENT article in *Good Housekeeping* by Mrs. H. V. P. Taylor, giving some particular directions for producing desirable effects in ironing cuffs, collars and shirts, and which is a source of joy no doubt to the men folks who wear these things, as well as to all good housekeepers, was considered of such meritorious character as to cause its reproduction in the *Scientific American*. *Good Housekeeping* has recently been consolidated with *The Kitchen*, a monthly periodical heretofore published at Chicago, and occupying an important place in the field of housekeeping journalism. *The Kitchen* has numbered among its editors and contributors such people as Mrs. E. P. Ewing, Prof. A. D. Chaffee, H. W. Wiley, chief chemist of the United States, and others. The change emphasizes the leadership of *Good Housekeeping* among publications of its class.

GREAT BRITAIN has the largest navy, although Italy has the greatest ships. Great Britain has 14 obsolete ironclads, 8 non-obsolete coast-guard iron-clad vessels, and 50 sea-going. France has 13 obsolete, 14 coast-guard non-obsolete, and 31 sea-going ironclads. Italy has 9 obsolete and 12 sea-going ironclads. Fifty British vessels can steam over 12 knots an hour and less than 20; 31 French can steam over 12 and less than 16 knots; 12 Italian over 13 and less than 16 knots. Of the whole number of sea-going ironclads having guns that can pierce 20 inches and upward of iron, Great Britain has 28.84 per cent.; France, 30.76 per cent.; Italy 19.23 per cent.; but of the whole number carrying 16 inches and over in complete water-line armor, Great Britain has 35.70 per cent.; France, 38.38 per cent., and Italy, 11.90 per cent.

OUR enterprising pictorial weekly, *The Dominion Illustrated*, issued a special Wimbledon number Aug. 17th, to honor the victories of the Canadian team. It contained the following illustrations, from photographs and drawings sent from Wimbledon direct by its special artist: A full-page engraving of the Canadian Kolapore Team; a full-page view of the Wimbledon camp; sketches of the Canadian camp, Col. Bacon's tent, Adjutant Hood's tent, afternoon tea, writing home, Lady Wantage's reception tent, and the old windmill; a full-page view of the firing stages during the contest; four photographs in the Canadian camp, and four other Wimbledon views, including High street. On the cover is a portrait of the commandant, Lieut.-Col. Bacon. Altogether a very interesting number for all active members of the volunteer force in Canada, more especially as this is the last meeting at Wimbledon. *The Dominion Illustrated* always shows great interest in everything connected with the militia and should be well patronized. Subscription, \$4 a year. Bound volumes for the two half years ending with December and June last, respectively, are now ready.

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.

WILLIAM ORR'S grist mill at Mount Forest, Ont., was destroyed by fire Aug. 4.

MR. W. CLOUGHER, of Winnipeg, will build a grain elevator at Otterburn, Man.

THE Springhill Brewery, at Minnedosa, Man., was destroyed by fire Aug. 28th, loss \$3,000.

THE machine shop of Messrs. McKenzie & Sons, Petrolea, Ont., was destroyed by fire, Aug. 15.

THE capacity of the dry dock at Esquimalt, B.C. is to be increased by an addition of forty five feet.

MESSRS. BURTON BROS., Byng Inlet, Ont., will cut this season about 15,000,000 feet of lumber.

MESSRS. ALFRED JOWITT & Co., of Philadelphia, Pa., will establish a curtain factory at Paris, Ont.

MR. WILLIAM MILNE'S sawmill at Ethel, Ont., was destroyed by fire August 18th, loss about \$5,000.

THE town of Picton, Ont., has voted \$18,000 for the purpose of installing an electric light plant there.

CONSIDERABLE new and improved machinery is being placed in the Ogilvie flour mill at Winnipeg, Man.

THE Palmerston Brewing Company, Palmerston, Ont., has been incorporated with a capital stock of \$50,000.

THE furniture factory of Mr. O. J. Mitchell, at Ingersoll, Ont., was badly scorched by fire Aug. 28th, loss about \$4,000.

FIRE in the varnish factory of Messrs. Scarpe & Co., Brantford, Ont., Aug. 23rd, did damage to the extent of about \$500.

THE sawmill of Messrs. Mickle, Dymont & Sons, at Gravenhurst, Ont., was destroyed by fire Aug. 24th; loss about \$12,000.

THE saw mill of Mr. O. N. Price, Butternut Ridge, near Moncton, N.B., was destroyed by fire a few days ago; loss about \$3,000.

THE Carling Brewing and Malting Company, London, Ont., have recently made a large shipment of ales and porters to Hong Kong, China.

MESSRS. GRAHAM & HORN are adding to the capacity of their sawmill at Vermillion Bay, B.C., including new steel boiler, smoke-stack, etc.

THE daily output of the sawmills of Mr. John A. Ellis, at Fenelon Falls, Ont., is about 30,000 feet of lumber, 50,000 shingles and 15,000 laths.

THE Cleveland Electric Light Company, Cleveland, Ohio, are putting an 800 incandescent light service into the penitentiary at Kingston, Ont.

THE recently completed dry-dock at Halifax, N.S., is 601 feet long and 102 feet wide, and is capable of accommodating the largest steamship afloat.

THE Atlas Woolen Mills, Whitby, Ont., were destroyed by fire Aug. 29th; loss about \$10,000. These mills have not been in operation for over a year.

MR. W. HEWARTSON, Victoria, B. C., will probably build a mill at that place or in that vicinity for the manufacture of news, print and wrapping papers.

A REMARKABLE flow of natural gas has been struck in the well being bored near Port Colborne, Ont. Experts estimate the flow at 1,250,000 feet per day.

THE Empire and the Phoenix flour mills, at St. Catharines, Ont., both owned by Mr. Sylvester Neelon, were destroyed by fire, Aug. 24th; loss about \$125,000.

THE foundry by-law, granting \$2,500 bonus to Mr. Thompson, of Q'Appelle, Man., to establish a foundry at Fort William, that province, has been carried.

MESSRS. STEVENS & HAMILTON, Galt, Ont., are pushing the erection of their new stone and brick machine shop. The building will cover an area of 60x40 feet.

THE "Couchiching" Tannery of Mr. J. C. Millar, at Orillia, Ont., together with about \$5,000 worth of stock, was destroyed by fire Aug. 17th, total loss about \$11,000.

MR. R. B. WILLIAMSON, of Port Hope, Ont., will erect a paper mill, and possibly a flour mill, on his premises on the Little Saskatchewan river, near Rapid City, Man.

MESSRS. R. C. PERCIVAL & SON, of Merrickville, Ont., have purchased the plant of the Peterboro' Stove Foundry, at Peterboro', Ont., and are removing it to Merrickville.

MESSRS. R. & W. LONGSTAFF, Weston, Ont., are manufacturers of wind engine machinery, pumps, etc. Their factory is 100x30 feet, equipped with best modern machinery.

THE Ontario Government will rebuild the dam across the Winnipeg river, at the outlet of the Lake of the Woods, near Rat Portage, which was carried away a year or so ago.

MESSRS. A. G. PEUCHEN & Co., Toronto, manufacturers of paints, etc., have incorporated their concern into a joint stock company, under the name of The A. G. Peuchen Company.

FIRE in the factory of the J. C. McLaren Belting Company, Montreal, Aug. 20th, did damage to the extent of about \$7,000. The works are again in full and successful operation.

THE Dominion Foundry, at Weston, Ont., of which Mr. Benjamin Plowman is proprietor, is claimed to be the only works in Canada where rag pickers and hair pickers are made.

THE Goderich Organ and Furniture Company, Goderich, Ont., will increase their capital stock to \$25,000, and enter actively upon the manufacture of the specialties indicated by its name.

THE Goold Manufacturing Company, Brantford, Ont., manufacturers of bicycles, have recently supplied one of their best and handsomest "Safety" wheels to Mayor Grant, of Victoria, B.C.

MESSRS. GOLDIE & McCULLOCH, Galt, Ont., have recently shipped three car loads of mill machinery to Birtle, Man., for the mill Mr. Clemens, formerly of Fisher's Mills, is erecting at that place.

MESSRS. ROBB & KAY have taken over the plant of the Canadian Air Gas Machine Company, Toronto, owned by the late Mr. Joseph Phillips, and will manufacture gas machines for factories, etc.

THE Ontario Lumber Company, whose mills are at French River, Ont., cut about 100,000 feet of lumber per day, 35,000 feet of which are cut by band saw. They give employment to about 100 hands.

THE Rathbun Company's sawmills at Campbellford, Ont., on the Trent river, will turn out this season about 2,000,000 feet of lumber and 150,000 railway ties, besides large quantities of shingles, laths, etc.

MESSRS. KELLY BROS., Winnipeg, Man., have been awarded the contract at \$55,000 for the erection of the repair machine shop and round-house of the Northern Pacific and Manitoba Railway at that place.

THE Canadian Office and School Furniture Company, of Preston, Ont., are successors to the business formerly carried on by Messrs. W. Stahlschmidt & Co., of that town, and Mr. Geo. F. Bostwick, of Toronto.

THE big sawmill being erected by the McLaren-Ross Company near Westminster, B.C., will be 472 feet long, by 72 feet wide and 40 feet high. Over 150 hands are now employed in the construction of this mill.

THE Moore Knitting Company, Magog, Que., have three flats of their factory filled with appropriate machinery, and will run on a special line of hosiery not heretofore made in Canada, giving employment to fifty hands.

MESSRS. COULTER & SONS, proprietors of the Weston Foundry and Machine Shop, Weston, Ont., have recently made considerable additions to their works, the buildings now covering areas 90x40 feet and 84x70 feet.

MESSRS. J. & J. TAYLOR, proprietors of the Toronto Safe Works, Toronto, have recently been making large shipments of their products to British Columbia, including a splendid set of vault doors for Mr. Dumbleton, Victoria.

THE Chatham Wagon Company, Chatham, Ont., offer a new Chatham wagon to be contended for in a tug of war at the forthcoming Peninsular Fair at that place. The contest will be open to all townships in Kent county.

MESSRS. J. CRUIKSHANK & SONS, Weston, Ont., manufacture all descriptions of light and heavy wagons, lorries, sleighs, etc. Their

F. E. DIXON & CO.

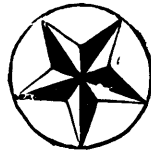
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TO MILL OWNERS
And Manufacturers.

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F. E. DIXON & CO.'S

STAR
LEATHER



RIVET
BELTING.

READ THIS:

Shepherd Street,

Toronto, Nov. 16, 1888.

Messrs. F. E. DIXON & CO.

Gentlemen,

The eighteen-inch Driving Belt we had from you in July, 1879, has given us thorough satisfaction. It has done all the work in our factory ever since, and looks as if it were good for the next ten years.

Yours truly,

WM. BURKE

For Langley & Burke.

BELTS for Saw Mills,
for Electric Light Works,
for Hard Places.

Lace Leather, Belt Oil, etc., etc.

F. E. DIXON & CO.

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GEO. F. HAWORTH & Co.

MANUFACTURERS OF

LEATHER BELTING

BELTS MADE ANY WIDTH,

LENGTH OR STRENGTH REQUIRED

SEWED, RIVETED OR PEGGED.

ALSO AGENTS FOR

HOYT'S AMERICAN PURE

OAK-TANNED LEATHER BELTING.

11 JORDAN STREET,

TORONTO.

works include a building 40 x 40 feet, four stories high, and one 70 x 35 feet, two stories high.

The Georgian Bay Consolidated Lumber Company operate two extensive saw mills at Byng Inlet on Georgian Bay, Ont., the combined output of which this season will be about 20,000,000 feet; employment is given to 160 hands.

The flouring mills of Messrs. Cook & Reith, Hensall, Ont., have been thoroughly overhauled, refitted and supplied with new and improved machinery of the very latest and best design, supplied by Messrs. Goldie & McCulloch, of Galt.

MESSRS. BEALE BROS., of Toronto, will take over and operate the tannery at Uxbridge, Ont., heretofore conducted by Mr. Andrew Patterson, provided that town vote them a bonus of \$2,000 to enable the enlargement of the premises.

The Uxbridge Cabinet and Organ Company, Uxbridge, Ont., are asking that town to vote them a bonus of \$6,000 to enable them to enlarge their works and give employment to a larger number of hands than they can now supply work to.

The Canada North-West Coal and Lumber Company has been registered in London, Eng., with a capital of £70,000, in order to purchase the Coal Creek and Bow River mines and other property near Calgary, N.W.T.; and work the same.

The shoe factory of Messrs. John McPherson & Co., Hamilton, Ont., is claimed to be one of the largest and best-equipped in Canada. It is constructed of brick and stone, four stories high, with basement, and covers an area 140 x 70 feet.

An extensive deposit of magnetic iron ore has been discovered near Bathurst, N.B. It has been traced nearly a mile in length and varies in breadth from ten to forty feet. The assays which have been made of the ore show sixty-six per cent. of iron.

The Burrell-Johnson Iron Company, Yarmouth, N.S., are building a 100 h.p. steam engine, and steel steam boiler for same, for the new works of the Milton Manufacturing Company, recently organized in that place for the manufacture of sash, doors, blinds, etc.

The Anglo-Canadian Asbestos Company has been registered in London, Eng., with a capital of £20,000, to carry out an agreement between the Anglo-Canadian Asbestos Company, in liquidation, and W. H. Irwin, to acquire and work asbestos properties in Canada.

MESSRS. CASAVANT & FRERE, St. Hyacinthe, Que., are engaged in the construction of an immense new organ for the Notre Dame church, Montreal, which will cost about \$35,000. This will be the most powerful organ in the Dominion. It will contain seventy-five stops.

The St. John Syrup Company, St. John, N.B., has been incorporated with a capital stock of \$250,000 for the purpose of manufacture and sale of syrups, glucose, sugar, farina, and any of the other of the various products derivable from starch and starch bearing crops.

MESSRS. C. & H. J. GOULD, Uxbridge, Ont., are the proprietors of the North Star flouring mills, the capacity of which is about 100 barrels a day. One of these mills is 48x36 feet and the other 70x28 feet, and both of them are equipped with the best and most modern machinery.

The Milton Manufacturing Company, recently organized at Yarmouth, N.S., for the manufacture of doors, blinds, sash, and all kinds of building materials, with a capital of \$20,000, are pushing the erection of their works, which they expect to have in operation in November.

The Stair coal mine, near Medicine Hat, N.W.T., is now being operated and the coal will be shipped to Winnipeg, Man. This is the mine formerly known as the Saskatchewan. Medicine Hat will have two mines working this year, as a new mine is being opened near the place.

MR. A. McVEAN, Dresden, Ont., manufacturer of wheels, hubs, spokes, bent wood goods, etc., whose extensive establishment was destroyed by fire Aug. 19th, informs us that his works will be rebuilt immediately. He states that his loss by the fire will not exceed \$15,000.

MESSRS. E. COGGSWELL & Co., Sackville, N.B., inform us that they have sold out their business to the Enterprise Foundry Company of that place, who will continue the same, including the manufacture of the celebrated Charter Oak cook stoves and ranges, with gauze oven doors.

MR. JOHN LIVINGSTONE, trustee, Toronto, is offering for sale some machinery, included in which are threshing machines, nut tapping machine, iron turning lathes, boring lathes, wood shapers, sand belt machine, emery wheel frame, gang driller, steam engine, water wheels, etc.

MR. WILLIAM SMITH, proprietor of the Phoenix Foundry, Beaverton, Ont., makes a specialty of manufacturing mowers, horse rakes, straw-cutters, plows of different patterns, two and three-furrow gang plows, rollers, grain crushers, sawing machines, root cutters and road scrapers.

MR. W. J. PENDRAY, proprietor of the British Columbia Soap Works, Victoria, B.C., is making considerable enlargement of his works, and will include the manufacture of blacking, blueing, etc. Improved machinery has been ordered in England, and the new enterprise will soon be in operation.

A NICKEL mine has been discovered upon Mr. Andrew McCormack's land, near Sudbury station, which is considered very valuable. The copper company now operating in the neighborhood have offered to sink a shaft to test the quality of the ore, on condition that they have the option of purchase.

LA COMPAGNIE CANADIENNE DES CONDUITES D'EAU (The Canadian Water Pipe Company) has been organized at Three Rivers, Que., with a capital stock of \$150,000, for the purpose of carrying on foundries and making contracts relative to water-works and gas-works, and all kinds of casting and metal works.

MESSRS. KNOX & ELLIOT, architects, of 13 Victoria street, Toronto, have taken into partnership Mr. Edgar B. Jarvis, and in future the firm will be carried on under the style of Knox, Elliot & Jarvis. Mr. Jarvis is a native of Toronto, and served several years in the largest offices of the United States.

A COMPANY has been formed at Amherst, N.B., to take the moss from a bog at Musquash, near that place, and ship for commercial purposes. There is a depth of eleven feet of moss. It is more absorbent than sponge, and makes good mattresses. It is intended, after thoroughly drying it, to press it in bales for shipment.

The new ice-making machinery recently erected in Victoria, B.C., by Messrs. S. L. Kelley & Co., is largely the invention of Mr. J. C. Kitton, of that city—that is, the freezing-tank is. The blocks of ice turned out of this tank are eight inches thick, four feet wide, and ten feet long, each block weighing about 1,200 pounds.

A RICH strike of solid copper glance ore has been made on the south fork of the Similkameen River, B.C., fifty miles north-east of Hope on the Canadian Pacific Railroad, and about eighty-five miles from the Wannacuth mining district. The ore assays from 70 to 85 per cent. copper, and 10 to 80 oz. silver, with a trace of gold.

The works of the Weston Woolen Manufacturing Company at Weston, Ont., includes an 18-set mill, giving employment to nearly 200 hands. The capacity is 2,000 yards of tweeds per day, besides large quantities of shoddy. The main mill building, built of brick and stone, is L-shaped, 4 stories high and 300 feet frontage, by 50 feet wide.

An illustration of the kindly feeling existing between the officers and employees of the Chatham Manufacturing Company, of Chatham, Ont., was the presentation, a few days ago, to Mr. D. R. Van Allen, the president of the company, and to Mr. William Milner, the superintendent, by the workmen, of elegant gold-headed walking canes.

MR. R. P. HANNAN, proprietor of the Uxbridge Agricultural Works, Uxbridge, Ont., also owns and operates a sash and door factory. This latter covers an area 56 x 34 feet, moulding shop 40 x 30 feet, and two wings, each 24 x 16 feet. Included in his agricultural implement works are gang plows, straw and root cutters, fanning mills, etc.

TURNING BILLIARD BALLS.—One of the most interesting and attractive features of the Industrial Exhibition this year will be the manufacture of ivory billiard balls, which will be carried on during the Fair at the billiard table exhibit of Samuel May & Co., in the main building, where all sizes of billiard and pool balls of both ivory and celluloid will be made.

The Uxbridge Organ and Piano Company, Uxbridge, Ont., is a comparatively new industry in that town, having been originally established in 1873. The factory proper covers an area 150 x 36 feet, and employment is given to about 60 hands. The company have recently begun the manufacture of pianos; those being turned out are of great excellence; and the output of organs is about 50 instruments per month.

The Dominion Feed Water Heater and Purifier Company of Montreal, has been incorporated with \$300,000 capital stock for the manufacture of the Smith Patent Feed Water Heater and Purifier. This company is an offshoot of the Smith Feed Water Heater and Purifier Company, of St. Louis, Mo., which has established auxiliary companies in the leading cities throughout the United States and built up a large business.

On the Cedar Cottage nursery farm there is a giant tree that years ago bit the dust, and is now but the remnant of departed greatness. It was, however, one of the largest trees that ever grew in the forests of British Columbia. Its base, as measured now, is 26 feet in diameter, and it must at least have been 350 feet high. At a distance of 200 feet from the but it measures four feet through.—Vancouver, B.C., *News*.

The New Vancouver Coal Company, who are sinking a shaft at North Field, Nanaimo, B.C., have got down to a seam between seven and eight feet thick, which is pronounced of excellent quality. The company propose sinking another shaft in their South Field property, and also running a drift in the Esplanade shaft, that will materially increase the output from that mine. It is the intention of this company to raise their output to over 1,000 tons a day.

The pulp mills of the Napanee Paper Company, at Fenelon Falls, Ont., have capacity to produce about five tons of dry pulp per day, requiring therefor the services of about sixty hands. There are four boilers used in the process, each having capacity to hold 1½ cords of pulp wood; the building in which the machinery is placed being 100x30 feet. There are also eight tanks, each eight feet deep and ten feet diameter, required in the process.

The Barrie Electric Light Company, Barrie, Ont., who are now operating a Ball arc light system, have purchased of A. J. Lawson, Montreal, a 600 light Brush alternating current incandescent plant which is to be subsequently increased to 1,000 lights capacity. The dynamo is to be driven by water power four and a half miles distant, and the loss of pressure over the nine miles of out-going and return wires will be less than one per cent. per mile at full load.

MESSRS. E. TIFFANY & SON, Bennington, Vt., manufacturers of knitting machinery, etc., have recently supplied one shirt machine and one cuff machine to the Penman Manufacturing Company, Paris, Ont., and the same number and style of machines to Mr. Jonathan Ellis, Pt. Dover, Ont. The Penman Manufacturing Company will shortly enter the market with a line of full-fashioned goods made on special machines, the patents of which are owned by the company.

MR. THOMAS ROBSON, proprietor of the Fenelon Falls Foundry, Fenelon Falls, Ont., makes a specialty of manufacturing plows, harrows, fanning-mills, horse-powers, straw-cutters, road-scrapers, land-rollers, turnip-cutters and school desks. Repairing of all kinds is also done. The foundry has steam power and is well equipped with planes, lathes, band saw, bolt cutting machines, emery wheels and everything required to economize labor and facilitate work.

The Pacific Shoe and Leather Company, Vancouver, B.C., is a concern recently organized, with \$100,000 capital stock, which has taken over the tannery business of Mr. W. Heathorn, of that place, and will add thereto the manufacture of boots and shoes. Mr. Heathorn was proprietor of the shoe manufactory at Victoria, B.C., purchased some time ago by the Ames Holden Company, and at the time of selling out the shoe factory he retained his tannery business at the same place.

MR. G. UPRON'S Dominion Woollen Mills at Nicholson, Ont., near Alliston, were established about twenty-two years ago, and were the first of the kind built in Simcoe county. All kinds of coarse flannels, sheeting, yarns and tweeds are manufactured, and a specialty is made of white flannels. The mill was rebuilt in 1879, when many valuable improvements were introduced. These mills

MACHINERY - FOR - SALE.

NEW MODEL THRESHING MACHINES,
HALL THRESHING MACHINES,
ONE NUT TAPPING MACHINE,
TWO IRON TURNING LATHES,
TWO WOOD SHAPING MACHINES,
ONE SAND BELT MACHINE, SMALL CRANES,
VARIOUS SIZES SECOND-HAND BELTING,
ONE EMERY WHEEL FRAME,
ONE 18x36 HORIZONTAL ENGINE,
ONE GANG DRILLING MACHINE,
LEFFEL WATER WHEELS, 23, 20, 17½ INCH,
TWO IRON BORING LATHES.

For Sale Cheap at Toronto Bridge Building.
JOHN LIVINGSTONE, 31 York Chambers, Toronto.

turned out large quantities of blankets for the volunteers when embarking for the North-west in 1885.

Last winter Mr. Eugene Coste, late mining engineer of the Dominion Government, discovered natural gas in Essex county between Kingsville and Ruthven. The well was located according to scientific principles, and the gas was found exactly where it had been expected. A second attempt has been made by the same engineer and with equal success. The new well is only ten miles from Buffalo, N.Y., and will be available to all the towns on the Niagara Peninsula, the city of St. Catharines, and also Hamilton, which is only fifty miles distant.

The Dominion Feed Water Heater and Purifier Company, of Montreal, the incorporation of which was recently noticed in these pages, has been organized and started in business under most favorable circumstances. Mr. C. E. Bleyer, of St. Louis, Mo., is the ronto and other Canadian cities. Branches will be established in Toronto and other Canadian cities. The parent company, the Smiths have now in all sixteen regularly incorporated stock company branches all over the world.

The Dominion Customs authorities made the following decisions during the months of June, July and August:—Paper stucco, for decorated ceilings, 25 per cent.; paper flour sacks, illustrated and printed, 15 cents per lb. and 25 per cent. *ad valorem*; barrel head linings, 25 per cent.; sweet spirits of nitre, \$2 per gallon and 30 per cent.; hay rakes, made of wood, 35 per cent.; silk circulars, lined with fur, 30 per cent.; woolen circulars, lined with fur, 10 cents per lb. and 25 per cent.; fur jackets, etc., lined with satin, 25 per cent.; felt slippers, 10 cents per lb. and 25 per cent.

MESSRS. NEWLANDS & CO., Galt, Ont., manufacturers of the celebrated Saskatchewan buffalo robes, inform us that Messrs. W. H. Storey & Co., of Acton, Ont., who control the exclusive sale in Canada of these goods, will make an extensive exhibit of them and of other specialties at the forthcoming Toronto Exhibition. It will be interesting to all who will require fine warm wraps the coming winter, and which will be shown at the Fair, especially adapted to the manufacture of buffalo coats, ladies' jackets, caps, capes, gauntlets, etc.

THE STILES & PARKER PRESS CO.,

MIDDLETOWN, - CONN.

MANUFACTURERS OF

Drop Hammers,

* **DIES**, *

And Special Machinery.

CARL W. CONNER,
Toronto Representative,
63 FRONT ST. WEST.

THE SASKATCHEWAN

BUFFALO ROBES,

(Which are an Excellent Substitute for the Real Article.)

Will be Exhibited by W. H. STOREY & SON, ACTON,
at the Toronto Industrial Exhibition, along with a
Full Line of our Specialties.

Everyone interested in the Buffalo should see the Fur Cloth that we are
manufacturing for the coming winter, and which is used for

Buffalo Coats, Ladies' Jackets, Caps and Gauntlets,

And is patented and registered in Canada and the U.S.

Messrs. W. H. STOREY & SON have the exclusive
sale for Canada.

NEWLANDS & CO., - Manufacturers
GALT, ONTARIO.

GALT, 4th September, 1889.

MESSRS. M. D. BARR & Co., Montreal, who are the general selling agents for Canada of the Edison electric light system, have established a branch office at the Permanent Exhibition of Manufacturers, 63 Front street west, Toronto, under the management of Mr. F. A. Barr, for the purpose of doing a general electrical construction and supply business. They say that the wiring done by them is according to the rules and requirements of the Edison Electric Light Company, and subject to the acceptance of the Board of Underwriters and of the Toronto Incandescent Electric Light Company.

MESSRS. CHAS. BOECKH & SONS, Toronto, are manufacturing and offering to the trade their Boeckh's patent boot wiper, which they say is an indispensable piece of furniture in all offices and residences. They describe its construction as being a combination providing for the removal of mud and dust from the soles, sides and uppers of the boots of the wearer in almost one operation. The frame, being of metal, is practically indestructible, and the mat, or brush, after long and severe use, may be replaced at a trifling cost. Housekeepers will appreciate its merits. It is to be seen at the Permanent Exhibition of Manufacturers, Front Street, this city.

MESSRS. MUNDERLOH & Co., Montreal, who are sole agents for the Dominion of the Meyer's watchman control clock, are issuing a circular in which is published a letter written to them by Mr. Alf. W. Hadrill, secretary of the Montreal branch of the Canadian Fire Underwriters' Association, in which it is stated that this watchman's clock fulfils the requirements of the association; and that if regularly and systematically used by a watchman in accordance with association rules, will secure the reduction in rate for watchman's clock provided for in the rating schedules. This clock is on exhibition and sale at the Permanent Exhibition of Manufacturers, Toronto.

THE Stiles & Parker Press Company, Middletown, Conn., manufacturers of drop hammers, dies, and special machinery, have established a branch office in Toronto, under the management of Mr. Carl W. Connor, who will give all information regarding these products. Mr. Connor is an experienced man in handling this line of goods. He will have at the Toronto Industrial Fair a line of these presses, made for metal workers, which will attract the attention of all interested in this line of goods. Mr. Connor's office is in the Permanent Exhibition of Manufacturers, 63 Front Street West, this city, where lines of these goods will be displayed in large variety.

As an evidence of how Canadian manufactures are appreciated abroad, Mr. Edmund Scheuer informs us that during his recent visit to Germany, he found in a clock factory there machinery manufactured by Goldie & McCulloch, of Galt, Ont. A foreman who had worked in the Hamilton clock factory where these machines were employed, on his return to Germany, finding their machinery behind the age, had faith enough in the Canadian firm to persuade his employers to order some out, which they had done, much to his satisfaction and their own profit. This is but another proof, if any were needed, of the importance of making reliable goods.—*The Trader*.

Book publishing is remotely connected with manufacturing, but when the books sold are made in Canada, we feel warranted in saying that the printing thereof has to do with industrial development. Mr. J. S. Brown, of Paris, Ont., has sold in Ontario, by means of agents, over 12,000 copies of the "Home Cook Book," and 10,000 copies of the "Prince of the House of David," both issued from the press in Toronto. In addition to this he has sold nearly 12,000 family Bibles, at prices ranging from \$5 to \$15, 5,000 copies of "Pilgrim's Progress," and, within two years, more than 2,000 albums. Figures like these testify to what can be done by push and enterprise.

THE Northumberland Paper and Egg Case Company, whose factories are at Campbellford, Ont., have the only works of the kind in the Province. The manufactures are box board, plain and tarred building paper, carpet and roofing felt, machine made fillers for egg cases, and also the wooden cases themselves. A most ingenious machine makes 500 complete egg cases a day, and building paper is manufactured at the rate of ten to twelve tons daily. Among the equipments are two rotary bleachers, made of 8-inch iron, fourteen feet in diameter, each holding seven tons of straw. The buildings are stone, four stories high, and provided with every appliance for protection against fire.

THE premises of the Trent Valley Woolen Mill Company, at Campbellford, Ont., include a mill building 120x60 feet, five stories high, the basement being of stone and the other stories of brick. There is a wing to the main building 70x35 feet, the office building is 70x35 feet, and there are two storehouses each 50x35 feet. The Trent river supplies the power to drive the machinery of this concern through three turbine wheels. The machinery includes 10 sets of

A. C. LESLIE & CO.

MONTREAL and TORONTO,

MANUFACTURERS' AGENTS FOR

Iron, Steel, Wire, Tinplate,
GALVANIZED IRON.

Special value in STEEL BARS, ANGLES,
SHEETS, PLATES.

BUYERS ARE INVITED TO OBTAIN PRICES.

"JESSOP'S" STANDARD TOOL STEEL IN STORE.

ESTABLISHED - - 1828.

J. HARRIS & CO.

(Formerly HARRIS & ALLAN),

NEW BRUNSWICK FOUNDRY.

RAILWAY CAR WORKS, | PORTLAND ROLLING MILLS,
PARADISE ROW. | STRAIT SHORE.

PORTLAND, ST. JOHN, N.B.

Railway Cars of all descriptions. Chilled Car Wheels, "Washburn Peerless" Steel Car Wheels. Car, Machine, Mill, Ship, and all kinds of Castings. Steam Engines, Mill and other Machinery. Nail-Plate, Bar Iron, Street and Mine Rails, Ships' Iron Knees, Hammered Car Axles, Shafting and Shapes.

COWAN & BRITTON,

GANANOQUE, ONT.

MANUFACTURERS OF

Strap and T. Hinges, Screw Hooks and Hinges
Wrought Steel Butts for Builders and Cabinet
Makers, Washers, Staples, Hooks, Hasps, Hay
Carrier Hooks, Patent Hasp Locks, Bed
Fasteners, Steel and Iron Cut Nails,
Clout, Truck and Finishing Nails,
Brads, Tacks and Shoe Nails.

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

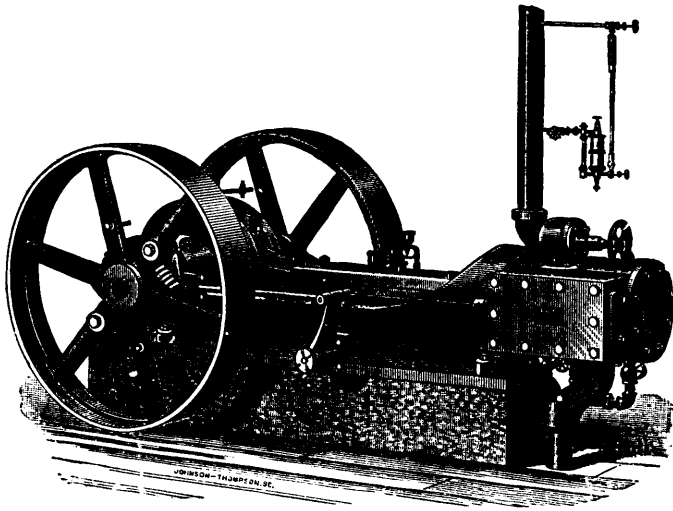
To Manufacturers! TO RENT.

The Flats and Basement of that centrally situated property on Bay Street, below Front Street, being the BEST BUSINESS PREMISES and location in the City of Toronto, WITH POWER (guaranteed steady), Steam Heating, W. C., Wash-rooms, etc., on each floor. Heavy Weight Steam Hoist; good light on three sides; Lowest Insurance Rates; entrance from front or rear to each flat. Specially adapted for Factory, Warehouse and Office purposes.

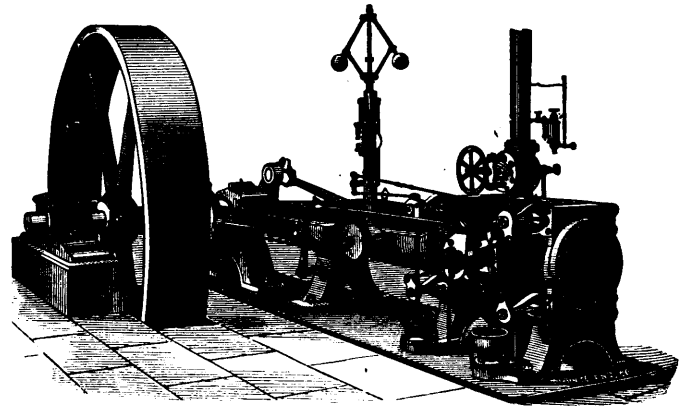
The building has a depth of 100 feet, with a frontage of 54 feet on the west side of Bay Street and 34 feet on lane in rear; four stories high and basement. RENT CHEAP.

We have also in the same locality, Lot 70 feet front by 100 feet deep to a lane, on which we will erect factory buildings specially to suit a good tenant. For further particulars apply to

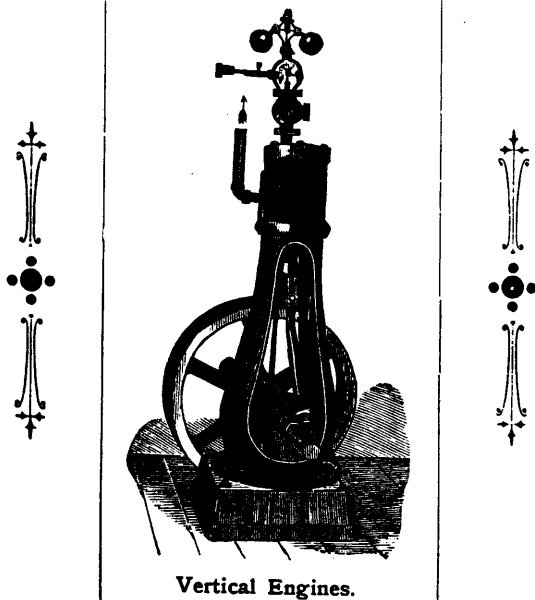
DICK, RIDOUT & CO.,
11 & 13 FRONT ST. EAST



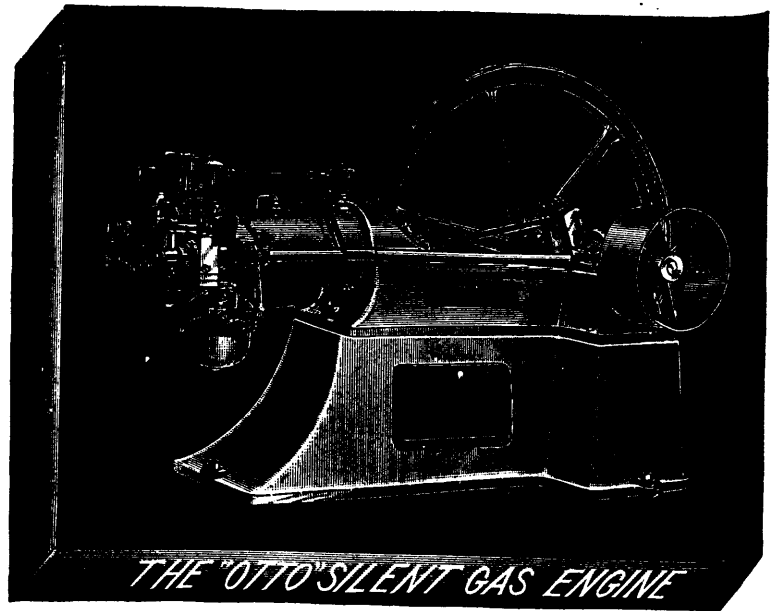
Armington & Sims Electric Light Engines.



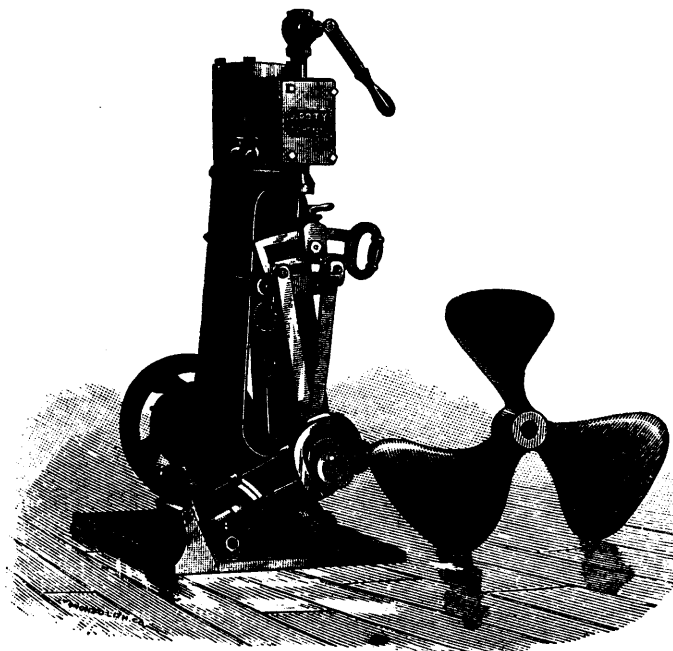
Reynolds-Corliss Engine.



Vertical Engines.



THE "OTTO" SILENT GAS ENGINE



Yacht Engines.

John Doty Engine Co.

TORONTO, ONT.

MANUFACTURERS OF

ENGINES AND BOILERS

OF EVERY DESCRIPTION.

SEND FOR CATALOGUES.

cards and 65 broad looms, the products being plain and fancy flannels, and ladies' dress goods. The annual consumption of clean wool amounts to about 35,000 pounds, producing over one million yards of fabrics. About 130 hands are employed.

An eastern company has commenced the erection of large warehouse and a factory in Glennan, B. C., opposite Port Townsend on Port Townsend Bay, for preserving halibut, salmon, herring and other fish. They have purchased 30 acres of land and five sloops and are negotiating for large vessels to prosecute the fishing industry. Facilities for making sardines and smoking fish will be the most extensive on the Pacific coast. Nearly \$60,000 is being expended in the works, and the anticipated output will be 50,000 cases annually. The salmon will be from Fraser river, B. C., caught in American waters, off Point Roberts. The halibut come from Cape Flattery and Queen Charlotte Sound.—Victoria, B. C., *Colonist*.

A VERY convenient and effective device for heating water for bathing purposes is being manufactured. These heaters are made to contain about ten gallons each, and will heat the water sufficiently for bathing purposes in a remarkably short time. They can be set alongside the bath tub and connect by hose to the cold water spigot, and empty the hot water through the goose neck into the bath tub, or can be connected permanently by iron pipes, and have a hot water spigot placed alongside the cold one. They will stand the same pressure and work just the same as any ordinary bath boiler, and require no attention. They are made of steel, take up but little room, and are adapted for the use of either gas or gasoline.

The Alliston Agricultural Works, at Alliston, Ont., Messrs. Mercer Brothers and Co., proprietors, include a substantial four-story brick building 156x48 feet with wing 128x48 feet, and storeroom 100x36 feet. The office, which is a detached building, is of brick 30x20 feet, fitted in elegant style. The proprietors occupied these works only in May last, and consequently were not able to produce as large numbers of implements as their demand called for. The concern make a specialty of manufacturing a rake harvester for which they claim many excellent advantages, and it is their intention to show the same in operation at the forthcoming Toronto Industrial Exhibition. They also manufacture a general line of reapers, mowers, hay rakes, etc.

Messrs. WILLIAMS, GREENE & ROME, whose head offices are at Toronto, and who now have an extensive factory at Berlin, Ont., for the manufacture of shirts, collars and cuffs, giving employment

to about 400 hands, have arranged for the starting up of another similar factory at Guelph, Ont., at which, in consideration of certain grants made them by the municipal authorities there, they will employ not less than fifty hands for the first year; 100 hands the second year; 200 hands the third year, and not less than 200 hands every year during the period of ten years. The town will supply a suitable building put in thorough repair and good order, the firm to have the same rent free for ten years; also the town will remit all taxes and supply water free for that period of time.

Messrs. R. H. BUCHANAN & Co., Montreal, have been awarded the contract for the construction of the water supply and conduits for the works of the Toronto Paper Company, at Cornwall, Ont. The supply pipe is 14 inches diameter and 850 feet long, and passes five feet below the bed of the Cornwall canal. The pumps are duplex double acting, with cylinders 12½x15 inches, and from the 10-inch discharge pipe 1,500,000 gallons of water per day is delivered. This is the third long suction pumping contract completed by Messrs. Buchanan & Co. since last winter, the previous ones being for Messrs. J. C. Wilson & Co., Lachute, Que., a suction 148 feet long and 16-foot lift; and the Maritime Chemical Pulp Company, Chatham, N. B., with 720 feet suction and 30-foot lift.

The Canadian Edison Company are advertising for steady, willing men to work at their factory in this city, and should find no difficulty in securing such. This company are expanding and developing their works in this city to a degree that will soon make them among the foremost manufactories in Sherbrooke. They are at present engaged on a very large order for underground electric wires for the city of Toronto, and they are also getting ready to make electric motors as well as dynamos and all other electrical appliances. They have been enlarging and increasing their facilities for manufacturing these goods, and when all is in readiness will be one of the most convenient and perfect establishments in the Province. Mr. Langton is the manager here and Mr. Madgett is the foreman. We wish them every success in Sherbrooke.—Sherbrooke, Que., *Gazette*.

Messrs. WM. BARBER & SONS, who own extensive paper mills at Georgetown, Ont., have installed an electric motor plant at their works which attracts a great deal of attention. For over a year past the firm have been engaged in erecting a large dam across the Credit river, below the paper mills. Nobody could understand how the power was to be sent from the dam back to the mill, but it is

GEO. W. SADLER, Proprietor.

ROBIN & SADLER

MANUFACTURERS OF

LEATHER -
- BELTING

129 BAY STREET,

TORONTO.

and

NOTRE DAME ST.,

MONTREAL.

Lace Leather, Loom Strapping, Cotton and Rubber Belting
and General Mill Supplies.

now an accomplished fact. Travelers by the Grand Trunk, on crossing the high bridge east of Georgetown, may notice a pair of quarter-inch copper wires passing under the bridge. Over these the whole power of the Credit river is being conveyed by electric current. The motor now running is of sixty horse-power, said to be the largest ever started. Others are to be added to make use of all the power made at the dam. The saving effected by the sixty horse-power motor is about three tons of coal per day of twenty-four hours.

MESSRS. HEINTZMAN & Co., Toronto, manufacturers of the celebrated "Heintzman" pianos, and who have recently occupied their large new factory at West Toronto Junction, having abandoned their shops on King street west, are converting them into suites of elegant offices and show rooms for the purpose of their business. The second story flat, embracing numbers 115 and 117 King street, has been thrown into one very large show room, in which will be displayed a large number of their instruments. The walls and ceiling of this beautiful boudoir will be covered with artistic hangings and ornaments, and the floor with expensive carpets and rugs, all the surroundings inviting to ease and the enjoyment of the concord of sweet sounds that can be obtained nowhere on earth better than from "Heintzman" pianos. The ground floor of number 117, which has heretofore been the show room, will be converted into elegant and spacious offices, through which, and by means of a broad and easy stairs, access will be had to the show rooms above. The offices are to be fitted with all modern conveniences, and on the stairs will be displayed pictures, vases, etc.

A NEW method of putting up cut laces in kits is being introduced by some manufacturers. These laces are metallic-tipped strings, every one of which is marked and put up separately, and the whole put into chests or kits, carefully labelled on the inside of the cover, showing what the box contains and giving directions for the use of the strings, describing the number of holes to be punched in a given width of belt, and stating what string to use for that belt, and in the same manner for all the belts that are in use in a factory or shop. The laces are put up in such range of assorted sizes as to make this combination the standard needed in the average workshop or mill. The convenience of these kits of cut laces and the economy of their use is partly due to the promptness with which a belt is laced after the old lacing wears out, for the man in charge knows just where

to look for what is wanted, and no time is lost in rumaging about either to hunt up a knife to cut off a string, or among different packages of cut laces often scattered in various places. In using these kits of cut laces the entire outfit is at hand. This method of putting up cut laces for use is fast becoming popular among the trade and customers.

THE question of the relative merits of iron and wooden pulleys, says an American exchange, is brought up by a recent accident at the Stark mills, Manchester, when one 14-foot iron pulley with a 28-inch face was wrecked. One 10-foot pulley with a 20-inch face, two 8-foot pulleys with 26-inch face, and two smaller 4-foot pulleys, all iron, were ruined. The damage in all will amount to several hundred dollars, and it will be a long time before it can be repaired, as it will take one man two weeks to mill the edges of one of the larger pulleys after it is all completed otherwise. It is the opinion of Master Mechanic Wilkinson, as it is of many other prominent machinists, that wooden pulleys are far preferable to iron ones. There is no danger of their flying to pieces no matter what speed is attained. A belt clings to them better than it does to an iron pulley, and they wear as even. The iron pulley on the Amoskeag, that recently burst into fragments while running at a high rate of speed, nearly causing the death of a female operative who was employed near by, was replaced by a wooden one that has given complete satisfaction, and a large wooden pulley is now in use at the Stark, from which perfect satisfaction is obtained.

THE Nova Scotia Steel and Forge Company, New Glasgow, N.S., recently made what is perhaps the heaviest steel casting ever produced in Canada—an anvil block for their own works, and regarding which the company write us the following particulars:—"The steel anvil block is intended for one of our steam hammers at the forge department of our works. It replaces a cast iron block which weighed about 20 tons, and which broke some few weeks ago owing to its not being able to stand up to the work. The new anvil block is made of open hearth Siemens-Martin steel, and will weigh something over thirty-five tons. It was moulded about as follows: A hole was dug in "the pit" corresponding roughly to the shape of the casting; this was then lined up with fire bricks to the shape desired for the block, the brick mould being then faced up with silica sand and facing. After being dried off for some days, two open hearth Siemens-Martin furnaces were charged with the desired quantity of metal,

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and when converted were tapped off, the metal running into the mould through spouts lined with fire brick. Only about ten minutes were taken up in the casting, which was done Aug. 1st, and to-day, Aug. 26th, we are opening it up. It is to be lifted out of the pit by hydraulic jacks and at once removed to its permanent position under the hammer, the piston rod of which weighs about 5000 lbs. The hammer takes steam both above and below."

The Grand Trunk Railway car shops at Point Charles, near Montreal, have recently turned out two elegant Pullman coaches named "Adelaide" and "Acantha," and are two of four of the same class. The exterior is richly furnished, with heavy plate glass windows surmounted by embossed silver. The cars, seventy-five feet in length, are mounted on one of the latest improved Pullman trucks, made of steel bolts and plates throughout, which run on forty-three inch German disc wheels with the well-known Krupp tires. The interior is a perfect palace. The smoker, finished in embossed leather and bevelled glass mirrors on the sides, is a beautifully cosy apartment. It is richly upholstered with blue plush, which contrasts favorably with the light English oak of which it is built. The carving is exquisite. Adjoining this snug retreat for smokers is the buffet, also fitted in English oak. The chairs are large and very comfortable, and at either end of the car is a rattan settee. Large windows giving a cheerful light are arranged with the glass fitted obliquely, thus enabling the passenger to sit back and look ahead or behind as he pleases, by simply turning in his chair, and without the trouble and danger of thrusting his head out of the window. The floor is covered with the best and thickest Wilton carpet and the sides fitted in mahogany. Close to each chair is an electric bell communicating with the buffet, and the passenger can shade himself from the sun by means of delicate bronze silk curtains that drape the windows. A compartment deserving particular notice is the ladies' toilet, a pretty little place, but much larger than in the usual Pullman, and in addition to the ordinary toilet glass, with a large bevelled mirror of English plate, fully seven feet in height. The wash-stand is covered with Tennessee marble, and is supplied with water from a large tank above. The whole is lighted throughout by electricity and on the most approved plan. The cost of these magnificent cars is \$20,000 each. They will run between Montreal and Portland, and the others, whose names will be "Honora" and "Levina," will run on the line between Montreal and Toronto.

CANADIAN MANUFACTURING ENTERPRISE.

THE J. B. Armstrong Mfg. Co., Ltd., of Guelph, whose advertisement appears regularly in our columns, and with which all our readers are no doubt familiar, are making preparations for the manufacture of their patented specialties for the United States market. They have had a considerable demand from that source for some of their lines, and have been shipping from their Canadian factory, but the almost prohibitory United States tariff has necessarily limited those dealings, and with an eye to the necessity of working to the best possible advantage the largest consumers in their line, in the world, they have secured land and are now building at Flint, Michigan. Their United States works will have a starting capacity to manufacture four times the Canadian works' output, and room for increasing this, and, from the favorable outlook from present inquiries and the general satisfactory demand that has grown up for their goods in all the markets of the world where introduced, there is no doubt that their works will be taxed to the utmost from the start. Mr. Armstrong is attending and supervising personally the building and stocking of factory and office, and says he expects to have them running on January 1st, 1890, with the most complete and best systematised Carriage Spring Works in the world. Their main specialty for the United States trade will be their new Perfect Single and Plate Carriage Springs, as improved, which are now so widely and largely called for. For light or heavy work, we might just refer to the verdict of the Melbourne (Australia) Exhibition jurors at their 1888 World's Fair—first award and gold medal being awarded:—"The jury recommend the superior excellence of these springs. The one-leaf spring is the best spring ever brought under their notice, and equal in strength to any ordinary five-leafed spring, being both strong and elastic." This is only one of the many decisions and opinions so favorable always to them, and the comparison as above has to be seen to be believed. The difference in favor of their two-plate spring, comparing with seven and eight ply common plate springs, is even more remarkable. The Australian, Japan and other foreign trade will in the meantime likely be done from Canada, if satisfactory Customs arrangements can be made. The Armstrong Company are entitled to every success in their new venture. Their General Manager is determined to be in the first position only as regards his trade's wants.

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PRESIDENT.

For Prize Lists and all information address **H. J. HILL,**
MANAGER, TORONTO.

THE DODGE WOOD SPLIT PULLEY COMPANY.

The Dodge Wood Split Pulley Company of Toronto have recently completed and occupied their new factory at West Toronto Junction, a suburb of this city. This factory is placed on a lot over four acres in area, and lies directly along the line of the Canadian Pacific Railway and close also to the Grand Trunk Railway, a convenient switch connecting with these roads entering the grounds at the rear of the factory. The works include a main building 250x54 feet, three stories high, in which all the wood and iron working machinery is placed; an 80x60 annex, in which the steam engine and boiler, heating apparatus, fans and exhausts, and drying kilns are placed; a detached fire proof building, in which is kept stocks of oils, paints, varnishes, etc.; coal sheds, etc. All of these buildings are of the most substantial character, of brick, the elevator shafts also being encased in brick, with iron clad fire proof communicating doors throughout the entire establishment.

The steam engine is a compound of one hundred nominal horse power, built by the Osborne-Killy Manufacturing Company of Hamilton, specially for the purpose for which it is used, and the boiler is of the Field-Stirling type, built to withstand a working pressure of 165 pounds to the square inch, and capable of supplying the equivalent of 125 horse-power. The fan which drives the hot air into the drying kilns, and throughout the factory for heating in cold weather, is a mammoth Sturtevant, which requires 18 horse power to drive it at 250 revolutions per minute, delivering 82,000 cubic feet of hot air a minute. The lumber consumed in the manufacture of the pulleys is brought unto the premises by the railroad switch in the rear of the factory, and is delivered into the stacking yards contiguous to the kilns. Suitably arranged tracks admit of this lumber being placed on trucks, about 4,000 feet on each, and shoved directly into the kilns, the aggregate capacity of which is 60,000 feet. When a truck load of lumber is withdrawn from the kilns another truck load of lumber from the stacking yard is pushed in.

The truck load of seasoned lumber is taken to the extreme west end of the ground floor of the main building, where it all goes through a surface planer and dressed up smooth and true. Thence

to cutting up saws, where it is cut up into desirable lengths, all of that to be used for pulley arms and bushings following along on one side the building through special machines, and all to be used for rims following along the other side the building through other special machines; the work being thoroughly systematically arranged so as to obviate any more manual labor than is actually necessary. As the material reaches the extreme east end of the building it is loaded on to an elevator and taken to the next floor above, where it travels westward through different machines and processes until when it has reached the west end of the floor it is a completed pulley. An elevator at this end of the building then conveys these pulleys to the third floor, where they are treated to coatings of a filler preparation, painted and varnished, encased in veneers made for the purpose, to protect them from abrasion and damage, suitably marked and numbered, and stored in assorted stock ready for shipment.

These pulleys are manufactured in styles to suit all possible demands. Iron centre pulleys, when it is desirable to have such, to be placed directly on the shaft of the driving engine; wood arms and centres, with the Dodge patent bushing, for service on driven shafting; smooth face pulleys where leather belting is to be used, and grooved faces where the transmission of power is to be by manilla rope. Pulleys are made in all sizes, ranging from a few inches in diameter, and for use with narrow belts, up to many feet in diameter, one having been recently made at the factory here alluded to, to receive transmission of power from a leather belt 48 inches wide; and the pulley used in these works for the transmission of power from the engine to the main line of shafting, which is driven up to 125 revolutions per minute, is 13 feet diameter, grooved to accommodate eleven wraps of manilla rope. The strain on this rope, transmitting the power from the 100 horse power engine, amounts to only one and one-half per cent. of the breaking strain of the rope. The capacity of these works is the production of about two hundred pulleys a day.

It is claimed for these pulleys that they transmit from 25 to 60 per cent. more power than iron rim pulleys of same size and similar tension. The patent compression fastening is guaranteed to hold stronger than set screws, and, unlike key fastening, preserves the balance of the pulley on the shaft.

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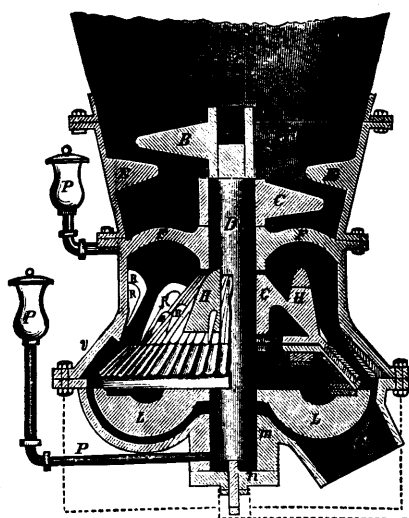
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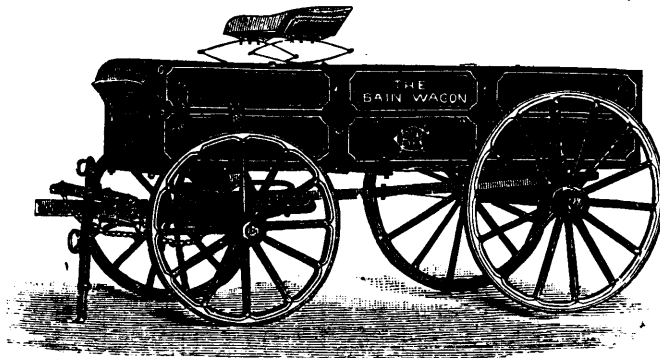
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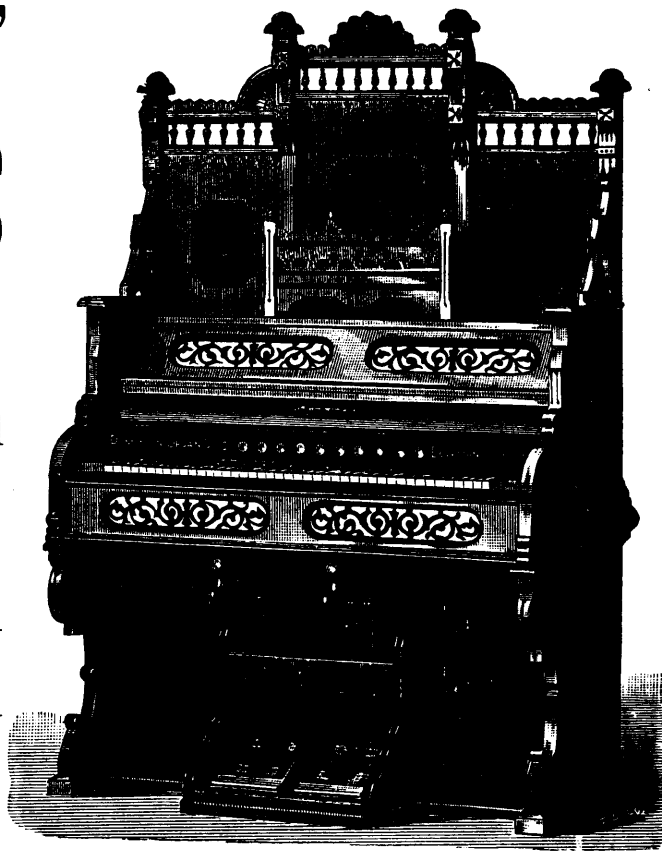
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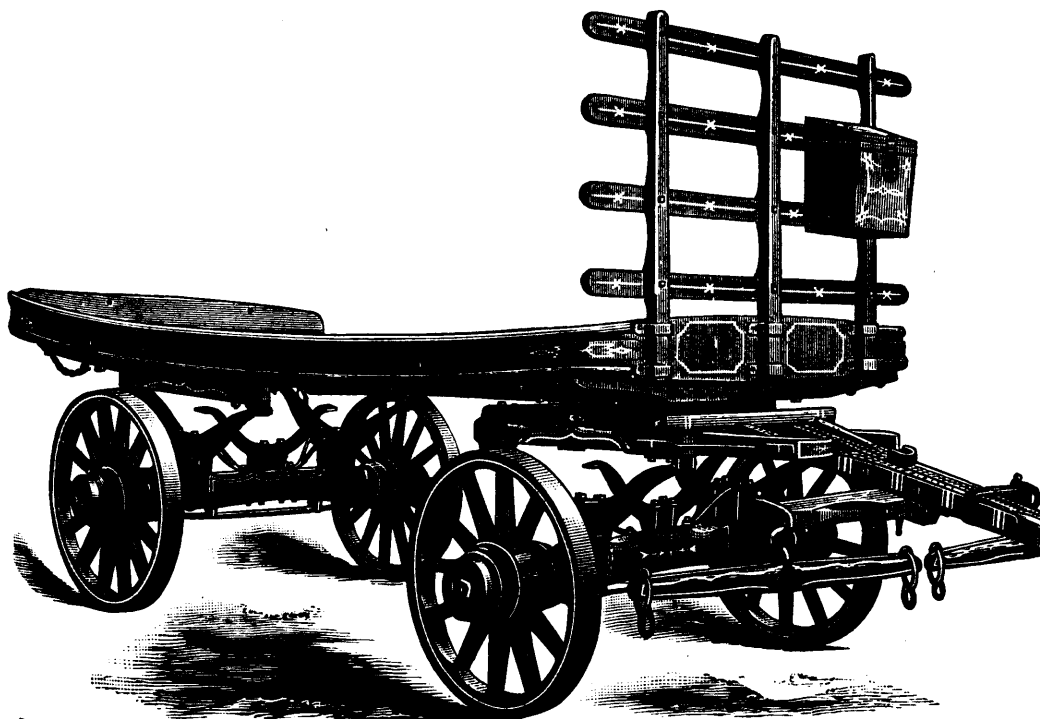
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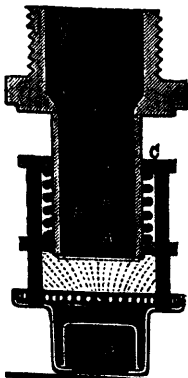
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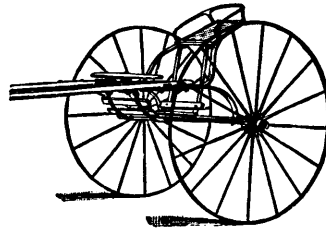
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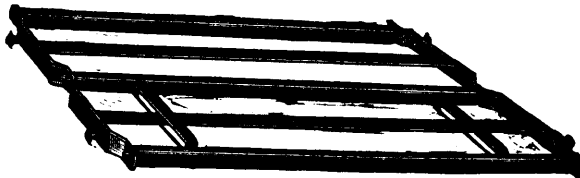
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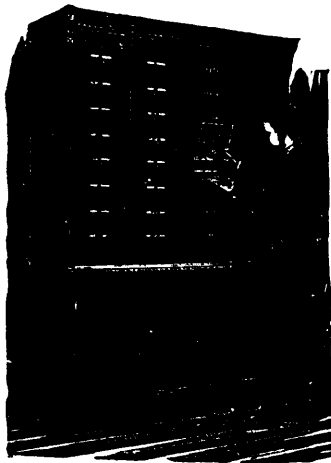


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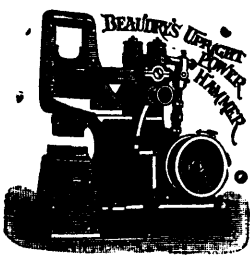
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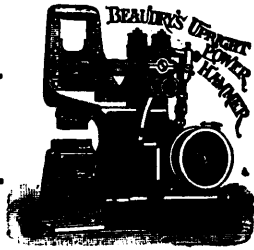
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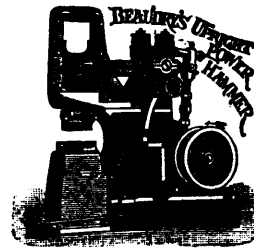
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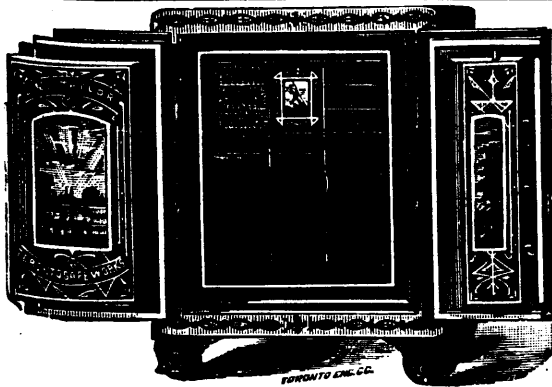


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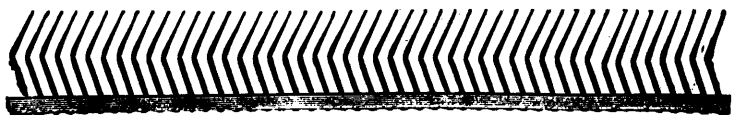
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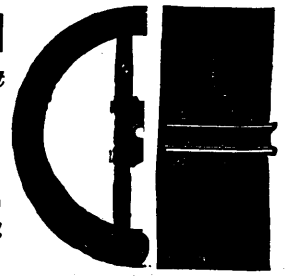
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And 50 per cent. Lighter than Wrought Iron or Steel Pulleys.

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Yours truly,
S. R. STIMSON, General Manager.

C. L. RICE, AGENT, CHICAGO, ILL.
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,
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We have sold these pulleys for one year, and they have been put to every kind of service, and their popularity is wonderful. We refer to the following users for proof of the above statements: Pillsbury & Hulbert Elevator Co., Minneapolis; R. M. 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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According to the best scientific authority it costs one horse power to keep in motion one ton of metal or weight; thus for every unnecessary 2,000 pounds weight on your line shaft, cost you one horse power. To maintain a horse power costs from \$25 to \$125 per year. Any manufacturer who will take the pains to investigate the unnecessary weight by Heavy Iron Pulleys, too tight belts, etc., will be surprised to find the enormous waste of power consumed in this manner. 60,000 Dodge Patent Wood Split Pulleys now in use. Our capacity being now equal to 100 Pulleys per day, we shall hereafter keep in stock for immediate shipment all sizes.

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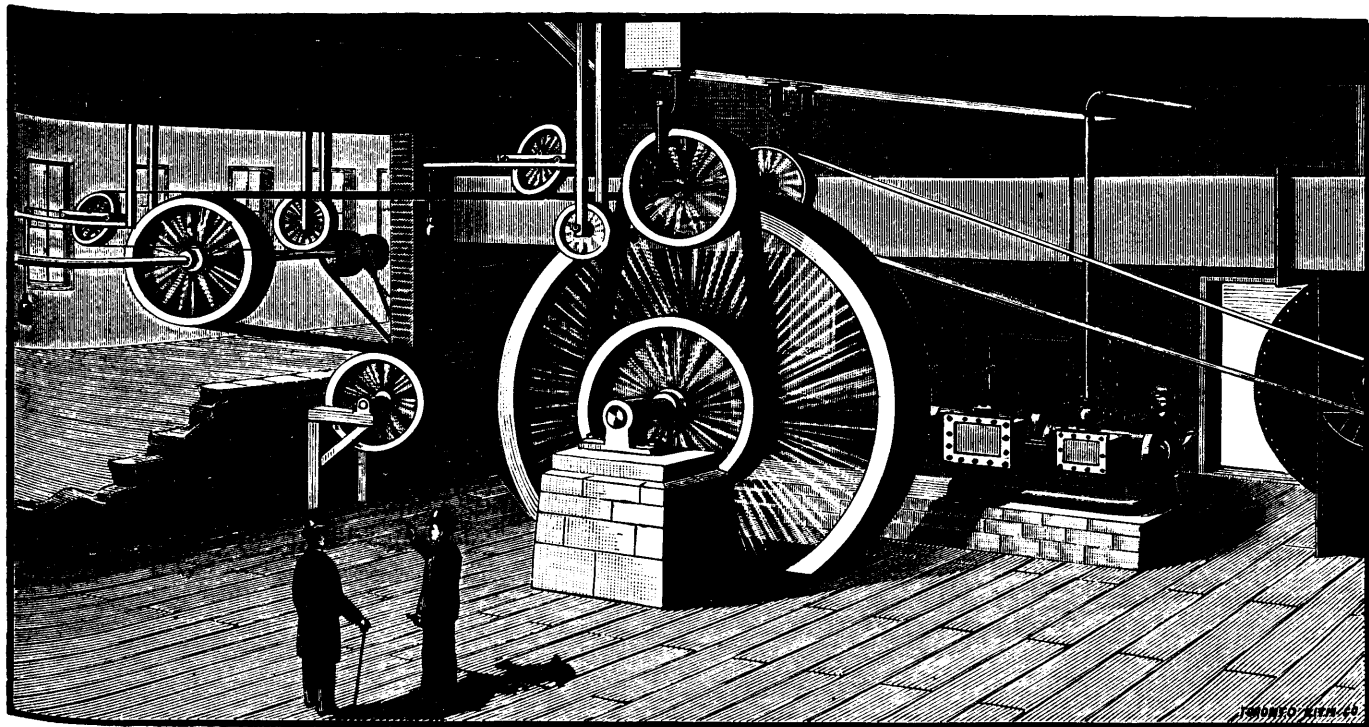
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TELEPHONE 2080.

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

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Transmission of Power



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In this transmission the engine has two driving pulleys. The small one is 72 inches in diameter with eight ropes, which drives the large Sturtevant blower seen on the right. The large pulley is 153 inches in diameter, with rim of hard maple, grooved to carry eleven wraps of $\frac{3}{8}$ -inch tallow-laid Manila rope, the connection being with a 63-inch grooved wood pulley on $3\frac{1}{2}$ -inch main shaft, 250 feet long, from which is transmitted power to all the machinery in the main building. The engine is 100 horse-power; the travel of the rope is 5,000 feet per minute; the length of the rope is 1,280 feet, and the weight 180 pounds, the cost of which, at 16 cents per pound, is \$28.80. A good leather belt, equal to the same service, would cost \$224.00. The pull on the rope when transmitting this 100 horse-power is only $1\frac{1}{2}$ per cent. of its breaking strain, while it is perfectly safe to use 10 per cent.

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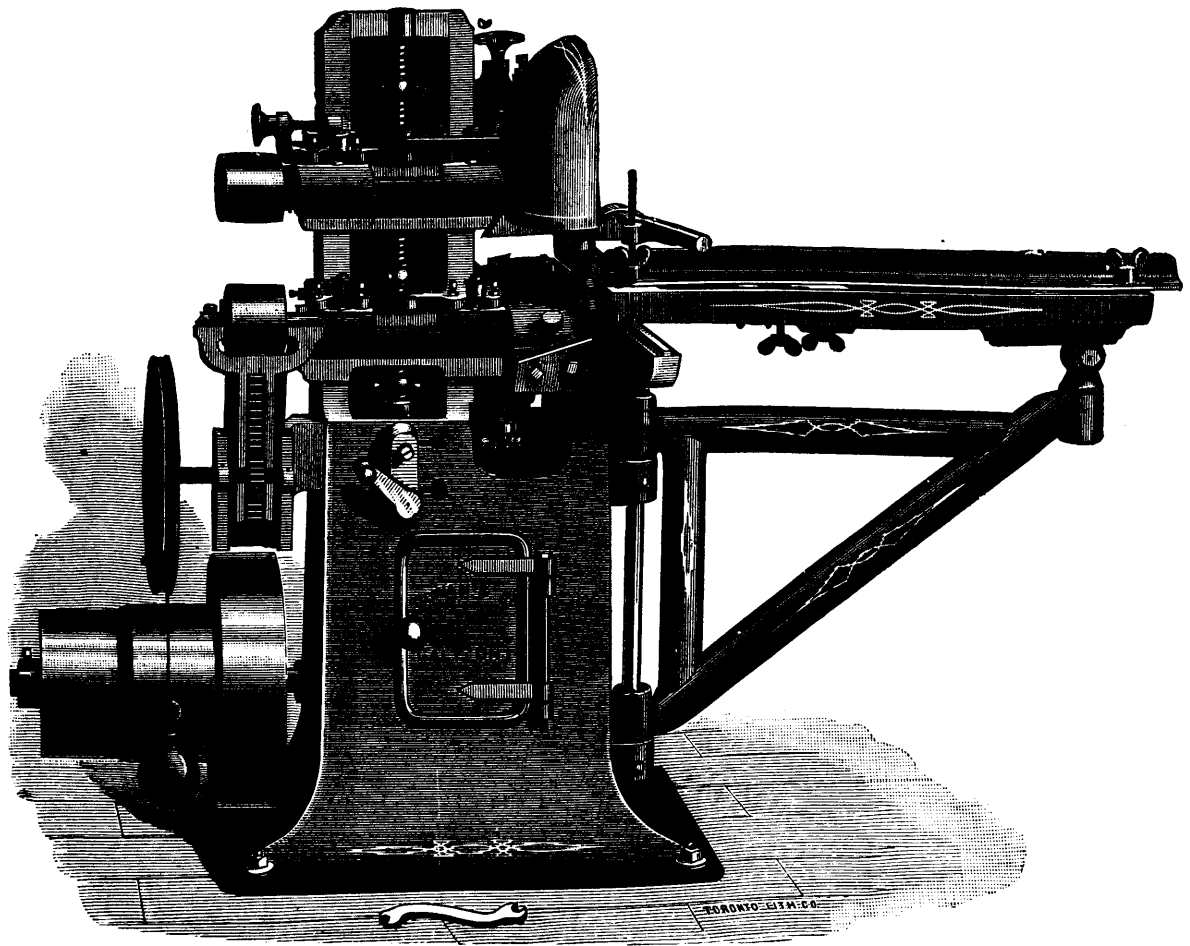
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A special feature in this machine is the Bed, or Carriage, which is at once light and strong. The outer end works on rollers and is moved very easily.

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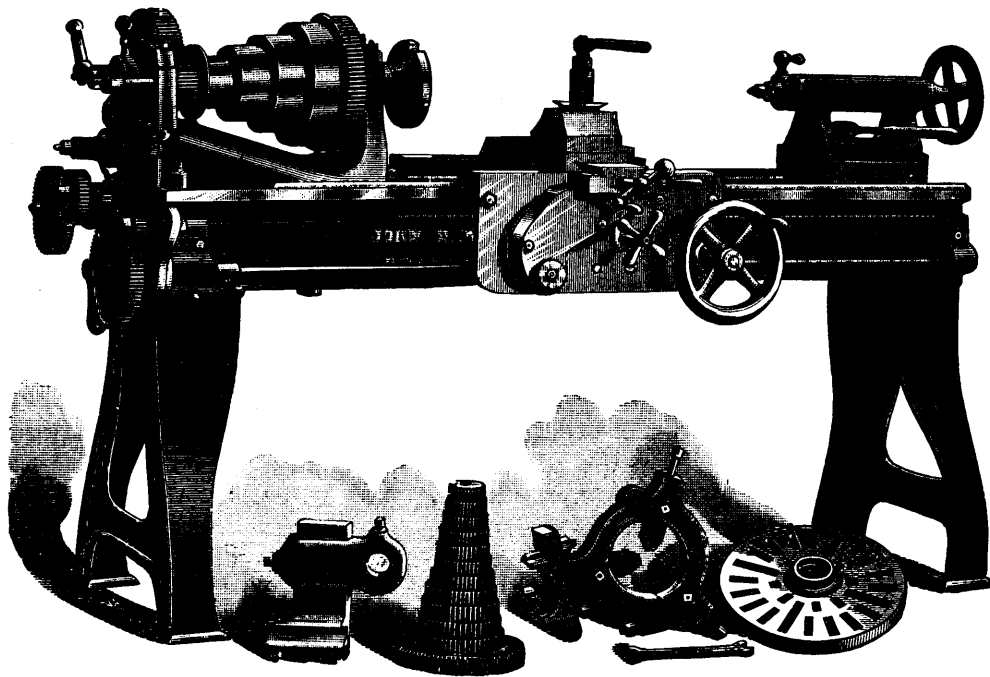
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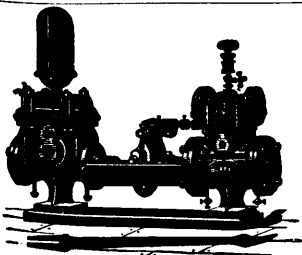
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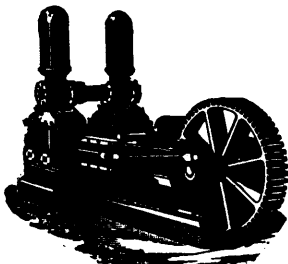
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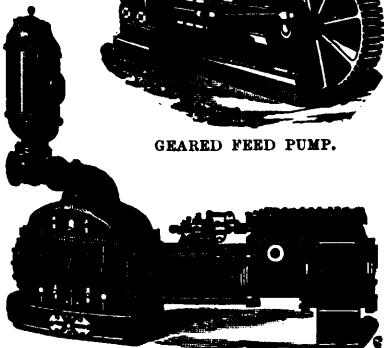
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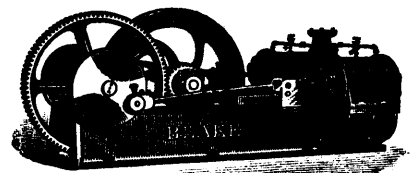


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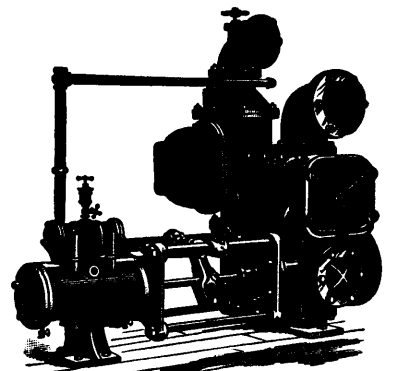
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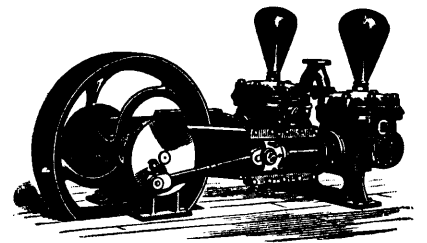
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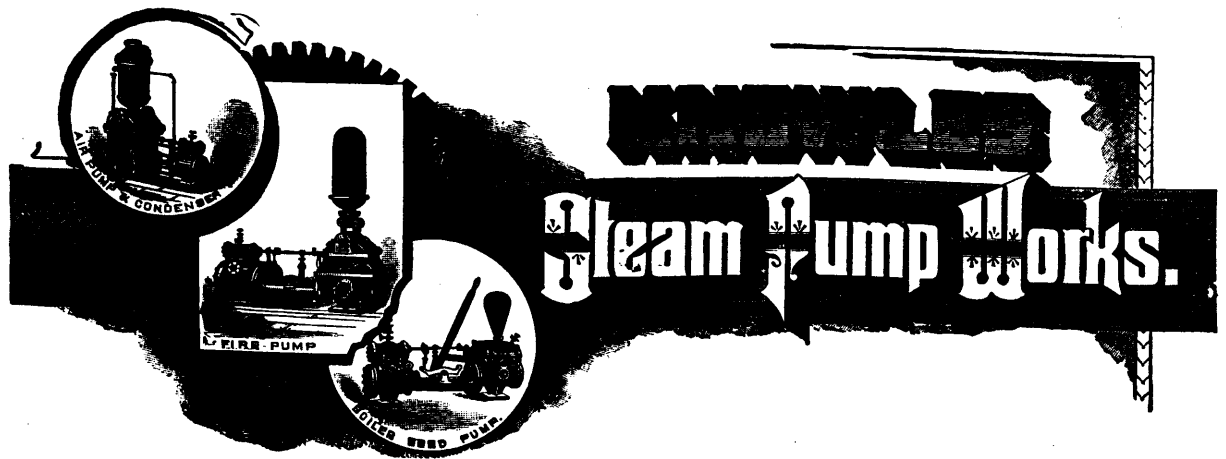
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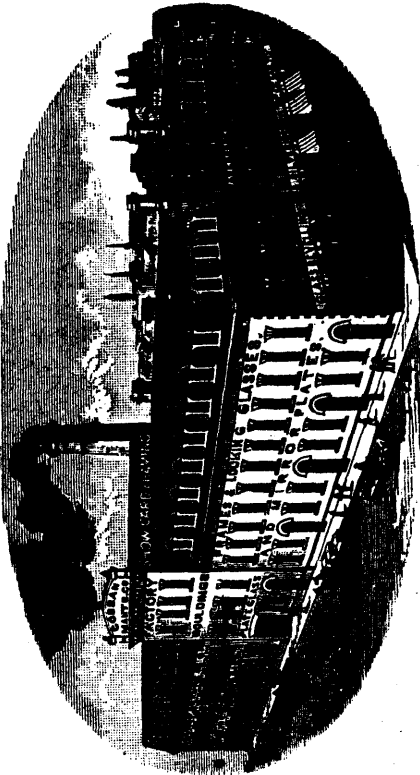
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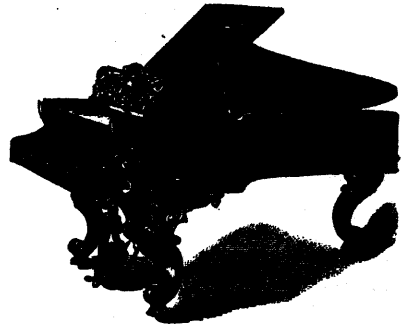


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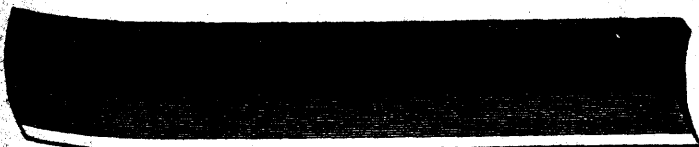
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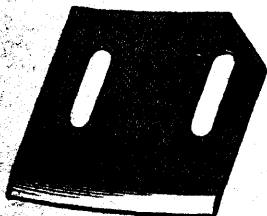
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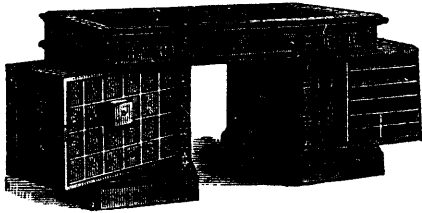
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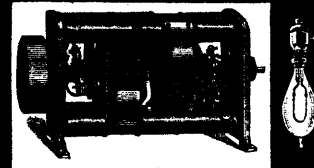
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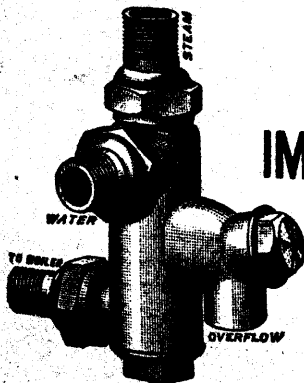
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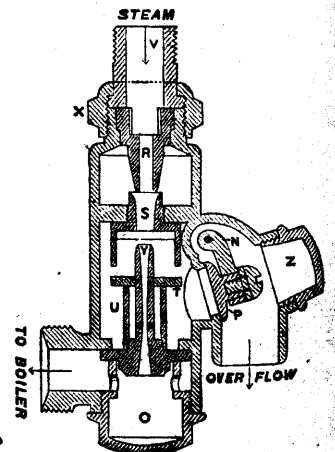
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