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THE CANADIAN MANUFACTURER

AND INDUSTRIAL WORLD

DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

Vol. 16. TORONTO, FEBRUARY 15, 1889. No. 4.

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DYE WOODS,
DYEING & DRUG, CHEMICAL, Etc.

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FOR THE "CROWN ANILINE DYES."

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SOLE AGENTS FOR CANADA.

IMPERIAL BANK
OF CANADA.

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Rubber, Linen, and Cotton Fire Hose.
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A full Stock always on hand.

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Will furnish plant for burning petroleum with air blast, for steam or furnaces, to give greater heat than can be obtained from coal, and at about 40 per cent. of the cost.

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John Bertram & Sons,
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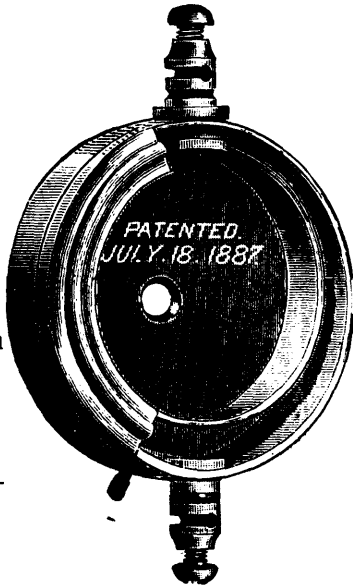
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and
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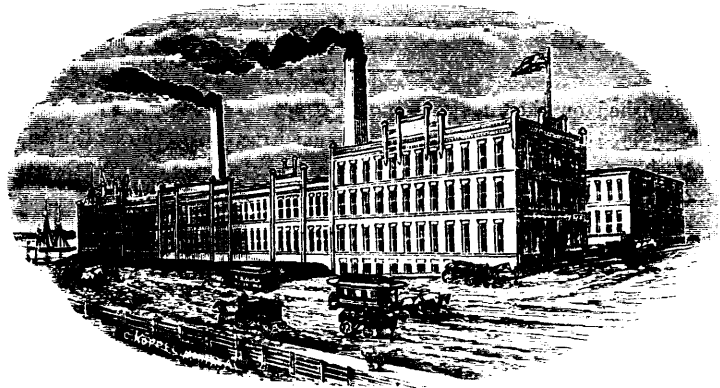
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Twenty-five lengths can be packed in a crate 18 x 8 inches.
Every joint guaranteed perfect fit.

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DOMINION TIN AND STAMPING WORKS



**Plain, Stamped and Japanned Tinware,
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Star Patent Stove Pipe Thimbles,
Stove Boards, Wire Goods,
Machine Oilers, Coal Hods,
Fire Shovels, House-furnishing Goods.**

SPECIALTIES—Spice Tins, Mustard Tins, Baking Powder Tins, Blacking Boxes, Paint
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Balcony Fire Escapes

(BATTEN'S PATENT)

ADVANTAGES :

The advantages of the BATTEN FIRE
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That the balconies are made of the best wrought iron, of any ornamental design or pattern, and securely bolted through the walls. Can be made any length or width. The brackets and flooring are capable of bearing any number of persons standing on them. The ladders, with wide steps and of easy grade, can remain down permanently, or folded up, as desired, showing the ornamental balcony only in sight, which does not mar the architectural beauty of the building, and can be instantly released when desired. No ice or snow will remain on them, neither will the working parts rust; and they will work admirably in any weather.

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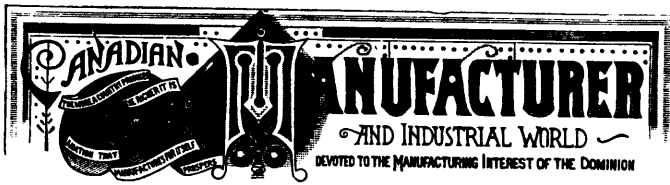
Our Escapes have been fully tested at fires and proved themselves invaluable for saving life and property. Iron guards on windows of Asylums and Reform Schools can be so adjusted as to be instantly released in the case of fire by the unfolding of ladder or sounding of a gong.

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MR. FREDERIC NICHOLLS is Secretary of
The Canadian Manufacturers' Association,
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His Office is at the Publication Office of the
CANADIAN MANUFACTURER,
6 Wellington Street West, Toronto.

THE WOOLEN MANUFACTURERS.

THE fact that a deputation of woolen manufacturers recently went to Ottawa, and interviewed the Minister of Customs, urging an increase in the duty on woolen goods, has raised a howl among the anti-protectionists. The representation made to the Minister was to the effect that the shoddy cloth now imported into Canada is made much lighter than formerly; that it has greatly deteriorated in intrinsic value, and that its inferior quality as regards material, and the light weight in which it is woven, render it impossible for Canadian manufacturers to successfully contend against it at the rate of duty now imposed. The hue and cry is raised against the manufacturers, and no doubt the indignant anti-protectionists would proceed forthwith to crucify them if it was not a violation of the law to do so. The *Monetary Times* makes itself prominent in its denunciation of these sinful manufacturers, uncharitably denying in them any particle of consistency in presenting their request to the Government, and imputing to them motives that are bad in every respect. It says that Mr. Bowell was told by the deputation that the United States was increasing the duty on shoddy and similar cloth, which statement, it says, "has not even the merit of veracity; and even if the averment had been true, the United States, in the matter of tariff legislation, is about as unsafe a guide as it would be possible to find." As answer to the argument that it would be to the interest of the Canadian consumer to keep out the shoddy now imported, our contemporary thinks that the manufacturers assume that the consumer does not know where his own interest lies, for if he did, of course he would not pay for the stuff more than it is worth. "The pretence of speaking in favor of the consumer," it says, "is the flimsiest veil ever woven to conceal the real purpose." This language and these impu-

tations are rather hard on these unfortunate Canadian manufacturers; and so far as the *Monetary Times* is able to squelch them, they should consider themselves squelched.

Abuse, however, proves nothing, and is no argument. The woolen manufacturers of Canada are respectable gentlemen who have large sums of money invested in a legitimate business. They have a grievance, and they carry it to that officer of the Government whose duty it is to consider the facts laid before him by them. If there is good reason in their prayer, it will probably be granted, unless the adverse element represented by the *Monetary Times*—the importers of shoddy goods—bring sufficient counteracting influences to bear to prevent it.

No argument is needed to show that Canada is filled up with imported shoddy goods, and that these are sold at prices with which Canadian manufacturers cannot possibly compete. It is an open question whether it is the privilege or the duty of the Government to attempt in any manner to restrict the importation of these goods into the country. The *Monetary Times* sneers at the idea; but it seems to forget that such things are regulated by governmental interference, as, for instance, the use of spirituous liquors, opium, poisons, impure milk, etc., and it is as much a "flimsy veil" to speak in favor of the regulation of traffic in these things as it is to speak in favor of the consumer in an effort to prevent his being deceived in the quality of the cloth he wears. The fact is, between the flimsy character of the imported goods alluded to, and the under-valuation at which more or less of them are appraised, the Canadian consumer on the one hand, and the Canadian manufacturer on the other, have a rough time of it. Large amounts of these goods are brought into the country, much of them already made up into clothing, as is evidenced by the fact that in almost any town ready-made clothing may be found offered for sale at prices actually less than what the cheapest Canadian tailors would charge for the tailoring, leaving the cost of the material out of the question. But notwithstanding the fact of the inferior quality of the cloth, the great cheapness of it is an inducement to purchasers which many cannot resist; and thus it is that the domestic woolen industry is severely and permanently injured. The dry goods men represent to the Government that the manufacturers do not, or cannot, make the goods required for their trade. This is neither fair nor correct, for these men have the handling of about all the goods sold, and it is within their power to dispose of the home made goods if they desired to do so; and they would do so if their desire to reap larger profits did not lead them to give preference to the imported shoddy. It is thought by some, and with much show of reason, that this great influx of shoddy goods is a systematic effort on the part of foreign manufacturers to force the closing of Canadian mills, and thus give them the entire control of our home market.

The denial that the United States is increasing the duty on certain kinds of cloth is begging the question. While it is possible that the Senate tariff bill, which has already passed that body, may not pass in the House at the present session of Congress, there can be no doubt that either that bill or one similar to it will become law at an early day. The present tariff rates there upon woolen cloths valued at not exceeding eighty cents per pound, is thirty-five cents per pound and thirty-five per cent. *ad valorem*, and above the value of eighty

cents per pound, the duty is thirty-five cents per pound, and forty per cent. *ad valorem*. The Senate bill taxes such goods thirty-five cents per pound, and thirty-five per cent. *ad valorem* when the value does not exceed forty cents per pound; where the value is above forty cents per pound, the *ad valorem* duty is advanced to forty per cent.; and where the value is above sixty cents per pound, the specific duty is forty cents per pound, and forty per cent. *ad valorem*. This is a decided advance on the present law; and the idea forces itself, that if this high rate of duty is essential for the protection of American manufacturers, why should not the Parliament of Canada show similar consideration for the interest of Canadian manufacturers? Under a high tariff the United States has prospered wonderfully; and in the matter of this tariff legislation, it is a safe guide for Canada to follow.

PECULIAR TARIFF PROTECTION.

In the February 1st issue of this journal mention was made of the fact that the Lansdowne challenge cup, which had been won by the New Brunswick team, had arrived at Ottawa; that the duty on it would be over eighty dollars, and that it was probable an Order-in-Council would be passed remitting the duty, as is usual. We also stated the fact that there are factories in Canada where just such articles are made; that they could be made in Canada quite as cheaply as abroad, and the enquiry was made as to why the Dominion Rifle Association should send abroad for their prizes when they could just as well be made in the Dominion.

We are in receipt of a letter from a manufacturer doing a large business in Montreal, and whose business card has been a feature in our advertising pages for years, in which he comments upon the item above alluded to. He says: "I note your comments on the remission of duty on the Lansdowne challenge cup, and would say that you deserve credit for the able manner in which you handle that and similar questions. There are manufacturers in our Dominion, and in the city of Montreal, who would be ashamed to turn out such a poorly finished piece of work as the Lansdowne cup. When it arrived here it was found necessary to turn it over to an art silver worker to be finished and made presentable." Our correspondent says that there are artists in that line in that city who could teach most of the foreign manufacturers much concerning the manufacture of silver art work. They are competent to prepare their own sketches and designs for any work that they may be entrusted with; do all their own figure modeling, and can handle all the details of the metal work. One artist to whom allusion is made has, for the past fifteen years, manufactured many of the finest presentation pieces ever shown in Montreal; and his work has often been represented as being of the best English make, by dealers who had secured the orders for it. Our correspondent calls attention to the fact that the duty on sterling silver high art work, "the rich man's luxury," is only twenty per cent *ad valorem*, while silver plated ware, the poor man's table decoration, pays thirty per cent duty.

It is well that these matters be agitated. It is decidedly unfair to Canadian silver workers that silver presentation pieces must be brought from abroad, particularly when the placing of the orders for them is in the hands of such a con-

cern as the Dominion Rifle Association, which is supposed to be national in its character, and under the influence if not the control of the Dominion Government; and it is more than unfair that when such baubles as presentation prizes are imported from abroad, the duties upon them should be remitted. Further, and as our correspondent suggests, there seems to be an anomaly about the tariff law that imposes only twenty per cent. duty upon what is nothing but a luxury in solid silver, while a duty of thirty per cent. is imposed upon household necessities in plated ware. Thirty per cent. may not be too high a duty to impose upon this latter class of goods, for there are several concerns in Canada engaged in the manufacture of them; but the duty upon the more expensive goods, which are luxuries for the rich, and which the poor cannot afford, should be advanced very considerably.

EDITORIAL NOTES.

OSHAWA is essentially a manufacturing town and we believe it is to the interests of every manufacturer to subscribe to that most excellent journal, THE CANADIAN MANUFACTURER, which contains more news regarding the manufacturing interests of the Dominion than any other journal published. We hope every manufacturer in Oshawa is a subscriber.—*Oshawa Vindicator*.

THE loss in actual money to the striking Knights of Labor street car men in New York, in their recent eight days' struggle, amounted to over \$100,000. And still the Knights failed to force the recognition of their Order on the managers of the roads. They contend that their contention is for a "principle"; but usually such contentions are really too "costive" for the good financial health of the dupes of the jawsmiths.

THE difference between the cost of high priced American logs and low priced Canadian logs, the Canadian Government intend to put into its treasury, even if it has to raise the export duty every year, as they have a right to do. They do not intend to run a cheap timber-producing industry for the benefit of the United States. They have a good thing, they know its value, and mean to make the last possible cent out of it.—Cleveland, O., *Leader*.

THE Toronto *Globe* quotes an item from *Bradstreet's*, showing the number of employes involved in strikes and lock-outs in 1888, and notes the fact that forty-five per cent. of the strikers reside in Pennsylvania, "which contains the most highly protected industries in the United States." The *Globe* is unhappy in connecting the strikers of Pennsylvania and protection in the United States, for the strikers alluded to in that State—nearly all of them—were workers in the anthracite coal mines, and anthracite coal is not a "protected" industry.

THE circulation of a trade journal may be small compared with that of a general newspaper. An advertisement in the latter is read by comparatively few, for whom it can have but little special interest. The large majority of readers never take the time to read or study trade advertisements. But when such are displayed in trade journals they are brought

prominently to the attention of the very persons for whom they were intended, and who desire to learn the information therein contained. Thus a trade journal with comparatively limited circulation cannot but be far more valuable as a special advertising medium than a general newspaper, although it may boast of having "the largest circulation" in the country.

THE *St. Louis Miller* and the *American Miller* both publish an item regarding the price of flour and the price of bread at Havana, Cuba, on a recent occasion. Both papers say that "the conditions leading to the abnormal condition of affairs were the substitution some years ago of free for slave labor, and the depreciation of paper currency in comparison with gold. The only readjustment possible under the circumstances was the advance in cost made by order of the Bakers' Guild. Flour, on the date mentioned, was selling at \$13 per barrel in gold, and the paper money was selling at a reduction of 240 per cent. from gold prices."—The *St. Louis* paper credits the item to *Bradstreet's*, but the other does not; but wherever it may have originated it seems queer that paper money or any thing else could possibly sell "at a reduction of 240 per cent. from gold prices," or from anything. As there is but 100 cents in a dollar, a reduction of 100 per cent. would seem to bring the value to zero; and the question is, how could a value get 140 per cent. below nothing. Our respected contemporaries will please arise and explain.

A NUMBER of intelligent young ladies of *St. Louis* have formed themselves into a club for the purpose of studying and discussing the science of government and political economy, especially the study of the relative merits of protection and free trade. They invite intelligent young gentlemen to address them; and these are permitted to become paying members of the club, but are allowed no other privileges than that of airing their views on subjects under discussion. The ladies aim to make themselves acquainted with the systems of government under which they live, executive, legislative and judicial. This is much better than sewing societies as usually encouraged and patronized by ladies where gossip and unprofitable small talk is the order. Women have as much interest in the good government of the country in which they live, as men; and with a thorough knowledge of government they would certainly make as good if not better citizens and voters as the other sex. If women possessed the elective franchise there would be less corruption at the polls than what now so frequently disgraces the country.

THE Dominion trade and navigation returns for the fiscal year ending the 30th of June, 1888, show that the total exports of Canada for the year were \$90,203,000, as against \$89,515,811 in 1887. The imports were \$110,894,000, a decrease of about two millions. A feature of our foreign trade is the great increase in trade with the United States contrasted with the falling off with Great Britain. We imported \$48,481,848 from the United States, and \$39,298,021 from Great Britain. Canada's exports to Great Britain are usually several millions in excess of those to the United States, but last year the figures were:—Great Britain, \$42,094,984; United States,

\$32,592,000. Our aggregate trade, therefore, with Great Britain last year was \$81,383,000, against \$89,544,000 the year before, while the aggregate last year with the United States was \$91,050,000, against \$82,575,000 the year before. Canada's trade with Britain declined eight millions, and her trade with the United States increased nine millions. Our total trade with the world last year was \$201,097,000. The value of the exports of the products of Canada were:—Produce of the mine, \$4,110,937; fisheries, \$7,703,183; forest, \$21,402,814; animals and their produce, \$24,719,298; agricultural products, \$15,436,360; manufactures, \$4,181,282; miscellaneous, \$773,877; a total value of \$78,298,750.

RECENTLY the *Toronto Mail* published a sensational paragraph regarding the deplorable results of the mining operations on the Canadian shores of Lake Superior, drawing a highly colored picture of the numberless mines that had been deserted by European capitalists who had been led into making large investments by what it called "adventurers and schemers." Mr. W. W. Stuart, of Montreal, President of the Quebec and Lake Superior Mining Association, has published a letter regarding this matter, in which he said:—

Having for about fifteen years past been intimately connected with mining operations on the Canadian shore of Lake Superior, I have had an opportunity of becoming well acquainted with most, if not all, the mines that have up to this time been worked there, and I am thoroughly informed as to the Mamainse mine referred to, having myself been the "schemer" that introduced the undertaking to English investors. I can therefore write with *connaissance de cause*, and can confidently aver, so far as the Canadian shores of Lake Superior are concerned, that apart from the Mamainse mine referred to, and the Michipicoton copper mine, both of which were introduced to the British investor by the same "schemer," there is not a single mine in which the English capitalist has invested a copper. * * * If one-thousandth part of the capital and skill expended on the copper mines of the American shore of the lake had been expended on the Canadian deposits of native copper, we have the very highest authority for believing that even such "worthless" mines as Mamainse would, to-day, like the Michigan mines of native copper, be yielding millions of dollars of profit to their shareholders.

COMMISSIONER of Labor Carroll D. Wright's fourth annual report, a summary of which has just been published, deals exclusively with the subject of working women in great cities. By "working women" the commissioner means the women who work in great city shops upon light manual or mechanical labor, and in stores. The professional and semi professional callings, like those of teaching, stenography, typewriting and telegraphy, have not, it appears, as a rule, been recognized as coming under the category. The investigation on which the report is based covered twenty two of the larger cities of the United States, and 342 distinct industries. The total number of women individually interviewed was 17,427. This is only six or seven per cent. of the whole number of women engaged in the class of work indicated, but the commissioner declares that the investigation is representative so far as the number of women whose affairs enter into it is to be considered. The average age of the women is given as twenty-two years and seven months, though the concentration is greatest at the age of eighteen. The general average age at beginning work is put at

F. E. DIXON & CO.

MANUFACTURERS OF

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And Manufacturers.

We do not profess to make the **VERY BEST BELTING IN THE WHOLE WORLD**, but we claim that we can make as good as any one else, whether English or American or Canadian. Here is one instance. We made a 14 inch Double Driving Belt for Messrs. Hastings & Peterkin's Planing Mill and Sash Factory on Bay Street, Toronto (now occupied by Mr. C. R. Peterkin), in July, 1873. This belt has been in constant use driving the machinery of the whole factory ever since, and is still good.

If you want a really good Driving Belt, or any other Belt, send to us and we will give you one which will give you thorough satisfaction. You will find both our prices and the quality of our goods all right.

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11 JORDAN STREET, - TORONTO.

fifteen years and four months. The average period during which the women have been engaged in their present occupations is shown to be four years and nine months. A great majority of the women interviewed are single. As regards earnings, it appears that the largest number earn between \$200 and \$250 per annum. The average weekly earnings for the cities, as a whole, are \$5.24. The lowest average, \$3.93, is found in Richmond, Va., and the highest, \$6.91, in San Francisco. A large proportion, over eighty-five per cent. of those interviewed, live at home.

MR. SIMON JONES, in his report on trade with South America, suggests that Canada should have better success than the United States in selling woolen goods to those countries, because we admit the wool free, while a heavy duty is imposed upon it by our neighbors. A journal, formerly a strong advocate of the National Policy, but now daily eating its words, a diet which seems injurious to its digestion and temper, pretends that this admission is a fatal blow to the theory of Protection. Our contemporary, arguing against its own convictions, is naturally awkward in its advocacy, but even it might see that it is the Canadian tariff, not that of the United States, that is really protective in this and similar cases. Under Protection one object is to admit raw material free of duty whenever possible, for the encouragement of the home manufacturer. The United States departed from this practice under stress of the necessity for raising a war revenue by taxing even raw materials, so as to force the people to contribute enormous sums of money. They very foolishly maintain these war taxes when they are not necessary, and indeed are inconvenient. This may be a reflection on their statesmanship, but not on the theory of protection to native industries, from which it is a distinct departure. —*Empire*.

The *Empire* in thus replying to the *Mail* throws away a good opportunity to make an intelligent answer to a poor argument. And it not only does this, but in what it does say it misrepresents important facts in connection with the tariff question as applied to the United States. The United States did not depart from the practice of admitting raw material free of duty, for the encouragement of the home manufacturer, under the stress of the necessity for raising a war revenue, by taxing every raw material, so as to force the people to contribute enormous sums of money. At the time of the breaking out of the rebellion, and for many years previous, under the domination of the Democratic party, the fiscal policy of the United States included a tariff "for revenue only," and there was no policy in force looking to "the encouragement of the home manufacturer"—free trade does not encourage such encouragement—therefore there was no such practice to depart from. The necessity for raising a "war revenue" did not result in the high tariff adopted by that country until 1865, when the war was over and the revenue required to pay the cost of suppressing the effort to destroy the life of the nation. And then "the people" were not "forced to contribute enormous sums of money" for that purpose any more than they were "forced" to send a million volunteers into the field to defend the Government. It is rather inconsistent on the part of the *Empire* to unfavorably criticise the protective policy of the United States and call it "foolish" and "unnecessary," merely because that policy imposes a duty on wool against its superior (?) judgment, when it claims, on general principles, to be a strong supporter of our own National Policy of Protection. Wool growing is an exceedingly large and valuable industry in

the United States, hence the "protection" of the wool grower; but Canada is not a large wool growing country, therefore wool is placed on our free list. Correct information and consistency are valuable adjuncts in writing newspaper editorials.

SPECIAL ADVERTISEMENTS.

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

KNITTING CREELMAN BROS. MACHINES.

Georgetown, Ont

THE *Dominion Illustrated* seems to increase in excellence as it advances in age. That is, if such a thing be possible, and if "age" may be imputed to that which is not yet a year old. The illustrations, particularly those of Canadian winter scenes, are exceedingly interesting, suggestive as they are of some of the most delightful phases of Canadian outdoor life in winter. *Dominion Illustrated* is published every week in Montreal by Messrs. G. E. Desbarats & Son. Price, \$4 a year.

MR. J. S. JEANS, General Secretary of The British Iron and Steel Institute, whose offices are at Victoria Mansions, Victoria street, London, S.W., Eng., has sent us *The Journal of the Institute*, the principal feature of which is contained in the proceedings of the autumn meeting of the Institute at Edinburgh in 1888. The different papers read by distinguished members of the Institute, and the discussions had thereon, together with diagrams, illustrative of the subjects discussed, are given in full; also a mass of interesting and valuable facts and statistics which possessed direct bearing on the industrial interests represented in the membership of the Institute. The book bears the imprint of Messrs. E. & F. N. Spon, London and New York. It is substantially bound in cloth, and contains nearly 500 pages.

VICK'S *Floral Guide* for the current year has been enlarged and improved, appears in new shape, new dress, many new illustrations, contains three elegant colored plates, and is enclosed in a cover of appropriate and chaste design. This is the pioneer seed catalogue of the United States, and is one of the very best published there. Now that Canada is having a Florida winter, and while the thoughts of the young people are turned to contemplations of music, moonlight, love and flowers, they should send to James Vick, Rochester, N. Y., who will take pleasure in instructing them regarding the most appropriate and desirable flowers.

THE stove manufacturers of the United States, through a committee appointed by the president of their national association, have taken a step in the matter of accounting which is, perhaps, without a parallel in the annals of American industrial enterprise. The step referred to looks to securing uniformity in cost calculations throughout all the different establishments. The committee appointed have drawn up a formula for cost estimates—in other words, established a basis for cost accounts, which the stove manufacturers are now considering. In the current issue of *The Office* (66 Duane street, New York) the report of the committee is published in full.

Wide Awake, for February, is as intensely interesting as ever for both old and young. Some of its most interesting features are "Who Ate the Queen's Luncheon," by Susan Coolidge; "The Apple of Discord," by Georgina Washington; "Princess Mayblossom," by Annette Lyster; "Children in Italian Sculpture," by Mabel F. Robinson; "The Tupper Children," by Miss Plympton; and "An Old-Fashioned Boat," by Ernest Ingersoll, are excellent reading; and the serial stories by J. T. Trowbridge and Margaret Sidney are very popular. There is just enough of the puzzles, etc., to excite the healthy curiosity of the young, and put their brains to work to solve them. *Wide Awake* is only \$2.40 a year. D. Lothrop Co., Boston, Mass.

We take pleasure in again calling attention to *The Week*, a leading literary journal published in Toronto, which has attained to an enviable height in the estimation of lovers of purity and excellence, as exemplified by it in its treatment of matters political, artistic, scientific and literary. It belongs to the highest class of Canadian journals, and does much to develop refined tastes and ideas among Canadians, and to impart a just and proper idea of the mental capabilities of Canadians among the English speaking peoples of the world. It is equipped with a staff of able and trained writers, whose names are a guarantee of the excellence of any articles to which they may be appended; and its editorials always show ability, independence, and a knowledge of the subject under discussion.

Manufacturing.

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

THE manufacture of soap is being started in Paris, Ont.

THIRTY-FIVE fishing vessels are being built in Lunenburg county, N.S., the largest number for many years.

THERE is a probability that the Bonfield mills, recently destroyed at Eganville, Ont., will be rebuilt at once.

MR. PETER MCKENZIE'S saw mill at Appin, Ont., was destroyed by fire a few days ago; loss, about \$2,500.

THE grist and flour mill of Philip Carman, at Abingdon, Ont., was destroyed by fire Feb. 1st, loss about \$8,000.

MR. ROBERT H. CHANDLER'S planing mill in this city was destroyed by fire, February 6; loss about \$6,000.

THE Hudson Bay Knitting Company, with headquarters at Montreal, has been incorporated with \$50,000 capital stock.

THE large brewery of Messrs. Curry Bros. at Niagara Falls South, Ont., was destroyed by fire Feb. 7; loss, about \$30,000.

THE Albon Carbon Light Company of Canada, with headquarters at Montreal, has been incorporated with \$25,000 capital stock.

MESSRS. POPPLEWELL, HENBROUGH & BORRIE, Westminster, B.C., have secured suitable premises and will engage in the manufacture of pottery.

MR. JOHN MACKAY'S flouring mill at Bowmanville, Ont., was destroyed by fire a few days ago, loss about \$10,000. It will probably be rebuilt.

THE chemical pulp mill at Chatham, N.B., will be put in operation in a few weeks. The water for it is to be brought from the Miramichi river.

MR. A. SUTHERLAND, Ingersoll, Ont., builder of riding carriages, pony and buffalo phaetons, cutters, sleighs, etc., gives employment to twelve hands.

THE directors of the Pictou Boot and Shoe Manufacturing Company, Pictou, N.S., have recently purchased a \$20,000 building to be used as a factory.

THE Alpha Rubber Company, Montreal, has been incorporated with \$30,000 capital stock, to manufacture india-rubber goods and druggists' sundries.

THE Peter Adams Wagon Co., of Paris, are using a coil spring on teaming vehicles, which is a manifest advantage where heavy loading is required.

THE McDowell & King Novelty Works is a new concern recently started in Bowmanville, Ont., for the purpose of manufacturing novelties and specialties.

MR. McALLISTER, of Pembroke, Ont., has sunk his second well nearly four hundred feet deep in his search for oil. Already over \$12,000 has been expended on the work.

LA COMPAGNIE Manufacturiere de Caussures de Levis (the Boot and Shoe Manufacturing Company of Levis) of Levis, Que., has been incorporated with \$20,000 capital stock.

MESSRS. HEINTZMAN & Co., Toronto, manufacturers of fine pianos, a few days ago presented one of their best instruments to Central Fire Hall, this city, for the use of the firemen.

At the works of the Ontario Casket Company, at Ridgetown, Ont., steady employment is given to about fifty hands, and every kind of supplies required by undertakers is manufactured.

THE Westminster Woolen Mill Company, Westminster, B.C., have contracted with Messrs. Lenz & Leiser, of that place, to sell

them the entire product of their woolen mills for the coming three years.

MESSRS. THOMPSON & Co., of Windsor, Ont., have been awarded the contract by the Canadian Pacific Railway Company for all the material required in the construction of their new road from London to Windsor.

MESSRS. WM. RUTHERFORD & Co.'s sash, door and blind factory, at Ste. Cunegonde, Que., near Montreal, was badly damaged by fire a few days ago, and about 100,000 feet of lumber in the drying kiln was destroyed.

THE St. Thomas Car Wheel Company, St. Thomas, Ont., were awarded a gold medal at the Adelaide, Australia, Exhibition, and a gold medal and diploma at the recent National Spanish Exposition at Madrid, for their car wheels.

THE factory of Mr. A. McVean, at Dresden, Ont., is one of the most complete of its kind in the province. The manufactures are carriage wheels and all kinds of carriage and wagon woodwork for the wholesale trade. It employs about 50 men.

THE Evans Bros. Piano Manufacturing Company, Ingersoll, Ont., finding their business increasing beyond the present capacity of production, will enlarge their works. Their present factory includes a fine brick building 130x40 feet, four stories high.

ANOTHER new factory is to be erected in this city. The new business will be the drawing of fine wires, of brass, copper, and all metals from which wire is made. The factory will employ a large number of hands, and will be in operation early in the spring.—*Hamilton Spectator.*

MESSRS. E. S. SHAW and James Percy, of Toronto, are forming a stock company with \$50,000 capital stock, for the purpose of boring for natural gas at Pickering, only eighteen miles from this city. If they strike a "gusher" the gas will be piped to Toronto and used for manufacturing purposes.

It is estimated that not less than a million of dollars are paid out in wages to mechanics, miners, glass workers, and laborers within a radius of ten miles around New Glasgow, N.S., and there is no less than \$1,500,000 on deposit in the Government Savings Banks, in and about the same vicinity in Pictou County.

THE Sarnia Oil Company, Sarnia, Ont., has been fully organized, a large portion of the \$250,000 stock being held by capitalists in the United States. The company will control the Canadian patents of Prof. Hall, who was formerly identified with the Sarnia Refinery Company. The new refinery will be in operation in a few days.

THE value of Nova Scotia's fish harvest last year was \$7,817,000, a decrease of \$562,000 as compared with the previous year, owing to the failure of the shore fisheries. The mackerel catch was fifty per cent. below that of the year previous, but there was an increase of 131,000 quintals in the cod family. The catch aggregated 1,127,000 quintals.

THE Meaford Shipbuilding Company, Meaford, Ont., are making rapid progress towards the completion of the steamer City of Meaford, now being built by them. Another vessel has also been commenced in these works. On account of the favorable situation and the facilities afforded, Meaford promises to become a prominent place for shipbuilding.

MR. A. B. COWAN, of Messrs. Cowan & Co., Galt, Ont., is now "taking in" the cities of British Columbia in the interests of his firm. There are many new manufacturing enterprises springing up on the Pacific Coast, and Messrs. Cowan & Co. are supplying some of them with large quantities of wood-working machinery, steam engines, boilers, etc.

MR. PETER McLAREN, the well-known lumberman of Perth, Ont., has purchased a phosphate mining site in Bedford, Lanark. This phosphate deposit is considered one of the most valuable in the Perth district. The vein is twenty feet wide. Mr. McLaren intends to begin operations on this new property, as well as on his other lake property, early in the coming spring.

THE Chemainus saw mills on Vancouver Island, B.C., owned by Messrs. Croft and Angus, have been sold to a syndicate composed of Wisconsin and British Columbia lumber kings. The price paid for the mills and a large acreage of lumber land is said to be in the neighborhood of \$700,000. It is reported that the new proprietors will rebuild the mills and add largely to their capacity.

THE Dresden Hoop and Stave Company, Dresden, Ont., are putting into their works an additional quantity of machinery, their expectation being to make 3,000,000 hoops and 8,000,000 staves the

coming year. The factory is run by two engines, 50 and 20 horse-power respectively. Staves mostly go to the American market, but hoops find a market in Canada. 75 men are employed.

THE Vancouver Foundry and Machine Works, Vancouver, B.C., are building the machinery to be placed in the tug being built there for the Royal City Planing Mills Company, of Vancouver. The engine will be triple expansion, the cylinders being fifteen inches, twenty-two inches and thirty-four inches respectively, with twenty-four inch stroke, from which will be developed 175 horse-power.

At the recent banquet given by the Geo. T. Smith Middlings Purifier Company, at Jackson, Mich., Mr. S. S. Heywood, manager of the Canadian branch at Stratford, Ont., said that during the preceding week he had closed contracts for new machinery for three mills—one of 1,500 barrels capacity at Montreal, a 300 barrel mill at St. Catharines, Ont., and a 100 barrel mill at Norvell, Ont.

THE main building of the furniture factory of the Hault Manufacturing Company, at Ingersoll, Ont., is built of brick, four stories high, and has a frontage on two streets of 100 feet each way. The power is supplied by a fifty-five horse-power engine with two boilers of forty horse-power each. The goods manufactured comprise upholstered furniture of every description, and upholsterers' supplies.

PARTIES now in Donald, in the interest of a French syndicate, are looking over the ground with a view to the erection of a large reduction works here. The French syndicate are the owners of the great Lexington mine and mill at Butte, Montana. The syndicate propose to erect works after the plan of those at Wickes, Montana, so as to be able to cheaply handle all grades of ore.—Donald B. C. Truth.

WE have information to the effect that the terms upon which Mr. Prince's offer to erect a flouring mill in Calgary depend, will be conceded, and that the erection of the mill the coming summer is now a certainty. Our information is that the bulk of the necessary machinery has already been contracted for. It is also stated that a foundry is to be erected in connection with the mill.—*Calgary Tribune*.

APROPOS of the new wire-drawing establishment, which is about to be started in Galt, we learn that a mechanic in Paris has invented a machine which will practically revolutionize the process of swaying or drawing fine steel wire for machine-needle making by a process which is both simple and inexpensive. The question now arises, "Why cannot darning and common knitting needles be made in Canada?"

THE great waste of gas from the new gas well at Kingsville, Ont., has been arrested, and the necessary apparatus adjusted for utilizing it. Another well will be sunk in that neighborhood immediately. The Thomas Cronin Oil Company, of Pennsylvania, have made a number of leases, and will commence boring for gas in a few days one mile north of the village. Strangers are coming in daily looking up property and business sites.

MR. OTTO E. ROOKER, Mooresville, Ind., whose card appears in another page, is offering for sale the Canadian patent right for an automatic stick horse toy, invented by him. It is adapted to be straddled and ridden, and is so constructed that when ridden the legs move forward and backward in imitation of a horse. No doubt it would be a taking novelty in Canada. Manufacturers of toys would do well to investigate.

MESSRS. GEO. F. HAWORTH & Co., Toronto, manufacturers of leather belting, have secured the contract for supplying all the belting which will be required in the immense new piano factory of Messrs. Heintzman & Co., of this city, now nearing completion at West Toronto Junction. Keen competition existed in trying to capture this valuable contract, and Messrs. Haworth & Co. are happy in having "scooped" it.

MESSRS. A. W. MORRIS & BRO., Montreal, previous to the ice carnival in that city, sent out to their friends a beautifully ornamented programme of that event, all the special amusements of each day being alluded to, and brief descriptions of them; also a list of places of interest in Montreal that strangers would be pleased to visit. Of course in this list the cordage works, binder twine works and jute and cotton bag works of the concern were not omitted.

A FEW days ago a number of the stock-holders in the company owning the new gas well at Kingsville, Ont., visited the premises and were astonished at the force of the gas escaping from it. Without being confined a steam gauge was held over it, going up to 55 pounds instantly. Newspapers and handkerchiefs thrown on will go 100 feet high. The roar of the well can be heard two miles, and the smell of the gas six miles. Another well will be sunk at once at the place.

THE Manuagan Fish, Oil and Guano Company, of Montreal, has been formed for the purpose of entering extensively into the fish oil and guano business at Manuagan, on the north shore of the St. Lawrence, about 250 miles east of Quebec. They will commence operations early in the spring, employing 100 hands, besides finding a ready means for settlers in that region to dispose of their catch. The company propose to ship their products to Boston, New York and London.

THE recent meeting in London, Eng., of Bell's Asbestos Company, revealed a prosperous condition of the industry in Canada. The chairman announced that the trade of the past year yielded a profit of £11,000—equal to 34 per cent.—though the prospectus only promised 10 per cent. It is predicted that 1889 will see a profit of £20,000. A dividend of fifteen shillings per share was declared—equal to 22½ per cent. Trade with the United States in raw asbestos is rapidly progressing.

MR. W. H. PACKMAN, Dresden, Ont., is the patentee and manufacturer of a new and novel heater which is intended to be used in connection with a stove for warming an adjoining room on the same flat as the stove. He is also the patentee and manufacturer of a ventilator or stove pipe thimble through which stove pipes may be passed with safety. It is so arranged that it may be taken apart, cleaned and replaced with little time and labor. He is also the principal shareholder in a company for the manufacture of the celebrated "Quickshine" stove polish.

THE Customs department made the following decisions during the month of January:—Advertising stickers, as labels, 15c. lb. and 25 p.c.; advertising stickers, cards cut in shape and illustrated, 6c. lb. and 20 p.c.; nickel-plated zinc in sheets, 25 p.c.; paper letters, gummed, plain or colored, in bulk, 35 p.c.; paper letters, gummed, put up in envelopes with printed descriptions for special advertising signs or labels, 15c. lb. and 25 p.c.; pop corn in cakes or balls, 1½c. lb. and 35 p.c.; tinned iron kettle ears, 30 p.c.; toy sewing machines, \$3.00 each and 20 p.c.

THE Ridgetown Iron Works, at Ridgetown, Ont., of which Mr. G. Middleditch is proprietor, combines a foundry, machine, boiler and blacksmith shops, in which are manufactured stationary and portable engines, boilers, sawmill and general mill machinery, iron columns, cresting, castings in iron and brass, land rollers, bean harvesters, bean planters, cider mills, corn shellers, etc. Special attention is given to repairing engines and boilers and all other machinery. The corn sheller is a machine of great merit. It shells a bushel of corn in the ear a minute.

MESSRS. T. S. SIMMS & Co., broom and brush makers, have made extensive improvements in their plant and machinery. Among the apparatus added since the beginning of the year are nine broom tying machines working by steam power, which took the place of machines worked by the foot, and one broom sewing machine, making three of these. This machinery increases the capacity of the broom making part of the factory by fifty per cent. It is now possible to make a hundred dozen brooms in a day if pushed. The regular output will be seventy-five dozen.—St. John, N. B., *Sun*.

STONE-BREAKING machines and rollers for street improvement are being seriously considered as necessary in Galt. The sturdy little town ranks away up near the head in the list of Canadian manufacturing places, and teaming the heavy machinery from such establishments as Goldie & McCulloch's, Cowan & Co's, and others, soon makes its mark on common gravel and clay streets. A stone-breaker and roller for macadamizing would inaugurate a great improvement. But why could not a machine for this purpose be used by say three or four municipalities, country as well as town?

THE Ontario Cotton Mills at Hamilton, Ont., which had been advertised for sale for some time past, was sold at auction in that city, Feb. 7. The Ontario Cotton Company, at present composed of Messrs. Wm. Hendrie, A. T. Wood, Charles Gurney and Edward Gurney, are successors to the former company and have been conducting the business since last October. At the sale the property, engines, boilers and machinery were purchased by Mr. Edward Gurney, of Toronto, for the new company, at \$150,000. The reserve price had been fixed at \$165,000, but this was afterward made to conform to the figures offered. The amount goes to the bond-holders of the old company.

THE McIlvaine system of gas lighting is now in full operation in Messrs. Cowan & Co's works at Galt, Ont. The method of manufacture is very simple; two small retorts are placed in a vertical position and built around with brick; a fire box underneath receives the pine chips, to which is added crude petroleum; the gas passing through iron cuttings and charcoal in the retorts, is purified before

reaching the gasometer. The gasometer holds about 2,200 feet and is filled in half a day. The light is a beautiful white light, equal to any gas light, and Mr. Mellvaine claims it will not cost over 50c. a thousand feet.

THE Salmon River, N.S., gold mine was discovered in 1880, and the first crushing at an outside mill made in March, 1881. The mill on the property was completed in August, 1881, and from that date until November, 1888, the mine has produced 64,500 tons of quartz, which yielded through the mill over 31,000 ozs. of gold—an average of about 9½ cwt. per ton of ore crushed. It has yielded to its owners in round figures \$600,000, and after paying all expenses of equipment, working, protracted litigation, etc., has paid in cash dividends close upon \$300,000, or had paid that amount up to the end of November, 1888.

MESSRS. THOMAS MARTIN & Co., of Chelsea, Mass., who are manufacturers of all kinds of elastic webbing, shoe goring, etc., propose to erect extensive works at Niagara Falls, Ont., if they are granted exemption from taxation for ten years. In consideration of this they will erect a two story brick factory 150x45 feet, for the purpose indicated, and give employment to at least forty hands. This firm have received flattering inducements from Montreal and other places in Canada to locate there, but they preferred establishing business at Niagara Falls. The building is to be completed within three months after the signing of agreement.

THE New St. Raymond pulp mill on the St. Annie river, a short distance below St. Raymond, Que., has been finished and put into operation. A portion of the flume supplying the water is cut through solid rock. The flume from the river inlet to its entrance into the mill forms a rigid tunnel, the water entering the turbines with both weight and pressure. There are six of these turbines, aggregating 1,000 horse-power, and these can be operated singly or collectively. Everything in machinery and construction is first-class and up to the latest date in improvement. The Lake of St. John Railroad Company have extended a branch line to within 200 yards of the mill.

THE mines of the Excelsior Copper Company at Harvey Hill are working full time with about 120 men in all. The shafts are reported to be developing splendidly, and the veins are becoming wider and richer as work proceeds. The company is shipping now

the high grade ore to Vivian & Sons, Swansea, and the low grade ores are going to New York. From four to five car loads of ore leave the mines per week. The company will put up a large quantity of machinery on the property, and it is expected that it will give employment to between 500 and 1,000 men before July. The mines are doing as well as could possibly be expected.—*Mining Review.*

THE proposed capital of the Farmers' Cordage Company, now in process of organization at Brantford, Ont., is placed at \$250,000 in shares of \$20 each. According to the prospectus, every paid up share entitles its holder to 150 lbs. twine per annum (after 1889) at cost of production, due allowance being made for the incidentals of manufacture, and from one-eighth to one-fourth cent. per lb. on sales up to certain amounts mentioned. On the basis of last year's transactions the company claim that this would effect a saving to each farmer of \$6 or thirty per cent. of his paid up capital. The subscription list is also confined wholly to farmers, and, as an additional safeguard, no one individual can hold more than ten shares.

MESSRS. DICK, RIDOUT & Co., Toronto, call the attention of manufacturers to the four flats and basement of their centrally situated property on Bay street, near Front street, in this city, which they offer for rent. This, they say, is the best business premises and location in Toronto. The building is provided with abundant power for general manufacturing purposes—which they guarantee to be steady—steam heating, steam hoist, good light, low insurance rates, entrance from both front and rear, and specially adapted for factory, warehouse and office purposes. The building has a depth of 100 feet, with a frontage of 54 feet on Bay street, and 34 feet on lane in rear. They have also, in same locality, a desirable lot, 100x70 feet, on which they would erect factory buildings specially to suit good tenant.

WE are pleased to know that Mr. Warnock has been able to make satisfactory settlements with the insurance companies in connection with the late fire at the axe factory, and last week addressed the following letter to the hardware trade:—We desire to correct the statement made through the press, 'That our works would be closed for six months on account of damage through fire.' We have made temporary arrangements in other premises for our gear de-

HENRY PORTER,

MANUFACTURER OF

LEATHER

BELTING

432 to 442 Visitation Street, Montreal, Que.

AND
36 FRONT STREET EAST, TORONTO.

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

Standard Drain Pipe

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

ROBT. CARROLL, 66 Adelaide St. West,

Telephone No. 208.

TORONTO.

G. & J. BROWN M'FG CO.

(LIMITED),

BELLEVILLE, ONT.

Engineers, Machinists, Boiler Makers,

Foundrymen and Bridge Builders.

RAILWAY and CONTRACTORS' SUPPLIES A SPECIALTY.

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

MUNDERLOH & CO.

MONTREAL,

SOLE AGENTS FOR THE DOMINION

OF

Meyer's Watchman Control Clock.

REDUCED PREMIUMS ON FIRE INSURANCE
SECURED BY USING THIS CLOCK.

Description and particulars on application.

partment, and will be prepared to execute all orders for carriage springs and gears in about two weeks, and have our edge tool department in full running order in about six weeks, when we can fill all orders for our goods promptly. As we are fully covered by insurance, there will be no delay in commencing to rebuild at once."
—Galt, Ont., *Reporter*.

Six Truro, N.S., firms now have travellers on the road. The annual meeting of the Milk Condensing and Canning Company was held last week and a dividend in double figures declared. Our factories all seem prosperous. Messrs. Lewis & Sons are busy as ever in their new last and peg factory, not a whit discouraged by their severe loss last summer. Messrs. Hopper & Sons, their competitors, intend enlarging their factory the coming spring. The hat factory has had a big year's business, and, working night and day, have had difficulty in filling all their orders. Messrs. J. E. Bigelow & Co. intend going into the manufacture of confectionery in addition to their bottling business. Half a dozen new cottages are now in course of erection, and next summer will see quite a building boom in Truro.—*Truro correspondent of Halifax Herald*.

THE Dominion Cartridge Co., of Montreal, is one of the most successful of Canada's industries, and is managed by wide-awake, experienced experts in the manufacture of ammunition. Their inspected cartridges are superior in accuracy and velocity to either of the American makes. Tests made on an electric chronograph with these cartridges, and those of the Winchester make, show that the Dominion bullets were grouped together on the target, while the Winchester were more scattered, and the Dominion had over a hundred feet per second greater velocity, at a test held in Regina, under Government inspectors. The Dominion beat the Winchester by 30 per cent in accuracy, and 12½ per cent in penetration. In the face of 45 per cent. duty, this company are placing their cartridges by the car load into the American market. They also have a large foreign trade, and are deserving of their success.

THE Standard Drain Pipe Company, St. John's, Que., have sent us a circular regarding their business in which is published letters addressed to Mr. Robert Carroll, Toronto, agent of the company, regarding the merits of the drain pipe manufactured by them. One of these letters is from C. Sproat, Esq., C. E., city engineer of Toronto, and dated January 8, 1889, in which the assurance is given that the city will accept the Standard Company's pipe subject to the same conditions as other pipe; and another letter, from Mr. John L. Stokes, city engineer of Parkdale (Toronto), who states that some 8,000 feet of Standard 15-inch drain pipe was in use there, giving entire satisfaction. A letter also embodied in the circular, from Mr. John Maguire, private drain inspector, Toronto, addressed to the company, states that Mr. Maguire was using these pipes constantly, and that he considered them much better than any European pipe he had ever seen—that as to their strength and durability he had no hesitation in saying they were "unwearable and indestructible."

A NEW departure in the logging business consists of a steam sleigh the first one of which has been put to practical use by Mr. T. B. Basselin, of Lowville, Lewis county, New York. It is described as being of enormous size, and in appearance resembles somewhat a box car. The sleigh is eight feet high and the bobs six feet wide. The motive power is supplied by a boiler which stands seven feet high and weighs 8,000 pounds, and two high-pressure engines of 30-horse power, weighing 5,500 pounds. There are four immense drive wheels which weigh 4,000 pounds, and are driven by an endless chain from the engine. The sleigh is steered somewhat after the manner of a steamboat. The drive wheels are covered for about three-fourths of their circumference by a steam box into which the steam exhausts; the water falling into the track of the sleigh, freezes, and thus makes a road of solid ice. To prevent the drive wheels from slipping, these are supplied with spurs, three inches deep and ten inches long. The sleigh is capable of carrying 15,000 feet of logs at one time, which is equivalent

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to the amount that would ordinarily be drawn by fifteen teams of horses. As above stated, the cost of the outfit is about \$8,000, but it will pay for itself in the saving of team hire, extra men, etc. It works satisfactorily and is at present used in drawing logs from the woods to the banking ground.

The fact was recently noticed in these pages that the Dominion Safety Boiler Company, of Montreal, had placed a battery of their Field-Stirling boilers in the works of the Pillow-Hersey Manufacturing Company, in that city. The manufacturers rated this boiler at 200 horse-power; but it was subjected to crucial and exhaustive tests a few days ago, when it withstood a hydrostatic pressure of 255 pounds to the square inch, and developed a working capacity of 252 horse-power, the fuel used being Intercolonial "run of the mine." The test was made in the presence of Mr. John R. Hersey, C.E., assisted by his brother, Mr. Theo. Hersey, C.E., both of the Pillow-Hersey Company, and in the presence of Mr. Allan Stirling, M.E., the inventor. The fact was established that the boiler evaporated $11\frac{1}{2}$ pounds of water per pound of combustible. This brings this system into the foremost place as regards boilers. Mr. Snow, the general superintendent of the Standard Oil Company, who has probably more boilers under his control than any other man on this continent, stated recently that the best result he ever obtained under the most favorable conditions with the ordinary horizontal tubular boiler, was nine pounds of evaporated water to a pound of combustible, and that the average results with these boilers will not exceed seven and a-half pounds. The Heine boilers of the Montreal city water-works, which were tested recently, gave an efficiency with selected Scotch coal of seven and a-quarter pounds, and with select Cumberland coal of nine and a-half pounds. Mr. J. F. Torrance, manager of the Dominion Safety Boiler Company, informs us that the E. B. Eddy Manufacturing Company have just ordered a battery of these Field-Stirling boilers of 500 horse-power for their new pulp mill at Hull, Que.

MESSRS. STEINHOFF & GORDON, Wallaceburg, Ont., are manufacturers of staves, hoops and heading, and claim to have the largest and best equipped establishment of the kind in Canada. Last year they manufactured 18,000,000 staves, 5,000,000 hoops and 400,000 sets

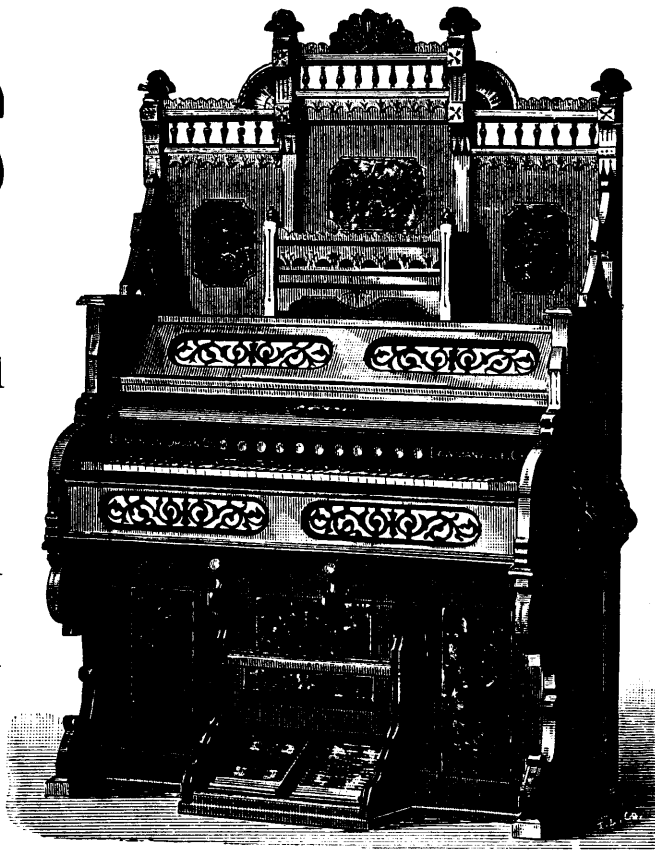
of heading. In addition to this, they operate a similar factory in Dresden in which seventy-five men are employed, and from which large quantities of manufactured material are turned out annually. The market for their products is in Canada and the United States, and as they manufacture the whole material required for a barrel they frequently get the preference from coopers. The dry kiln is twenty-two by eighty feet, built at a cost of \$3,500, contains 7,500 feet of piping, with a drying capacity of 2,500 sets of heading per day. This winter they are getting out 8,000 cords of cordwood, which, with bolts, will amount in value to \$25,000. The logs now being taken out will amount to about the same in value. The establishment employs 150 men. Their shipments during the past year exceeded 1000 car loads. They expect to do as much if not more the present year. The factory is supplied with power from two engines of sixty and eighty horse power each, with three steel boilers. The log is first cut into one and a half inch plank. The plank is passed to the hoop machine, the knife of which tilts each cut and cuts on a twenty inch circle, shaping the hoop so that it makes a perfect fit. The hoop is then passed to the planer, and from that to the pointer and lapper, a self-feeding machine which by one motion points the one end and thins the lap end. From this they pass to the coiler or coiling machine, where they are coiled into coils of ten hoops each and are ready for market. The buildings and piling grounds cover ten acres. A spur line holding twenty-two cars runs on one side of the factory and the Sydenham river on the other. Their boom on this river for holding logs is over a mile long. This establishment cost \$33,000.

THE test well sunk about midway between Brantford and Paris to ascertain the probabilities of getting natural gas, reached a distance of 1,700 feet before operations were suspended. The drills pierced a bed of white rock about 300 feet down, which tested them severely, and twenty-four hours work in it showed but few feet of progress. Lower down, however, a great depth of shale rock—about 125 feet—was bored in one day's work. The hole is now plugged, and the machinery removed. It is believed by geologists that the rock formation farther north on Grand river, in the county of Waterloo, is such that better results can reasonably be expected. But it is believed that the chances are infinitely better still nearer

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Toronto. \$4,000 would pay all expenses of a test well, and it seems strange that the thing has not been undertaken in this city, where so much enterprise is exhibited in other directions.

The American bison, or buffalo, is now practically extinct and a fit subject for the investigation of the Canadian Institute. The genuine buffalo robe is fast becoming a rarity, and other materials have long supplied the uses for which the hide of the bison was selected. Textile manufacturers and others have for some time been experimenting with a view of producing a material that could take the place of a buffalo robe, but their efforts in this direction have met with little success. Messrs. Newlands & Co., of Galt, appear to have met the desirability exactly. They produce what is called "Saskatchewan cloth," which is warm, durable, and sheds water as well even as the buffalo robe. It is made in any shade of color required—light, medium or heavy weight—and so closely resembles the original buffalo robe that it requires more than a second look to convince one that it is not the actual hide. It can be used for robes, coats, caps, gauntlets and a host of other purposes, which will manifest themselves on seeing and handling the material. The sole agency for the sale of these goods has been placed in the hands of Messrs. W. H. Storey & Son, Acton, Ont. The firm have patented the material in Canada and the United States.

The Polson Iron Works Company, of Toronto, who have recently established a large ship yard works at Owen Sound, Ont., have just contracted with the Canadian Pacific Railway Company for the construction of a large ferry boat to be used for the transportation of trains across the Detroit river between Windsor, Ont., and Detroit, Mich., in connection with the new branch line from London to the latter city. The dimensions will be: Length, 295 feet; beam, over guards 71 feet; depth, moulded, 17 feet; breadth of hull, moulded, 41 feet. The vessel will be propelled by paddles, and will be double-ended. The motive power will be supplied by two independent high pressure engines, having cylinders 54 inch diameter and 108 inch stroke. The engines will be located on each side of the vessel and each will be coupled to a paddle wheel, so that the wheels can be operated independently. The steam will be supplied from four large steel boilers of the "Clyde" pattern—two to each engine. There will be two railway tracks on deck, giving accommodation for fourteen freight cars, or three sleeping and four ordinary coaches, and a house on either side for officers and men. The hull will be built entirely of steel, about 2,000 tons of which will be

used in the construction. The engines and boilers will be built at Toronto, and for this purpose some new and heavy machinery will have to be imported. It is expected the new boat will be ready for launching by the 1st of October.

The *Australasian Ironmonger*, in its special report of the exhibits made at the recent Centennial Industrial Exhibition at Melbourne, has the following flattering notice of the display of a well-known Toronto concern:—Messrs. J. & J. Taylor, Toronto Safe Works, 117 Front street east, Toronto, exhibit a large collection of fire and burglar-proof safes and vault doors. Receptacles of this kind intended for the protection of large sums and valuable documents cannot be made too strong, and should have every improvement. In this respect the firm have evidently kept pace with the times. For preventing the heat, in the case of a fire, from passing through between the door frame and the jambs, a new non-conducting flange of galvanized homogeneous steel is adopted, and the door is constructed with a tongue and groove, within the walls of which is inserted a non-conducting material, which completely breaks the connection between the outside and inside of the safe, and effectually shuts out the heat. The frames are of solid angle iron, the corners are round, formed by bending continuous plates of iron, the door bolts are round, and they are fitted with three wheel combination dial lock. This lock, as is now pretty well known, is fastened by a combination of figures, and can only be opened by the person having a knowledge of how it was locked. Single door and double folding door safes are shown in several sizes; also safes with bankers' chest inside. These are made of five ply welded steel and iron, with solid frames and corners, and put together with heavy steel-headed conical bolts, all bolt work polished and nickel plated; doors with rabbets to prevent wedging, and fitted with rubber tube packing, and secured with four wheel shaft combination lock. A steel burglar-proof safe with an inner and an outer door, and with a special arrangement of bolts is shown, as also a fire and burglar-proof vault door. This is secured with 1½ in. round bolts, and locked with one four-wheel combination lock, with back shaft. It has a heavy iron plate vestibule to suit thickness of wall, and double folding inner door of plate iron with key lock. All the safes are mounted on wheels, a desirable feature for placing them in position. Another feature peculiar to these safes is their admirable finish, the doors having painted designs, landscapes, etc., giving them an attractive appearance.

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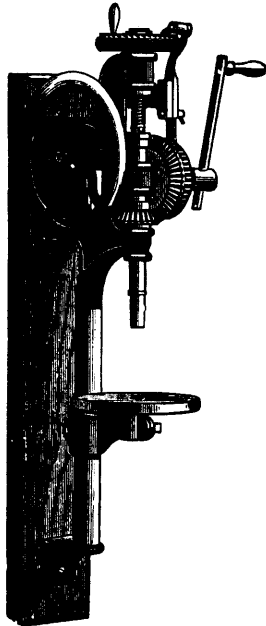
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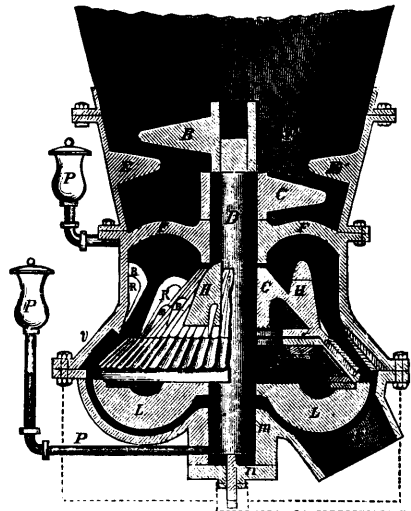
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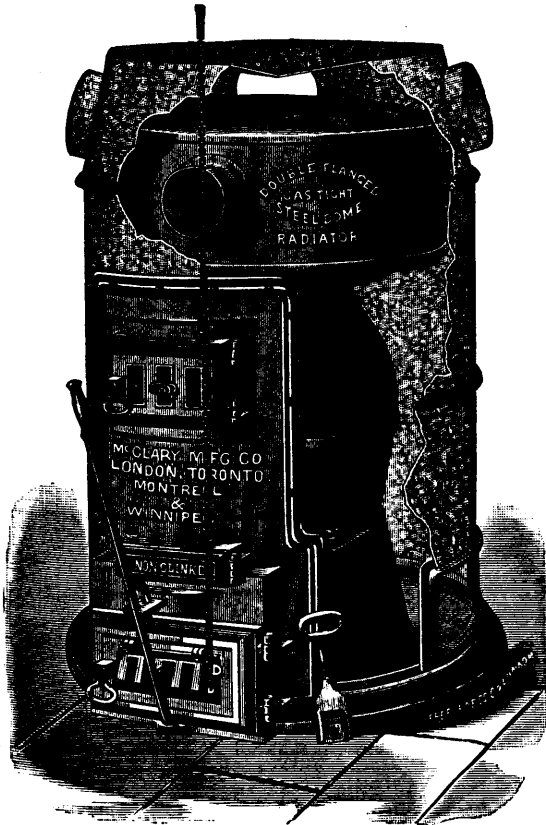
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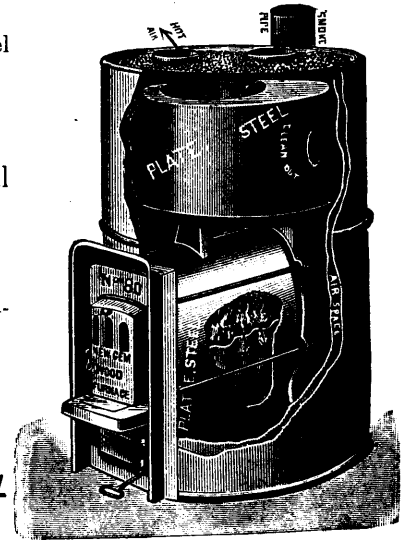
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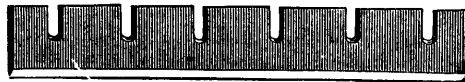
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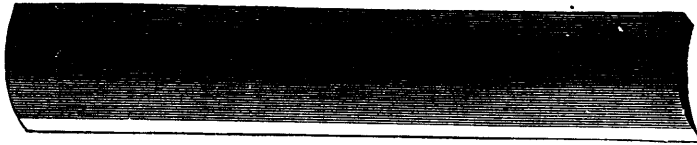
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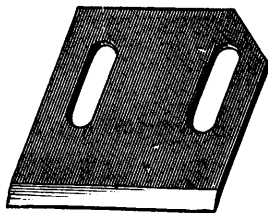
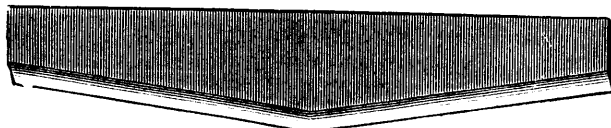
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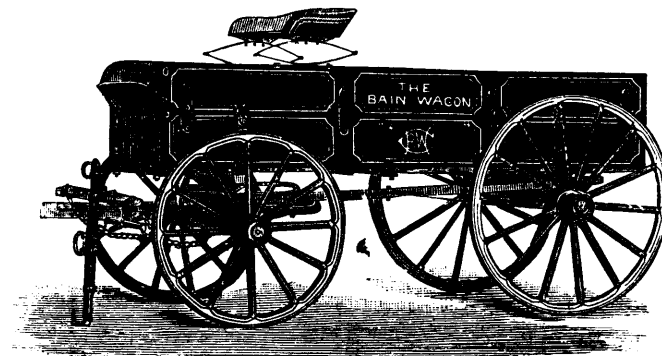
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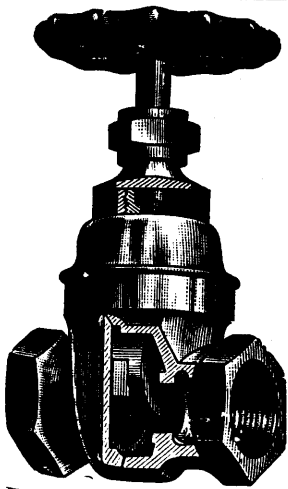
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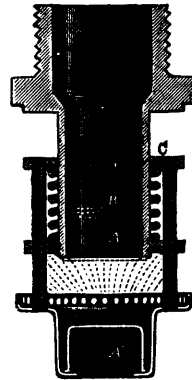
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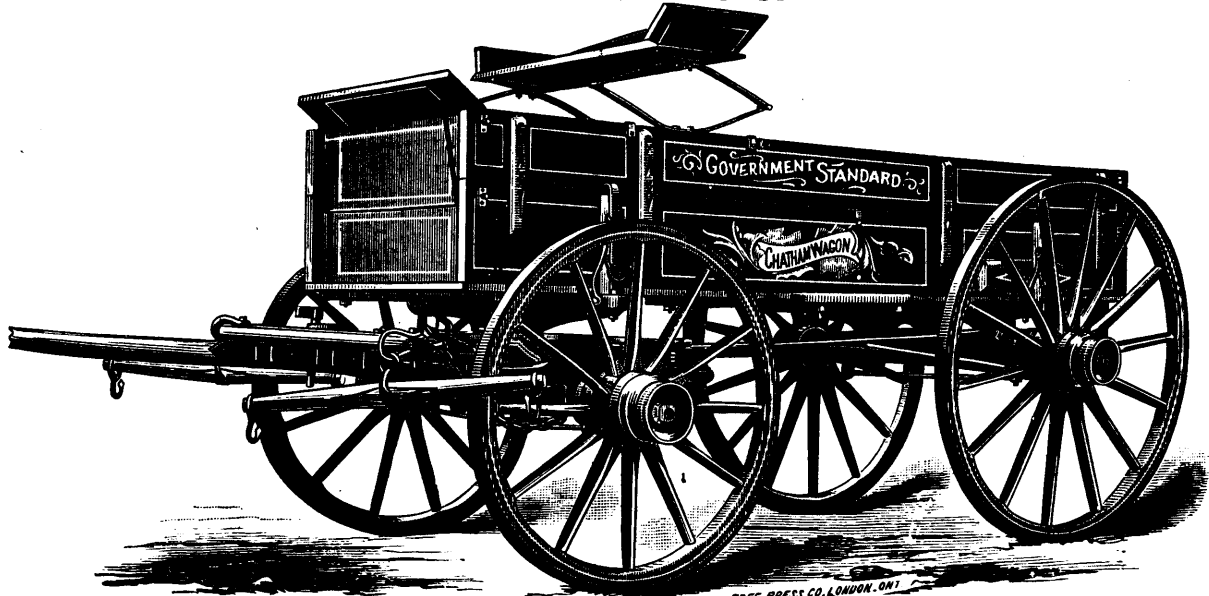
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All risks will be inspected by a competent officer of the company, who will make such suggestions as to improvements required for safety against fires, as may be for the mutual interests of all concerned.

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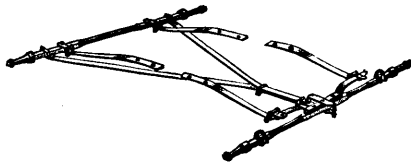
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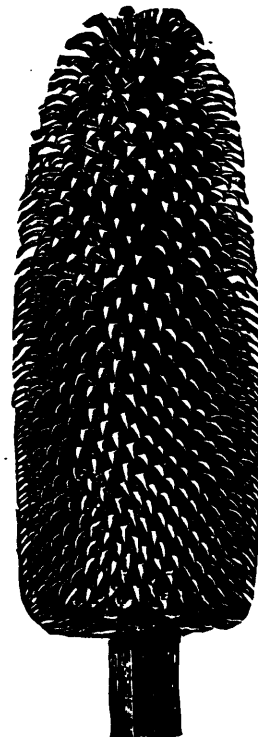
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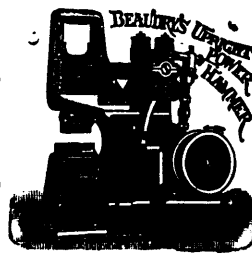
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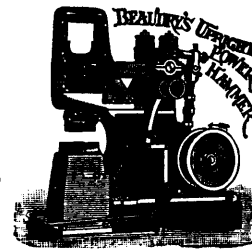
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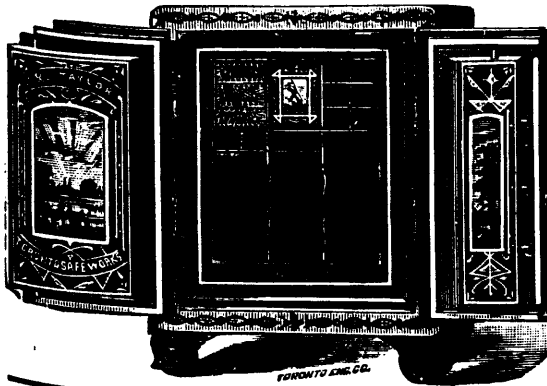


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All our new style Fire-proof Safes are fitted with TWO COMPLETE TONGUES AND TWO GROOVES on both the door and door frames, which effectually prevent the heat from passing between the door and frame into the interior of the safe.

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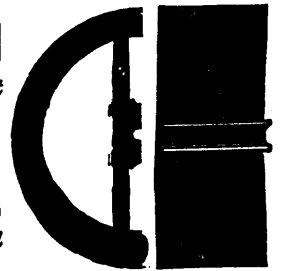
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70 PER CENT. LIGHTER THAN CAST IRON

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

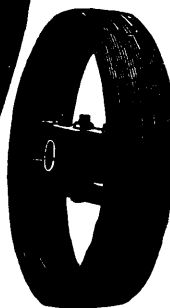
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SHATTO & DENNIS, MINNEAPOLIS, MINN. }
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Yours truly, S. R. STIMSON, General Manager.

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

We have sold these pulleys for one year, and they have been put to every kind of service, and their popularity is wonderful. We refer to the following users for proof of the above statements: Pillsbury & Hulbert Elevator Co., Minneapolis; R. M. Pratt & Co., Elevators; Northern Pacific Elevator Co.; The Pacific Elevator Co.; Minneapolis Harvester Works; Minneapolis School Furniture Co.; M. & St. L. R. R. Co.; Willford & Northway; Washburn, Crosby & Co.; St. Paul Electric Light Co.; St. Paul Roller Mill Co.; Minneapolis Brick Co.; N. W. Mfg. & Car Co., Stillwater, Minn., and very many others.
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According to the best scientific authority it costs one horse power to keep in motion one ton of metal or weight; thus for every unnecessary 2,000 pounds weight on your line shaft, cost you one horse power. To maintain a horse power costs from \$35 to \$125 per year. Any manufacturer who will take the pains to investigate the unnecessary weight by Heavy Iron Pulleys, too tight belts, etc., will be surprised to find the enormous waste of power consumed in this manner. 60,000 Dodge Patent Wood Split Pulleys now in use. Our capacity being now equal to 100 Pulleys per day, we shall hereafter keep in stock for immediate shipment all sizes.

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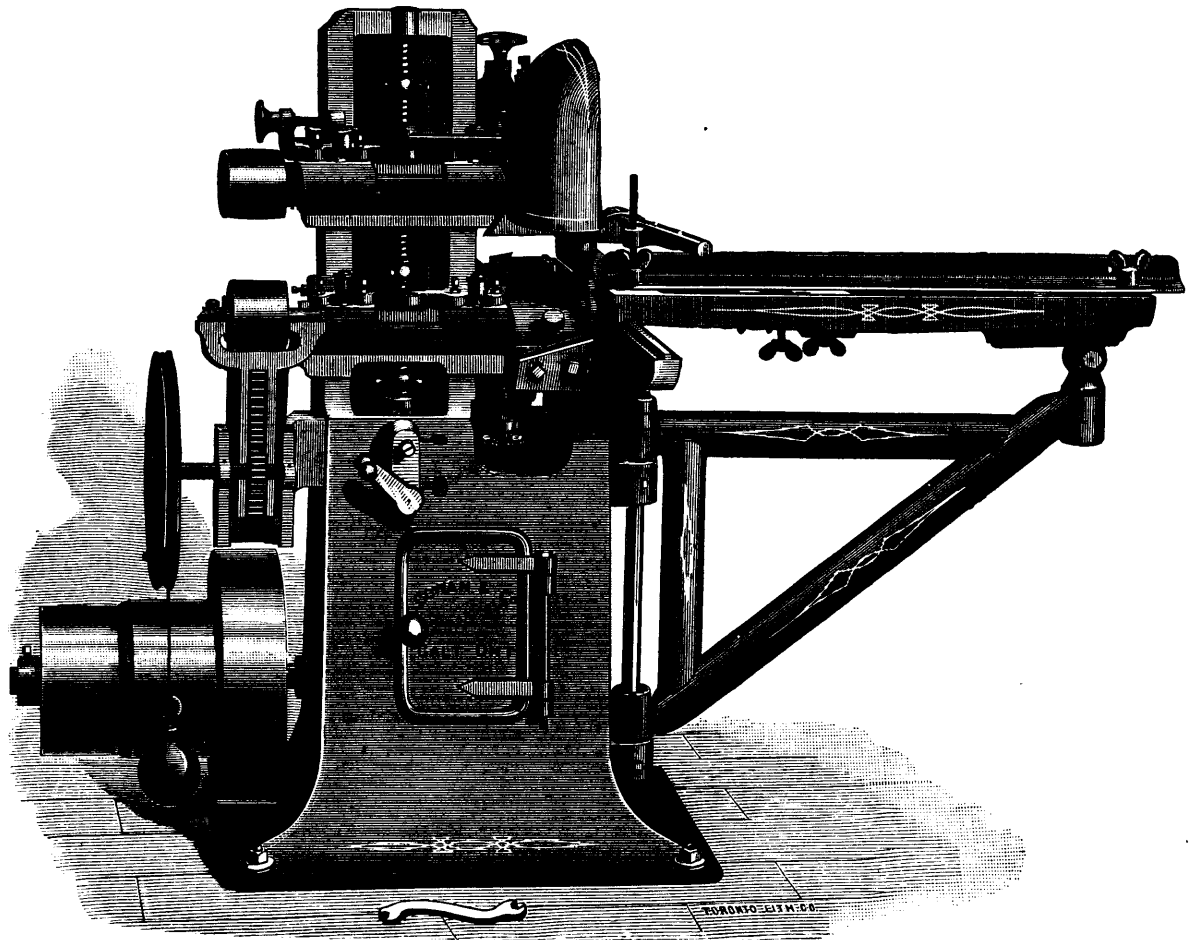
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We beg you will note this fact when comparing our List with others which are for SOLID RIM, and NOT for Pulleys in HALVES.

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

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

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

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

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

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

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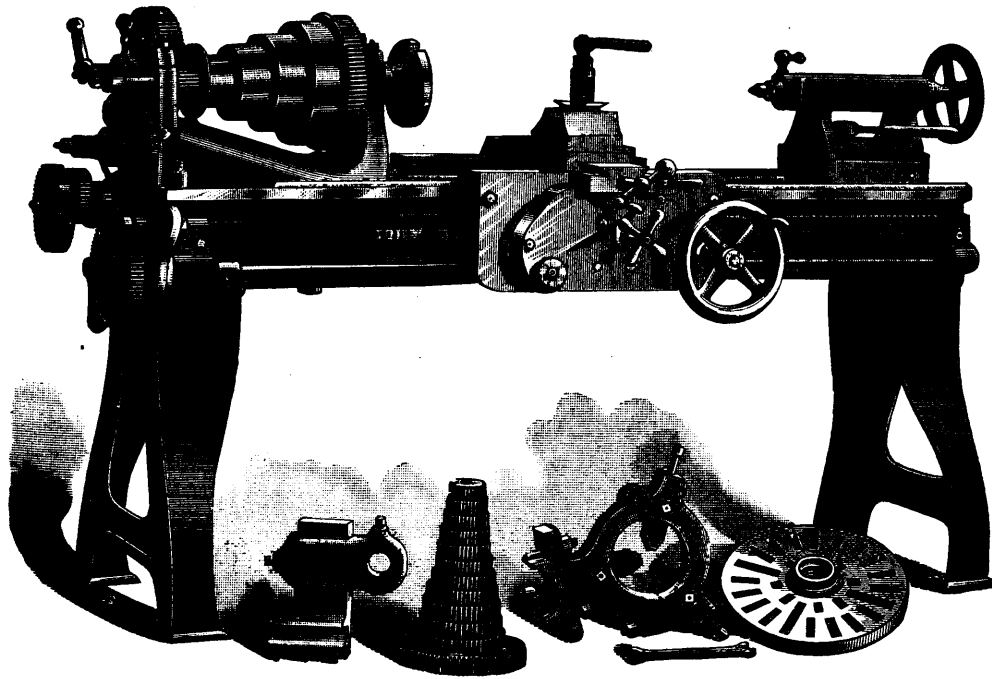
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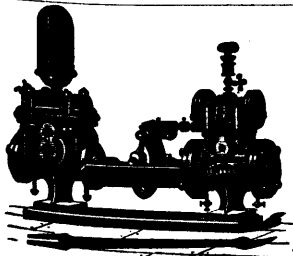
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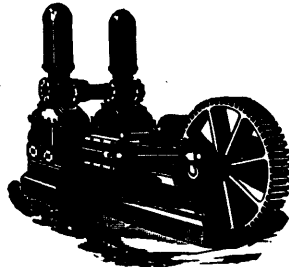
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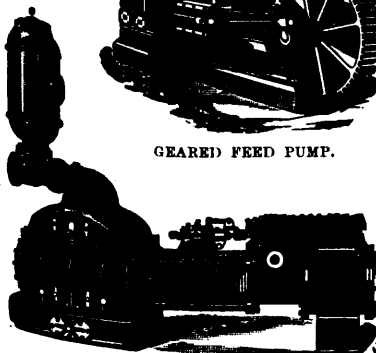
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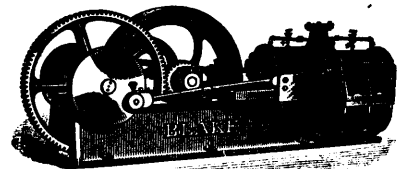
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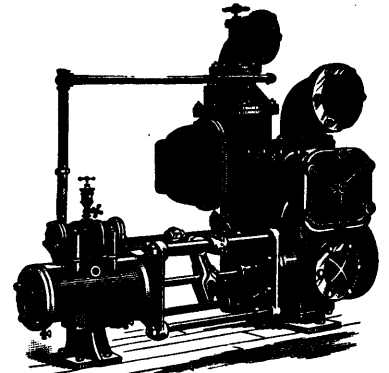
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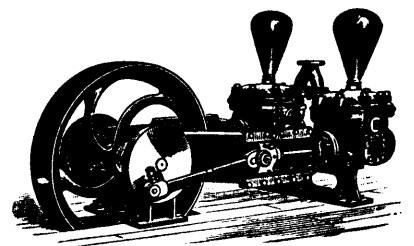
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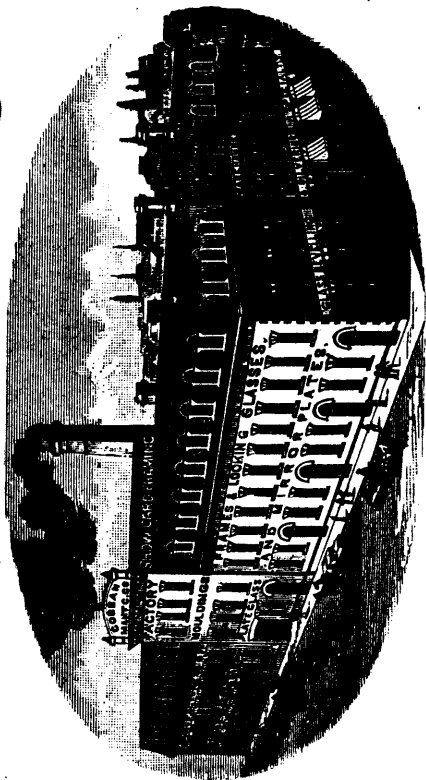
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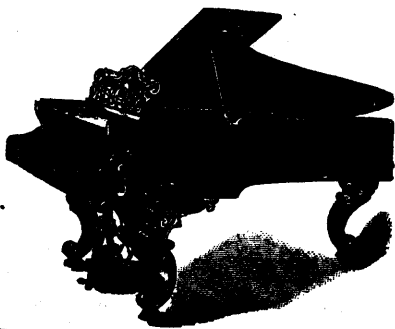
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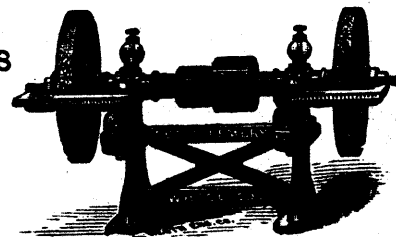
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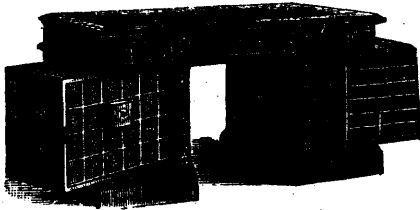
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