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Vol. 14.

TORONTO, APRIL 20, 1888

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SEE ADVERTISEMENT, PAGE 289.

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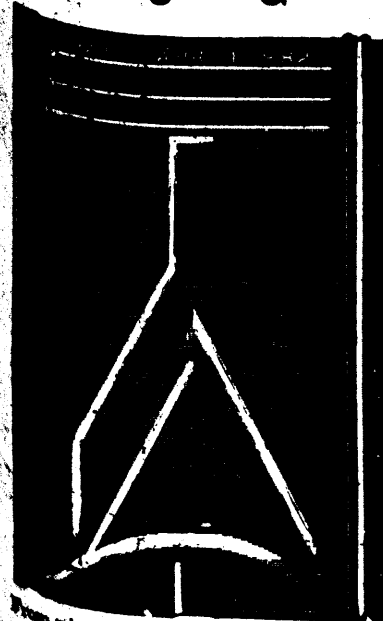
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His Office is at the Publication Office of
THE CANADIAN MANUFACTURER,
6 Wellington Street West, Toronto.

FIAT JUSTICIA.

Mrs. LEONORA M. BARRY, organizer of the Knights of Labor, has been delivering lectures in Toronto in the interests of that organization. She is a fluent and pleasant talker, and possesses the power to entertain her audiences with much ability. Her style is earnest and argumentative, and she is said to be meeting with much success in the work she has chosen to perform. She was a noticeable figure in the recent Woman's International Council, in Washington, where she delivered an address the subject of which was "What the Knights of Labor are doing for Women." In that address she said that the Knights of Labor were building around working women a wall of protection to defend them against the indignities and humiliations to which they have heretofore been subjected. There are no better law supporters—no more loyal citizens than the members of her organization. In their endeavors to right the wrongs to which the working classes are subjected, the Knights of Labor do not demand revolution, but reform. They do not seek to effect reform by brute force, or by the destruction of property. One of the aims and objects of the Knights of Labor is to elevate woman; and in doing this Mrs. Barry desires to bring all working women into the folds of her organization, no matter what their nationality, creed, color or position in life may be.

The objects Mrs. Barry has in view, and the good she is working to accomplish, which are here but very briefly outlined, are most commendable, and we most heartily wish her every success. She is capable of performing a vast deal of good in her

chosen field; and no doubt in the hereafter many will rise up and call her blessed, in that in her mission she brought smiles and sunshine where gloom and darkness had before prevailed; happiness, where misery had its abode; faith and hope where despair had weighed down the soul. If she brings but a cup of cold water to one fainting child of toil she will be rewarded therefor, and the success which is illumining her path shows that the name of those who have been made happy through her ministrations is legion.

We trust that this good lady in searching out objects for her care and solicitude will not allow her range of vision to be circumscribed by the bounds which encircle the Knights of Labor, or that her good work will be confined to those who already are or who she thinks may eventually be brought within that fold. There are many of her sisters who are prevented by circumstances from ever becoming connected with her organization; and if her mission does not lead her to include these in her solicitude, it falls short of that divinity and exaltation of which it should be possessed. No doubt Mrs. Barry has, during her experience as a public lecturer, encountered many such, for in her own country—the United States—we have abundant reasons to believe, there are thousands of women and children who are to-day suffering from the oppressions which she has made it her high duty to relieve; oppressions caused by no evil acts of their own or of their husbands and fathers; but because such husbands and fathers in their good judgment see proper to stand aloof from the Knights of Labor organization. That such suffering women and children exist in Canada is not a mere matter of belief, but an established and painful fact; and we respectfully suggest that Mrs. Barry, good Samaritan as she is, will give these some thoughtful attention while in this country.

But for fear that her engagements may prevent her from hunting up such cases, and that those who may surround her may not feel any burning desire to assist her in this direction, we will venture to give her the name and address of one such woman. She will not have to go far from Toronto to look into her weary eyes, listen to her sorrowful voice, hear her pitiful story, and see its corroboration in the hungry little children who hover around her knees, and in the lack of comforts that would help to cheer and brighten her life. Mrs. Barry, we desire to introduce you to Mrs. Farr, of the city of Hamilton, Ontario. Mrs. Farr is the wife of an humble bricklayer in that city who was able, willing and anxious to work, but who, last season when work was plentiful, was debarred from working at his trade for the sole reason that he was not a Knight of Labor—a member of the organization to which you belong, and of which you are an honored and influential officer. Mr. Farr being thus deprived of the means of supporting his family, his wife was forced to go out and earn a scanty subsistence by scrubbing the floors of offices or doing any other chores that might be offered. She had to do this or else she and her helpless little children would starve and freeze. In the pursuit of this menial occupation in passing along an icy street the poor woman had the misfortune to fall and break her arm, and so even this means of warming her freezing children and of putting food into their hungry stomachs was taken from her, and her case became a pitiable one. The only crime involved in this painful history was that Mr. Farr was not a Knight of

Labor—the punishment for this crime we have briefly outlined to you. Mrs. Barry, will you visit Hamilton and investigate this case? Will your noble womanly instincts impel you to do so? Can you investigate it independent of any connection it or you may have with the Knights of Labor organization? If you are so disposed we would suggest that you could obtain some information on the subject from Mr. A. F. Jury, of Toronto, who is, like yourself, a high officer in your organization, and who is no doubt more or less familiar with the facts of the case. We would also suggest that Mr. D. R. Gibson, of Hamilton, could tell you much about the systematic oppression that brought so much suffering and distress upon your sister, Mrs. Farr, and upon her little children. Mr. Gibson also stands high in your organization, and the information he could give you concerning the outrageous tyranny practised in that city on non-union men would certainly bring tears into your eyes if your heart is as tender and sympathetic as we believe it to be. Mrs. Barry, we beg you in the cause of humanity, to visit Hamilton and investigate the case of poor Mrs. Farr.

GASOLINE RISKS NOT EXTRA HAZARDOUS.

At the third annual convention of the Vapor Stove Manufacturers' Association of the United States, held in the city of St. Louis, Mo., in October, 1886, Mr. D. A. Dangler, president of the Association, in his address, said:—"I find that the increase in the production and sale of vapor stoves for the year 1886 is fully 25 per cent. over that of 1885, the most careful estimate placing the production for the past year at about 90,000. Notwithstanding the large increase in the number of these stoves now in use, there has been a marked decrease in accidents arising from them." In regard to insurance he said:—"I am pleased to find a gradual but sure yielding of old prejudices on the part of many of the old insurance companies, and a disposition to treat the subject of vapor stoves and their danger in a more sensible and liberal spirit."

That Mr. Dangler was not mistaken in the statement that there was a marked decrease in the number of accidents arising from the use of vapor stoves, we have the testimony of the *Chronicle Fire Tables*, of New York, which, just previous to the time Mr. Dangler made this assertion, had published a colored diagram in which was shown, by principal causes, the comparative number of dwelling-house fires occurring in the United States during the year 1885. The classification included thirty-six causes of fire, defective flues standing at the head of the list, the largest number of fires having originated from such cause: explosions of gasoline standing next to the lowest on the list. That is, there were thirty-four out of thirty-six causes that were more prolific of fires than gasoline, and but one cause less prolific.

The *Chronicle Fire Tables* is accepted authority by all insurance companies in the United States, we understand, including the Royal and the London and Lancashire, and its statement may be relied upon as being correct. This statement contrasts strongly with the unjust discrimination made by the Canadian Fire Underwriters' Association against the use of gasoline in Canada. According to Mr. Dangler the production of gasoline stoves in 1885 amounted to 90,000. There were many times that number in use previous to that year; and since then the manufacture of gasoline stoves has increased with remarkable

rapidity, there being no less than about thirty-four factories in that country constantly employed in the production of them, the annual output being estimated as in the neighborhood of 150,000 stoves. Since that time, too, the "old prejudices" of the insurance companies, of which Mr. Dangler spoke, have almost entirely disappeared, until now an insurance company there no more thinks of declining a risk, or of demanding any additional premium on a risk because of the presence of a gasoline stove in active and constant operation, than it would on account of the use of a coal stove or a gas burner.

It cannot be urged that such risks are unprofitable to the insurance companies. The Canadian Fire Underwriters' Association have arbitrarily decided that if any gasoline risks are taken, double premium shall be charged; and there are companies embraced in that Association who will on no consideration take such risks. The gentlemen who thus determine are not possessed of any greater knowledge concerning the matter than those engaged in the insurance business in the United States, and it is evident that they cannot possibly enjoy any such wide experience regarding the hazardousness of gasoline stoves as those do where such stoves are in common use all over the country. Insurance men in the United States do not do business for mere amusement, but to make money, and they would not take gasoline risks unless they made money by so doing.

CAN INSURANCE COMPANIES SUPPRESS THE USE OF GASOLINE STOVES?

The *Monetary Times* noticing our recent editorial *re* "Fire Underwriting and Gasoline Stoves," says that it was "a dangerous defence" of the use of the article, and that "it would have been a more straightforward statement of the case" had we, "while stating that gasoline stoves were permitted to be used in some parts of the United States, given the conditions exacted and extra rates to be paid for their use."

Without discussing what constitutes "a dangerous defence," we submit that our usually honest contemporary, when it undertook to quote from our editorial, should not have made asterisks do duty for a paragraph that contained the key to an important part of our "dangerous" argument. The editorial in question was a criticism on the Canadian Fire Underwriters' Association, and in it we showed that the two vice-presidents of that Association are the Canadian managers of two insurance companies which do business in the United States, both of which had, through the managers of their Southern departments, issued a circular to their local agents in the State of Texas, in which they say:—"You are aware that whatever is used in civilized countries to produce heat and light is restricted by the Fire Underwriters, and you are aware that such restrictions are relaxed just as science and experience develop comparative safety in manipulating and using whatever thus attracts the attention or seeks the sanction of the fire companies. It has been so with coal, gas, petroleum, electricity, gasoline, and with whatever has come into use for light or heat. These are all dangerous except care be taken, but need not be if prudence be exercised. Gasoline stoves have so far been made so safe as to induce fire companies universally to approve of their use in dwellings. There can be no reason for prohibiting

in Texas what is allowed elsewhere, and you are hereby authorized to permit the use of gasoline stoves by your clients."

Does the *Monetary Times* observe the point? It does itself injustice when it intimates that we had "been overpersuaded by interested parties," to assume our position on the question. Surely we had the opinion of good and experienced insurance men to back us when we said that gasoline stoves were no more dangerous than the ordinary coal and wood burning cook and heating stoves, and our contemporary suppressed the testimony that we published to that effect. If the Canadian managers of the Royal and the London and Lancashire companies, who are vice-presidents of the Canadian Fire Underwriters' Association, are accepted as authority in Canada regarding the extra dangerousness of gasoline stoves, where that article is scarcely ever seen and comparatively unknown, surely the managers of the same companies in the United States are better authority to the contrary, where there are hundreds of thousands of gasoline stoves in use, and where the silly and unreasonable opposition to them has given way entirely. These expert insurance men make no exception whatever in enumerating the articles now most generally used in generating light and heat, and they place no more restriction upon gasoline than they do upon coal, gas, petroleum, or electricity. They tell us that "these are all dangerous except care be taken, but need not be if prudence be exercised." The evidence of these two men in favor of gasoline is, we take it, of much more value than that of all the members of the Canadian Fire Underwriters' Association against it. The first testify favorably regarding an article that they are familiar with, and know all about, and the latter condemn through congealed and solidified prejudice.

Our contemporary publishes in capital letters the fact that "Gasoline is dangerous to life and property." Sure enough; but we ask if it is acquainted with any other articles in common use that are also dangerous to life and property? Gas, for instance, or coal oil, or electricity—are these not dangerous things, and do not insurance companies warn insurers against carelessness in their use? The question is begged when a lengthy "caution" is published explaining the qualities and properties of gasoline, and how it should be handled. Probably all users of the article are familiar with the facts stated, and the public are familiar with similar facts regarding coal oil, illuminating gas, electricity, and other things that are now in common domestic use. In writing insurance policies it may be well enough to embody "cautions," and stipulate as to how the article should be handled, but generally in the United States where there are uncounted thousands of gasoline stoves in constant use, while certain precautionary conditions may be exacted, no additional premiums are charged.

Has our contemporary been overpersuaded by interested parties—insurance companies for instance—to give garbled quotations from our editorial?

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EDITORIAL NOTES.

WE call the attention of the Canadian Fire Underwriters Association to what the *Fireman's Journal*, of New York, said in reviewing the facts set forth in the "*Chronicle Fire Tables*" anent the dangerousness of gasoline. It stated that "Gasoline has been accused of being an especially dangerous article, and a vigorous war has been proscribed against it, yet the *Tables* show that the supposedly innocent candle has been the cause of three times the number of fires that gasoline has, while the explosions of gas have been nearly double those of gasoline."

THE *Boston Advertiser*, alluding to Mr. Henry George's assertion that "the rich are growing richer and the poor poorer," says that this statement is scarcely borne out in the income tax returns for England. These returns show that during the past ten years the number of incomes between £150 and £500 increased 21 per cent. while those between £500 and £1,000 have not increased at all, and those between £1,000 and £2,000 have slightly diminished in number. It now remains, says the *Advertiser*, for Mr. George to explain why his theory does not apply to all parts of the scale.

THE Montreal papers relate a case wherein a young man named Joseph Labranche, of Valleyfield, near that city, was arrested one year ago on a *capias* at the instance of a concern to whom he owed money. He was arrested on the ground that he was insolvent, and was making preferential payments. On an application for a discharge the Superior Court maintained that the *capias* was issued according to law, and the man was remanded to jail where he will remain indefinitely unless the debt is paid. Imprisonment for debt, except in case of fraud, should be abolished in Canada. It is a relic of barbarism that is a disgrace to any civilized community.

ONE of the most glaring inconsistencies of the Mills tariff bill now before the United States Congress, is in where it proposes to remove the duty on cotton ties and retain it upon hoop iron. Cotton ties are hoop iron cut into certain lengths, with holes punched in the ends to facilitate fastening. Hoop iron not thus prepared is used in the manufacture of barrels, buckets, tubs, etc.; and although cotton ties are not as much a "raw material," whatever that may mean, as plain hoop iron, it is proposed to give the Southern cotton planter the benefit of having it on the free list, while the Northern manufacturer of buckets and tubs is taxed with the duty.

GERMANY is a high protective country while England professes to be free trade. Notwithstanding this we see that Germany has so developed and built up her industries under protection that she is able to successfully take away the steel rail trade from England. We learn from the *Kölnische Zeitung* that German railmakers have just secured an order from Chili

for a contract for 7,500 tons of rails, a Rhenish steelworks having beaten an English manufacturer. The price at which the German firm have taken the contract has not transpired, but it cannot be over £4 a ton at works, as English railmakers, fairly employed as they are at present, would not tender below that rate.

THE solidified and congealed conservatism of old foggy Canadian managers of fire insurance companies will not allow them to take risks at current premiums where gasoline stoves are used, although the testimony of equally astute and more experienced insurance managers in the United States is that gasoline is no more dangerous than coal, coal oil, gas or electricity for domestic uses. The manufacture of gasoline stoves in Canada will be a booming big industry in the near future, and the goods will be sold and used in Canada. There is a fine opening in Canada for fire insurance companies that are not controlled by managers of solidified and congealed old foggy conservatism.

THE harbor light at Grand Haven, Michigan, has been changed from an oil to a gasoline burner. The elevated walk has been taken away, as Engineer Miller, of the lighthouse service, says that the substitution of the gasoline burner for the oil will obviate the necessity of any attention to it during the night. It is said that the light is brighter and sheds its rays farther out on the lake. As it is the first light of the kind established on Lake Michigan, the result of the experiment will be watched with interest. If the Canadian Fire Underwriters' Association could have their say about it the Grand Haven lighthouse would never have had a gasoline burner introduced into it. We suppose that now those companies that are embraced in the Association that take marine risks will want to charge double rates on all vessels insured by them that pass in sight of the Grand Haven light.

IN an editorial recently published in this journal discussing "Wealthy Paupers," in alluding to the elegant new building in this city belonging to the Young Men's Christian Association, it was stated that the whole establishment, including the gymnasium, baths, reading, meeting, reception, and music rooms, parlors, etc., were exempt from all taxation "although there are several stores and places of business in it which yield large rentals," and that "the auditorium is constantly being rented for large money considerations." We are in receipt of a letter from Mr. Caldecott, president of the Association, in which he informs us that although portions of the edifice, including baths, etc., are exempt from taxation because of the religious purposes to which they are devoted, the stores and auditorium, which are rented for non-religious purposes, are not thus exempt, and that taxes are paid on them. We cheerfully give the Y.M.C.A. the benefit of Mr. Caldecott's statements.

THE Permanent Exhibition of Manufactures in this city have in their extensive establishment displays of manufactures from more than a hundred different factories and shops in all parts of the Dominion, and quite a number from manufacturers in the United States also, who thus avail themselves of the opportunity to introduce their goods to Canadian purchasers.

The products exhibited are of every imaginable variety, ranging from ponderous steam engines and wood and iron working machinery to the delicate essences and perfumeries of the chemist. These articles are all exhibited in the most advantageous manner, the finer and more fragile ones in beautiful glass show cases. The Exhibition is comfortably warmed and lighted; abounds with a profusion of ornamental plants and flowers; and polite and well-instructed attendants are always at hand to give information. It is open free to the public during all business hours; and the throng of visitors constantly seen there indicates that it is one of the most attractive and instructive places in Toronto.

BRITISH free trade has not enabled British manufacturers to retain their "supremacy" in the markets of the world. On every side they find earnest and powerful rivalry which they can not avoid or overthrow. Besides being unable to defeat competition, British free trade is absolutely crushing British agriculture. Mr. Henry Chaplin, a member of the House of Commons, in a speech delivered in that House in February, painted in vivid color the depression of the farming industry of Great Britain. He asserted that investigation has shown that the paralysis of agriculture has thrown 700,000 farm laborers out of work; that land is continually going out of culture; that sheep and cattle are decreasing in number, and that the unemployed, despite the vast emigration to other lands, are constantly increasing in number. Evidently the free-trade advocates of Great Britain have a large job on hand to meet these assertions and to provide remedies for the undemied evils that have grown to proportions so enormous under the present fiscal policy of that country.

THE *Monetary Times* calls attention to the fact that there has been a decrease in the number of fires occurring in flouring mills since the dust-collecting machines have come into wide use in them. It speaks of carelessness, however, as being a more dangerous element in mills than dust, and suggests the attachment of a carelessness-collector to the miller himself. It says:—"A good carelessness-collector should meet a wide sale. The insurance companies would probably be glad to go to the expense of furnishing a collector for every employee about every insured mill in the country." Why, we would like to enquire, don't the insurance companies act on the suggestion, and furnish these collectors? We suppose there is a thousand—possibly ten thousand gasoline stoves in constant use to each flouring mill, yet while scarcely a day passes that a mill is not destroyed by fire, the destruction of a residence from a gasoline stove accident is scarcely ever recorded. Mill dust and gasoline are both highly explosive articles under certain circumstances. The absence of the "carelessness-collector" accounts for the destruction of the mills, and the presence of it for the preservation of the residences.

AT the recent opening of the Spring Assizes for the county of Brant, His Lordship Justice Rose, in addressing the grand jury, alluded to prison management, about which so much has been said and written of late. Prisons, he said, should be made places of punishment, not of refuge for people to be shut up in and maintained at the country's expense, at their own

convenience or desire. Many are quite willing to be confined in jail during the winter months. Good food, no employment and good medical care are found in the jails, and the inmates come out of them in the warmer weather, physically strengthened, to pursue their depredations on the public. Jails should not be nurseries for criminals. The inmates should be compelled to labor to the limit of their strength, and should receive only food enough to maintain their strength and preserve their health. His lordship had reference to tramps and those guilty of minor offences, not to criminals. One rarely hears of outrages committed by tramps during cold weather, for they are usually all well ensconced in comfortable quarters at that season, even if it is in jails and behind bars. But when their terms have expired, which is usually early in the warmer weather, these gentry roam the country to the terror of the wives and daughters of farmers. They say they seek work, but they pray that they may not find it.

At a public meeting recently held in Toronto, called by the Mayor, to discuss the question of laborers' wages, in speaking to a resolution petitioning the city to increase the wages of laborers, one of the speakers declared that "Remedy or Revolution" were the alternatives of the situation. Another speaker announced that he had never had any desire to steal, but if, "through lack of work and low wages," he was driven to it, he would "consider it no sin to stretch forth his hand" and help himself. He thought that "the only way to make money at a dollar a day was to stick to the dollar, and never pay landlord, grocer or baker," and so forth. In a recent issue we showed that a gang of men who had been employed by the city during the cold weather, more for the sake of helping them through when no other work was to be had than for performing any emergent work, had struck and quit work at the dictation of their labor organization because their wages were not increased from two dollars a day to two dollars and fifty cents. The meeting alluded to gave the jawsmiths of the labor organizations a fine opportunity to air their anarchistic views. The fellows who shout "Remedy or Revolution," and whose ideas of honor and justice impel them to "never pay landlord, grocer or baker," are not the ones who want work at any price. They dead-beat their livings out of their dupes.

THE contest has begun between insurance companies which do business in Canada, and people in Canada who desire to manufacture, sell or use gasoline stoves. The insurance companies take the ground formerly maintained in this country that the use of vapor stoves increases the fire risk, and they therefore demand an extra premium. The CANADIAN MANUFACTURER, of Toronto, has taken up this subject and enters a most vigorous "protest against the action of the Canadian Fire Underwriters' Association in charging a double insurance rate on buildings in which vapor stoves are used." The inconsistency of the action of the insurance companies is emphasized by the fact that many of the companies embraced in the Canadian Association also do business in the United States, and here they do not discriminate against vapor stoves. A few months ago the *American Artisan* published the contents of a circular issued by the managers of the Southern Department of the Royal Insurance Company, and the London and

Lancashire Fire Insurance Company, of Liverpool, to their local agents in the State of Texas, in which they instructed their agents not to discriminate against the use of vapor stoves on the ground that "there can be no reason for prohibiting in Texas what is allowed elsewhere." But in Canada these same companies declare by their agents that the use of gasoline stoves in Canada is to be discouraged by the charging of double rates. The Canadian agents of these two companies are both of them vice-presidents of the Canadian Fire Underwriters' Association. The absurdity of the position is at once apparent, and will certainly have to be abandoned, and the use of gasoline stoves be permitted without extra cost of insurance in Canada as is now done in this country.—*American Artisan*.

Ironmongery is a characteristic British trade journal which has found its way to this office among our exchanges. As its name indicates, it is devoted to the interests of the machinery and hardware trades, and its advertising pages show that it is appreciated and patronized by those engaged in those trades.

THE *Canadian Bookseller* is a new twenty-page monthly journal published in Toronto by the Canadian Bookseller Co., of which Mr. Dan. A. Rose is manager. It is devoted to the interests of the book, stationery and fancy goods trades. The initial number now before us is very nicely gotten up, and its pages contain a gratifying display of advertisements. We wish it every success. There is lots of room on top for all new-comers.

From the edition of Geo. P. Rowell & Co.'s "American Newspaper Directory," published April 2nd (its twentieth year), it appears that the newspapers and periodicals of all kinds issued in the United States and Canada now number 16,310, showing a gain of 890 during the last twelve months and of 7,136 in ten years. The publishers of the Directory assert that the impression that when the proprietor of a newspaper undertakes to state what has been his exact circulation, he does not generally tell the truth, is an erroneous one; and they conspicuously offer a reward of \$100 for every instance in their book for this year, where it can be shown that the detailed report received from a publisher was untrue.

THE following important circular has just been issued at the Department of Customs:—Application having been made to the Minister of Customs for the purpose of having certain woolen cloths, called "Melton," ruled for duty under item 510, '11, and '12 of the tariff, instruction has been given by the Minister of Customs, with the concurrence of the Minister of Finance, that it is not in the power of the Customs Department so to rule, as the reading of the tariff is directly contrary thereto. In item No. 509 of the tariff all "cloths and flannels" are distinctly named, and dutiable thereunder at 7½ cents per lb., and 20 per cent. *ad valorem*, and consequently no cloth or flannel, whatever qualifying word or words may be used as a disguise, can be legally entered at any other rate, and the practice of entering such under the name of "dress goods," "winceys, or other fabricated name, cannot be permitted, and whenever done at any port has been contrary to oft-repeated instructions, and has created great unpleasantness, and operated very injuriously to the interests of importers.

THE Dominion Board of Customs rendered the following decisions during the month of March:—Artificial gum arabic, a British gum or dextrine, 1 cent per lb. Cotton plush, colored, this class of goods being distinct from velveteen and cotton velvets, 25 per cent. Diamond drill boring rods and couplings, 30 per cent. Fire brick, for bakers' ovens, free. "Friermiz," a syrup used for summer drinks, 1½ cents per lb and 35 per cent. *ad valorem*. "Health Food," specially prepared wheat flour or meal, 20 per cent. Indurated fibre ware, for the manufacture of paper, 35 per cent. Iron music stands, 35 per cent. Neutral cotton seed soap, 1½ cent lb. Paper boxes, empty, as labels, 15 cents lb., and 25 per cent. *ad valorem*. Pen holders, the handle being wood, and the holder of steel, iron or brass, 30 per cent. Porcelain-lined pump cylinders, 35 per cent. *ad valorem*. Prussian binding, 30 per cent. *ad valorem*. Surgical instruments in cases, the cases 35 per cent. *ad valorem*, the instruments, 20 per cent. *ad valorem*. Spools made wholly of wood used in cotton machinery, 25 per cent. *ad valorem*. Vermouth bitters, or wine, \$1.90 per imperial gallon. Wood pumps with iron handles, spouts, etc., 35 per cent. *ad valorem*.

To Mill-Owners, Manufacturers, and all who use Leather Belting.

IF YOU WANT BELTING

Which will Run Straight on the Pulleys;

Which is thoroughly well Stretched;

Which will Not Tear at the Lace Holes;

Which will give Complete Satisfaction;

— SEND TO —

F. E. DIXON & CO.

MANUFACTURERS OF

Patent Lap-Joint, Star Rivet

Leather Belting

70 KING STREET EAST, TORONTO.

Special Belts for Electric Light Machinery;

Belting made from the very Best Canadian Leather;

Belting made from American "Genuine Oak Tanned Leather";

Rubber and Cotton Belting; Lace Leather;

PHENIX OIL, the only Perfect Belt Dressing.

SEND FOR CIRCULAR.

ALL OUR BELTING IS SOLD AT THE CANADIAN PRICE LIST.

PLEASE COMPARE BEFORE PURCHASING.

Send for Discounts and our Pamphlet on Belting.

MILL OWNERS!

NOTE THIS.

On February 26th, 1888, Mr. James Shearer's Saw and Planing Mill in Montreal, was destroyed by Fire. The Main Driving Belt in this mill was of "HOYT'S" make, and had been in constant use for 33 years.

GEO. F. HAWORTH & CO.

EXCLUSIVE AGENTS,

11 JORDAN STREET,

TORONTO.

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.

MR. J. A. COWIE, Emerson, Manitoba, has started a pump factory.

MR. T. B. JACKSON, Louisville, Ont., will build a large grain elevator at that place.

MR. J. M. LAWRIE, Birtle, Man., will build a 20,000-bushel grain elevator at that place.

MESSRS. HEAD & CHRISTIE, Rapid City, Man., will build a 40,000 bushel grain elevator.

MESSRS. SIMS & Co., Brandon, Man., have recently started an extensive carriage factory.

THE Brook Woolen Company, Simcoe, Ont., has been incorporated, with \$25,000 capital.

HAHN's lumber mills at Hamburg, Ont., were destroyed by fire, March 16. Loss about \$15,000.

MR. L. S. WAY, Ways Mills, Que., near Coaticook, has recently put his woolen mill in thorough repair.

MESSRS. J. HARRIS & SON, Montreal, the well known tobacconists have engaged in the manufacture of cigars.

IN boring for natural gas at St. Thomas, Ont., a heavy flow was struck a few days ago at a depth of 90 feet.

AN extensive deposit of soft coal has been discovered by Mr. E. L. Guerin on his place near Kamloops, B.C.

THE American Watch Case Company, Toronto, have increased their capital stock from \$75,000 to \$200,000.

MESSRS. R. SHANNON AND DR. DUNCOMBE, Waterford, Ont., will erect a grain elevator at that place this season.

THE Rising Sun Canning Company, Hamilton, Ont., expect to pack 20,000 cases of tomatoes the coming season.

THE flouring mill of Messrs. Bickle & May, Petrolea, Ont., was destroyed by fire March 29th, loss about \$10,000.

THE Capital Gas Company, Ottawa, have bought necessary boring machinery and will bore for natural gas in that city.

THE McFarlane Milling Company, Sherbrooke, Que., have recently introduced roller machinery into their mills.

THE capital stock of the Kingston Electric Light Company, Kingston, Ont., has been increased from \$3,000 to \$50,000.

A COMPANY has been organized at St. Catharines, Ont., who will proceed immediately to bore for natural gas in that city.

MR. ROBERT WHITELAND, Woodstock, Ont., is putting new machinery into the flouring mill at North Norfolk, Man.

MESSRS. PETER McLAREN, of Perth, Ont., and Ross, of Quebec, will build extensive lumber mills at New Westminister, B.C.

THE Smith Middling Purifier Co., Stratford, Ont., are supplying the machinery for McVean's new flour mill at Dresden, Ont.

MR. T. G. HALL, of Sarnia, Ont., has leased the works of the Alpha Oil Company, of that place, and will operate the same.

THE Maxwell Manufacturing Co., Paris, Ont., have been offered a \$30,000 inducement to move their works to St. Mary's, Ont.

MARTIN's grist, saw and shingle mills at St. Ola, Ont., were destroyed by fire, March 16. Loss \$6,000. These works will be rebuilt.

ST MARY'S, Ont., has voted \$7,000 towards the establishing of a rope and twine factory there, by the Maxwell Agricultural Works of Paris.

THE Electrical Accumulator Company, of Canada, with head offices at Ottawa, have been incorporated with \$20,000 capital stock.

IN boring for oil at Comber, Ont., oil was struck a few days ago at a depth of about 1,200 feet. There are now two fine oil wells at this place.

THE Brook Woolen Company, of Simcoe, Ont., have been incorporated, with a capital stock of \$25,000, for the purpose indicated by the name.

MR. W. S. STANLEY, late of the Galt Knitting Company, Galt, has become manager of the Thorold Knitting Company's Mills, at Thorold, Ont.

MESSRS SIEMAN & HILL, Warton, Ont., manufacturers of furniture, have been granted special bonus privileges by the authorities of that town.

THE Atlas Woolen Works are "hustling things." Seventeen hands are already employed. New machinery is expected daily.—*Oshawa Vindicator.*

MESSRS. J. & B. BEAR's carriage factory, at Doon, Ont., with their sawmill adjoining, were totally destroyed by fire April 9th. Loss about \$20,000.

THE Crossen Car Works, Coburg, Ont., are to be removed to Lindsay, Ont., the latter town having offered a substantial inducement for the purpose.

THE Ontario Casket Co., Ridgetown, Ont., have recently made a large shipment of burial caskets, coffins, trimmings, etc., to Namino, B.C., to fill an order.

MR. C. M. SCOTT, West Brome, Que., has bought the patent right for Canada and will immediately begin the manufacture of the Howe improved curry-comb.

THE extensive grist mill at Belle River, Ont., owned by Messrs. W. & J. G. Greery & Co., Toronto, was destroyed by fire a few days ago. Loss about \$10,000.

THE Petrolea Roller Mill, at Petrolea, Ont., owned by Bickle & May, was completely destroyed by fire on the morning of March 29th. Loss about \$10,000.

WHILE boring an artesian well at Glencoe, Ont., recently, a bed of remarkably pure rock salt 75 feet thick was struck at a depth of 1,265 feet from the surface.

THE Combustible Gas Company, Quebec, have interested some Pittsburgh, Pa., capitalists in their project, and expect to have their works in operation very soon.

IT is accepted as a fact in Hamilton, Ont., that the work shops of the Grand Trunk Railroad, in that city, are to be removed to Stratford, Ont., at a very early day.

MR. F. B. SHAW, Victoria Harbor, Ont., is adding considerable new machinery to his lumber mill, included in which is an edger, which will edge boards 34 inches wide.

MR. JOHN SHAW, Bridgen, Ont., is placing considerable new machinery in his lumber mill, including a new 25-horse power steam engine and boiler, heading machine, etc.

MESSRS. GARSON & Co., St. Catharines, Ont., have been awarded the contract for the construction of the Merrittton, Ont., water-works, the consideration being \$13,008.80.

THE extensive picture frame manufactory of Messrs. N. H. Rhename Bros., Montreal, was destroyed by fire, March 30; loss on building about \$15,000, and on stock, \$20,000.

THE works of the Farm and Dairy Manufacturing Company, at Brantford, Ont., were destroyed by fire a few days ago. Loss about \$10,000 on buildings and \$15,000 on contents.

DR. PIERCE, of Fort Erie, Ont., intends to drill for gas in the rear of his planing mill there, and if successful, will use the gas for fuel in the mill, and also for illuminating purposes.

MR. HENRY SEWREY, Barrie, Ont., has been granted a \$7,000 bonus by that town to induce him to establish a stove foundry in connection with his present steam engine works.

MESSRS. H. TODD & SON, Victoria, B.C., will erect an extensive salmon cannery at Lulu Landing, Fraser river, which will be equipped with the most improved machinery and appliances.

MESSRS. HAMELIN & AYERS, Lachute, Que., are doing quite a business in paper-making and pulp felts, they having added this line to their already extensive manufacture of woolen goods.

MESSRS. E. P. BAIRD & Co., Montreal, have purchased the business of the Electro Mechanical Clock Co., of that city, who were the owners of the Canadian patents on self-winding clocks.

THE Star Manufacturing Company, Halifax, N.S., manufacturers of skates, etc., made a net profit on their business the past year of over \$12,000. They report the business outlook very good.

MESSRS. J. J. MUNROE & SON, St. John, N.B., manufacturers of trunks, report that they are unusually busy at this time, and are working over time to enable them to keep up with their orders.

THE Canadian Rubber Co., Toronto, of which Mr. J. H. Walker is manager, are offering a rubber garden hose of very superior quality. Such hose is indispensable where grassy lawns are desired.

THE Gold and Silver Mining Co., of Moncton, N.B., are applying for incorporation, for the purpose of mining gold, silver and copper on a claim which they have secured in Elgin, Albert county, N.B.

MR. PHILIP RUDELL, of Cleveland, Ohio, is in correspondence with parties in St. George, Ont., near Brantford, with a view to starting works there for the manufacture of typewriting machines.

MR. P. BONNEAU, Wood Mountain, N.W.T., has discovered an immense deposit of coal near Willow Bunch, about ninety miles from Regina. It is claimed that the quality is fully equal to Galt coal.

MR. R. DENNIS, proprietor of the Forest City Wire and Iron Works, London, Ont., has been awarded the contract for the construction and erection of the spiral fire escape of the new town hall, Petrolia, Ont.

THE National Mining Association, of Moncton, N.B., are working a fine property they have in Elgin, Albert county, that province. They have a full outfit of machinery and have sunk a shaft to the depth of 160 feet.

MESSRS. WM. BELL & Co., Guelph, Ont., manufacturers of organs and pianos, are having a large order for spruce lumber for sounding boards for their instruments filled by the Royal City Planing Mills, Westminster, B.C.

THE Goold Bicycle Company, Brantford, Ont., have been incorporated with \$20,000 capital stock, and will manufacture bicycles, etc. The principal incorporators are E. L. Goold, W. J. Knowles, and W. H. Shapely.

MR. E. DECEW, of the Ontario Canning Company, Hamilton, Ont., has obtained a patent for a machine for separating rinds of peelings, piths, seeds and other refuse from the pulp or juice of fruit and vegetables.

GEORGE CASSIDY, sash and door manufacturer, and mill owner, of Chatham, N.B., has sold out his business and is coming to Vancouver, where he proposes establishing himself in his old business. *Vancouver, (B.C.) Herald.*

THE Oshawa Malleable Iron Co., Oshawa, Ont., manufacturers of malleable iron for all purposes, find their business increasing to such large proportions that they contemplate adding materially to the capacity of their works.

THE Canada Chemical Company, London, Ont., whose works were burned last summer, will build a brick and iron fireproof building, costing about \$5,000. The work will be begun at once, the contracts having been let.

THE Gutta-Percha and Rubber Manufacturing Company, of Toronto, have recently supplied about 3,000 feet of the larger sizes of Monarch rubber belting to Messrs. Hindman & Co., Ottawa, for their saw mills at that place.

A SYNDICATE of Americans have acquired 300 acres of land at South Bay, near St. John, N.B., and will erect large pulp works and cottages for their workmen. It is estimated the works and improvements will cost \$800,000.

MR. V. DENNE, Newmarket, Ont., has shut down his planing mill for repairs and alterations, and will introduce a full train of the Cochrane rolls, which he claims will be the second mill in America operated on this system.

MESSRS. JAMES HARRIS & Co., St. John, N.B., employ 355 men in their car works and rolling mills. Some of their men have worked with them ever since 1849; one man having been in their employ steadily for fifty-two years.

THE Polson Iron Works Company, Toronto, are furnishing one of their Brown automatic steam engines, with boiler for same, of 60-horse power, to the Queen City Galvanizing Works, of which Messrs. Thomas McDonald & Co. are proprietors.

MESSES. BROWN, BIRD & Co., Kingsville, Ont., have purchased the plant, stock, machinery, etc., of the Ruthven Woolen Mills,

Ruthven, Ont. It is not decided whether the works will be operated at Ruthven or removed to Kingsville.

THE Orillia, Ont., Town Council has granted to the Longford Lumber Co. exemption from taxation for ten years on the plant and building they propose erecting for the manufacture of woodenware. The plant is estimated to cost about \$45,000.

It is stated that coal has been discovered in two places on Salt Spring Island, B.C. If reports are to be relied upon there are considerable coal fields in that province, extending from the North-West Territories to the coast and Vancouver Island.

MESSRS. H. R. IVES & Co., Montreal, announce that they have two flats to let, with power. The location is central and convenient to business, and those desiring such accommodation for manufacturing purposes should act on this information.

MESSRS. TESKY & SHEPARD, Welland, Ont., are busy preparing their new canning factory for the business of the coming season. They have already accumulated some 30,000 tin cans, made in their factory, and are now producing about 1,600 cans a day.

MESSRS. LENNARD, SONS & BICKFORD, Dundas, Ont., intend to build an extensive addition to their knitting factory, if the authorities will guarantee them a sufficient supply of water. If this is not done the industry will probably be removed to Hamilton.

MR. A. FILSHIE, Elora, Ont., has made a proposition to parties in Brantford, Ont., looking to the establishment at the latter place of a works for the manufacture of agricultural implements. Mr. Filshie wishes to personally invest \$20,000 in the concern.

THE Massey Manufacturing Company, Toronto, have written to Mayor Clarke, withdrawing their application for exemption from taxation upon projected malleable iron works, and stating that they intend starting the enterprise upon their own responsibility.

MESSRS. C. R. CASEY & SON, Amherst, N.B., the well known tanners, are tanning about 6,000 sides of leather and 7,000 pairs of moccasins and larrigans per year. They employ about twenty-two men, and do a business of from \$25,000 to \$28,000 per year.

MR. ALFRED ATTRIDGE, Schomberg, Ont., is building a large lumber and planing mill and factory for manufacturing sash, blinds, doors, mouldings, etc. It will be equipped with a full outfit of the best machinery, embodying all the latest improvements.

THE Guelph Carriage Top Company, Guelph, Ont., who recently made a shipment of their products to Sidney, New South Wales, have received an order for a car load of the same goods. The article is spoken of as being superior to any American-made goods in that market.

THE Essex Centre Manufacturing Company, Essex Centre, Ont., have just completed a loom for weaving wire fencing for Messrs. McMullen, of Picton. It will weave about a mile a day and does first-class work. It weighs five tons, and is a great credit to the company.

MESSRS. HARRIS & CAMPBELL, Ottawa, manufacturers of artistic furniture, have recently placed some new and expensive machinery in their factory which enables them to produce the very finest lines of goods at minimum cost. They give employment to from 35 to 40 hands.

THE town of St. Mary's, Ont., will vote on two bonus by-laws on the 23rd inst. One to grant a bonus of \$7,000 to aid in establishing a twine and cordage factory; the other to grant a bonus of \$30,000 to secure the removal of the Maxwell implement works from Paris to St. Mary's.

THE Star Steam Heater Co., of Mount Joy, Pa., has just added to their works a boiler department, fully equipped with No. 1 machinery, where they will not only build boilers for their own extensive trade, but will also engage in all kinds of new and repair boiler making.

MESSRS. G. FLEMING & SONS, St. John, N.B., are building a large six-wheel locomotive for the Cumberland Railway and Coal Company; and will build a duplicate of the same as soon as the first is out of the way. They are also rebuilding two locomotives for the Intercolonial.

MESSRS. McKEOUGH & TROTTER, Chatham, Ont., who recently suffered the destruction of their foundry, machine shops, etc., by fire, have rebuilt and enlarged the same, and are again in full operation. This firm makes a specialty of the manufacture of the Ward patent hoop machinery.

MR. GEORGE PATILLO, Patillo, near Essex, Ont., in boring for water on his place a few days ago encountered a fine flow of natural gas at a depth of ninety-two feet. He is arranging to sink a suitable well in expectation of finding a sufficient flow of gas to be used for manufacturing purposes.

BUSINESS is rushing at the works of the Manitoba Wire Company, in Winnipeg, Man. Manager Chisholm reports that all hands have been obliged to work overtime for some time back, and still orders are away ahead. Orders have lately been received from British Columbia for barbed wire.

A LUMBER stacking machine which takes the place of fifteen men has been invented and is in successful use. The lumber is carried on chains from the trimmer and dropped on the cars in better shape than by the men who formerly did the work. But one man is necessary to manipulate the machine.

THE Morton Can Manufacturing Company, of Chicago, manufacturers of tin cans for canning purposes, have been granted exemption from taxes on plant and free water for manufacturing purposes for seven years by the authorities of Hamilton, Ont., and will establish an extensive works in that city.

ST. THOMAS, Ont., is to have a canning factory, regarding which the *Times* says there has been considerable money made by farmers the past few years from dried sweet corn, and when the factory is put in operation the demand for this product will be trebled, and at a profit of from \$40 to \$50 per acre.

It was recently stated in this paper that the Yarmouth Woolen Mill Company, of Yarmouth, N.S., manufactured \$10,000 worth of tweeds last year. We should have stated that the output and sales of this company last year amounted to \$50,000, which was an increase of \$10,000 over the previous year.

MR. RUSSELL, of Millbrook, who has secured the control for the Dominion for the new patented non-exhaust steam engine, was in Port Hope on Thursday looking up members of the Manufacturers' Committee, with a view to establishing the manufacture of the engines in Port Hope.—*Port Hope (Ont.), Times*.

No. 1 Mill has been shut down this week to allow a mammoth new wool scouring machine to be put in.—*Almonte (Ont.) Gazette*. Perhaps the *Gazette* man knows who "No. 1 Mill" belongs to, but he don't seem to bear in mind that people outside of Almonte may not have that knowledge. Why not be more explicit?

MESSRS. KERR BROS., Walkerville, Ont., have shipped the steam engine built by them for the new steamer in course of construction at Windsor, Ont., heretofore alluded to in these pages. Messrs. Kerr Bros. are also building the engines for a large steam tug now being built for Messrs. Hiram Walker & Sons, Walkerville.

OSHAWA, Ont., has no brickyard, but one is needed there badly. The *Vindicator* says the clay there is of the best character; that fuel and labor are cheap, and that the growing importance of the town, where so many factories are being built, would guarantee fair remuneration to any one who might embark in the business.

MESSRS. COULTHARD, SCOTT & Co., Oshawa, Ont., a few days ago shipped their eighth car load of their celebrated Champion seeders and harvesters to Winnipeg, Man. This firm are enjoying a large and rapidly increasing trade in their agricultural implements in Manitoba, and they have been unable to fill all orders tendered them.

MESSRS. PEFLOW & McCABE, Port Hope, Ont., who have had their flourmill shut down for several months, have refitted it with the latest improved roller process machinery, and have gotten it into operation again. Power is transmitted to the two lines of shafting in the mill by the use of manilla ropes instead of leather belts.

MESSRS. HEINTZMAN & Co., Toronto, have on exhibition in the window of their King street showrooms what is claimed to be probably the most elegant and finely finished piano ever shown in Canada. It was manufactured to be shown at the Australian Exhibition, and will be sent to that far-away country in a few days.

MESSRS. GEO. F. HAWORTH & Co., Toronto, inform us that the main driving belt in Mr. James Shearer's saw and planing mill, in Montreal, which was destroyed by fire February 16, had been in constant use for thirty-three years. This belt was of "Hoyt's" make, of which make of goods Messrs. Haworth & Co. are Canadian agents.

CAPTAIN DOUGLAS, who represents the Nordenfolt gun and the Mitis wrought iron castings, who has been in Toronto for some time, showing the advantages of the gun to the military authorities, has gone to Montreal to consult some of the leading men in the iron interests there, with a view to establishing Metis iron works in Canada.

DURING the past winter there was taken from the land of Mr. James Maker, near Keene, Ont., over a dozen sticks of timber that averaged over eighty-five feet long and not less than twenty five inches in diameter. Mr. Maker has now standing fully a hundred trees any one of which is of greater dimensions than those above alluded to.

MESSRS. E. T. WRIGHT & Co., Hamilton, Ont., manufacturers of tinsmith's supplies, etc., have purchased the building formerly occupied by the Canada Clock Company, that city, which they will occupy immediately. They will give employment to about thirty hands in the manufacture of cans for canning concerns who may prefer not to make them themselves.

THE Napanee Cement Works, Napanee, Ont., are manufacturers of hydraulic cement of a superior quality, which they say is specially adapted to the construction of bridges, sewers, cellars, culverts, cisterns, foundations, etc. They also manufacture quicklime of special grade suitable for paper manufacturers, gas purifying, strong masonry and fine finishing work.

THE Ball Electric Light Company, Toronto, are calling attention through our advertising pages to the electric lighting apparatus manufactured by them. Their arc system is adapted for lighting streets, parks, etc., in the most economical manner; and they make a special feature of illuminating halls, churches, offices, stores and residences by their incandescent lamps.

MESSRS. R. S. WILLIAMS & SON, piano manufacturers, of Toronto, have entered into an agreement with the authorities of the town of Oshawa, Ont., whereby the said firm agree to move their piano factory to Oshawa for a bonus of \$20,000, payable in ten years. The firm will purchase the works of the Joseph Hall Machine Works, of that town, and employ not less than seventy-five hands.

THE Rathbun Company, Deseronto, Ont., are availing themselves of our advertising pages to call attention to the terra cotta manufactured by them, specially intended for rendering fireproof both new and old buildings. It is endorsed by leading architects as being "just the thing" for mills, factories, etc., and the company say of it that, besides being fireproof, it is "brim full" of other good qualities.

THE Dickson Company intend to make considerable improvements at the old Otonabee flourmill, Ashburnham. Work will be commenced in about a month. The present capacity of the mill is about 125 barrels per day, and when it is remodelled it will turn out about 200 barrels. It is also the intention to erect an elevator, with a capacity of 30,000 bushels, just east of the present mill.—*Peterboro' (Ont.), Review*.

MR. GEORGE P. DRUMMOND, of Ottawa, is organizing a stock company for the purpose of manufacturing a typewriter invented by him, and which has been patented. The advantages claimed for the instrument are simplicity in construction, cheapness, rapidity in operating, and that it will space automatically. The new company will probably manufacture the instrument in Canada, United States and Great Britain.

MESSRS. KENNEDY & SON, Owen Sound, Ont., have been awarded the contract for building two duplex power pumps for the waterworks of Welland, Ont. One of these pumps will have a capacity to raise 1,500,000 gallons of water, and the other 750,000 gallons every twenty-four hours; the price being \$2,675 at Welland. Bids for these pumps were offered by makers in Brussels, Ont., Toronto and Lockport and Buffalo, N. Y.

MESSRS. GRAY & SON, Chatham, Ont., manufacturers of carriages, etc., recently shipped five car loads of their goods to various western points from Winnipeg to Vancouver. Included in these were buggies, democrats, mountain wagons, phaetons, surreys, road carts, sulkies, etc. Many of these vehicles were very elegant, and all of them built in the most substantial manner. The value of the shipment was between \$30,000 and \$40,000.

MR. FIELD B. YARD has just received from the Ontario Canoe Company, of Peterborough, Canada, one of the handsomest canoes ever seen in this city. The length over all is fourteen and a-half feet, beam thirty inches. The lines of the canoe follow closely the

ideal birch bark canoe of the Indians without its excessive sheer. The hull is a combination of rich woods in strips, and has a remarkably pleasing effect.—*Newark (N.J.) Gazette.*

IN the boom of logs which the *Beaver* brought down from Thurlow Island were two which were worthy of note. One of them was 100 feet long, and was 57 inches in diameter at the smaller end, and 97 by 110 inches at the larger; another log, 24 feet long, had been cut from the same tree, and both of these were entirely free from knots or flaws. The whole log contains 18,000 feet, and weighs about forty tons.—*Vancouver (B.C.), News.*

A CORRESPONDENT of the *Galt Reformer* gave currency to a report, which has reached here, that Mr. Brodie and Mr. A. Swan, of Hamilton, had formed a company to purchase the Hespeler Woollen Mills. Mr. Brodie thinks there must be a mistake about it somewhere, as he did not know there was such a gentleman as Mr. Swan, is not sure of it yet, and he has not formed a company for the purpose mentioned.—*Peterborough (Ont.), Review.*

THE American Watch Case Company, Toronto, have commenced the erection of a large brick addition to their present works which will increase their capacity nearly one hundred per cent. They will also add an immense steel burglar and fireproof vault for the preservation of valuables. They now give employment to about one hundred hands, which number will be considerably increased when the improvements now in course of construction are completed.

THE Cedar Dale Works are now running over time to fill orders. The company have lately employed more men, and have now nearly a hundred on their staff. We think that we have one of the best manufacturing companies in Canada under the supervision of Mr. A. McMillan. No doubt the Cedar Dale Works will still make greater strides to the front. Unrestricted Reciprocity is not wanted by the workmen down here.—*Oshawa (Ont.), Vindicator.*

MR. S. L. KELLY, Victoria, B.C., has just organized a company who will build works at Beecher Bay, near that city, for the purpose of freezing fish in solid cakes of ice, to accomplish which patent ice machines will be used. The process of catching and expenses of freezing and shipping shows a profit of about four and a-half cents per pound. The plant, it is understood, will cost about \$20,000, and will enable the company to put up 100 tons of fish each season.

As an inducement for the establishment of a canning factory at Meaford, Ont., the council of that town have decided to offer a free site, exemption from taxation for ten years, and a loan of \$2,000 for the same term, without interest, to a gentleman from Picton who has been corresponding with the council for some time regarding the matter. Meaford is situated in the centre of one of the best fruit districts in Ontario, and such an industry there would doubtless be of great benefit to all concerned.

MESSERS. FINDLAY, DURHAM & BRODIE, Victoria, B.C., are making extensive additions to their salmon cannery on Deas Island, near Victoria. The new building will be 100x40 feet, two stories high, in which will be placed the most improved machinery used for canning purposes, and will increase their capacity to put up 800 cases a day. In connection with this cannery they have a steamer and thirty fishing boats, and give employment to about 200 hands in operating them during the fishing season.

AT intervals during the past two weeks the Royal City Planing Mills Co. have shipped from their yards in New Westminster, B.C., to the east no less than 350,000 feet of lumber. The company's steamer *Stella* towed a large cargo consisting of 60,000 feet of lumber, 40,000 shingles and 20,000 laths, to Vancouver, where it will be transferred to the steamship *Abyssinia*, for shipment to Tientsin, China. A much larger cargo than this will be shipped to China by the next steamship.—*Victoria (B.C.), Colonist.*

AN enormous wheel was cast at the Pittsburgh Steel Casting Company's foundry on Wednesday afternoon, of last week, a select party of ladies and gentlemen being present to witness the beautiful spectacle. Nine tons of metal were turned from the converter and ran through different gutters to the mould. The wheel is 9ft. 8in. in diameter. It was made for the Toronto waterworks, and is to be used as a spur wheel. The company have had great trouble with the breaking down of their large wheels.—*American Manufacturer.*

THE city council of Vancouver, B.C., has received notification of acceptance of the proposition of the city by London capitalists for the erection of a smelter there, the city giving a bonus of \$25,000. A smelter to treat fifty tons of ore a day will be built immediately at a cost of \$75,000 or \$100,000. The company building it has se-

cured mines sufficient to supply the smelter without buying any ores and will enlarge the works as ore offered for sale increases. An American company is also considering the location of similar works there.

THE Cortland Carriage Works Company, of Cortland, New York, who were recently voted a large bonus by the town of Brantford, Ont., have begun the construction of their new works at the latter place. The factory will have a frontage of 100 feet, and extend back 200 feet, and will be four stories high, with separate building for boilers and engine 60x37 feet. The buildings will be of brick and equipped with every appliances for protection against fire, for convenience, etc., and fully supplied with the best approved machinery.

A TEST was made at the Lombard street fire hall, in this city, a few days ago of the "Oak bark tanned," and "Paragon" brands of hose, the former of which is manufactured by Messrs. Merryweather & Sons, London, England, and the latter by the Canada Rubber Company, of Montreal. Two lengths of the first were tested, the second bursting at a pressure of 275 pounds, while the "Paragon" stood a pressure of 375 pounds, and burst the coupling off the hose. A description of the Toronto offices and warehouse of the Canada Rubber Company was published in our issue of April 6th inst.

MR. IRVING A. WATSON, Concord, N.H., Secretary of the American Public Health Association has sent us a set of the "Lamb Prize Essays," the subjects treated being:—1. Healthy Homes and Food for the Working Classes; 2. The Sanitary Conditions and Necessities of School Houses and School Life; 3. Disinfection and Individual Prophylaxis Against Infectious Diseases; and 4. The Preventable Causes of Disease, Injury and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them. The price of No. 1 is ten cents, and of the others five cents each.

THE commodious warehouse until recently occupied by Messrs. John A. McPherson & Co., on King street east, Hamilton, Ont., has been purchased by Hon. W. E. Sanford. The building adjoins the premises occupied by the W. E. Sanford Manufacturing Co., and when the extensive alterations in contemplation are completed, the firm will have the accommodation which their ever-increasing business urgently demands. An idea may be formed of the amount of trade transacted when it is stated that the steam cutting machines used by the firm, which have a capacity of 700 to 800 suits, or 1,000 overcoats per day, are being run at night. The output in children's suits alone is from 8,000 to 9,000 per month.

MESSERS. McDONALD & SON, Milltown, N.B., have their machine shops full of work. They are manufacturing an improved parallel double edger machine for Messrs. Hill & Berry, of Fredericton, N.B.; a shingle machine for Messrs. Curran Bros., Amherst, N.S.; a similar machine for Mr. Charles Clinch's mills at Musquash, N.B.; a bark-crushing machine for Messrs. C. F. Todd & Sons, and much other work. This firm have a fine water power, and their works are so situated as to cover both Canadian and American territory; and as they are equipped with first-class machinery they are in a position to compete on the most advantageous terms with any similar concern in the country, and are prepared to fill orders from any part of the Dominion or the United States.

HERR UHLIG in Untersteinach, near Culmbach, a furniture maker, has invented a carriage sleigh, or sleigh carriage, (German Imperial Patent), which may be driven according to will upon wheels or runners. A lever on the box, (similar to that of a grounding tool), permits of the wheels being raised or sunk while in motion, so that spots unsuitable for wheels can be passed on runners, and vice versa. The situation of Untersteinach at the foot of the Frankenwald, and the various kinds of weather to which it is notoriously exposed, are favorable to the practical application of this carriage sleigh, which also recommends itself for its peculiar but elegant appearance.—*Kuhlows German Trade Review.*

THE final test of the 1,000 feet of Baker fire hose supplied to the corporation of Newmarket, Ont., by the Gutta Percha and Rubber Manufacturing Company, of Toronto, was made in the presence of the Fire and Water Committees of that town last week. A long line of hose was laid and the heaviest pressure the new system of water-works could give was applied without causing the hose to leak or show any signs of weakness. A fifty-foot section was next attached to a testing pump, and when 250 pounds was reached the iron fittings of the pump burst under the tremendous strain. When the pump was again in working order the test was continued up to over 300 pounds, which pressure the hose also withstood successfully.

Messrs. DOBSON & BRODIE, Montreal, are availing themselves of advertising space in these pages to call the attention of steam users to the "Perfection" smoke consumer and fuel economizer, manufactured by them. The arrangement is adapted to all horizontal boilers, and at present is being applied to flue boilers. In a previous issue we gave a brief description of this smoke consumer, to which those interested are referred. It is not an untried experiment as it is in operation in boilers in a number of industrial works in Montreal, included in which are the Montreal Water Works, the Canadian Pacific Railroad Shops, and the works of the Canadian Rubber Company. Further information concerning it can be had on application to Messrs. Dobson & Brodie.

Messrs. DICK, RIDOUT & Co., Toronto, call attention of those desiring to engage in manufacturing in a small way to their proposition to erect a splendid building for factory purposes on Bay street, between Front street and the Esplanade, this city. The location is central; the building will be of brick and first class in every respect, with plenty of light; and the firm have in their adjoining bag factory abundance of steam power which they will supply at the lowest possible cost. They would erect the building and supply the power, if desired, to any concern who would like to occupy the entire premises; or they will let the building in flats as may be desired. Such favorable opportunities as this they are offering rarely occur, and this should command attention.

A VOTE of the freeholders of Alliston, Ont., was taken a few days ago on the question of discharging the mortgage held by that town against the Vulcan foundry there, on account of a bonus of \$10,000 in the event of a company being formed to buy and run the works in question, one of the conditions being that the said company shall have a subscribed capital of \$40,000 with \$20,000 paid up. The vote stood ten to one for the discharge. As these works are splendidly equipped and afford the best facilities for the manufacture of agricultural implements, and as the mortgage has been the chief obstacle in the way of capitalists taking hold of this desirable property, now that the freeholders have so unmistakably pronounced for discharge it is believed that but a short time will elapse until the Vulcan foundry will be once more a hive of industry.

THE Intercolonial Railroad repair shops at Moncton are at present a scene of great activity. Disabled cars are being frequently brought in, and the present staff of employes find considerable difficulty in keeping up with the amount of work. About twenty passenger cars are being repaired and fitted up in the new paint shop building. The work of fitting passenger cars with electric lights and steam-heating apparatus is progressing rapidly. Two cars fitted up with the electric light have been turned out of the shops within the past few days. Two conductors' vans, purchased from the Red River Valley railroad, have been relettered and repainted. In the repair shop, besides the large number of cars being repaired, rebuilt, or having new trucks put in, some five or six box cars are being fitted up with the Westinghouse air brake.—*Moncton (N.B.), Transcript.*

Messrs. NAPIER, SHANKS & BELL launched last week from their yard at Yoker, Scotland, the steel screw steamer *Algonquin*, a vessel of about 1,800 tons, specially designed for the Canadian lake service, to class 100 A at Lloyd's, having large carrying capacity, with superior accommodation for a number of passengers. She is also specially fitted for rapid loading and discharging of cargo, and a good rate of speed will be attained from powerful triple-expansion engines of the most approved and economical type, supplied by Messrs. Dunsmuir & Jackson. At the launch the owners (Messrs. Thomas Marks & Co., Port Arthur, Ontario) were represented by Captain John S. Moore, under whose management the vessel will undoubtedly prove a valuable addition to the lake service of Canada.—*Canada Gazette, London, March 22nd.*

AMONG the writings of the late Prof. Clifford, the essay on "Cosmic Emotion" holds a foremost place. It is a study of "the sum of things," the universe as it affects the emotions of man, and in particular as it affects the mind and the imagination of the poet. Like every department of knowledge and every field of human endeavor, Poesy has necessarily undergone the influence of the scientific spirit. Is the fire of poetic inspiration quenched in our time by the advance of science and the diffusion of knowledge? Or is the Universe as Science presents it an object that alone can call forth the highest and deepest emotion? The question is one that could not have occurred in earlier times; it is strictly one of this nineteenth century. And no one so fitted to treat it as Professor William Kingdom Clifford F.R.S. Published by J. Fitzgerald, 24 East Fourth Street, New York. Price ten cents.

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MR. RICHARD SMITH, of Canada, inventor and patentee of a number of appliances for paper-making, some of which are already well known in the United States, is now on a visit to Europe to appoint manufacturing licensees for his patented specialties. There is now being made at a works in Manchester Mr. Smith's patented feeding appliance for calendars—a pneumatic calendar feed. This invention obviates any danger to the operator, and saves all the paper hitherto wasted in feeding, keeps the rolls clean, improves the surface of the roll, and also improves the finish of the paper. In this country the first appliance of the kind will shortly be fitted to a set of calendars at Turin Lee Mills of Messrs. Olive and Partington. Mr. Smith has patented in England some improvements in stuff-chests and has running a number of American patents, notably, automatic guide roll attachment, automatic steam regulator, and an improved system of agitating the stuff in the stuff-chest.—*London Paper Trade Review.*

THE Anthracite Coal Company, of Banff, N. W. T., of which Mayor Stewart, of Ottawa, is president, have recently purchased one of the school sections near Banff at the big figure of \$30,000 for the 640 acres, and new mining machinery is being put in. When the duty was taken off anthracite by Congress, it was never anticipated that Canada would supply the States with that quality of coal, and the Eastern coal companies do not view with equanimity the operations of Mayor Stewart's Company. It is supposed that through the influence of these gentlemen the recent seizure was made at San Diego, Cal., of a shipment of the Banff product on the ground that the coal was not anthracite. The matter was referred to the Treasury Department at Washington, and Mr. Stewart has received official notice that the Banff coal had been adjudged to be anthracite and will consequently go in free of duty.

MR. ADAM BROWN, M. P., for Hamilton, has given notice of the following motion which he intends to submit to the House of Commons at the very earliest opportunity:—Resolved, That a special committee be appointed to inquire into the fraudulent practices which have prevailed and still prevail in various parts of the Dominion by which farmers have been and are induced to give their promissory notes and securities to a very large amount in the aggregate for seed, agricultural implements and other goods and merchandize by various false pretenses—the goods in some cases never being delivered, and in other cases being comparatively worthless, the makers of such promissory notes being obliged to make payment while the perpetrators of these wrongs evade justice, and that such committee have power to send for persons, papers and records, and be instructed to report what remedies exist in such cases or what further remedies should be provided.

SOME time ago Case and Roberts, two experienced men from the Pennsylvania oil district, left Winnipeg in search of a petroleum vein which was said to be in the neighborhood of Lake Dauphin, Manitoba. They have just returned to the city and report that their trip was successful even beyond their anticipations. Eighteen miles from the lake mentioned, and about fifty miles north of Strathclair, they began boring for oil and were rewarded by striking a vein which they believe will give a rich yield. The surface vein was struck at a depth of fifty-nine feet, and from this the prospectors took samples which they are now exhibiting. The gentlemen are now

in the city to organize a company to begin operations, and have already met with considerable success. They believe that the oil can be "piped" to the city, and, it is said, this can be successfully accomplished with not more than two pumping stations, so favorable is the location of the oil region for such a purpose.—*Winnipeg Call*.

MESSRS. LAWSON & BANCROFT, Sherbrooke, Que., are busy manufacturing the Edison dynamos for electric lighting. They occupy a part of what was the Jenckes' machine shops in that town, and although they have not yet got all their machinery in place, they are turning out quite a number of dynamos. The company are now completing three dynamos, two of 250-light capacity and capable of carrying 300 lights, and one of 100-light capacity, capable of carrying 125 lights, to be sent to British Columbia, and are manufacturing one for their own factory of fifty lights; and have orders for ten more for different parts of Canada. Besides manufacturing the incandescent light, they are making what they call the municipal high tension light, of high power, for street lighting. At present the company have twenty hands at work, and it is expected that the number will soon be increased to sixty-five or seventy. Their machinery, when all placed, will have cost them about \$80,000.

In last week's issue of this paper an item appeared regarding the closing of Messrs. Baird & Co.'s woolen mill that was incorrect in several important particulars. Mr. Baird informs us that there is no truth in the statement that the firm had a large stock of goods lying unsold here and in Montreal, and that they were not compelled to close down owing to an overstocked market, but partially because they wished to make some improvements and repairs in and around their mill premises. They have already resumed operations to a certain extent, and hope to have on their full force again shortly. During the former severe depression the Messrs. Baird never shut down their mill at all, being one of the few firms in Canada of whom that can be said. We regret having given circulation to erroneous statements in connection with their business, and cheerfully make this correction. We trust any of our cotems. who may have copied the item referred to, will give this correction the benefit of their circulation.—*Almonte (Ont.) Gazette*.

At the recent meeting in Toronto of the geological section of the Canadian Institute, Mr. Arthur Harvey read a brief, but exceedingly interesting paper on "Some Lacustrine Deposits in the Lakes of Ontario." The first substance mentioned was a white marl found on the bottom of several lakes and on old lake bottoms, as about the Humber, which rests upon a sub-soil of clay, and is largely formed from the shells of molluscs. Several specimens of this marl were shown to the section, and the speaker outlined many uses it might theoretically be put to, such as an absorbant of nitroglycerine in the manufacture of dynamite, the making of cement, and of putty. This latter Mr. Harvey thought quite practicable. In other lakes a fine clay is found under the surface block and out of which a valuable polish and light red bricks can be made. A bright red clay deposited at the bottom of several lakelets, Mr. Harvey was of opinion, could be utilized for the manufacture of excellent bricks.

MESSRS. E. R. SMITH & SON, St. Johns, Que., have sent us their new 1888-9 Eastern Townships Directory, just published by them. The book comprises, we are told, a complete directory of the mercantile and professional men, public officials, etc., of the counties of St. Johns, Missisquoi, Brome, Compton, Sheffield, Stanstead, Sherbrooke, Richmond, and Huntingdon; and embraces the towns of Three Rivers, Sorel, Iberville, Chambly, St. Hyacinthe, Ormstown, and Valleyfield, including the principal places in other counties in the South-Eastern section of the Province of Quebec. Suitable indices refer, first, to the counties enumerated, and second to the towns and villages, by which, desired information may be readily obtained. This directory will be found of great value to all who may be interested, as the information contained in it is exhaustive, and, we presume, correct, or approximately so. It is well gotten up, the paper being of good quality, the type new, clear and distinct, and the presswork and binding first-class.

MR. T. S. SHIRLEY, of New Bedford, Mass., representing the company working the large phosphate crushing mill at Buckingham Basin, near Ottawa, reports two new processes which have recently been discovered, that cannot fail to largely increase the value of phosphates. By means of these the rock, after being finely pulverized, is treated with chemicals which combine with it so that it can be used in a dry form making its application to the soil not only

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more easy, but more economical, and from experiments already tried; producing more lasting and effective results. Experience has proved that all high grade fertilizers in which phosphoric acid is set free by treatment with sulphuric acid are subject to a loss of value by a considerable percentage turning to reverted acid, and thus rendered no more soluble, and of no particular value to the soil. This fault is entirely obviated by Mr. Shirley's new method of treatment, as the milder acids found in the soil itself keep the constituents in solution in the soil ready for absorption as plant food.

MESSRS. THOMAS McDONALD & Co., Toronto, proprietors of the Queen City Galvanizing Works, are making a special run on the manufacture of galvanized range boilers of from 30 to 40 gallons capacity. Since this concern went into business a few weeks ago they have made nearly 5,000 of these boilers, there being a very large demand for them for equipping new buildings now being constructed in Toronto: and they are being sent in large quantities to all the cities in the country from New Brunswick to British Columbia. This firm are now making considerable additions to their works, including in which are a two-pot galvanizing plant, in a building erected specially for it, which will afford them facilities for keeping up with orders for galvanized goods; and a 60-horse power steel steam boiler, and a 60-horse power Brown automatic steam engine. They have recently received and placed some special machinery to be used in the manufacture of the Walters' patent metallic shingle, for which they are having quite a large demand.

MR. PEARCE, of the Dominion Land Department, in his annual report calls the attention of capitalists to the prospect of tanning being conducted with large profits at some point along the line of the Canadian Pacific Railway. In the Selkirk range of the Rocky Mountains any amount of hemlock bark should be cheaply procurable in close proximity to the road, and any number of water powers could readily and cheaply be rendered available for bark grinding mills. It is stated the practice is now to ship the portions of the bark available for tanning purposes in a pulverized state, pressed into bales. The *Lethbridge News* says that there are now available annually at, say Calgary, at least 10,000 cow hides and 3,000 sheep skins. This supply would be doubled in probably a couple of years, from the fact that once there was a fair market for hides every available one would be brought to market. At present cattle that die natural deaths are seldom skinned. In proportion to the population probably three times more leather is consumed in the North-West Territories than in the Eastern part of Canada. Harness, saddles and leather leggings add extensively to the consumption.

SIR CHARLES TUPPER recently gave notice in the Dominion Parliament of his intention to introduce a bill making further provision respecting the granting of a subsidy to the Chignecto Marine Transport Railroad Company. This is a project for transporting vessels and their cargoes across the neck of land near the boundary line between New Brunswick and Nova Scotia. The scheme enjoys the distinction of being the only ship railway upon which an actual start has been made. Mr. H. G. Ketchum, a Nova Scotia engineer, has been agitating it for years, and has convinced some Eng-

lish capitalists not only of its feasibility, but also of the prospects for a profit from the enterprise. The railway would be about fourteen miles in length, and vessels coming down the St. Lawrence would be transported from the Straits of Northumberland to the Bay of Fundy, and continue their journey down the United States coast, escaping 400 miles of a perilous sea voyage round the stormy coasts of Nova Scotia, for which dangers the small St. Lawrence coasting vessels are ill prepared, and which indeed they do not often attempt. The scheme was mentioned approvingly in an article on ship railways in a recent number of *Harper's Monthly*.

It was recently stated in these pages that Mr. H. T. Stevens, of Moncton, N.B., acting for himself and others, had purchased from the estate of D. G. Duffy, the property known as the Moncton Brass and Iron Hardware Works, formerly the Peters' Combination Lock Company's works. The price paid was \$8,100, a slight advance on what Mr. Duffy had paid. It has been found that the original objects of the company, the manufacture of hardware, is impracticable with a small capital, and the present purchasers intend making a radical change in that respect. Application has been made for the incorporation of a new company, with \$25,000 capital, to be known as the Maritime Car and Machine Company, who will engage in the manufacture of articles of brass and iron hardware, etc. The company will undertake a general foundry and machine business, paying especial attention to the repairing of mill and other engines, boilers, railway locomotives, cars, etc., as well as the production, distribution and sale of electric light. The present works consist of machine shop, equipped with lathes, etc., brass and iron moulding shops, electro and nickel japanning and other works, and it is intended to add more machinery to the present plant, and carry on the works vigorously.

Messrs. Cowan & Co., Galt, Ont., proprietors of the Galt Foundry, Engine and Machine Works, have sent us their new illustrated and descriptive catalogue, having reference to the wood working machinery, engines, boilers, etc., manufactured by them. Regarding these wood working machines we are informed that they are all built with iron frames, of sufficient weight, and are accurately and well fitted; and that every valuable improvement suggested by practical experience have been adopted, some of which the firm have secured by patents. To ensure entire satisfaction every machine is run and tested before leaving the works, which enables the shipment to even the most distant points with confidence. The firm supply the Harris-Corliss steam engine, which, they say, more than holds its own against all rivals as the best and simplest automatic cut-off engine yet built. For planing and sawmills they offer a good, substantial and simple slide valve engine, so that they can supply a complete outfit, including engine, boiler, shafting, hangers, pulleys and all other necessary articles. Regarding boilers and their attachments, those manufactured by Messrs. Cowan & Co. have been placed in many of the largest mills and factories in the country, each boiler being subjected to a thorough and careful hydrostatic test before being shipped. The firm have recently considerably extended their buildings and premises, and added largely to their plant and appliances, by which they are prepared to fill orders promptly and guarantee entire satisfaction to their customers. To give even a synopsis of the descriptions of the machines illustrated in the catalogue would be equivalent almost to republishing the book; and of course any who may desire further information will write to Messrs. Cowan & Co., who will take pleasure in sending the catalogue. In addition to the descriptive matter here alluded to the catalogue contains much matter that cannot but be of value to machinists and millmen, among which are rules for calculating the speed of drums and pulleys; speed of circular saws; calculations for brickwork and masonry, etc.

The Toronto Bag Works, of which Messrs. Dick, Ridout & Co., are proprietors, were moved about the end of last year into their new large factory on Bay street, and last month witnessed a completion of their bag department. Their fine new engine has now been started up, and the temporary one which they have been using since the end of the year removed. A short description of the premises may be interesting to our readers. The building is a handsome and substantial structure of red brick with stone foundations, four storeys high, fronting on Bay street, and lighted on three sides, and is a block above where the new C. P. R. station is to be erected. On the basement are the engine and heavy machinery, and on the middle flats the cutting, sewing, and other light machines, all of special improved patterns. There are also large presses for printing jute and cotton bags, and smaller presses for salt and grain sample bags, etc., also full fonts of type and a large stock of expensive plates for printing the large bags. The firm claim that they are the only firm in Canada who do this class of work complete

Canadian Rubber Co.

Cor. Front & Yonge Sts., Toronto.

MANUFACTURERS OF

RUBBER SHOES & FELT BOOTS,

Patent Pressed Double Strip Rubber Belting,

RUBBER,
ENGINE,
HYDRANT,
SUCTION,
STEAM,
BREWERS'
and FIRE
HOSE.
HORSE
CLOTHING.
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RUBBER
VALVES.
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SPRINGS.
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ROLLS.
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CLOTHS.
BLANKETS.
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etc., etc.

Mould Goods of Every Description.

LADIES' & GENTLEMEN'S TWEED and GOSSAMER CLOTHING

OUR RUBBER GARDEN HOSE IS THE
BEST IN THE MARKET.

J. H. WALKER, - Manager.

on their own premises, and they have brought it to a high state of perfection. The upper flat is at present used for storage, but no doubt the increasing business will soon crowd that out to another building, and fill up the whole with machinery. The engine and boiler are of about sixty-horse power, and were built by the Messrs. Doty & Co. The boiler is in a separate building, the setting of which, designed for the economy of fuel, is a notable feature. The boiler house and chimney have wisely been made large enough to hold another boiler of equal capacity, and it is the intention to duplicate both engine and boiler at as early a date as increasing business will permit. The firm have had considerable inventive and constructive energy engaged on their machinery, and several of their best machines and processes are protected by patents and confined to themselves in the meantime.—*Mechanical and Milling News*.

THE Orillia Woodenware Company, Orillia, Ont., have commenced the construction of very extensive works at that place for the manufacture of tubs, pails, butter firkins, oyster pails, lard tubs, jam jars, preserve jars, washboards, clothes pins, etc., a description of which is published in the *Orillia Times*. The main building will be 110x44 feet, two and a-half storeys high. In this will be the stave room, where the raw lumber is cut into all desired shapes, and to the door of which a canal will be dug from the lake, for the purpose of easy access by water. The dry house will be 90x24 feet, and into this the materials from the stave room will be carried on suitable cars, each having capacity to hold seven cords. Hot-blast machinery will drive highly heated air into this building, thoroughly seasoning the lumber, the process of drying occupying from five to six days, the capacity being to turn out about three car loads of dried stuff each day. After this seasoning the lumber is returned to the main building, where it is distributed to different machines, and converted into desired articles. The engine and boiler room will be of brick, 42x30 feet, and will contain a battery of two 15-ft. steel boilers aggregating 240-horse power, and a 160-horse power steam engine, which is now being manufactured by the William Hamilton Manufacturing Company, of Peterboro'. The Grand Trunk Railroad Company will extend a siding along the entire length of the factory, which will afford an outlet by rail in all directions. Large warehouses will be built contiguous to this siding for

the storage of goods and convenience of business. The factory will have capacity to manufacture not less than 2,500 pairs per day and fifty boxes of clothes pins, containing sixty dozen pins each, besides untold quantities of other goods, and give employment to from fifty to sixty hands the year round. The cost of the buildings—which will be as near fireproof as it is possible to make them—and the machinery to be placed in them, will be about \$45,000. The lumber to be used in these works will consist in part of stuff from the company's mills at Longford, and of white birch and spruce, of which there is abundance in the vicinity. The machinery will be of the very best makes, and no expense will be spared in this direction. Mr. George Thompson will be the general manager of the works, and Mr. D. A. Lundy, mechanical superintendent. Mr. Lundy has lived in Newmarket, Ont., for the last ten years, where he was the manager of the woodenware factory there.

OUR FIRST COTTON MILL.

THE first cotton mill ever put in operation in the Provinces which now form the Dominion of Canada was erected in Saint John, New Brunswick, in 1861, by Messrs. William Parks & Son. The senior member of the firm had spent considerable time in Lancashire, and while there became impressed with the idea that the manufacture of cotton goods might be introduced here with success, and on his return the subject was carefully considered by himself and his son, Mr. John H. Parks, by profession a civil engineer, and engaged in the railway service. It was finally decided to embark in the undertaking, and young Mr. Parks sailed for England in January, 1861, proceeding on his arrival direct to Lancashire, where he spent six months among the factories and machine shops, fitting himself for the management of the mill at home, the construction of which in the meanwhile had been rapidly pushed forward by his father. In July Mr. Parks returned from England with the machinery required for the mill, and a competent and experienced foreman, but some months elapsed before everything was in readiness for operations. This, the New Brunswick cotton mill, the first to start in Canada, had 1 250 spindles and twenty-four looms, and employed about fifty hands. During the first years of its existence the value of its products rarely, if ever exceeded \$50,000 per annum.

The American war broke out in 1861, and raw cotton went up to high figures, and prices became so fluctuating that Messrs. Parks & Son resolved to discontinue work for a year. But it was soon found that the war was not likely to terminate so abruptly as had been anticipated, and work was resumed, since which time it has never been discontinued.

To start a mill at the time the New Brunswick cotton mill was started was a mistake. The market was too limited to support even one small mill, or, in other words, one large enough to work to advantage. The duty exacted on goods going from one Province to another prevented the export of a dollar's worth of Messrs. Parks & Son's products, whose business was prosecuted at a loss until 1867, when Confederation took place. But for the confederation of the Provinces the business of this firm would long since have been suspended. The Act of Union gave them an opportunity to enlarge their mill and the sum of their products, which was taken advantage of, and a market was found in the Western Provinces for all the goods that were not required for home consumption. Since then the business of the firm has shown a profit every year, and sometimes a good one.

The year 1884 was one of serious depression in the cotton manufacturing business of Canada, attributable to the large number of mills that had been built during the preceding five years, and Messrs. Parks & Son having expended large sums in new buildings and plant, forced upon them by the growth of their business, found it desirable to form a joint stock company under the name of William Parks & Son, limited. The St. John cotton mill was purchased by the company about a year ago at a low price. This mill, on Courtenay bay, was erected in 1882 by a company with insufficient capital, and consequently was thrown on the market. The company brought out from England an experienced manager with a staff of able assistants; at considerable expense put the mill in thorough order, and have worked it to its full capacity ever since.

The original mill, known as the New Brunswick cotton mill, employs 300 hands, pays \$1,500 weekly in wages, and is devoted to the production of yarns of different sorts, colored shirtings, seer suckers, cottonades, knitting cottons and a large variety of goods of these classes. The St. John mill employs 200 hands, weekly payroll \$1,000, and is devoted to unbleached cottons exclusively. It is intended, however, to take up the higher branches of work in this mill, room and power being abundant, and with the opening of the

TO LET, TWO FLATS, WITH POWER

APPLY TO

H. R. IVES & CO.,

QUEEN STREET, - - MONTREAL.

export trade, which is being accomplished successfully, and the natural increase of the home market, the proprietors see no reason why the business of the Saint John mill should not be developed so as in a few years to require the services of 1,000 hands in the manufacture of all the different classes of cotton goods, instead of 200 as at present.

The erection of the New Brunswick Cotton Mill was followed by the erection of mills at Dundas and Merriton, the Hochelaga mills at Montreal, the Stormont mill at Cornwall, the Canada Cotton Company's mill at the same place, the Montreal Cotton Company's mill at Valleyfield, and the Coaticook cotton mill. When the National Policy was put in operation, which has given Canada cotton goods cheaper than ever before under any tariff, it brought the few mills in the Dominion into competition with an increased production, and a large number of new mills that immediately started. Since then competition has kept prices at a small margin of profit, so the National Policy has not benefited the mill owners, but it has benefited our four millions of people by giving them goods at lower prices than would have ruled but for its adoption.

The mills put in operation since the adoption of the National Policy are the St. Croix at St. Stephen, the Merchants' at Montreal, the Halifax at Halifax, the Windsor at Windsor, the Moncton at Moncton, the Merriton, the Ontario and Hamilton at Hamilton, the Kingston, the Craven at Brantford, the St. John, now owned by William Parks & Son, limited, the Gibson and the Magog print works.

It is estimated that this industry gives employment to 10,000 people, and that 50,000 are supported by it aside from the stockholders. It keeps 500,000 spindles in motion, has \$10,000,000 invested in plant, a working capital of \$3,000,000 to \$5,000,000, and produces goods to the value of \$12,000,000 to \$15,000,000 annually.—*Empire*.

ST. JOHN'S MANUFACTURING INDUSTRIES.

THE evidence taken by the Labor Commission in St. John, N.B., indicates that the manufacturing industries there are in a flourishing condition. Some thirty industries, which give employment to more than ten hands each, employ an aggregate of 2,185 hands; some of the large employers of labor not testifying when asked as to the number of their employes. Among these were sawmill owners, proprietors of locomotive works, boiler-makers, manufacturers of ready-made clothing, builders, etc. The Dominion "report relative to manufacturing interests," prepared in 1884, gives statistics of some St. John industries, from which some interesting comparisons may be drawn when compared with the testimony taken before the Labor Commission.

In 1878 the number of hands employed in cotton manufacturing was 151; in 1884, 360. In 1888, according to the evidence of Mr. Park, the number is 500.

In brush and broom works, 1878, the number of hands was 35; in 1884 it was 39. The present number, according to the evidence, is 60.

The number of brass founders in 1878 was 45, and 54 in 1884. Before the Labor Commission one firm of brass founders testified to employing 115 hands. There are others who were not asked for numbers.

Nail and tack manufacturing employed 147 men in 1878, and 119 in 1884. Besides the number engaged in rolling the plates, M ore's

works now employ 70. Foster was not asked the number of his hands, but it is probably 60 or 70.

Rolling mills in 1878 employed no men but those included in the list of nail makers. In 1884 they gave employment to 70 hands. Before the Labor Commission Ketchum reported 115 hands in the Coldbrook establishment and Robertson 73 in the Harris rolling mill.

Nut and bolt workers and carriage factory included 21 people in 1878; nut and bolt men manufactures in 1884 numbered 34. Young the other day testified to employing 40 hands in the works under his charge.

Spring, axle and edge tool manufacturing; in 1878, 13; in 1884, 15. Present number not given, but Fowler employs 20, while Campell and Ellis have a large establishment.

The employes in the rope and cordage works in 1878 numbered 24. In 1884 the number was 85. Mr. Connor now testifies that his firm employ 110 hands.

The brick works at Simond's employed, in 1878, 65 persons, and in 1884 only 25. The average number now employed is 52. In this business a great change has been effected by the introduction of labor-saving machinery.

The above industries are all that the evidence taken by the commission enables your correspondent to compare. The change reported in these lines fairly represents the growth of manufacturing generally since 1878. Probably there has been a decline in the work done by such factories and establishments connected with house building if the comparison is made with 1878, for in that year the local demand in this line was large, it being the year after the great fire. But compared with the years after the normal condition was restored, no loss has taken place.

It will be said that the great industry of shipbuilding, which has been lost, was of greater importance than the new ones which have grown up since. In 1878 the shipyards employed fewer men the year round than are working in Harris' car works now. So far as St. John and Portland are concerned, there is no decline in the lumber industry. The number of men employed in sawmills and planing mills, within a radius of ten miles of the St. John post-office, is probably as large as it ever was. Another important business is quarrying, burning and packing of lime. This business has been growing steadily, and at present employs four or five times as many hands as in 1878.—*Sen.*

LANCASHIRE, CORNISH AND OTHER FLUED BOILERS.

[We have been requested to publish the following article regarding different styles of boilers. It is written by a well-known engineer, and steam users will, no doubt, be interested in reading it.—*EDITOR.*]

In districts where wood fuel is scarce, and waste products are not procurable, it is strange that steam users persistently continue to adopt and replace the ordinary tubular type of boilers, and stranger still that these are almost invariably set in the primitive style whereby the heat travels only twice before escaping into the chimney. In the United Kingdom we question if there is one tubular boiler in use to five hundred flued, and in our larger Canadian factories—where better skill is employed in the mechanical departments—these single and double flued boilers are extensively employed, and the number is being largely added to. In the Province of Quebec, the Canada Sugar Refining Co., the Canadian Rubber Co., Canadian Pacific Railway Co., Montreal Warehousing Co., Hochelaga Cotton Co., the Magog Textile and Printing Co., and others, derive the most (if not all) their steam power from this class.

In the multitude of late productions for generating steam economically, rapidly and in great quantity, and with safety, these boilers continue to maintain the highest place. No existing boiler can be so easily and thoroughly cleaned, and, with ordinary care, a Lancashire boiler will last three times as long as any other make. The combination of the fluid and tubular types is a step in advance, the conical flues inside the boiler being clearly more effective for heating than the vertical sides of the locomotive class, and of the tubular, where most of the heat is absorbed by the brickwork. The greatest care should be exercised in laying foundations. Many in this neighborhood show signs of settling down and cracked brickwork.

Many improvements have been introduced for enhancing the efficiency of flued boilers, such as the placing of bars in the centre of the flues at the front and falling one inch to the foot at back.

A bar six feet long should be six inches lower at the bridge than at the door; this gives plenty of room for bridge to be built proper height without crippling the draught, and allows a better circulation of air through the bars. Fire door when closed should be as tight as possible, partial consumption of smoke by admitting air over the fire is a loss. For the utilization of the bituminous gases as given off

FOR SALE.

HORIZONTAL ENGINE

CYLINDER 14 in. x 30 in.

Made by G. BRUSH, complete with Judson Governor, Out-off Valve, Patent Metallic Packing, Pulley Fly-Wheel 8 ft. 0 in. x 18 in., Hot Water Heater, etc. Also

TUBULAR BOILER 14 feet x 5 feet.

Can be seen working for a short time until replaced by larger Engine.

H. R. IVES & CO., Queen St., Montreal.

To Manufacturers.

WE WILL ERECT A

SPLENDID NEW FACTORY

On BAY ST., below Front,

To suit a good tenant, or will let it in flats, and will supply steady power and heat.

Apply early.

DICK, RIDOUT & CO., 11 Front St. East, TORONTO.

the fuel, and the abatement of the evil of smoke, the healthiness of the principle of construction of the apparatus now in extensive use in Montreal recommends it to all ordinarily thoughtful users of steam. Too much air admitted into the furnace damages steam, too little will not ignite the bituminous gases. It is clear that the appliance which only admits sufficient to consume the gases, and that at the back of the bridge is of pre-eminent advantage. This increased combustion at rear of bridge of course means more and even heat, increased draught in fire chamber proper, and a considerable saving of coal. When possible, light and frequent firing should be employed for economy and effectiveness. Differences in firing have shown a difference of twelve per cent.

As a general rule manufacturers are not themselves practical in these matters, and lean mainly on their engine man (who may or may not be a mechanic) for advice, and the uncontrolled working of this department. Too frequently the engine only is this person's concern, the boiler being esteemed of minor importance, and left to the care of the stoker. This is a very common fault. The boiler should be the engineer's especial care, for any defect here affects everything dependent upon it. It is the case that some boilers, at first badly set, have not been cleaned for years. Now, it is established that the presence of one-sixteenth inch of scale in a boiler means a loss of twelve per cent. fuel; one-quarter inch thirty-six per cent., and one-half inch sixty per cent. Then on a boiler, one-eighth inch deposit of soot renders the heating surface almost practically useless. Therefore the greatest care should be exercised in keeping boilers clean inside and outside. Through sheer neglect many manufacturers are losing from fifteen to twenty-five per cent. of fuel through not employing reliable, practical men to make a tour and minute examination of the flues, and to report on the boiler's efficiency as well as safety.

As much as fifteen per cent. of coal may be lost through bad setting. The system of causing the heat to travel (in flued boilers) four times before passing into the atmosphere is excellent. Two travels are made under belly of boiler and one on each side, thus keeping the heat through and under the boiler five times—the whole length. The tubular class may be set so as to obtain two extra travels.

The PERMANENT EXHIBITION OF MANUFACTURES

- AND -

COMMERCIAL EXCHANGE,

63, 65, 67 and 69 Front Street West,
TORONTO, CANADA.

OPEN FREE TO THE PUBLIC

We are special agents for leading manufacturers of Mill Machinery, Mill Supplies, Belting, Hose, Packing, etc., and will be glad to quote prices and discount to intending purchasers.
Samples of the following lines may be seen in our Permanent Exhibition :—

Wood Working Machinery,

Circular Saws, Mill Saws, etc.,

Saw Grinders, Gummers, Files, etc.,

Belting, Hose, Packing, etc.

Steam Pumps, Power Pumps, Centrifugal Pumps, etc.,

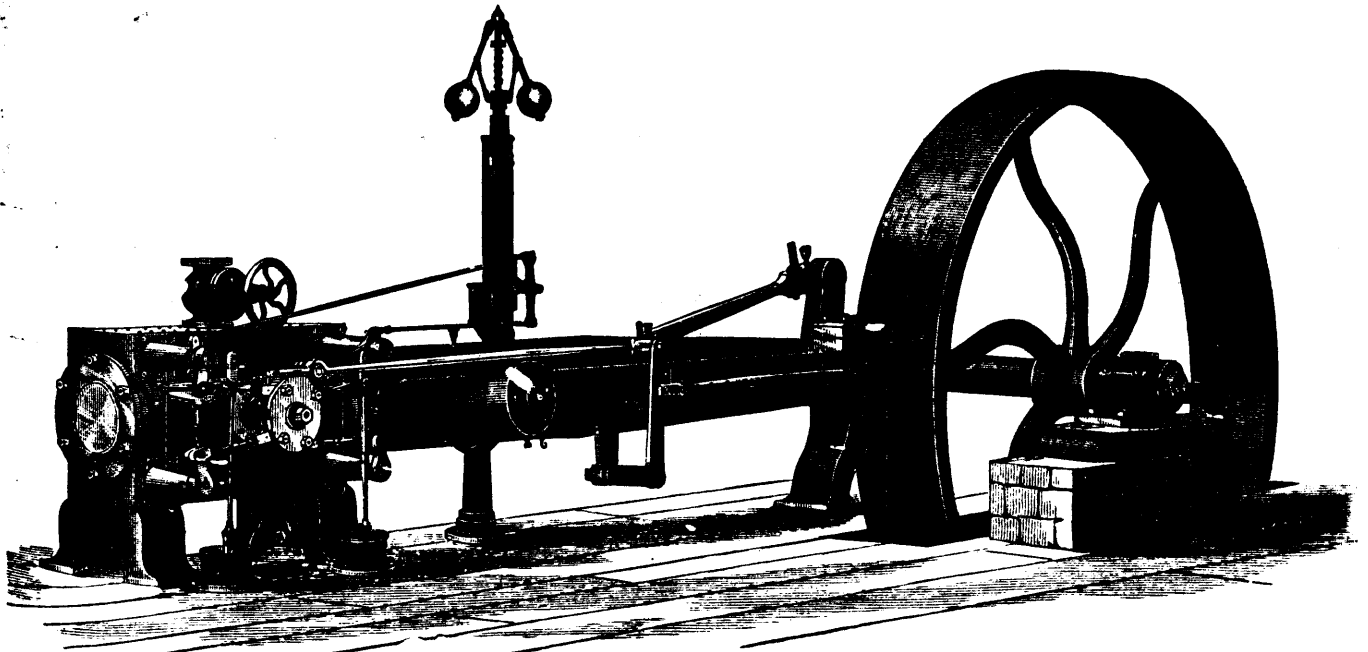
Valves, Steam and Water Gauges, Emery Wheels,

Machine Knives, Platform Scales, etc, etc., etc.

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AND COMMERCIAL EXCHANGE,
NICHOLLS & HOWLAND.**

THE GALT FOUNDRY,

Engine and Machine Works.



THE HARRIS-CORLISS STEAM ENGINE

Is the most perfect Cut-off Engine made. For Economy of Fuel, Regulating of Speed, Accessibility of all its Parts, it has many Imitators, but no Equals, and is Unsurpassed.

While many Engines of the same class have been invented, built, tried and abandoned, the Harris-Corliss has steadily gained in public favor, and is now

Without a Successful Rival.

PLEASE NOTICE SOME OF THE ADVANTAGES OF THE HARRIS-CORLISS ENGINE:

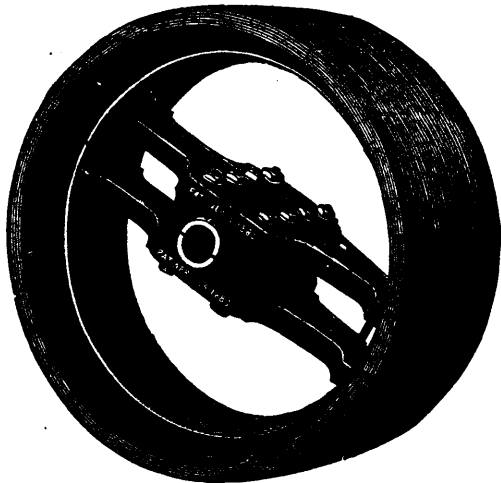
- 1st—The Steam is admitted at Boiler pressure to the piston by the main valve and is cut off at the same point, the load determining through the regulator, when the supply of steam shall be cut off. This is the only Engine that thus admits steam at full boiler pressure.
 - 2nd—The success of the Harris-Corliss Engine lies in the simplicity and precise action of the governing elements; the Governor is an independent mechanism, with no extraneous load, and free to instantly respond to all variations in the angular velocity of rotating parts.
 - 3rd—No parts of the regulating medium enter the steam chest and hereby be out of sight of the engineer, and subject to the corrosive action of steam and the oil used for lubricating the valves and piston.
 - 4th—Regularity of Speed under varying loads of steam pressure
 - 5th—Recessed Valve Seats which avoid the liability of wearing shoulders on them
 - 6th—Stop Motion on Regulator of Engine which effectually stops the Engine whenever the regulator by any means fails to perform its work, thus preventing the Engine from running away.
 - 7th—Having four Valves either can be adjusted independently of the other with the greatest ease
 - 8th—The increased amount of power it develops.
- We would draw special attention to our new and improved Adjustable Pillow Block, which is pronounced by all practical men who have seen it to be the very best in Canada.

COWAN & CO.,

Galt, Ont., Canada.

Manufacturers of Engines, Boilers and Wood-Working Machinery—all kinds, new Patterns, highly finished.

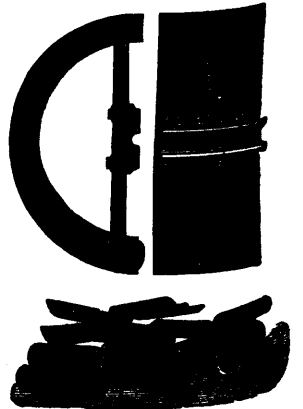
Dodge Patent Wood Separable or Split Pulleys.



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

With our Patent Bushing System

Every pulley will fit 22 different sizes of shafting, and guaranteed to give from 30 to 60 per cent. more power from same belt and like tension than any iron or steel pulley. Every pulley a split pulley, 70 per cent. lighter than cast iron, and 50 per cent. lighter than wrought iron or steel. Strong enough for any power required. Made in any size from nine inches to sixteen feet diameter.



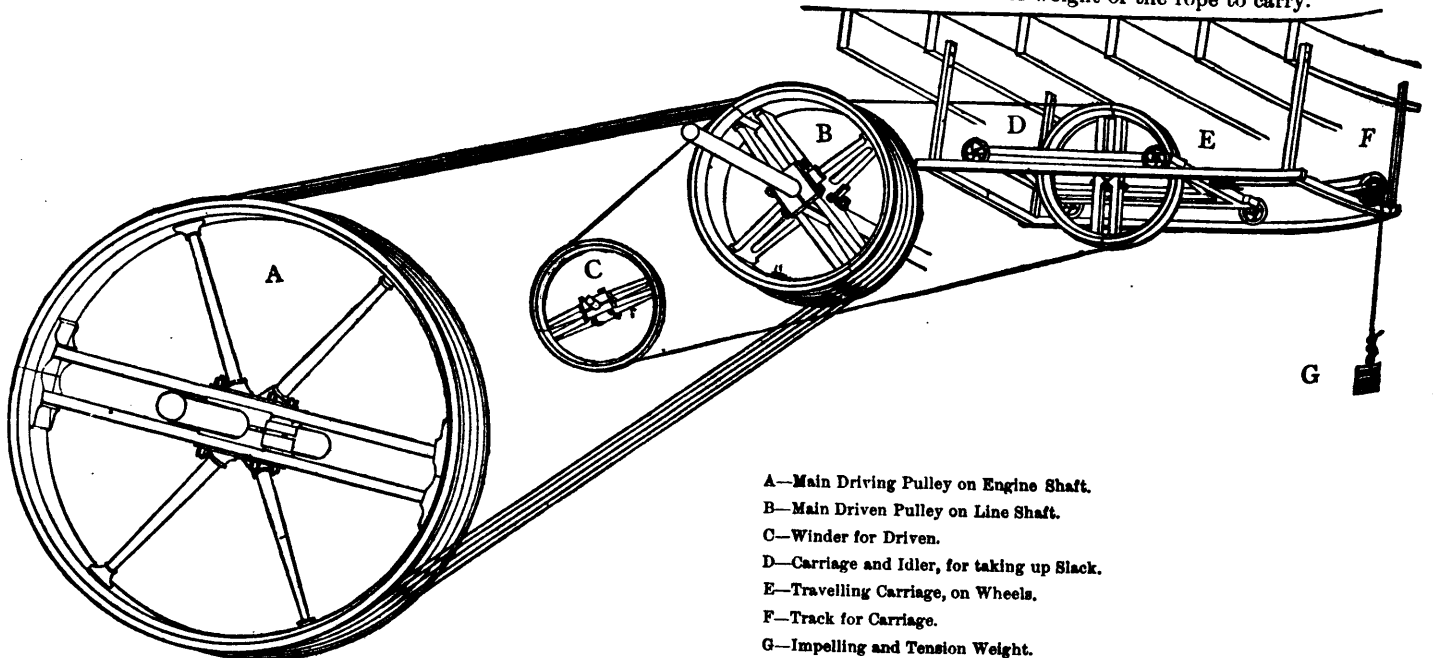
THE TRANSMISSION OF POWER BY ROPES AND THE DODGE PATENT WOOD PULLEYS.

The great advantage of Wood over Iron as a material for belt pulleys (or drums) to transmit power economically, has induced the DODGE WOOD SPLIT PULLEY CO., of Toronto, to introduce grooved hardwood pulleys for the special purpose of transmitting power by ropes (manilla tallow laid), and in this connection Mr. Dodge has taken out Canadian Letters Patent for a system of applying the ropes, adjusting the pulleys, and taking up slack, that is giving the most unqualified satisfaction.

This system of transmitting power by ropes is cheaper and superior to belts in many cases, such as where the driven shaft is at right angles with the driver, also where the drive is perpendicular, particularly when it is quarter twist and perpendicular; also where the driver and driven are

close together; also for long drives, such as across a street, or a stream, etc. For transmitting power from an engine to the line shaft this system is unequalled; steady all the time, not like a heavy belt, which is always more or less flapping, jerking and stretching, then slipping and losing power. It is safe to say that an engine hitched up by the Dodge Rope System will do 25 per cent. more work on the same consumption of fuel than the same engine would do with a belt. We have put up a number of the Dodge Patent Rope transmissions during the past year, all of which are in most successful and satisfactory operation, as certified by the testimonials published in our catalogue of well-known manufacturers who have them in use.

WITH OUR SYSTEM OF MANILLA ROPE TRANSMISSION is overcome the objection to Wire Rope (because of crystallizing) and gearing, (because of loss of friction) and shafting (because of the liability to get out of alignment, hence loss of power by friction), and a separate engine plant (because of its great expense); on the contrary, with the Manilla Rope System, under the Dodge patents, the power is transmitted with the same efficiency as though the shafts were close together, there being no loss of power by excessive tension, or bad alignment. but simply the friction of the journals to overcome at the carriers, which have a strain of weight of the rope to carry.



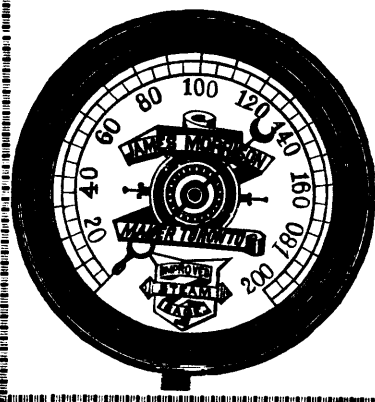
- A—Main Driving Pulley on Engine Shaft.
- B—Main Driven Pulley on Line Shaft.
- C—Winder for Driven.
- D—Carriage and Idler, for taking up Slack.
- E—Travelling Carriage, on Wheels.
- F—Track for Carriage.
- G—Impelling and Tension Weight.

The illustration, as shown above, is one of peculiar construction, and represents an engine transmitting its power to the line shafting by the Dodge Patent System of manilla ropes and grooved hardwood pulleys. Transmissions similar to the above are now in use at the works of the following well-known manufacturers in Toronto:—

A. R. Clark & Co., Leather and Glove Manufacturers, 50 H.P.; T. Tushingham & Son, Builders, 35 H.P.; J. R. Black, Carriage Works, 50 H.P.; Barber & Ellis Co., Stationers, 8 drives, 37 H.P.; Jas. Lochrie, Rope Manufacturer, 60 H.P.; J. P. Wagner & Co., Show Case and Keyboard Manufacturers, 50 H.P.; J. Taylor, Morse Soap Works, 60 H.P.; Joseph Simpson, Knitting Mills, 80 H.P.; and numerous others whose testimonials can be seen in our catalogue. Parties who are in want of anything in this line, or who are interested in the efficient and economical transmission of power, are cordially invited to call at our works and see the ropes and wood pulleys in operation, as we are driving our whole factory by this system. Send for Price List, Catalogue and Cypher Code, for ordering by telegraph, to

THE DODGE WOOD SPLIT PULLEY CO., 89 ADELAIDE ST. W., TORONTO.

Crown Water Closet.
 Inodoro Water Closet.
 Perfect Water Closet.
 Jenning's Valve Closet.
 Demarest Valve Closet.
 Alexander Valve Closet.
 A full stock of Washbasins,
 Urinals, etc.
 Also, complete stock of Wrought
 Iron Pipe and Fittings.
 Brass and Iron Valves.
 Plumbers' and Steamfitters
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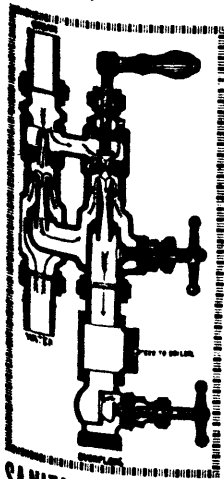


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 material evidence on the subject, and to furnish such information and data as may
 enable the Committee to judge of the testimony offered.

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House of Commons,
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Office of FROTHINGHAM & WORKMAN, Iron Merchants,
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MESSRS. MILLER BROS. & MITCHELL.
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Yours truly,
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SOME PERTINENT SUGGESTIONS.

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

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 { **ANY OTHER THEORY THAN** { 2nd. That our LEATHER is GOOD?
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IF NOT { Send us a Sample Order and see if we cannot please you.

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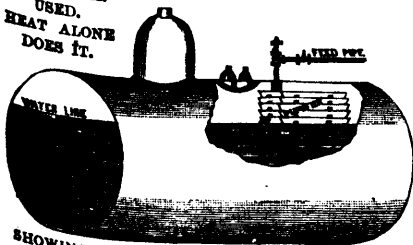
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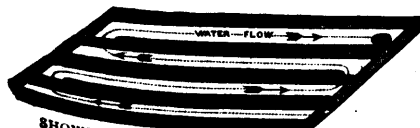
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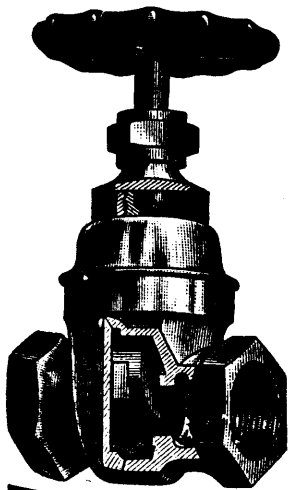
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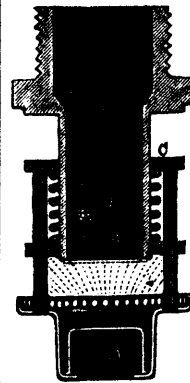
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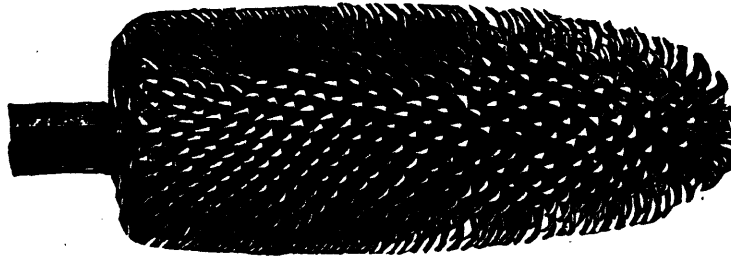
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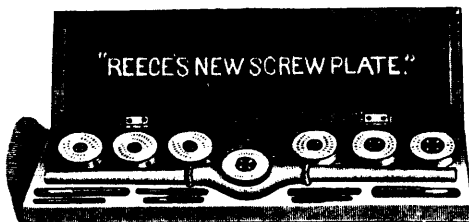
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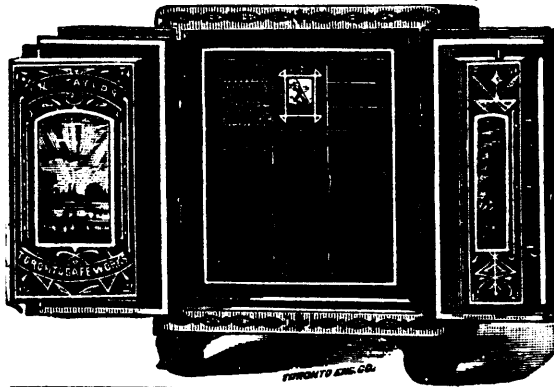
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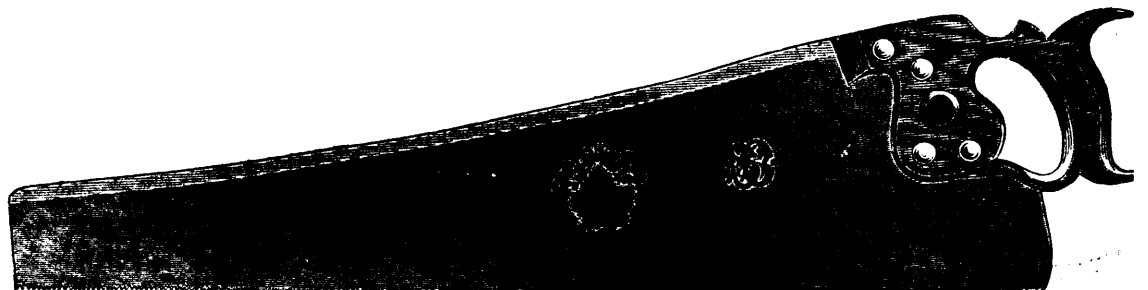
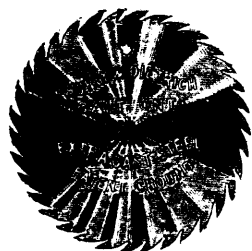
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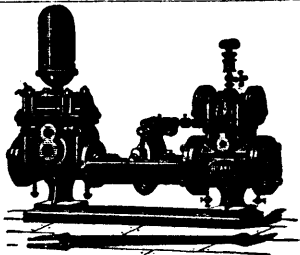
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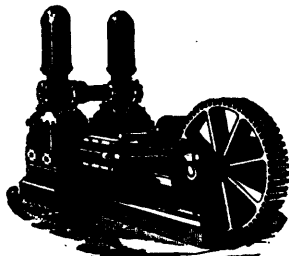
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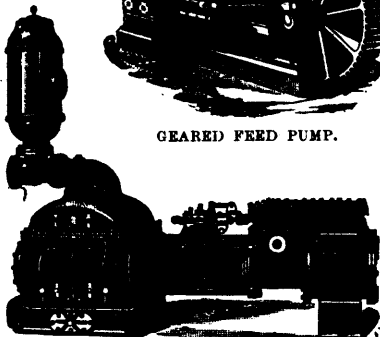
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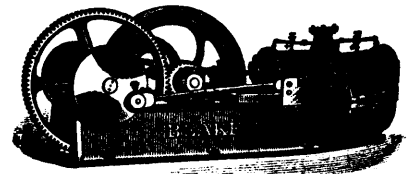


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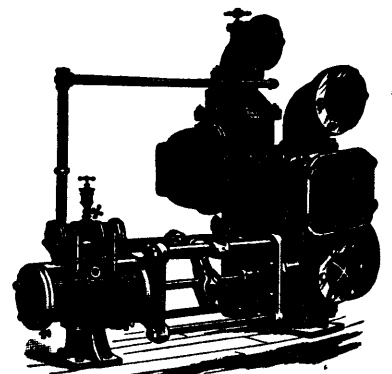
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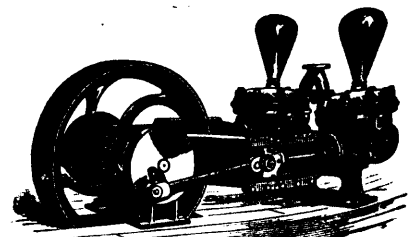
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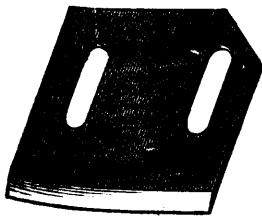
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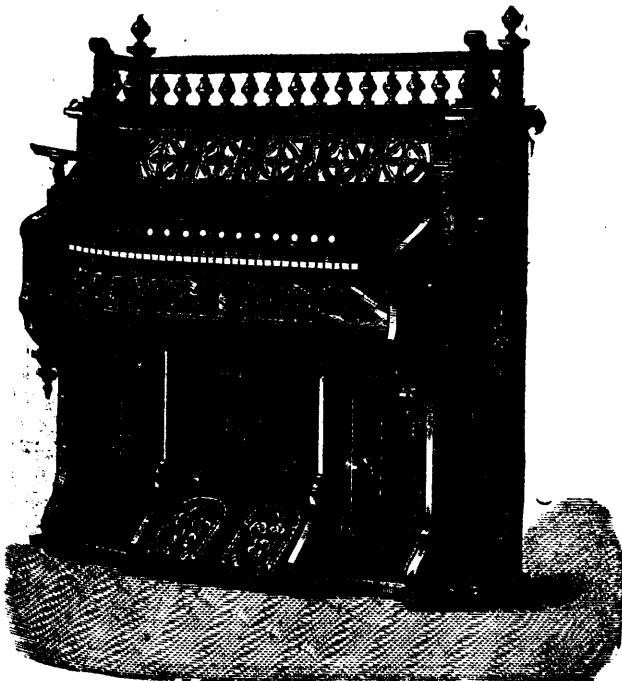
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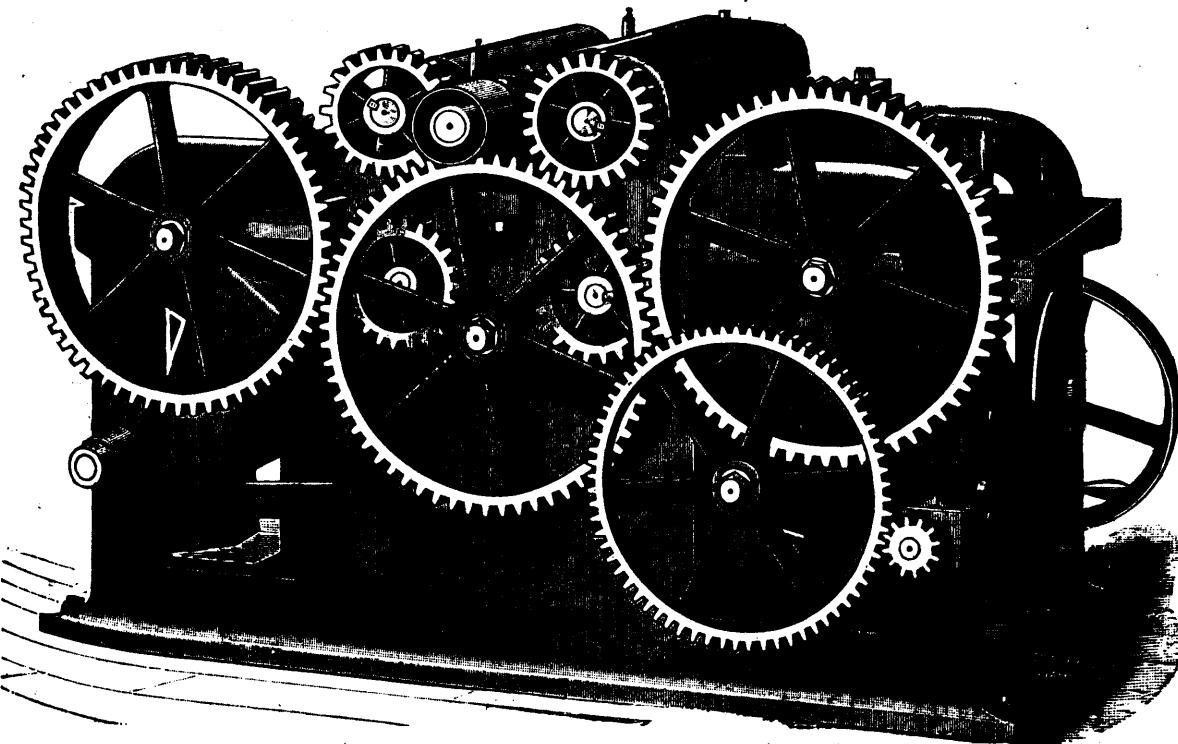
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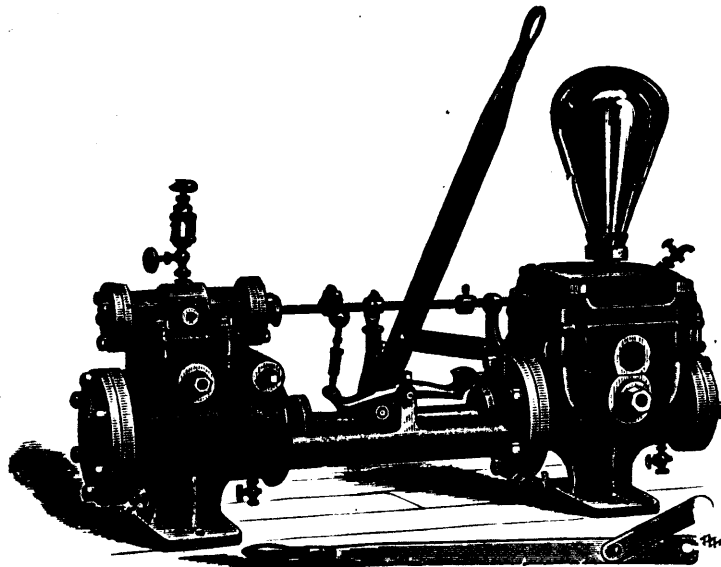
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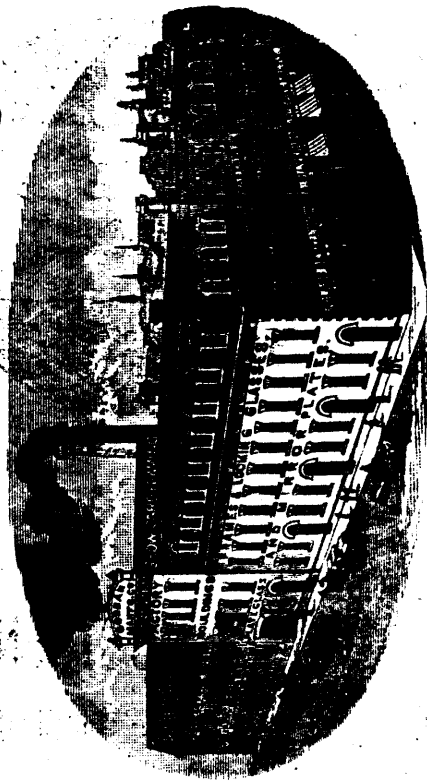
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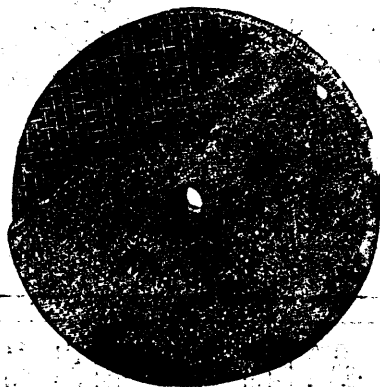
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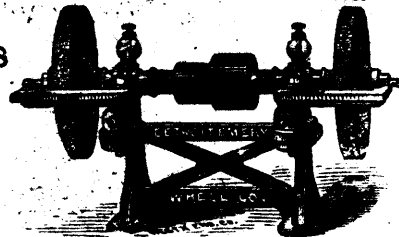
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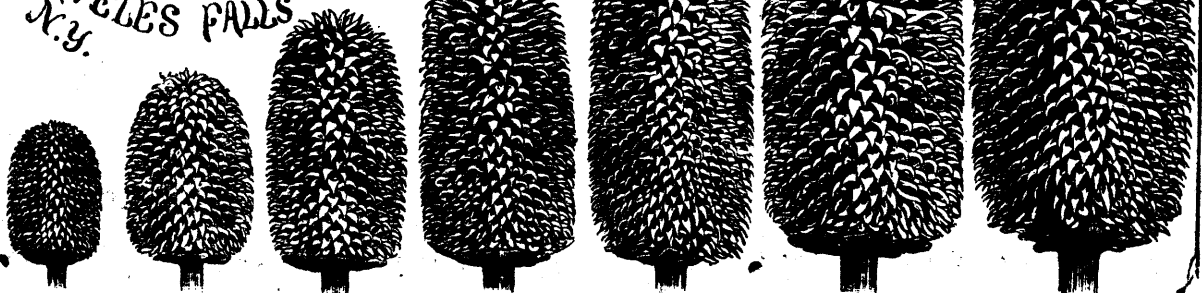
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