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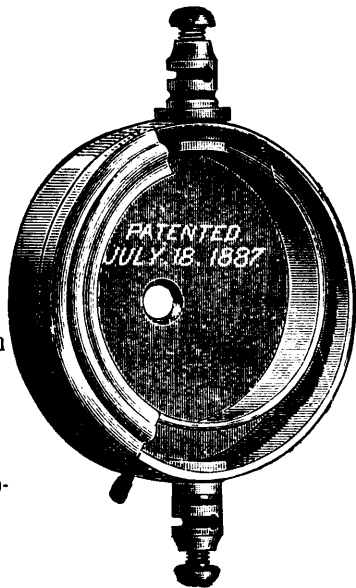
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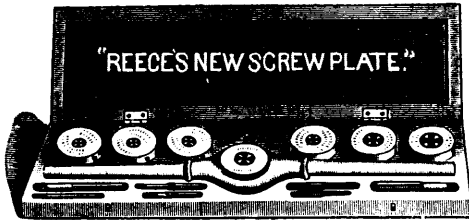
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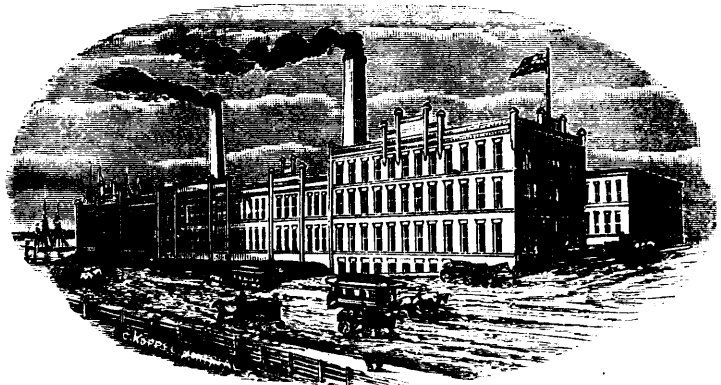
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THE INDUSTRIAL EXHIBITION ASSOCIATION vs.
THE CANADIAN MANUFACTURERS'
ASSOCIATION.

[The following article has been withheld until after the close of the Industrial Exhibition, so that it could not be claimed that we had any desire to prejudice its success in any way.]

For some time past the attitude of the Industrial Exhibition Association towards the Canadian Manufacturers' Association has been inexplicable. Ever since the inception of Toronto's annual Exhibition, the Canadian Manufacturers' Association has been among its warmest supporters. Its individual members have done much towards making it as successful as it has become, and as a body they have always been ready and willing to extend their aid in such manner and at such time as was deemed to be the most effective in attaining the object sought by all, viz., the best interests of what has been aptly called Canada's Great Fair. The members of the Manufacturers Association having proved such true and tried friends and supporters of the Industrial Exhibition, it would naturally be thought that they should have received some consideration this year at the hands of the Exhibition directors; but we regret to say that their friendly offices have been met with discourtesy so marked as to leave no room for doubt that either political or personal animus is the cause which has produced so untoward an effect.

In order that our readers may understand fully the necessity for such criticism, we state some of the facts, and state them plainly, and at the proper time will have more to say in this connection.

Last year our esteemed President, Mr. W. H. Storey, was elected an honorary director of the Industrial Exhibition Association, and his presence, representing such a representative body of men as those composing the Canadian Manufacturers' Association, added dignity to the Board. This year, without cause or notice, his name was quietly dropped from the list of honorary directors, although the representatives of several other interests, certainly not more important than the Manufacturers Association, were duly elected to sit at the Board. Not satisfied with so deliberate a personal insult to the honored head of our Association, as well as to its members through their President, a further indignity was to follow. On the opening day, when Sir John A. Macdonald officiated at the opening ceremonies, members of the City Council, members of the Board of Trade, and many other guests were invited to be present; but with an oversight so marked as to be exceptional, neither the President nor either of the Vice-Presidents of the Manufacturers' Association received any invitation, although the exhibits furnished by its individual members were what practically made the Exhibition. It may be said, and with truth, that the Manufacturers' Association have already two members on the Exhibition Board, but if our President were considered worthy of election one year, we should know the reason why he was relegated to the outer circle the year succeeding? We have not heard that the representatives of our Association on the Board protested against such cavalier treatment, although, in fact, the only effective protest that can be made is the resignation of their seats until such time as the dignity of the Canadian Manufacturers' Association, which they were elected to represent, is maintained. As our Association will shortly be in session, we withhold further comment, as this matter, which concerns us all, will then be fully ventilated.

NEWSPAPER VENALITY.

In a recent issue of this journal allusion was made to the iron moulders' strike then in progress in the town of Galt, Ont. It was explained that the difficulty between the foundry-men and workmen was not on account of wages, for on this point there is not nor has there been any dispute; but that it grew out of the demand of the moulders that their employers should recognize their union; and that in contracting for the labor of workmen, the negotiations should be with and through the union as such, and not with the workmen as individuals. We also showed that the foundrymen of Galt were determined never to accede to this proposition, and that sooner than do so they would close their works and quit the business.

It is to be noticed that almost without exception whenever any of the daily papers have taken occasion to allude to this strike, it was to show up the matter from the standpoint of the strikers; and in no instance has anything published in these papers that has come under our observation, been in the direction of defending the foundrymen in their right to manage their business on accepted business principles; to suit themselves,

and to bargain with the men for their services instead of with an irresponsible and meddling trade union. In these remarks we make an exception of the newspapers published at Galt. These daily papers, under the guise of publishing current news, admit to their columns long communications, and what purports to be special telegrams, written specially in the interest of the strikers, and intended to prejudice and influence public opinion against the foundrymen; but it is to be observed that they have never yet made the slightest suggestion that there may be another view to be taken of the matter. This studied silence in one direction, and the great prominence given the affairs in the other direction, forces the conclusion that as between the two sides all the weight that these newspapers care to wield is unhesitatingly thrown in favor of the strikers and against the interests of the foundrymen. Why should this be so? We do not challenge the right of the daily papers to manage their affairs to suit themselves, even as we demand that the Galt foundrymen be upheld in their right to manage their business according to their own judgment, and free from the insolent dictation of a trades union. We would not object to these newspapers publishing editorials concerning the matter, even if they were adverse to the interests of the foundrymen; but they do not make any editorial comments whatever regarding it; and in this, in our opinion, they display great journalistic cowardice. They pander to a wrong and vicious element in the community by going as far as they dare go in publishing one-sided accounts as news and communications; while at the same time they hope to avoid the just censure of another element from whom they draw much patronage and shekels by refraining from hostile editorial comments. It would seem that these newspapers entertain no very exalted opinion of the perception and sense of these foundrymen.

If these newspapers were all of one way of thinking—if they all affiliated with one of the political parties—that fact might explain the situation. But as far as political parties go there seems to be an almost equal division; and it is to be observed that while the Grit papers antagonise the foundrymen on general principles, they all, Grit and Conservative alike, pull in that direction, courting the favor of an element that is striving to subordinate all inherent and vested rights to communism and chaos.

This journal has never objected to workingmen banding themselves together into trades unions, Knights of Labor, or other similar organizations for legitimate purposes; neither does it do so now. Laboring men have the right thus to band themselves; but when the daily newspapers become partisans in the interest of the most vicious element of these labor organizations, those whose interests are injuriously affected thereby will take due notice of the fact and govern themselves accordingly.

TRADES-UNIONISM.

THE thoughtful man, especially he who is a student of the labor question, and is an employer of labor, cannot but observe that the chief object in view in all labor organizations, and of all labor agitators, is in the direction of such supremacy and control over all workingmen as will result in the supremacy and control of their organizations over all the industries of

the country, and over all who may be interested in them. They utterly ignore the personal rights of the rank and file of workingmen, compelling them to sacrifice their individuality to their leaders' orders, even as they ignore the rights of capital and of capitalists, of manufacturers, and of employers of labor generally. In short the aim is to rule by the strong arm, and if rule is not conceded to them, then to ruin. A case in illustration is that of the strike in Galt, Ont., growing out of the refusal of the foundrymen there to acknowledge the existence and authority of the iron-moulder's union in the employment of workmen. The strike was inaugurated with a great flourish of lingual trumpets, and the announcement to all the world that the demand of the union must and should be complied with. When the foundrymen, in the exercise of their rights, attempted to bring in other workmen to supply the places of the strikers, unseemly disturbances were made on the streets, and hostile demonstrations towards the new comers, which, strangely enough, were participated in by hundreds of people with good sense enough to know better, even some of the civic authorities, through mistaken and unnecessary sympathy, allowing themselves to take part in public meetings called to denounce the foundrymen for bringing in what was sneeringly called alien and scab labor. Other labor organizations contributed liberally to keep up the fight; intimidation and bribery were freely resorted to to induce the new men to desert their posts, and in some instances the strangers, fearful for their safety, were forced to flee to less hostile climes. Determination not to submit to bulldozing, ruffianism, and falsehood, resulted in gradually refilling vacancies in the foundries, and one of the natural results of the situation was the cowardly and wanton destruction of moulders' work in some of the foundries, the theft and destruction of tools of working moulders, and the bombardment and stoning of the boarding houses, and destruction of property where honest workmen were living, their offence being that they had accepted situations made vacant by the strikers.

The sympathy of jawsmiths and professional agitators does not contain any leaven of kindness or love for any workmen but those belonging to their organizations, and who contribute with more or less liberality of their earnings towards the support of the jawsmiths. Indeed it is to be observed that the effort in Canada is to keep out of Canada all workingmen, come from where they may—a dog-in-the-manger policy that is quite as vigorously enforced in the United States also, the jawsmiths aforesaid being notable exceptions.

Trades-unionism and its selfishness is still further illustrated in an editorial published in the *Toronto Daily News*, which we reproduce. The *News* says:—

Many of the labor unions in the United States are now discussing a subject which is of great importance to them, and has long been deemed a matter regarding which action should be taken. For many years an arrangement has existed between unions by which a member of a union in the old country could become a member of a union in this by simply depositing his card and \$1 transfer fee. It has long been held that this arrangement is unfair, as it affords workingmen an opportunity of operating in two countries, to the detriment of the permanent residents. Cases have been known of masons working in France and England all winter, and coming to America in the spring to work until the fall. The Goldbeaters' Union of New York has been the first to take action. It has raised the

transfer fee to \$100 in order to deter union goldbeaters from seeking work in the United States. It is expected that other unions which have suffered from this competition will make a change in their regulations such as will prevent any foreigner from working at his trade in New York City, and if the unions there take action those in other places will follow suit. The Window Glass Workers' Union has adopted a rule that a foreigner cannot work unless every window glass worker in the country is in employment. As some of the unions in Canada are of an international character, they will doubtless follow the example of those in New York, which is the shortest way yet proposed to protect the labor market from the inroads of foreigners. The rule can be easily enforced, and then intended emigrants will inquire the conditions of trade here before venturing out. At present the labor market is over stocked with workmen in all branches, and those who come thither expecting to get work need not be disappointed if they find no openings.

The meaning of this is that the Canadian workmen will not be allowed to work in the United States, and that workmen from the United States or any other country will not be allowed to work in Canada, "unless every worker in the country is already in employment." Trades-unionism in Canada also means that no more work of any description shall be done in Canada than the workmen now in Canada are able to perform. It means, as in the Galt case, that such establishments as those of Goldie & McCulloch, Cowan & Co., and McGregor, Gourlay & Co., shall be closed and kept in continuing idleness unless these manufacturers can be forced to submit to the dictation of trades-unionism. It means that no manual training schools shall be allowed in Canada, and that even the sons of laboring men must grow up in ignorance of the use of the commonest tools. It means that no child under fourteen years of age shall earn a dollar to assist in preparing it for school, if that dollar is to be earned by working in a factory. It means that the children of poor Canadians whose scanty income precludes the possibility of equipping them properly for school, where they may obtain a good education free, shall grow up to the age of fourteen years in idleness, by forbidding them, through the law, from earning honest money in factories. Doing these things is "elevating and improving the condition of the laboring classes," according to the ethics of trades-unionism. The tyranny of trades-unionism is simply damnable.

EDITORIAL NOTES.

THE patrons and friends of the CANADIAN MANUFACTURER are invited to make careful examination of this issue, particular attention being directed to the mention made concerning the displays of Canadian manufactured products at the usual annual Toronto Industrial Exhibition. It is evident that the friends of this journal stand up to it through thick and thin. The Exposition management did all they could to prevent us from enjoying the facilities we have heretofore enjoyed in being able to offer our hospitalities to our friends in the apartment originally assigned us in the Press Bureau in the Fair Grounds. They ousted us from it without notice and without cause, but our friends bore in mind that our permanent office was at 63 Front street west, Toronto. The effects of this knowledge is shown in the following pages.

SPECIAL ADVERTISEMENTS.

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

FLOUR MILL FOR SALE.—One of the best Water Powers on the Welland Canal. Could be converted for other manufacturing purposes. Address Richard Wood, St. Catherines, Ont. P. O. Box, 977.

Wide Awake for September opens the new serial by Susan Coolidge, a story for girls who have their own living to earn; it is called "A Little Night of Labor." The Peppers serial, by Margaret Sidney, is full of good times and exciting happenings. An article that will be read with interest relates to "Maria Mitchell at Vassar." Miss Risley Seward gives the last of her "Around the World Stories"—perhaps the most entertaining of them all—it is entitled "My Dinner at Kensington Palace." Madame de Meissner, in "The Story of the 'Magic Flute,'" relates a romantic incident in the young life of Mozart. Lieut. Loudon tells a bright Indian story, "The Race between Mr. Deer and Mr. Antelope." Miss Kate Upson Clark has an amusing account of a mother's experience with three boys and three birds, entitled "Three Robins." Mrs. Hy. Sandham has a bit of Canadian experience called "A Voyage on a Raft." An account of a North Carolina outing, illustrated from photographs, is entitled "Through Hickory Nut Gap." The Daisy-Pattie Letter, by Mrs. William Claffin, is of importance to the girls. Mrs. Harriet Taylor Upton has a unique bit of story, "Gypsy Juno." The poems are unusually good. Mrs. White's Public School Cookery concerns fish and eggs. The famous Stones story is about the "Austrian Yellow." Prof. Starr has another Geological talk, this time about "A Forest of Bouquet Greens." The boys will enjoy the article about "Swimming." "The Men and Things" pages are full of bright anecdotes and worth-while talks.

The Industrial Exhibition.

THE Toronto Industrial Exhibition, which is always an important event of the year to many thousands of Canadians and to visitors from abroad, has just closed; and in accordance with our usual custom, we devote the present issue of the CANADIAN MANUFACTURER to a concise synopsis of the most interesting features of the manufacturing departments.

As this journal (although the accredited organ of the Canadian Manufacturers' Association, and directly representing the ever increasing industrial interests of the Dominion), was refused its usual office accommodations by the Board of Directors of the Industrial Exhibition Association, our facilities for collecting data were limited, but the kindnesses and consideration of our manufacturing friends have enabled us to present fully as interesting an Exhibition number as ever.

We regret very much that this year there was a falling off in gate receipts; for although we have just cause of complaint against the management, we have endeavored, as we always have done, to do our share towards keeping the Exhibition prominently before the public.

Of far more importance than the decrease of gate receipts is the falling off of the number of exhibits in many of the buildings, which had to be made apparently good by padding out to make the buildings appear to be as well filled as usual. For instance, one or two firms were able, by contributing freely from their stocks, to occupy large spaces in the Stove Building, and consequently some of the stove exhibits were available to fill up the Annex Building, where such things were evidently out of place. In Machinery Hall the display of machinery was not equal to what it was in other years, and had it not been for the electric light companies, whose efforts deserve great praise, the old-time visitors to this building would have met with considerable disappointment in their quest for evidences of improvement and increase in the number of exhibits; although as to improved workmanship they would have had no cause for complaint. In the Main Building and its Annex the discrepancy was painfully marked; but it is to be hoped that with all its friends working in harmony another year, the temporary lack of interest shown in 1889 will be more than remedied in 1890.

ROBIN & SADLER.

MESSRS. ROBIN & SADLER, manufacturers of leather belting, lace leather, loom strapping and pickers, etc., whose head office is at 2518 Notre Dame street Montreal, and branch office at 129 Bay St., Toronto, made a fine exhibit of their products in the Annex Building, among which were specimens of their celebrated water proof belting and their dynamo belting, of which latter line they make a specialty, to meet the large and increasing demands made upon them by the electric light companies throughout the country. They inform us that they have just closed a contract with the Royal Electric Light Company of Montreal for supplying all the leather belting that will be required in the equipment of the company's two large new electric stations in that city. The main driving belts required in this order will be, it is claimed, the largest of the kind in the country. Three of these will be thirty-eight inches wide each, two to be thirty-two inches wide, and one twenty-eight inches wide; all to be of double thickness and of the most substantial character. Among the Robin & Sadler exhibits was a lot of the belting which the concern are manufacturing for the new cotton mills at Montmorency Falls, near the city of Quebec. The largest of these was a double belt twenty-four inches wide. The attention of manufacturers is directed to the advantages to be derived in the use of the Robin & Sadler water-proof belting. It is made in both light and heavy double leather, of the best material, fastened together with water-proof cement and brass wire screws, the entire belt being thoroughly saturated with a preparation that renders it perfectly water-proof. Machinery owners are advised that they will find this belting especially adapted for use in damp places. Visitors to the Exhibition

Grounds, going in via Strachan avenue, pass the large new lumber-working mills of Messrs. J. B. Smith & Sons. Messrs. Robin & Sadler inform us that they made the belting in use in that establishment. The main driving belt is eighty feet long, twenty inches wide, double thickness, and put into position by them endless, at the mill. It contains no rivets, sewing or any other fastening except cement, to keep it together. They claim that belts made in this manner are exceedingly smooth in their running, and will also transmit more power than other belts, owing to closer contact with the surface of the pulleys. They recently placed a similar twenty-inch double belt for the Crossen Car Works, at Cobourg, Ont.

Some of the pertinent suggestions which Messrs. Robin & Sadler make to users of leather belting are: They tan their own leather specially for their business; they have increased their trade three-fold during the last few years; they sell their belting according to a list that is much lower than the American list, by which some sell in Canada. To those who think that good belting cannot be manufactured in Canada, they say that they have customers among the best mills in Canada to whom they have sold as much as \$40,000 worth of belting, one concern alone last year having purchased to the amount of \$10,000 for their mills. These facts cannot be harmonized with any other theory than that prices are right, the leather is good, and the belting well made. Included in the shipments of leather belting Messrs. Robin & Sadler recently made to the Lake of the Woods Milling Company's new flour-mill in Manitoba, was one double-leather driving-belt, twenty-four inches wide, 360 feet long, and weighing about 1,400 pounds; the aggregate length of belting sent at that time amounting to over 7,000 feet.

Mr. George W. Sadler, the sole proprietor of the concern, is a thoroughly practical belting manufacturer, having worked at the business with some of the best concerns in the United States. In 1874 he became manager of the leather belting business of Messrs. L. J. Campbell & Co., at Montreal; in 1876 he became associated with Mr. Thomas Robin, his late partner, and the new firm took over the business that Mr. Sadler had previously managed. Mr. Robin died in 1884, since which time Mr. Sadler has continued the business solely on his own account, but under the old name of Robin and Sadler. Mr. Sadler's tannery is at Stanbridge East, Quebec, said to be the largest in the Dominion making a specialty of manufacturing belting leather, his leather belting factory in Montreal being one of the largest in the country. The demand for the belting made by this concern has increased rapidly ever since the inception of the business; and in 1885 the Ontario trade was of such large proportions as to demand the establishment of the Toronto branch house. Mr. Sadler always avails himself of the exhibitions in the larger business centres of the country to make attractive displays of his products, not only to show his goods, but also to assist in bringing Canadian manufactures prominently to the attention of Canadian consumers.

MESSRS. BRUSH & CO.

MESSRS. BRUSH & Co., Toronto, manufacturers of corsets, made a very beautiful display of their goods in the Main Building. Messrs. Brush & Co. give employment the year round to a large number of women and young girls in their extensive factory on Bay street; and their products are well known to the trade throughout Canada. They have recently introduced a new material into the construction of their corsets, called Kabo, which, it is claimed, is unbreakable and indestructible. It cannot be broken in the wear; it will not pucker or become misshapen; it cannot become displaced, and while it admits of the wearer's utmost freedom of motion, and while it renders the corset perfectly easy and comfortable, it possesses such rigidity and inflexibility as to retain it in its original shape until it is entirely worn out. Messrs. Brush & Co. manufacture a large line of corsets, ranging from those that are sold at ridiculously low prices at retail in all the stores, and consequently within the reach of all who have occasion to use such a garment, up to those of most elaborate finish, and of the most expensive materials; all these styles being constructed on the same general scientific principles. The display of Messrs. Brush & Co., also included an exhibit of some of the products of the Ever Ready Dress Stay Company, of Windsor, Ont. The goods manufactured by this company are, as the name indicates, intended for feminine use, and include stays for ladies' dresses; dress extenders and expanders, skirt protectors, etc., the latter article being a new feature in dress trimmings, and in great favor. It is used in the place of wigan and canvas, and, being water-proof, prevents dragging of dresses when worn on sloppy streets. Messrs. Brush & Co have built up a large and important industry in Canada; and the favor with which their goods are received by the consuming public is a voucher for their excellence.

THE GURNEY MOP BOARD HOT WATER RADIATOR.

THE E. & C. Gurney Company (Ltd.), Toronto, exhibited a decided novelty in a new mop board hot water radiator, which they are just placing on the market. In other radiators the appliance occupies considerable valuable floor space; and although they are made in different designs and sizes, and ornamented to correspond with their surroundings, yet the fact is obvious that a more compact device is sometimes necessary to meet conditions of arrangement of space and furniture. This mop board radiator is intended to meet these conditions. It is made to occupy a height no greater than that usually occupied by the mop board in dwellings—in fact it is intended to take the place of the mop board as far as it extends along the side of the room. The pipes from the heater in the basement are introduced into the room in the usual manner, preferably at a corner, where they are connected with the radiator. The radiator extends along one or two sides of the room, according to preference and size of room, the greater length and low height of it compensating for the greater height and shorter length of other styles. It must be remembered that the aggregate surface of tubes in any radiator is governed by the cubical contents of the room to be heated, a large room requiring a greater aggregate surface of tubes, or sections in the radiator, than would be required in a smaller room. Thus in this mop board radiator all the effects of heating can be obtained quite as readily and effectively as by other styles. In introducing the hot water at the corner of the room greater length of radiator can be obtained than by introducing it elsewhere; but wherever it is introduced it is desirable to extend the radiator in both directions from the introductory pipe. The advantage of this is that a four-way valve allows of the hot water being used in either or both directions at the same time. It may be made to conform to any irregular shape of a room, as in a bay window, corner, etc.; and in projection, height, moulding and general appearance with the wood mop board; and it can be ornamented to harmonize with carpet and furniture. All articles of furniture can be arranged in the room just as though the radiator were not there.

P. W. ELLIS & CO.

MESSRS. P. W. ELLIS & Co., manufacturing jewelers, Toronto, did not make an exhibit at the Fair this year. They have a continuing exhibition of their own at their warehouses at 31 Wellington street east and 40 Front street east, which would require a similar building to display anywhere else; and their goods are not of a character to be exposed in public places without observing the precautions that surround them where they are.

This is probably by far the largest jewelry manufacturing concern in Canada; and while they are not confined to any particular lines, they pay special attention to a few of the more expensive ones, being large importers of precious, semi-precious and imitation stones, diamonds and pearls being specialties. They inform us that the increasing desire of the public to select choice gems and direct the mounting of the same according to their own ideas, is developing an extensive special order business with them. They desire the trade to bear in mind that they keep a supply house, in which may be obtained every requisite necessary in the watch and jewelry trade; including a complete assorted stock of jewels, both loose and mounted; settings of all sorts, which, with a well equipped factory and a competent staff of designers, places the trade in a position to satisfy all the various requirements of their customers.

Messrs. Ellis & Co. also handle every requisite in the way of tools and machinery necessary in the repairing of watches, jewelry, etc.; and they want every watchmaker jeweler, engraver and journeyman engaged in the working of fine metals to know and remember their address, and to send to them for their new circular and price list of lathes and attachments.

To those who are in any way interested in medals and die work, it is suggested that a most beautiful display of medals—hundreds of them—are to be seen at the Permanent Exhibition of Manufactures, at 63 Front street west, this city.

KEMP MANUFACTURING COMPANY.

ONE of the most extensive—perhaps the most extensive—factories in Toronto, if not in Canada, is the Dominion Tin and Stamping Works of the Kemp Manufacturing Company, at the corner of Gerrard and River streets. The company give their entire attention to the manufacture of tinware of all descriptions, and of staple specialties. With their newly enlarged factory, which is fully equipped

with improved machinery, and with the superior facilities they possess, they are enabled to produce probably the largest assortment of this class of goods in Canada; and these advantages enable them to manufacture and market their products at the lowest possible prices. The lines manufactured by them include stamped ware, tinner's trimmings, japanned ware, toys, pieced tinware, polished ware, galvanized iron ware, coal hods, stove shovels, wire goods, machine oilers, lanterns, house furnishing goods, granite or agate ware, etc. Each of these sections embrace about every imaginable article embraced in it, the enumeration of which cannot be made here at this time, but they include everything for which there is a demand in the trade.

The main building of these works faces 60 feet on River street and extends 400 feet along the line of Gerrard street. It is built of brick and is two and four stories high. Adjoining the main building, and connected with it by suitable bridges and passage ways, are other and similar buildings, in one of which is a large assembly room specially devoted to the uses of the employees, where they hold frequent meetings, re-unions and social gatherings. The works embrace a floor space of about 95,000 square feet and are equipped with a full and complete outfit of all machines and machinery necessary in the production of the different lines of goods. In fact each and every process necessary in the production of these lines of goods is embraced in these works, and done on the premises, giving employment to over 200 hands.

DOMINION ORGAN AND PIANO COMPANY.

ONE of the most beautiful kiosks on the Exhibition Grounds was that belonging to the Dominion Organ and Piano Company, of Bowmanville, Ont., and one of the most interesting exhibits shown at the Fair was that of the organs and pianos manufactured by this company. Musical instruments cannot be properly tested or appreciated in a large building while thousands of idlers are passing, every footfall adding to the general noise and confusion, and while other instruments are being banged upon by every comer who desires to exhibit amateur proficiency. It was for this reason this company erected their beautiful building, and it is to it that lovers of music always congregate. The company's exhibit is always a decided feature of the Fair, and their kiosk is always sumptuously furnished with costly carpets, upholstery and ornaments, but the styles and variety of instruments they show are its chief feature. The variety of woods used, the beauty of design, the improvements recently introduced, the magnificent workmanship and the charming tone of the instruments speak well for the taste of the people into whose homes they go. The sales of the company are not confined to Canada only, for before now the people of the United States have learned to recognize that it is sometimes their interest to buy certain lines of Canadian manufactured goods in preference to those of their own country. The pianos have likewise found their way into the English, French, German and Australian markets, where they have been recognized with credit to these eminent Canadian makers. Enterprise is not a quality that can succeed with impulsive, occasional starts. It wants to keep steadily on, never resting. The enterprise of a year is immense when one comes to look at it. Improvements introduced gradually, more expensive material used, as the profits on increased trade justified, mount up considerably in twelve months. In the Dominion Organ and Piano Company's instruments exhibited this year there is material used which is quite new to the public. Here is a list of woods which may excite wonder among those who understand the trade: Circassian stripe, California redwood, green curl, cocobola, antique oak, mahogany crutch and plum pudding mahogany, in addition to plain mahogany and amboine. Most of these are absolutely new woods, so expensive that the most advanced modern trade only can afford to use them. Grand, upright and square, all these pianos are as luxurious as desire could have them. The upright pianos are models of perfection in every way. The volume and purity of tone in them have made their reputation wherever they have been heard. There are several styles in grands, and a greater variety still in the square pianos. These latter are favorite styles, and in those on exhibition there are all the important recent improvements. Their richness of tone is wonderful, which, with their singing quality and perfect touch, have brought to them a deal of the attention of the visitors to the Exhibition. In point of construction, solidity and beauty, they are also entitled to be judged as perfect instruments as are made to day in any quarter of the world.

The points of excellence embodied in these instruments are: power and volume of tone; capacity for variety of effect and of expression, quickness of touch; uniformity of tone; smoothness and perfection of action; style and beautiful appearance of case;

and that in the organs, the bellows action is tested by a mechanical arrangement before being put in the case. The company make a specialty of manufacturing instruments in any style, to suit any specifications.

NOVA SCOTIA STEEL AND FORGE COMPANY.

THE Nova Scotia Steel and Forge Company, New Glasgow, N.S., have written us to say that the reason why they did not make their customary display at the Toronto Industrial Exhibition was simply because of the pressure of business upon them, and that the enlargement they are now making of their works rendered it utterly impossible for them to spare the necessary time to fit up a suitable exhibit; that all of their energies were taken up in the extension of their works and with their rapidly increasing trade.

Visitors to the Exhibition have been quite accustomed to seeing the display of products of this company in Machinery Hall. All Canadians were proud of these displays, for they were from one of the most important industries in Canada, and illustrated the fact that in the special lines of goods manufactured by the company, Canada was fully abreast with any other country, and able to supply her own wants. It is not as widely known as it should be that the products of this company enter largely into many of the manufactured products of other industrial establishments in Canada, and that the steel contained in the agricultural implements in the hands of Canadian farmers—mowers, harvesters, threshers, plows, hoes, rakes, etc.—is almost exclusively the product of the Nova Scotia Steel and Forge Company. The assertion will not be contradicted that almost without exception all the manufacturers of agricultural implements and farm machinery in Canada buy the steel that enters so largely into their products from this company. This steel is produced by the Siemens-Martin open hearth process, and every heat of it is subject to chemical analysis; that made for structural purposes, where strength is required, being tested with a twenty-five ton testing machine. The manufacture of agricultural springs and rake teeth is now almost universally carried on at the works where the steel is made, and this company have a complete department where every tooth or spring made by them is tested, and regarding the excellence of which a large number of testimonials is shown from many of the largest and best known manufacturers in Canada.

About a year ago the capital stock of this company was increased from \$300,000 to \$1,000,000, and its powers enlarged so as to embrace the manufacture of additional lines of goods. In 1884 the shipments of products from these works were only 2,270 tons; in 1887 they amounted to 6,000 tons, and now that their financial and manufacturing capacity is enlarged, their products amount to about 12,000 tons annually. An evidence of the thriftiness of the company is in the fact that an eight per cent. dividend has just been declared on both its preferred and common stock on the business of the past year.

W. DOHERTY & CO.

MESSRS. W. DOHERTY & Co., manufacturers of fine organs, Clinton, Ont., occupied their accustomed and advantageous space in the Main Building which was always thronged with music-loving and appreciative visitors.

Regarding the construction and merits of the Doherty organ, the claim of superiority is made on the following points, every one of which may be verified by inspection of any of the instruments: brilliancy, volume, flutery and sympathetic quality of tone; quickness of response, answering to the touch like a flash, thorough workmanship and the very best materials. The manufacturers claim for the Doherty organ that it is the most valuable musical instrument made for the following reasons: It is capable of sustained tones; its tones are not all the same quality, and as various colors are desirable to please the eye, so different varieties of tone are necessary for the ear; it is easily played upon; it is not at all liable to get out of tune; it is practically indestructible, and the price is such as to place it within the reach of almost every family.

Mr. William Doherty, the head of this enterprising firm, is possessed of great natural taste for music and all things connected with a good rendering of music; and he is also a man of decided inventive genius and originality; and it was these qualifications that impelled him to go into the manufacture of organs. In his previous business—the sale of musical instruments—in the handling of the various styles and makes of organs, Mr. Doherty discovered where valuable improvements could be made, and he utilized his musical education and mechanical skill in this direction, with what success the now well-known Doherty organ, with world-wide reputation, attests. His inventions and improvements proving to be

eminently successful, Mr. Doherty, in 1873, we believe, embarked extensively in the manufacture of these instruments; and the history and growth of the business from that time on is to a great extent the history of the growth and prosperity of Clinton. From a very small and unpretentious beginning, the increase has been such as to require the erection of three very large factory buildings, all of which are equipped with the best and most approved machinery and appliances, all of which are taxed to their utmost capacity in the manufacture of these excellent instruments. In 1882, in the earlier days of this successful business, agencies for the sale of the Doherty organ were established in London, England; in Glasgow, Scotland, and in the principal towns in the Maritime Provinces; and later in Australia and New Zealand.

Messrs. Doherty & Co. hold a large number of testimonials and tributes of praise, distinguished honor and graceful compliments from eminent musicians and experts in different portions of the world, regarding the high excellence of their organs, which they take pleasure in showing to all who may desire to see them.

The factories of this concern at Clinton give employment to about one hundred hands, and their output averages about ten instruments per day.

CHRISTIE, BROWN & CO.

MESSRS. CHRISTIE, BROWN & Co., biscuit manufacturers, Toronto, occupied their usual space in the west nave of the Main Building—they are always to be found there—in which they showed just the same lines of products that excited so much admiration at the Colonial and Indian Exhibition in London a few years ago, and which was awarded a diploma and commemorative bronze medal. The exhibit extended from the floor to the ceiling, and was most tastefully arranged, the fancy cases and cartoons displaying their contents to the best possible advantage. There were but few visitors to the Exhibition who did not admire this display of toothsome morsels; and their mouths did not water in vain, for all comers had the opportunity of tasting and testing.

The names of the different confections manufactured by this firm begin with A, and extending down the alphabet, conclude with Z, or might be supposed to, but they do not, for they number over four hundred different varieties. These goods are always made of the very best and finest materials, selected especially for purity and delicacy of flavor. Generally they are put up in cartoons, containing from fifteen to twenty-five pounds each, but some of them are packed in two-pound tins, contained in cases containing six, twelve, twenty-five and fifty-two pounds each.

The factory where these goods are manufactured is probably the largest and most thoroughly equipped bakery in Canada, and these goods are well known and fully appreciated throughout the Dominion.

Mr. William Christie is one of the oldest manufacturers in Toronto, having embarked in the manufacture of confections in 1851. In 1868 he became associated in business with Mr. Alexander Brown, under the firm name of Christie, Brown & Co.; and although Mr. Brown has since died, the name of the concern has never been changed. Their works were first located at 626 Yonge street; but finding these quarters too contracted for their rapidly growing business, in 1872 they removed to more commodious quarters in Francis street, where they still further enlarged their plant, introducing what is known as a thirty barrel reel. Two years later—in 1874—the firm purchased the land at the south-west intersection of Duke and Frederic streets, where they built their present extensive works. The factory covers an area one hundred and thirty feet square. The building is of brick, three stories high, and is equipped with all desirable machines, machinery and appliances known in the trade.

BOOTH & SONS.

MESSRS. BOOTH & Sons, Toronto, manufacturers of leading lines in plumbers' supplies, coppersmiths and brass founders, and importers of sanitary earthenware, etc., had a fine display of some of their products in the Annex Building, which excited much attention from housekeepers, architects, and those interested in the perfect sanitation of houses. A defective system of drainage, the imperfect operation of a closet, or the leakage of a sink, are sources of great danger in any home, and sooner or later will bring calamity and cost. On the other hand, a proper system of drainage, connected with a closet, meeting fully the judgment of the best sanitary engineers, an effective bath and sink, are things contributing at once to the comfort, convenience and health of a household. One specialty which Messrs Booth & Sons handle chiefly is the modern sanitary closet with Parker's patent tip-over wash-out

attached. This latter arrangement is undoubtedly the best thing in the market, and combines these advantages: It is certain and instantaneous in operation; although economical in the use of water, the washout is perfect; it cannot overflow; not liable to get out of order; the slightest touch of a pull, even by a child, operates it. Nothing could be more complete than a closet so arranged, and the extent to which they have been accepted by the trade and public alike is the very best proof of superiority. It may be mentioned that Messrs. Booth & Sons are engaged in perfecting a bath, having points of excellence beyond anything now to be had, and which will be in keeping with the perfect character of all the other articles for which they have won so enviable a name. In their exhibit there is also a magnificent collection of hot water urns for use in hotels, restaurants and saloons, besides a general display of fine coppersmiths' work. Altogether more than ordinary interest attaches to an exhibit having so much in it to do with protection of the public health and the increase of home comforts and conveniences.

KAY & CO.

A COUPLE of years ago Messrs. Campbell & Kay, a couple of young mechanics of Georgetown, Ont., began the manufacture of knitting machines. Later Mr. Campbell withdrew from the business, and was succeeded by Messrs. Kay & Co. In June last their factory was destroyed by fire, since which time they have established themselves in new quarters, and are doing a fine business, and this year Messrs. Kay & Co., had a fine display of their knitting machinery in the gallery of the Main Building. The trade mark under which they offer their machines is "Standard," and the testimony of those who have these "Standard" machines in use is that they are first-class in every respect, and do all that is required of them. The machine is simplicity itself, and on that account commends itself for family use, as well as for more extensive manufacturing purposes. It knits perfectly all sizes of stockings and mittens, as well as other garments. Besides doing such work as is required in families, this "Standard" machine is now coming largely into use by manufacturers, and many who, owning their own machines, work them at home, manufacturing for the trade and selling to the jobbing houses. Many owners pay for their machines out of their earnings with them, always finding them a sure source of moderate income.

GEO. F. HAWORTH & CO.

IN the issue of THE CANADIAN MANUFACTURER of December 2, 1887, Messrs. Geo. F. Haworth & Co., Toronto, made the following announcement: "To the users of belting:—We beg to advise that we are now fitting up at No. 11, Jordan street, in this city, a first-class leather belt factory, which we expect to have in operation about the first of January next. We are certain that it will be to your advantage to defer ordering until you have seen our new goods and prices." Mr. Haworth had been for a number of years connected with the large American leather belting concern of H. L. Fairbrother & Co., and handled their goods in this city. But Mr. Haworth made other business arrangements as indicated by the announcement; and in due time the new firm found themselves fairly and favorably embarked in the manufacture of leather belting. There were no novices about the concern. Mr. Haworth, from long experience in handling this line of goods, knew what good belting and good belting leather was, and his workmen were drawn from the best factories in the United States, while his machinery was of the latest and best description. The determination was to manufacture none but the best quality of belting; and notice was promptly given to the trade that only Hoyt's pure oak tanned leather would be used; that the belting would be cut from the solid part of the leather only, and made with short laps. It is seldom that a new concern jumps quickly into a large and lucrative business, but this is just what Messrs. Haworth & Co. did; for they had many orders booked even before their factory was fairly in operation, and they have been busy ever since; and they have repeatedly captured large orders that other manufacturers had space assigned them, but visitors could see Haworth's belting in all directions—on electric light engines in Machinery Hall, on threshing machines in the Agricultural Building, on saw-mills out in the open—everywhere.

McCLARY MANUFACTURING COMPANY.

ONE of the largest and most interesting displays made at the Exhibition was that in the Stove Building, by the McClary Manufacturing Company, whose works are at London, Ont. They exhibited a very large line of cooking stoves and ranges, and also heating stoves, the mention of the names of which would almost fill a book. But these goods are almost as familiar objects throughout Canada, from the Atlantic to the Pacific, as snow is in winter or flowers in the summer; and this because they are really excellent articles, and do just what is promised for them.

What was perhaps an even greater and more interesting exhibition was the display of "Monarch" vapor stoves in full operation; and showing the many desirable points embodied in them, and the advantages to be derived from their use. Although the manufacture of gasoline stoves in Canada dates back but a comparatively short time, the use of them to some extent, even in this country, is not a new thing; for many of them, previous to the manufacture of the article by the McClary Manufacturing Company, were imported from the United States. At this time, however, there are thousands of the "Monarch" vapor stoves made by this company in use in Canada, and the use of them is rapidly increasing, judging from the constantly increasing output of them by this company. To many visitors at the Exhibition, however, vapor stoves in full operation was a novel sight, especially to country visitors. Water was being boiled from the cold in less time than a fire could be fairly started in a coal or wood stove; coffee and tea made; bread and biscuit baked most deliciously; meats roasted to perfection; steaks and chops broiled to a turn; vegetables boiled; and cake, pies and pastry brought forth as thoroughly and satisfactorily cooked as could be done under the most advantageous circumstances with a coal or wood cook stove. These incidents were practical and constant illustrations before the eyes of visitors of some of the advantages of vapor stoves; and it was indeed a revelation to thousands of uninformed Canadian housewives to learn that it is no longer necessary in hot weather to stand sweltering over a red hot kitchen stove while preparing food; but that this part of household work can be done without discomfort, heat, smoke, ashes, dirt, soot, and the many other objections incident to the regular cook stove. A gasoline stove may be placed in any convenient place about the premises, and it will perform its duty all the same. It can be put in the regular kitchen or in the summer kitchen, or even in the wood shed, and its work is equally effective. The wash boiler can be placed upon it and the family laundry work done in a most satisfactory manner without discomfort; and no better arrangement for heating the smoothing irons for ironing the clothes was ever thought of than by heating them on a gasoline stove. At this season of the year, when housewives are busy putting up jellies, preserves, pickles, catsups, sauces, etc., a gasoline stove is invaluable. It is no back-breaking labor to make such things on a gasoline stove; it is more of a pleasure, and not to be dreaded by women who become "tired to death" under other circumstances. The gasoline stove is not lighted until the moment its use is required, and the moment its use is no longer required a turn of the wrist extinguishes it and the consumption of fuel is stopped. The McClary Manufacturing Company manufacture these "Monarch" gasoline stoves in all the styles and sizes now so popular in the United States, where hundreds of thousands of them are in use. The variety includes a one burner and a two burner junior stove, that is, stoves with short legs so that it may be placed upon the coal stove, or a shelf, or table; and long legged stoves, that is, stoves that stand as high as the coal stove, or a table. These are equipped with one, two and three burners; some with bake oven attachment and everything else that adds to their effectiveness. The burners and tanks of these stoves embody the latest and most approved safety devices, by which the best results are obtained, while the danger is practically nil.

The McClary Manufacturing Company have one of the largest industrial establishments in Canada, and the varieties of articles made there are so numerous that they cannot all be even alluded to here. Some of these, however, in the line of cooking apparatus, are gas stoves, the operation of which is similar to that of gasoline stoves, and recommended where gas can be obtained cheaply; and oil stoves and ranges, which they manufacture in great variety and numbers. They also manufacture every variety and style of stamped and pieced tinware; japanned ware, lamps, lanterns, stove boards, and kitchen and household goods and notions generally. They have branch offices at Toronto, Montreal and Winnipeg.

F. E. DIXON & CO.

MANUFACTURERS OF

TO MILL OWNERS
And Manufacturers.

USE ONLY

F. E. DIXON & CO.'S

STAR
LEATHER



RIVET
BELTING.

READ THIS:

Shepherd Street,
Toronto, Nov. 16, 1888.

Messrs. F. E. DIXON & CO.
Gentlemen,

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

Yours truly,

WM. BURKE
For Langley & Burke.

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

Lace Leather, Belt Oil, etc., etc.

F. E. DIXON & CO.

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70 KING STREET EAST,
TORONTO.

GEO. F. HAWORTH & Co.

MANUFACTURERS OF

LEATHER BELTING

BELTS MADE ANY WIDTH,

LENGTH OR STRENGTH REQUIRED

SEWED, RIVETED OR PEGGED.

ALSO AGENTS FOR

HOYT'S AMERICAN PURE

OAK-TANNED LEATHER BELTING

11 JORDAN STREET,

TORONTO.

JOHN TAYLOR & CO.

Messrs. JOHN TAYLOR & Co., Toronto, who are proprietors of the Morse Soap Company, made a very fine exhibit of their toilet and other soaps in the Main Building. The most attractive of these was their French milled toilet soaps, manufactured specially for the drug trade; and inspection showed them to be fully equal to any similar imported goods, both as regards the delicacy and permanence of their perfumes and their lasting quality. The laundry soap manufactured by the Morse Soap Company is too well known throughout Canada to require any particular description, for it is sold in all the stores, and used in all the households of the land. Everybody knows what Morse's Mottled Soap and Morse's Everyday Soap is; and also what Savona, the French washing compound, is. The company call attention to the fact that they manufacture many special lines of toilet soaps that are never offered to any than druggists; and that they keep a marked distinction between drug and common lines of toilet soaps. In connection with this branch of their trade the company announce that they are the Canadian agents for the English-Franco-American Perfume Company, and that they handle the following named triple extracts manufactured by this company: Corinne Bouquet, Winona Bouquet, Lily of the Valley, Lily of the Amazon, Jockey Club, White Heliotrope, White Clover, and Fernandina Florida Water.

Messrs. John Taylor & Co. are also proprietors of the Dominion Dyewood and Chemical Company, of Toronto, and in this business they are sole agents in Canada for the following manufacturers: Farbenfabriken-vormals, Friedr. Bayer & Co., Elberfeld, Germany—aniline dyes and alizarines, and the "one dip" bendidine color; Read, Holliday & Sons, Huddersfield, England—aniline dyes, acid magenta, gambine and indigo compound; Mucklow & Co., Bury England—dyewoods, cut and ground, and extracts of logwood, fustic, hypernic and sumac. The indigo extract powder of Messrs. Read, Holliday & Sons is not an aniline color, but a pure extract of indigo, and has the advantage over paste of being always uniform and much more convenient for the dyer's use. Gambine is a new patented product, the sale of which is increasing rapidly. It is said to be the fastest coloring matter for browns and olives yet discovered, and very useful for manufacturers of tweeds. The Dominion Dyewood and Chemical Company are among the very largest and most reliable dealers in this line of merchandise in Canada, and any who may be interested in the matter should put themselves in communication with them.

THE CANADIAN RUBBER COMPANY.

The Canadian Rubber Company, whose head office and extensive factory are at Montreal, and whose Toronto branch is at the intersection of Front and Yonge streets, under the management of Mr. J. H. Walker, occupied their usual location in the west nave of the Main Building, their space being fifty per cent. larger than it was last year. The display, which was very tastefully arranged, included specimens of most of the products of the company—rubber shoes and felt boots; embossed rubber carriage cloth in several colors and styles; carriage aprons; wagon covers; horse covers and hoods; elastic and spiral interfering bands; ladies' and gentlemen's tweed gossamer waterproof clothing; engine, hydrant, suction, steam, brewers' and fire hose; garden hose, "the best in the market"; steam packing; rubber valves; car springs; wringer rolls; rubber blankets; stopples and moulded goods of every description.

The display of foot wear was probably as varied and interesting as any ever shown in Canada, and the style, finish and quality of the articles indicated a perfection in this direction equal to any similar goods manufactured anywhere in Europe or the United States.

This company give special attention to the manufacture of rubber belting for elevators, mills, factories, workshops, etc., and are selling large quantities of it for such use. The standard of these goods is exceedingly high, this belting being fully equal to any manufactured in America. A recent order filled by this company for a grain elevator belonging to the Canadian Pacific Railway Company included one seven-ply belt, Star brand, 341 feet long and fifty-four inches wide, in one piece; and five thousand feet of six-ply belting, same grade, twenty inches wide.

The factory of the Canadian Rubber Company where these goods are made—in Montreal—gives employment to from eight hundred to a thousand hands, the yearly output of manufactured products being valued at about \$2,000,000. The capital stock of the company is \$2,000,000, and their works are the largest and most completely equipped of any in Canada engaged in that line of business.

The company's works in Montreal are one of the sights of that city. The face of the main building extends without a break a

thousand feet along the line of two streets, and is five stories high; and to pass the full length of each floor of the main building and the other smaller buildings connected therewith involves a walk of more than a mile.

Mr. Walker, the manager of the Toronto business of the Canadian Rubber Company, is one of the most energetic and successful business men of this city; and under his management this business has increased with remarkable and gratifying strides.

J. & J. TAYLOR.

Messrs. J. & J. TAYLOR, proprietors of the Toronto Safe Works, this city, made a display of some of their safes in the Annex Building that attracted much attention, particularly one on which was attached a double chronometer time lock with safety device against dynamite. The arrangement of this time lock is such that should any concussion or violence disarrange or destroy the delicate chronometer movements, by which the bolts securing the doors cannot be withdrawn from their sockets until the desired hour, by the application of an electric current to a protruding copper wire an ingenious mechanism may be set in motion, which will, in the course of a certain number of hours, relieve the obstructing bolt, and allow the door to be unlocked in the usual manner. Without this electrical arrangement, in case of the derangement of the chronometer locks, it would be necessary to cut through the steel doors—a very expensive and tedious job. This electrical arrangement may be set so as to release the time-lock bolt at the expiration of any given time up to seventy-two hours—three days—and a hand moving over a disc, similar to the hand of a watch moving over the watch dial, tells at a glance just how long the electricity may have been applied to it. Thus, if the electrical arrangement is set to operate at the expiration of seventy-two hours of electric action, while this does not interfere with the operation of the chronometer movement, in the event of the derangement of that movement it will require seventy-two hours of electrical action to admit the opening of the door in the usual way. Therefore, although a burglar may apply the electricity, it would not avail him, as the time required to effect his purpose would force him to retire before the denouement, and the dial-faced indicator would show that the unlawful visit had been made.

What is probably the largest and heaviest fire proof bank vault in Canada, is that built and placed in the Canadian Bank of Commerce building, now nearing completion in this city, by Messrs. J. & J. Taylor. The weight of this vault is over fifty tons, and is constructed according to the latest and most approved methods, and of the best materials, calculated to insure security and protection against both burglars and fire. The combination locks for this vault, with electric and automatic connections, were also constructed by Messrs. Taylor.

CROMPTON CORSET COMPANY.

The Crompton Corset Company made a fine display in the Main Building that attracted much attention. It included more than a dozen styles of corsets, some of which were beautifully ornamented with lace and needlework, the prices ranging from twenty-five cents to as many dollars. All are guaranteed perfect fitting, affording ease and comfort. This company give employment to over three hundred hands.

THE STILES & PARKER PRESS COMPANY.

The Stiles & Parker Press Company, of Middletown, Conn., through their Toronto agent, Mr. Carl W. Conner, exhibited in Machinery Hall four heavy stamping machines, a new toggle-joint drawing press, a Stiles central swinging press, a No. 2 Stiles punching press, and a No. 12 new open back press. The special press is their central swinging, used for heavy stamping in sheet iron, tin, etc. This machine, while in motion and at work, can be swung to any angle without stopping or affecting the belt. Another great advantage in all presses made by this company is the fact that all dies can be set while the machines are in motion.

There is no concern in the United States who have any higher reputation for the manufacture of presses, dies and special machinery than the Stiles & Parker Company, and Canadian manufacturers who may desire such tools should communicate with Mr. Conner, whose office is at 63 Front street west. The presses shown at the Exposition were sold to Messrs. Thomas McDonald & Co., this city.

THE REMINGTON TYPEWRITER.

MR. GEORGE BENGOUGH, of Toronto, made his usual display of Remington Typewriters, of which he is the Canadian agent, in the west gallery of the Main Building. In these days of push and hurry no business office is complete without a Remington typewriter, for this machine is claimed to stand pre-eminently ahead of all others, and the fact that it outnumbers all others in actual use, probably twenty to one, is a fair indication of the favor in which the instrument is held. It was with a Remington machine that McGurkin, the champion expert, broke all previous type-writing records at Lake George, New York, last year, when he accomplished the remarkable feat of writing an average of over one hundred and eight words per minute. The saving of time by the use of the Remington machine renders it possible for a business man to accomplish vastly more than he otherwise could possibly do, with infinitely greater comfort and financial benefit.

THE BARBER & ELLIS COMPANY.

THE Barber & Ellis Company, Manufacturing Stationers, Toronto, occupied a prominent position in the Main Building, in which they displayed two large show cases filled with specimens of their work, besides an overflow which occupied considerable outside space. A noticeable feature of this exhibit was the account books which the company had manufactured for a number of the principal banks, insurance companies, hotels, commission houses, merchants and others. Most of these were really works of art, showing the high state of perfection to which the blank book manufacturing business has been brought in Canada, and all of them were of the best and most substantial character. A miniature journal was shown, full and properly ruled, full bound in Russia leather with spring back and ornamented cover, three-eighths of an inch wide by seven-eighths of an inch long, containing four hundred pages.

GALT FOUNDRY, ENGINE AND MACHINE WORKS.

MESSRS. COWAN & Co., proprietors of the Galt Foundry, Engine and Machine Works, Galt, Ont., inform us that for months past they have been so overrun with work that they were unable to prepare any machines or machinery specially for the Exhibition, nor could they withdraw any of the work which they have been building for the purpose, as their customers were all too anxious to get it into their possession. In fact this concern is enjoying a long season of prosperity, which speaks well for the character of the work which they do, and for the prosperity of the country and its manufacturing industries.

Regarding the lines of machinery manufactured by Messrs. Cowan & Co., their wood-working machines are all built with iron frames of sufficient weight, and are accurately and well fitted; and they embody every valuable improvement suggested by practical experience, many of which are secured to the firm by letters patent. To ensure entire satisfaction every machine is put in operation and thoroughly tested before leaving the works, which enables the shipment to even the most distant points with entire confidence.

Messrs. Cowan & Co. claim for the Harris-Corliss steam engine, which they make a specialty of building, that it is the most perfect cut-off engine made; that for economy of fuel, regulation of speed and accessibility of all its parts, it has many imitators but no equals; that while many engines of the same class have been invented, tried and abandoned, the Harris-Corliss has steadily gained in public favor, and is now without a successful rival. Some of the advantages of this engine to which special attention is called are: The steam is admitted to the piston at boiler pressure; the governor is an independent mechanism; no part of the regulating medium enters the steam chest, and thereby be out of sight; regularity of speed under varying loads; recessed valve seats; stop motion on regulator which effectually stops the engine should the regulator by any means fail to perform its work; easy adjustment of valves; and new and improved adjustable pillow block.

For planing and saw mills they manufacture a good, substantial and simple slide valve engine, so that they can furnish an outfit complete at the shortest notice, of engine, boiler, shafting, hangers, pulleys, and all other parts. The boilers made by Messrs. Cowan & Co. are always subjected to a thorough hydrostatic test before being sent out; and many of these are in use in some of the largest mills and factories in the country. The firm have recently made considerable and valuable additions to their premises and to their plant, and they are prepared to fill all orders promptly and guarantee entire satisfaction to their customers. To give even a synopsis of the descriptions of the various machines and machinery manufactured

by them would be equivalent almost to publishing a catalogue, but of course any who may desire to have more particular information on the subject, will write to Messrs. Cowan & Co., who will take pleasure in answering all enquiries.

A. W. MORRIS & BRO.

MESSRS. A. W. MORRIS & BRO., Montreal, manufacturers and importers of cordage, made an attractive exhibit in Agricultural Hall. It is a pyramid of the cordage which they produce at their factories, and is in charge of Mr. W. C. Bonnell, manager of the firm's business in Toronto. Three years ago this firm took charge of the J. A. Converse Cordage Company, Montreal, a concern which was established in 1825, and claimed to be the first rope-factory ever started in Canada. Since Messrs. Morris & Bro. took charge the business has vastly increased. An idea of its growth may be gained from the fact that eight years ago the Converse Company only manufactured twenty tons of cordage per annum, whereas last year Messrs. Morris & Bro. manufactured eighteen hundred tons of cordage, said to be as much as all the other factories of Canada together. The factories of Messrs. A. W. Morris & Bro. are at Montreal and Port Hope. The factory at Montreal turns out every description of cordage—manilla, sisal, jute and Russian; lath-ties, engine packing, bed cords, tarred hawsers, tarred marline, horse-line, hambrelines, deep sea line and halyards, while that at Port Hope turns out binder twine. Both factories are complete in every particular, and are fitted with the best and most modern appliances.

THE CANADIAN OFFICE AND SCHOOL FURNITURE COMPANY (LIMITED), OF TORONTO.

ONE of the largest and most comprehensive exhibits shown at the Fair was that of the Canadian Office and School Furniture Company. It included office, school, lodge, church and opera furniture, and fire and burglar-proof safes, the assortment being in large variety, and embracing about everything that might be required in these lines. The display of office furniture and fittings, including Amberg cabinet files for filing letters, invoices, etc., was particularly attractive, the articles being, from an artistic and utilitarian standpoint, perfection. In these days of active business life the wide-awake business man cannot afford to disregard such conveniences as this company offer in these goods; and those who take the correct view, and whose æsthetic tastes demand something more artistic than the severely plain, uncomfortable and inconvenient desks, chairs and other office paraphernalia of past ages, need seek no further in search of articles which are the equal of the best made anywhere else in the world. The desks manufactured by this concern possess features of a distinct character which add greatly to their intrinsic worth; and their various accommodations and conveniences render them superior to most other desks on the market, and therefore relatively cheaper. They are always constructed of the very best seasoned materials, and are designed for actual service. The condensed arguments advanced in favor of these desks are: ingenious construction, improved conveniences, and the largest and most useful accommodations. The condensed results of these are: large saving of valuable time, avoidance of vexation and worry, and great economy of actual labor.

On the event of the recent jubilee of His Holiness the Pope of Rome, thousands of presents of every imaginable description were sent to him from every quarter of the world. Among these was a magnificent office desk manufactured specially for the purpose by Messrs. Wm. Stahlschmidt & Co., of Preston, Ont., whose business is now carried on by the Canadian Office and School Furniture Co., for the St. Jerome College, Berlin, Ont.; and recently Father Louis, of that college, was informed from Rome that the Holy Father had selected this desk for his individual use from among all the large number of other desks that had been sent to him. His Holiness certainly evinced great good taste in the selection, and at the same time paid a deserved honor to an enterprising Canadian manufacturing firm.

Of equal importance, but of an entirely different character, were the lines of burglar and fire-proof safes shown, manufactured by Messrs. Goldie & McCulloch, of Galt, Ont., for whom the Canadian Office and School Furniture Company are agents. Among these were some large bank safes, safes for merchants, safes for jewellers, safes for families, safes for everybody. These bank and jewellers' safes are made of the best welded steel and iron, with solid frames

and corners, all bolt work being highly polished and nicked; door and door frames solid tongued and grooved to prevent wedging or the introduction of explosives, and fitted with packing and improved eccentric hinges and lever bars. Regarding the necessity of time locks upon safe doors, the use of such, and the giving of the greatest publicity to the fact of their use, affords the only thorough protection against the latest and most dangerous form of safe robbery. Over six thousand banks and similar institutions are guarded by these locks.

The name of the Canadian Office and School Furniture Company is comparatively new to the mercantile world, but the company is composed of men who are neither new nor inexperienced in manufacturing and commercial life. In it are embraced Messrs. Wm. Stahlschmidt & Co., of Preston, Ont., and Mr. Geo. F. Bostwick, of Toronto. Messrs. Stahlschmidt & Co. have been engaged in the manufacture of these lines of furniture at Preston for a number of years, and are widely and favorably known throughout the Dominion, their factory being one of the largest and best equipped in the country. Mr. Bostwick has for years been a leading dealer in Toronto in these and other lines of office furniture, and brings to the new company a large, ripe and valuable business experience. About a year ago he was forced to abandon his elegant location on King street for more commodious quarters at 24 Front street west, which is now the headquarters and show-rooms for the large variety of products manufactured by his company and Goldie & McCulloch safes.

J. L. GOODHUE & CO.

MESSRS. J. L. GOODHUE & Co., manufacturers of leather belting, Danville, Que., who usually make extensive and instructive exhibits at the Toronto Industrial Fair, inform us that their non-appearance there this year is because they were and are so crowded with business as to prevent their making the necessary arrangements, preparing the exhibit, etc. They could not make an exhibit that would be satisfactory to themselves, or equal to what they have heretofore made. They say they have never had such brisk demand for their goods since the establishment of their business as at the present time, and that their average monthly sales now considerably exceed the total average sales of the earlier years of their business existence.

Their trade now extends over all the Dominion and to every portion of it, from Nova Scotia to British Columbia. On a recent day they shipped leather belting to Halifax, in the extreme east, and to Victoria, on the Pacific Coast; and one of the largest shipments recently made by Messrs. Goodhue & Co. was a complete outfit of belting for a very large saw mill and lumber working establishment in Newfoundland.

Messrs. Goodhue & Co. own and operate one of the largest and best equipped leather tanneries in the Dominion, which fact gives them superior advantages in the manufacture of the leather, and the selection of the stock from which their belting is made. Therefore in the construction of a belt entire uniformity of quality is ensured; and the claim of the firm is that they can and do make as good and perfect an article of leather belting as can be produced anywhere in the world; and certainly the large and steadily increasing demand for these goods from the largest saw mills, cotton mills, woolen factories and other industrial establishments throughout Canada, justify this claim.

W. BELL & CO.

MESSRS. W. BELL & Co., manufacturers of organs and pianos, Guelph, Ont., occupied their usual space near the east entrance of the Main Building, their display of musical instruments being one of the finest and most attractive on the grounds. Regarding these exhibits, we are informed that owing to the large and pressing orders on hand for instruments, calling for early delivery, Messrs. Bell & Co. were unable to manufacture any instruments specially for display at the Exhibition; and that those shown were taken from stock and are just such as are being sent out every day in filling orders. These, however, show just the style and quality of goods they are selling to customers and the trade; and they were certainly of a character that commended their excellence, both as regards style, finish and tone, to the most exacting.

For years past visitors at the Exposition have been accustomed to seeing the beautiful displays of organs manufactured by Messrs. Bell & Co., but the Fair of last year was the first at which they introduced their pianos. It is well known that this firm have been engaged in the manufacture of organs in Canada more than twenty-five years; but it has been but very recently that they have begun the construction of pianos. To enable them to do this they

made large additions to their Guelph works, and now their production of pianos is over one hundred per month. Having abundance of capital at command, and every desired facility, they are not making any cheap goods to be forced upon the market at slaughter prices, regardless of cost; they never did this, but the pianos they are offering commend themselves on their intrinsic merits to those who know what the requirements of really first class instruments are and who find these requirements embodied in the Bell piano. These pianos are marvels of beauty—beauty of design, of workmanship, of finish, of excellence as musical instruments, regardless of all extraneous appurtenances and appendages. A comprehensive and correct idea of the varieties of style, finish, ornamentation, etc., of these pianos can only be had by inspection of them, or by reference to the exhaustive catalogue recently issued by the firm.

The business of this concern extends to almost every habitable portion of the globe. Their average shipments to Europe, distributed through their agency at London, Eng., of which Mr. W. J. Bell, of the firm, has charge, averages from eight to ten car loads per month; and to the Australian market, about twenty five car loads a year, a large and increasing trade also being had with Mexico, Central and South America and South Africa.

Messrs. Bell & Co.'s factories at Guelph, which include two very large buildings, have an aggregate floor space equivalent to eight and a half acres.

Mr. J. W. Scott, the Toronto representative of Messrs. Bell & Co. had charge of their display at the Fair.

DUNBAR, McMASTER & CO.

THERE is no handsomer building on the Exposition grounds than the pavilion of Messrs. Dunbar, McMaster & Co., manufacturers of all kinds of linen threads, whose extensive factories are at Gilford, Ireland. This pavilion is of Oriental style, and is a gem of architectural beauty, and the display shown within it is in keeping with its exterior appearance. In fact, there is such a uniqueness about it, and its surroundings are also all so attractive, that the proprietors are having an elegant engraving made of it, which will be an exceptionally fine specimen of art, for distribution throughout all the business centres of the world, and while this will very liberally advertise the firm's business, it will also convey a very correct idea of at least some of the beauties and advantages possessed by Toronto's Great Industrial Fair. The credit for this beautiful pagoda, for the beautiful picture that is being made of it, and for the extensive advertising that Messrs. Dunbar, McMaster & Co., the Industrial Exhibition and the city of Toronto will all receive from it, will be due to Mr. S. Davison, the Toronto agent of the firm, whose headquarters and offices are at 14 Colborne street. Mr. Davison has had the management of this business for a number of years, and through his business tact, energy and liberality, an exceedingly large business has been built up here in Canada for the products of this Irish factory. Every one who knows anything at all knows that the name "Dunbar" on the end of a spool of flax thread, or on a hank or bundle of such thread, means that it is of the very best quality and just the thing with which to sew on buttons on one's pantaloons.

Some of the evidences of the high esteem in which "Dunbar thread is held in different portions of the world are in the medals that have been awarded the manufacturers. In 1883, the only medal awarded by the Cork, Ireland, Industrial Exhibition for excellence in shoe and tailors' threads, was awarded to this firm. At the Indian and Colonial Exhibition, in London, Eng., a medal and diploma were awarded this firm for general excellence of exhibit. At the National Exhibition, in Dublin, Ireland, in 1865, a medal was awarded this firm for lace thread, gilling thread, sole sewing thread, etc. At the Exhibition in London, England, in 1862, a medal was awarded for machine thread, floss thread, bookbinders' thread, netting thread and shoe thread. At the International Centennial Exhibition in Philadelphia, Pa., in 1876, a medal for "superior excellence in quality and color" was awarded this firm by the United States Centennial Commission. Again in London, England, a medal was awarded them for "general excellence"; and in Dublin, Ireland, in 1865, a medal for "superior quality." We are informed that among the awards at the Brussels Exhibition gained by Irish exhibitors the highest, "Diplôme d'Honneur," was granted to Messrs. Dunbar, McMaster & Co. for linen threads and yarns. The "Diplôme d'Honneur" is superior to a gold medal.

The exhibit shown by Mr. Davison for Messrs. Dunbar, McMaster & Co. included tailors', carpet, lace, gilling, sole sewing, machine, floss, bookbinders', netting and shoe threads, all well known in the trade for their superior excellence as regards strength and

durability of colors. The large assortment of specimens of Irish, Russian, Italian and German flax, in the various stages of preparation, from the plant as grown in the field to the finished product ready for the spinner—materials which enter so largely into the manufacture of the threads produced by Messrs. Dunbar, McMaster & Co., were of an exceedingly interesting character, and excited the examination and admiration of all visitors. They showed every different stage of preparation, and in every grade and quality, from the coarsest threads to such as are used in the manufacture of the finest and most costly laces and fabrics.

For many years past exhibitions of the products of this great Irish manufacturing concern have been made at all the more important fairs and industrial exhibitions in Europe and America, and wherever prizes for superior excellence have been offered, the highest prizes have been awarded to them. Among many others, medals have been awarded them, as we have shown, at the Cork, Ireland, Exhibition in 1865; at the London, England, Exhibition in 1862; at the Philadelphia Centennial Exhibition in 1876; and a special gold medal at the Toronto Industrial Exhibition in 1884. Messrs. Dunbar, McMaster & Co. employ about two thousand hands at their thread works at Gilford, which are said to be the most extensive and the best equipped of any in the world.

It should have been mentioned that the pagoda of Messrs. Dunbar, McMaster & Co., herein alluded to, was most beautifully illuminated every night of the Exposition with a profusion of electric lights, which gave it the appearance of a fairy's bower. These lights were supplied by the Heisler Electric Light Company, of St. Louis, Mo., who operated an electric station in Machinery Hall.

APPLETON FIRE ESCAPE.

MR. C. D. RICHARDSON, Toronto, exhibited at the Exhibition a model of the Appleton movable fire escape, recently patented in Canada and the United States, and endorsed by leading insurance agents and firemen in both countries. The apparatus is intended to be placed upon a truck that can be drawn by horses, so as to be carried quickly to a burning building for the rescue of the inmates. A series of levers and other mechanism projects the telescopic frame to its extreme height, if desired, which is high enough to reach the upper stories of the highest buildings. When extended there are two wire ropes, operated by a winch on the platform, and extending through sheaves on the upper part of the structure, to which are attached cages which can be raised and lowered by the winch, and of capacity to hold several people. An automatic platform attached to the cage admits of safe passage to it from the windows for women and children, when being lowered the platform closing up upon the cage. Attached to the upper part of the apparatus is a wire rope ladder, by which escape may also be had. These escapes are to be manufactured at Markham, Ont., for Mr. Richardson, and a working model of it will be shown at the Permanent Exhibition of Manufactures, Toronto.

JOHN GILLIES & CO.

Messrs. JOHN GILLIES & Co., Carleton Place, Ont., manufacturers of the Shipman and Acme automatic steam engines for burning coal oil for fuel, displayed in Machinery Hall a beautiful steam pleasure yacht, the machinery of which embodied the coal oil fuel device. These engines are built in styles to meet all necessities, and are specially adapted for use by all who require light power that may be obtained very quickly and operated at small expense. They are not an experiment. The advantages claimed for them over other engines are: low price, economy in the use of fuel, automatic in its fuel and water supply; consumes only the amount of fuel it requires for the power taken; absolute safety from explosion; the fuel expense stops as soon as the work is done; its fuel has no dust or dirt, and the fire never has to be "drawn"; if there is an hour's work to do, steam can be had at 100 pounds pressure, the work done, the fire extinguished and the consumption of fuel stopped inside one hour and ten minutes, at a cost not to exceed five cents per horse power.

In the pleasure boat alluded to the space occupied by the "Acme" engine is very much smaller, it is claimed, than that required by any other engine in use, as the oil fuel is kept in a tank in the bow, and the feed pipe is beneath the floor; hence, more space for passengers. It only requires a few minutes to get up steam. The fuel and water is used automatically, and can be adjusted to take only the desired quantities. Any intelligent boy or girl can operate it as well as any skilled mechanic, after a little experience. In the construction of the boats, the frame is of selected seasoned oak or elm, the hull is smooth built, the planking

is of selected cedar, the inside is floored with pine, there are lockers under the seats, brass cleats and chucks for bow and stern lines, rudder is fitted with wire steering ropes, the steering being done from either the bow or stern. Messrs. Gillies & Co. keep a stock of these excellent coal oil engines, and pleasure boats also, on hand. They invite correspondence.

AMERICAN RATTAN COMPANY.

THE American Rattan Company, Toronto, exhibited in the Annex Building what was probably the most beautiful lines of rattan goods ever shown in Canada. The display occupied a liberal space, and was a rallying point for all whose tastes lead in the direction of beautifully decorated homes. An attractive novelty shown was an up-hill rocker, particularly intended for use of ladies and nurses, the motion being different and more agreeable than that of other rocking chairs. The variety of styles of baby carriages was simply bewildering. In viewing these adjuncts of happy home life, no one but a cynic could but desire to be the head of a large family of small children, if for nothing else than that they might have a carriage house full of these beautiful vehicles. A number of rattan parlor suites shown were exceedingly beautiful. They were finished in different styles, and displayed great artistic taste in their construction and ornamentation.

The management of the American Rattan Company is in the hands of Mr. Charles G. Pease, than whom Toronto boasts no more spirited or enterprising manufacturer. The company is connected with two similar concerns in the United States, who employ the best artists to be found anywhere, in the production of new designs in rattan work, of which the Toronto factory has the instant and full advantage, by which arrangement the Canadian goods are put upon the market quite as soon, and usually sooner, than the markets in the United States. These goods are on sale in all the best house furnishing stores in the country.

JOHN BERTRAM & SONS.

WHAT was beyond doubt the largest display of iron working tools and machinery at the Exhibition was that of Messrs. John Bertram & Sons, proprietors of the Canada Tool Works, Dundas, Ont. The most noticeable of these machines was an iron planer constructed on an entirely new principle, for which the firm have been awarded letters patent. In operation this machine stands parallel with the line shaft in the shop, is double belted, having a back motion of three or four to one of the forward motion. To a first-class machinist the great points in this machine, which was shown at work, need only to be seen to be fully appreciated. In April Messrs. Bertram & Sons secured a patent for the feed motion of this machine, and applicable upon all sizes of planers built upon this principle. The feed gives the tool an automatic movement of three-quarters of an inch down to zero, and has a positive motion absorbing power only while feeding. The driving mechanism of this machine is worked by a tangent gearing, which produces a smooth and perfectly noiseless motion on either the forward or back stroke. The machine having a high belt velocity has great power; in fact the machine as an iron planer is perfection, and had great attraction for mechanics visiting the exhibition. This firm are now getting out one of these planers for the Wm. Hamilton Manufacturing Co., of Peterboro', Ont., to plane seven feet square, and will weigh twenty-four tons. They also exhibited a ponderous milling machine with six foot stroke and capable of milling a key seat in a propeller shaft twelve inches in diameter; it has an automatic feed movement which can be thrown out of gear at any point, when the table can be run back by hand. They also show a standard sixteen-inch swing turning lathe, a brass finisher's lathe, a small drilling machine, and the celebrated Acme bolt-cutter. The last named machine has the die head made on the most perfect principle, so that users of this machine can telegraph for any set of dies, which will cut, when placed in the machine, perfect threads.

Of course it would be a matter of impracticability for so large a firm as Messrs. Bertram & Sons to make an exhibit of even all of the principal lines of machinery and tools manufactured by them. They could not in the first place have the space which they would require, and in the second it would be a matter of great difficulty to transfer some of their machinery to the Exhibition. In order to

give an idea of the machinery which visitors could not see in operation, they had on exhibition photographs of a number of machines, among them a punching machine which can punch one and a quarter inch steel plate, a shear which can cut a three inch bar of iron, and various other machines which the firm has designed and got up within the last two years. In the broadest sense of the word, there was not a more interesting exhibit at the Exhibition than that of Messrs. Bertram & Sons. They inform us that they now have in course of construction at their works, among other heavy machinery, six lathes, the aggregate weight of which is eighty-six tons. Attention is requested by Messrs. Bertram & Sons to the locomotive and car machinery manufactured by them, of which photographs with technical descriptions are forwarded to interested parties on request. Their catalogue embraces all the various more modern designs of wood and iron working machinery, and they also manufacture and supply complete outfits for railway machine shops, locomotive builders, car builders, implement manufacturers, bridge works, sash and door factories, etc.

This firm has been engaged in this business in Canada nearly thirty years, and it is their aim and ambition, as the pioneers of this branch of business, ever to stand at the front in their competition for favor and patronage. Every machine they build is guaranteed to be just as it is represented, and none but the best materials are used, the castings being made of Scotch and Canadian pig iron, which ensures strength and durability, while all the fast running spindles are made of the best English steel.

Messrs. Bertram & Sons take pleasure in drawing attention to the fact of their success at the International Exhibition in Philadelphia, where they were awarded a diploma and medal for wood-working machinery and machinists' tools, also a Canadian diploma and silver medal by the British judges for engineers' tools. At the Colonial and Indian Exhibition in London, England, the tools of this firm on exhibition merited and received the special attention of eminent engineers there, and were selected for illustration by a leading mechanical journal in London. Mr. John Bertram, the founder and senior member of this representative Canadian manufacturing industry, is acknowledged to be one of the first and best mechanics in the country, both as a designer and originator of first-class machinery.

DODGE WOOD SPLIT PULLEY COMPANY.

THE display made by the Dodge Wood Split Pulley Company, of Toronto, whose large new factory is at West Toronto Junction, near this city, was one of the most interesting shown in Machinery Hall. It illustrated the advantages claimed for wood pulleys over iron, and of rope for the transmission of power under many circumstances over belting. The main exhibit shown was in the transmission of power from a line shaft to various machines and machinery about the building, but in this it was under the disadvantage of having the line shaft driven from the engine on which was an exceedingly heavy steel-woven belt. Another, and very satisfactory exhibit, in the same building, was that wherein the system was used in connection with the machinery operated by the Ball Electric Light Company.

All users of machinery are interested in the economic transmission of power from the engine, or source of power, to the machinery to be operated by it. There are many methods for such transmission, including belting of leather, rubber, etc.; wire ropes, link chains, and other devices. For general and ordinary purposes of transmission there is perhaps no better method known than the Dodge system; and there are features of it where it could not be substituted by any other method, such as where the driven shaft is at right angles with the driver; where the drive is perpendicular, particularly when it is in quarter twist and perpendicular; where the driver and driven are close together; for long drives, such as across a stream, over intervening buildings, etc. In transmitting power from an engine to a line shaft there is a uniform, steady strain, without flapping, jerking, stretching, slipping, or other loss of power, and it is claimed for it that an engine thus equipped will do twenty-five per cent. more work on the same consumption of fuel than with any other arrangement.

In another page of this journal, in this company's full page illustrated advertisement, a view is given of a rope transmission of power as in use in the works of this company in this city. In this transmission the engine has two driving pulleys. The small one is seventy-two inches in diameter with eight ropes, which drives a large Sturtevant blower. The large pulley is 153 inches in diameter, with rim of hard maple, grooved to carry eleven wraps of $\frac{3}{4}$

tallow-laid Manila rope, the connection being with a sixty-three inch grooved wood pulley on a three-and-a-half inch main shaft, 250 feet long, from which is transmitted power to all the machinery in the building. The engine is 100 horse-power, the rope travel is 5,000 feet per minute, and the pull on the rope is only one-and-a-half per cent of its breaking strain, while it is safe to use ten per cent.

The works of the Dodge Wood Split Pulley Company are at West Toronto Junction, near this city, the factory being on a four-acre lot, and directly on the line of the Canadian Pacific Railway, a convenient switch connecting with this road and also with the Grand Trunk. The works include a main building 250 feet long fifty-four feet wide and three stories high; an annex being eighty by sixty feet, in which is the engine, boiler, heating apparatus, etc., and the drying kilns. There is also a fire-proof isolated building for the storage of paints, oils, varnishes, etc. All of these buildings are of brick, the elevator shaft in the main building being encased in brick, with iron-clad fire-proof communicating doors throughout the entire establishment.

These wood split pulleys manufactured by this company, are made in sizes to suit all possible demands, iron centre pulleys, where it is desired to have such, to be placed directly on the shaft of the driving engine, wood arms and centres, with the Dodge patent bushing, for service on driven shaft; smooth face pulley, where leather or rubber belting is to be used, and grooved faces where the transmission of power is to be by Manila rope. Pulleys are made in all sizes, ranging from a few inches in diameter, and for use with narrow belts, up to many feet in diameter, one having recently been made at this factory to receive transmission of power from a leather belt forty-eight inches wide, and the pulley used in these works for the transmission of power from the engine to the main line of shafting, and which is driven up to 125 revolutions per minute, is thirteen feet diameter. It is claimed for these pulleys that they transmit from twenty-five to sixty per cent. more power than iron rim pulleys of same size and similar tension. The patent compress fastening, for securing these wood hub pulleys to the shafting, is guaranteed to hold stronger than set screws, and, unlike key fastening, preserves the balance of the pulley on the shaft.

For estimates of cost, and all information relating to this system of transmission of power by ropes, apply to the Dodge Wood Split Pulley Company, Toronto.

GOLDIE & McCULLOCH.

MESSRS. GOLDIE & McCULLOCH, of Galt, Ont., made their usual magnificent display of machinery in Machinery Hall, included in which was a large variety of wood-working machinery—tenoning machines of different sizes, blind slat machines, buzz planers, upright shaping machines, moulding machines, saw tables; a variety of planing machines, both single and double surfaces; planing and matching machines, including the firm's well-known fast feed flooring machine, etc. They also displayed one of their 3-spindle boring machines and universal wood-worker, which for symmetrical design and elegance of finish, were greatly admired by all practical observers acquainted with the requirements of the work which they were intended to perform.

In addition to this large display of wood-working machinery, Messrs. Goldie & McCulloch had one of their well-known Wheelock steam engines in operation. It is of 80 horse-power, and was used to furnish the motive power for the four large dynamos displayed and operated by the Ball Electric Light Company, of Toronto, for supplying light to the Exhibition grounds and several of the buildings, including Machinery Hall. There were 110 arc lights, of 2,000 candle power each, operated from this Ball station, which was, without doubt, one of the most complete electric light stations on the grounds. The shafting in use—a very complete and satisfactory arrangement—was also from the works of this concern. The whole output was well worthy of the inspection it received from the throngs of visitors and all interested illumination by electricity.

Referring more particularly to this Wheelock engine, Messrs. Goldie & McCulloch say that it is fast taking front rank over competitors, it having recently replaced a large number of other makes of engines previously in use for driving electric light dynamos. In its construction it is exceedingly simple and economical, the general arrangement of the engine following the American type, the main bed being of trunk girder pattern, and so arranged that the chief bulk of metal lies in the direct line of strain between the cylinder and crank shaft bearings. The Wheelock engine was awarded the Great Gold Medal at New York, 1875; the Centennial Medal at Philadelphia, 1876; the Gold Medal at Cincinnati, 1881; Gold Medal at Boston, 1881; and the Grand Prize at Paris, 1878; and at the Millers' International Exposition at Cincinnati, 1880, the

Great Gold Medal for the best automatic engine under actual test. The Cincinnati test cost \$15,000, and the award given in competition with the Corliss and other automatic engines was that "The Wheelock engine gave the best regulation, the highest economy of fuel, the least clearance, and the least trouble to the operator,"—the highest award ever given to a steam engine. The chief features of the cut-off gear are its greatest simplicity, the fewness of its moving parts, the small amount of power absorbed in working it, and therefore the absolute control which the governor has over the slightest variation in the load of the engine and the economy of steam thereby obtained. As distinguished from most of the automatic cut-off engines in the market, the Wheelock engine has only one eccentric, from which both the main steam and cut-off valves are actuated. The wristplate action which exists in the Corliss engine, being obtained by a very simple and ingenious arrangement (one of the chief features in the construction of this cut-off gear, and the great dissimilarity to ordinary practice), is the suspension of the valve spindles on hardened steel bushes; as a consequence of being thus carried, the valves work with very little power from the absence of friction, and by an ingenious arrangement of the spindles and bushes, a perfectly steam-tight joint is formed, which dispenses with the ordinary stuffing gland and packing, and wear is practically nil. The valves are flat slide, with multiplicity of opening and extraordinary area, with a minimum of movement. By the use of a knuckle-joint movement very slight lap is needed, and almost instantaneous opening and closing are secured with great ease of action under the most extraordinary pressure. This system can be applied to the Corliss type of anybody's make, and Messrs. Goldie & McCulloch guarantee positive advantage by its use. The valves are fitted to separate seats that are driven into the holes in the cylinder a little tapering, and no bonnets are used. All the work on them is completed on the work bench, and when in use they bring no wear on the cylinder. The Wheelock system is especially adapted to high speed. The valves are perfectly tight, with no necessity for balancing. By the peculiar arrangement of the valve movement, the cut-off is very effective and positive in its action, as the cut-off valve has but slight movement after closing, while the knuckle-joint allows of continued movement of the mechanism without moving the valve.

Since the Exhibition of last year Messrs. Goldie & McCulloch have received orders from the following well-known concerns.—

- W. Stahlschmidt & Co. Preston, Ont.
- Gooderham & Worts. Toronto
- J. Cawthrop. Thamesford "
- H. McCormack. Ottawa "
- Barnum Iron and Wire Co. Windsor "
- C. J. Smith. Moosomin, Man.
- Hamilton Electric Light Co. Hamilton, Ont.
- D. Maxwell. St. Mary's "
- F. T. Huber & Co. Berlin "
- F. Greybill & Co. Waterloo "
- W. A. Gerolamy. Tara "
- A. Harris, Son & Co. Brantford "
- Galt Knitting Co. Galt "
- Brantford Cordage Co. Brantford "
- W. B. McAllister. Pembroke "
- Hess Bros. Toronto "
- Courtland Carriage Co. Brantford "
- A. Dobson & Son. Cannington "
- Berlin Felt Boot Works. Berlin "
- Stratford Gas Co., for the Stratford Electric Light Co. Stratford "
- John Bertram & Sons. Dundas "
- Wm. Mason & Sons. Ottawa "
- D. Hibner & Co. Berlin "
- MacGregor, Gourlay & Co. Galt "
- A. W. Brodie (compound condensing). Hespeler "
- Thos. Foster. Tara "
- Gilchrist, Green & Co. Wingham "
- Thomas Bell. "
- The Patterson & Bro. Co. Woodstock "
- McDougall & Co. Galt "
- Corporation of the Town of Goderich, for their electric light station. Goderich "
- Methodist Publishing House. Toronto "
- Ontario Industrial Loan and Investment Co. "
- Paris Winney Mill Co. Paris "
- George Cassidy. False Creek, B.C.
- Sandy McVean. Dresden, Ont.
- W. H. Verity & Son. Exeter "
- Malcolm & Smith. Brussels "
- M. J. Smith & Co. (second engine). Toronto "

- Wm. Partlo (compound condensing). Ingersoll Ont.
- John Cameron & Sons. Toronto "
- Sykes & Ainley. Glen Williams "
- M. F. Beach. West Winchester "
- Spink Bros. Toronto "
- Mount Forest Electric Light Co. Mt. Forest "
- A. Davis & Son. King "
- George Bros. Stouffville "
- A. Newell & Co. Toronto "
- Greening Wire Manufacturing Co. Hamilton "
- McKechnie Machine Co. "
- M. Beatty & Sons. Welland "
- Ireland National Food Co. (comp.). Toronto "
- Thomas Eyre. North Augusta "
- Kay Electric Light Co. Hamilton "
- Chas. Boeckh & Sons. Toronto "
- D. S. Clemens. Fisher's Mills "
- A. Harris, Son & Co. (being the second Wheelock inside a year). Brantford "
- J. W. Mann Manufacturing Co. Brockville "
- Thos. White. Hawkesbury "
- T. Eaton & Co. (2 engines). Toronto "
- Toronto Paper Company. Cornwall "
- Globe Furniture Co. Walkerville "
- Ball Electric Light Co. Arnprior "
- A. H. Wheler. Meadowvale "
- Hamilton Electric Light Co. (second engine). Hamilton "
- Corporation of Town of Mitchell. Mitchell "
- Ontario Government, for Central Prison. Toronto "
- Fort Wayne Jenny Electric Light Co. Brockville "
- Ireland National Food Co. Toronto "

The following electric light companies are using the Wheelock engine:—

- Yarmouth Electric Light Co. Yarmouth, N.S.
- Fredericton Electric Light Co. Fredericton, N.B.
- Halifax Gas Light Co. Halifax, N.S.
- Oshawa Electric Light Co. Oshawa, Ont.
- Guelph Gas Co. Guelph "
- Berlin Gas Co. Berlin "
- Galt Electric Light Co. Galt "
- Orillia Electric Light Co. Orillia "
- Belleville Gas Co. Belleville "
- Brockville Gas Co. Brockville "
- T. Eaton & Co.'s electric light station. Toronto
- Renfrew Electric Light Co. Renfrew "
- Ball Electric Light Co. London "
- Woodstock Electric Light Co. Woodstock "
- Cobourg Electric Light Co. Cobourg "
- Orangeville Electric Light Co. Orangeville "
- Mt. Forest Electric Light Co. Mt. Forest "
- Hamilton Electric Light Co. (2 engines). Hamilton "
- Corporation of Town of Goderich. Goderich "
- Stratford Gas Co. Stratford "
- Reliance Electric Light Co. Waterford "
- Ball Electric Light Co. Arnprior "
- Corporation of Town of Mitchell. Mitchell "
- Cannington Electric Light Co. Cannington "

At the recent Inventors' Exhibition in London, England, a Gold Medal was awarded the Wheelock engine.

The following, from the Worcester, Mass., *Evening Gazette*, gives the reader an idea of the success of the Wheelock engine abroad:—

"Mr. Jerome Wheelock has just returned from a business trip to England, and reports a most favorable errand. He is now engaged in getting out several drawings of his improved cut-off engine, to send abroad. The machinery in the London, Eng., Exhibition building is driven by a Wheelock 300 horse-power engine, which is admired by the crowned heads and expert mechanics of all Europe. Another of his engines is in use in the British arsenals in Woolwich, having 1,000 horse-power. The French Government has ordered engines sufficient to cover 4,500 horse-power to be distributed throughout its various arsenals, and also engines having several thousand horse-power for the waterworks of Paris. Another is about to be put in a 100,000 spindle mill at Manchester, Eng.; having a 56-inch cylinder and 8-foot stroke; another at Oldham, and still another is being put up in India by British authority. In this country one of the largest shipments was recently made to the Chicago City Railroad Company for drawing street cable cars, consisting of two engines 36x72, making the eleventh consecutive engine sent to this company."

In our own Dominion the success of the Wheelock engine is unparalleled; upwards of two hundred and sixty are now in use, and the firm busy on ordered work.

CHATHAM MANUFACTURING COMPANY.

THE Chatham Manufacturing Company, Chatham, Ont., presented a fine display of their wagons in the Carriage Building. The company's celebrated "Government Standard" wagon was a more familiar sight to visiting farmers than to town people, for it is safe to assert that there is scarcely a township or concession in the country, from Nova Scotia to British Columbia, where these wagons are not in constant use. On the other hand, there is not a town where their trucks and lorries are not seen, nor a railway station where their baggage trucks are not in use. The Company inform us that since the Fair of a year ago they have manufactured and sold over 2,000 of their wagons. Sales are constantly increasing, and preparations have already been made for the manufacture of three thousand or more of them by this time next year. This shows a gratifying condition of business, but it is to be attributed first to the real excellence of the goods, and second, to the indomitable push and energy in business that will always win, and without which no man could hope to win. The wagons shown at the Exhibition were in all respects just like those sold from the Company's warehouses at Chatham, and showed the utmost care in the selection of material, precision of workmanship and nicety of finish. The iron-work of them was as smooth and nicely finished as that of any pleasure carriage on the grounds.

The Company possess unequalled facilities for the manufacture of these vehicles. They are large manufacturers of hardwood lumber and ship plank, and have extensive sawmills for that purpose, in which several million feet of lumber are cut annually. A great deal of this is suitable for wagon building; and whenever a particularly tough log is hauled into the mill it is cut into wagon stuff and stacked in the open air to season. As to iron, being probably one of the largest consumers of certain special shapes in Canada, their supplies are made to order for them, and, having their own foundry, all their castings are done on their own premises.

The Chatham Manufacturing Company's wagon works proper are among the most extensive in Canada, and the most important. Included is a brick building the equivalent of 270 feet long by 40 feet wide, two stories high, which, with other buildings, give a floor space of about 50,000 square feet.

THE RELIANCE ELECTRIC MANUFACTURING COMPANY.

THE Reliance Electric Manufacturing Company, of Waterford, Ont., again made one of their beautiful exhibits of electrical appliances and machinery in Machinery Hall; also supplying electricity for a large number of lights in various parts of the grounds. No company in Canada has done more than the Reliance in educating the people up to the great advantages to be derived in the use of electricity for illuminating purposes, and in demonstrating that the subtle fluid can be safely and economically put to a large number of uses in every-day life.

One of the most important things to be considered in determining the relative merits of different electric light systems is the amount of power required in each to produce a standard light. Economy of operation, coupled with durability, is now the great vital point in a perfect electric light system. Such a stage of perfection in arc lighting has been reached, the only real field in which there is room for improvement being in the cost of producing the light. The Reliance Company say that the cost in their system is less than in any other system of electric lighting. Actual tests made with a fifty-light arc plant, of 2,000 candle power per light, installed by the Reliance Company for the Niagara Assembly, showed that the power required to drive engine and dynamo, supplying electricity to these 48 lamps, with the current going through over eight miles circuit of wire, was only 54 horse power per lamp. The Reliance Company is a recent organization. A year ago, soon after they began business, they had effected but seven installations. At this time their system is in operation in thirty-four towns, their sales of dynamo capacity during the year aggregating 1,200 arc lights. The Company inform us that only 13½ horse power is required for a station of 25 arc lights of 2,000 candle power; 18½ horse power for a 35-light station, and but 21 horse power for a 40-light station. They also say that Waterford, where their works are, is the only town in Canada whose streets are lighted with lamps of 1,000 candle power.

The Reliance Company have secured the control in Canada of the celebrated Mason secondary or storage battery, and will manufacture and sell it under the name of the Reliance storage battery. It is specially adapted for house lighting, motive power for boats, etc.

JOHN ABELL.

MR. JOHN ABELL, proprietor of the John Abell Engine and Machine Works, Toronto, made his usual extensive exhibit in Agricultural Machinery Building, of reapers, mowers, and other farm implements and machinery manufactured by him, and on the open grounds adjoining a sawmill, which was in actual operation, and a number of traction, portable and stationary engines, produced at his works. These exhibits occupied a most prominent place on the Fair Grounds, and, because of their novelty and excellence, attracted constant attention. Included in the exhibits were traction and compound portable engines; "Triumph" and "Advance" portable engines; straw-burning portable engines; "Toronto Advance" and "Paragon" steam thresher; vibrator thresher, for steam or horse power; horse power and tread power threshing machines, and "Victor" double huller clover machines. Regarding the "Triumph" engine, the official report in the scientific test of portable engines, held at a recent Toronto Industrial Exhibition, shows that this engine, developing ten horse power, saved, over four other similar engines shown by other exhibitors, a saving of 140 pounds of wood per day of ten hours up to 616 pounds per day. Another similar official test, made at a later date, shows the saving to range from 288 pounds of wood per day of ten hours to 938 pounds.

Mr. Abell manufactures steam boilers of every description and size required, and has every facility for turning out work on the shortest notice. The rivetting is done with the Tweedle patent hydraulic rivetter, which produces a pressure of sixty thousand pounds on every rivet, making the joints like the solid plate. This rivetting is vastly superior to any done by hand, even by the best workmen. Other similar work includes all descriptions of boiler work, such as oil stills and tanks, gas tanks, pulp boilers, rotary boilers, stationary, round, tubular, horizontal and upright boilers, either of steel or iron. All information regarding the products of these works will be cheerfully furnished by Mr. Abell.

TORONTO GLUCOSE FACTORY FOR SALE BY AUCTION

This property has a frontage of 133 feet on the Esplanade immediately east of Sherbourne Street, by a depth of over 700 feet to the new Windmill line in Toronto Bay.

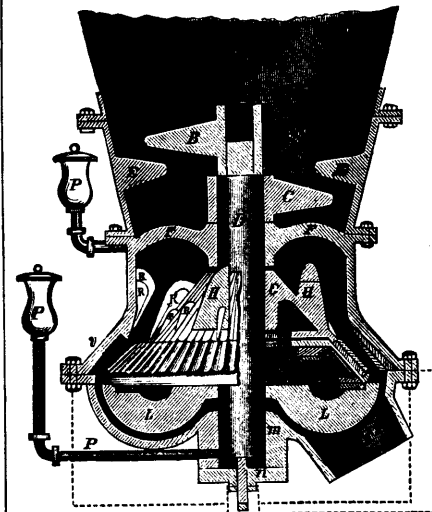
On the property is erected a brick factory, four storeys high, and about 102 feet by 131 feet with 20-inch walls, having a capacity of between 600 and 700 bushels of corn per diem, which could be readily increased at a comparatively small cost to 1,500 bushels per day. The plant and machinery is of the most improved description, and is in thorough working order. The facilities for shipping from this property by boat and rail cannot be surpassed.

The property will be sold with or without the machinery.

THE ABOVE PROPERTY WILL BE OFFERED

For Sale by Public Auction, on Saturday, 5th Oct., 1889, at 12 o'clock noon, at THE MART, 37 King Street East, Toronto.

For terms apply to the auctioneers, Oliver, Coate & Co., or to Beatty, Chadwick, Blackstock & Galt, 58 Wellington Street East, or to Wm. Reford & Co., 88 Church Street, Toronto.



Important to Tanners.

SEGMENT BARK MILL.

For Grinding any hard substance
SUCH AS

Cement, Plaster, Bones, Bats,
Ores, Paint, etc. It is also
used to grind Liquorice
and Sarsaparilla roots.
Also as a Corn
Breaker.

The Segments will retain
their cutting edges longer than
those of any other Mill, and
when dull can be quickly and
cheaply renewed.

It has the following good
qualities, viz:—Fast grinding;
very prepared bark; is easily
started and small power re-
quired to drive it.

It works with ease in damp
or frozen bark, and break-
ages are prevented by safety
coupling.

PAXTON, TATE & CO.,
PORT PERRY, ONT.

C. G. CLEVELAND.G. F. CLEVELAND.

J. L. GOODHUE & CO.

MANUFACTURERS OF SUPERIOR QUALITY

LEATHER BELTING

DANVILLE, - QUE.

As Saw Mill work is the hardest that Belting has to do, we refer
by *Permission* to

Messrs. Gilmour & Co., Trenton, Ont.; The Rathbun Co., Deseronto, Ont.; Messrs. Boyd Caldwell & Son, Carleton Place, Ont.; The E. B. Eddy Manfg. Co., Hull, Que.; Messrs. Beck & Co., Penetanguishene, Ont.; Messrs. Flatt & Bradley, Casselman, Ont.; Messrs. Hall, Neilson & Co., Three Rivers, Que.; Cookshire Mills Co., Sawyerville, Que.; The Bennett Saw Mill Co., New Westminster, B.C.; The Waterous Engine Works Co., Brantford, Ont.; The Wm. Hamilton Manfg. Co., Peterborough, Ont.

THE WELLINGTON MILL
LONDON, ENGLAND,

GENUINE EMERY

OAKEY'S Flexible Twilled Emery Cloth.

OAKEY'S Flint Paper and Glass Paper.

OAKEY'S Emery Paper, Black Lead, etc.

Prize Medal and Highest Award, Philadelphia, 1876, for Superiority of Quality, Skillful
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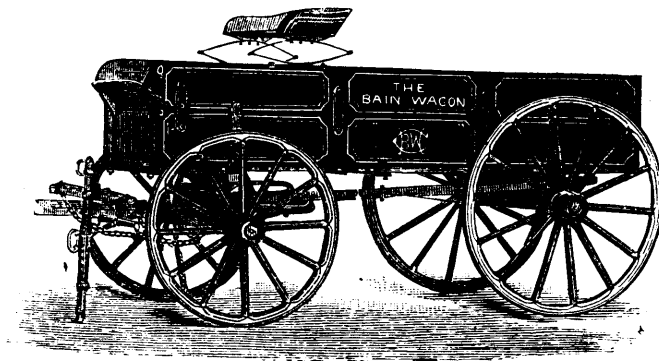
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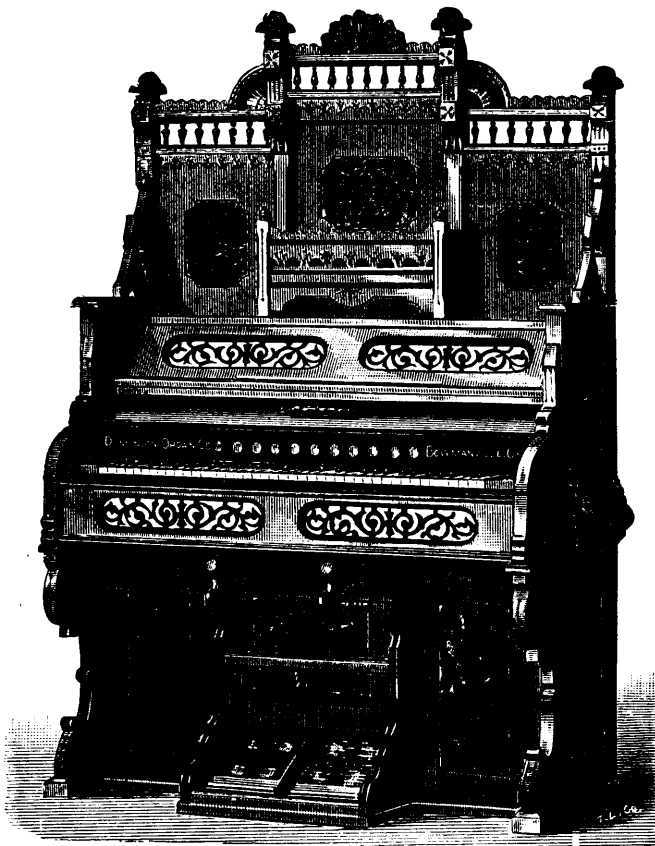
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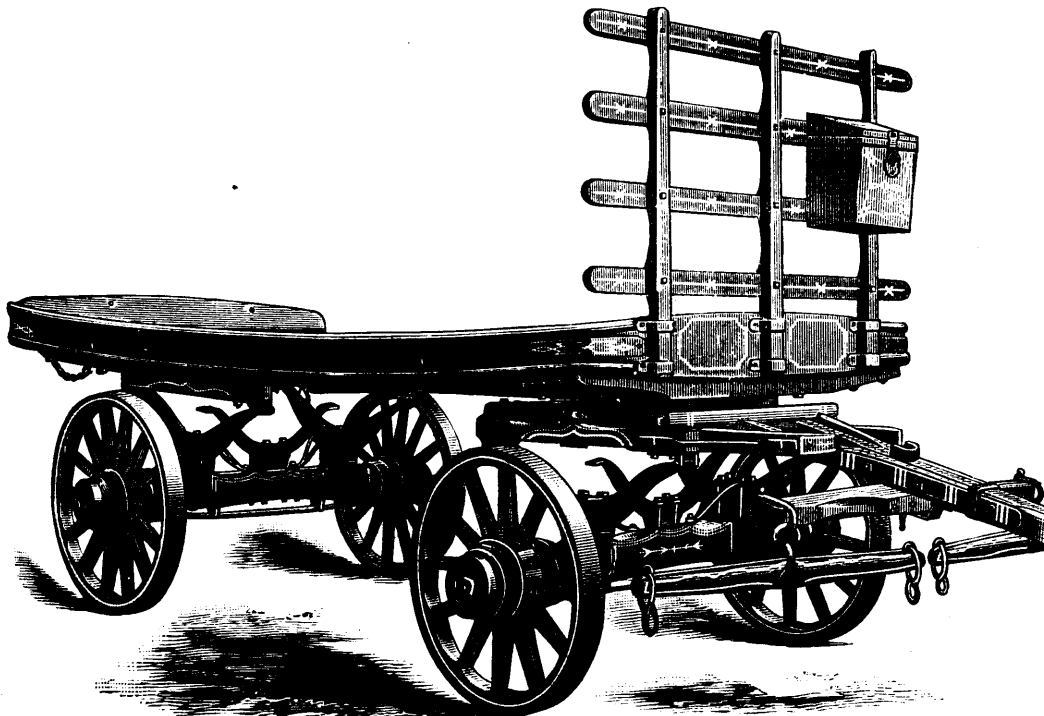
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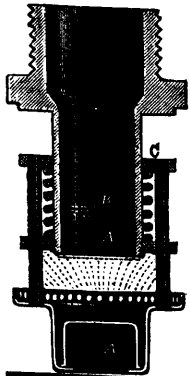
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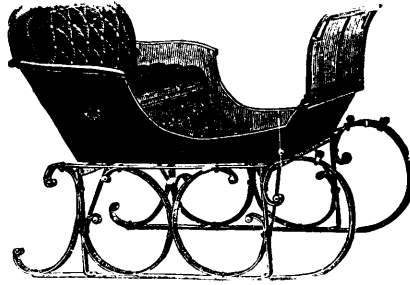
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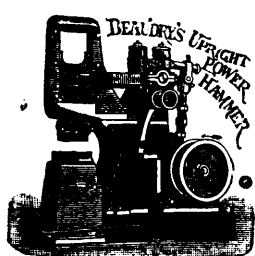
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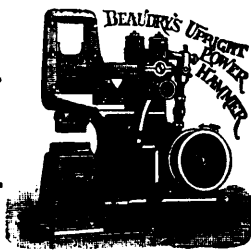
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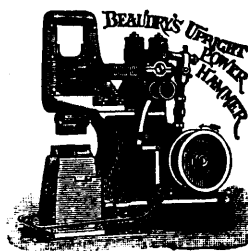
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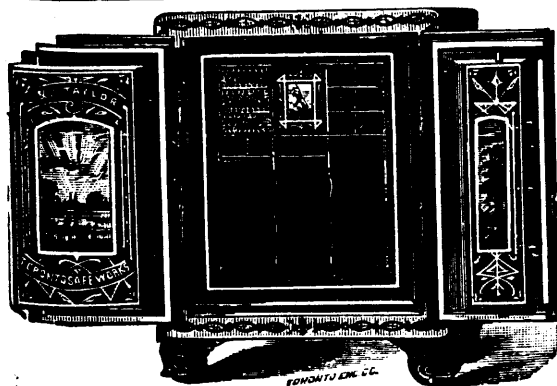


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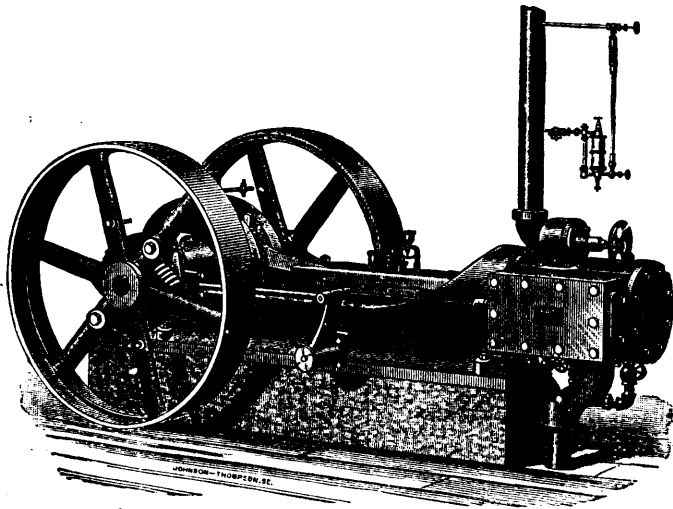
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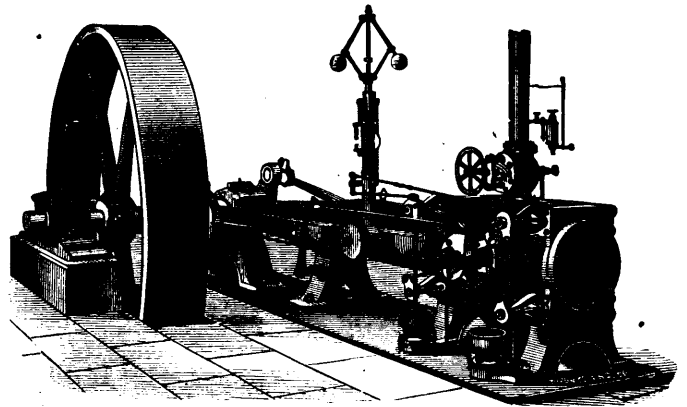
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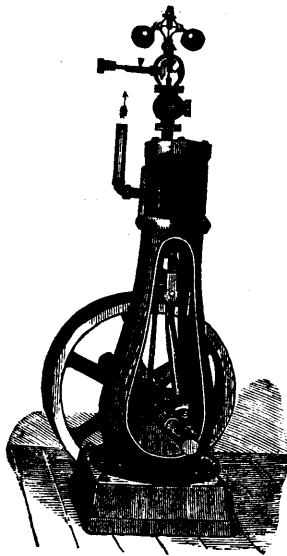
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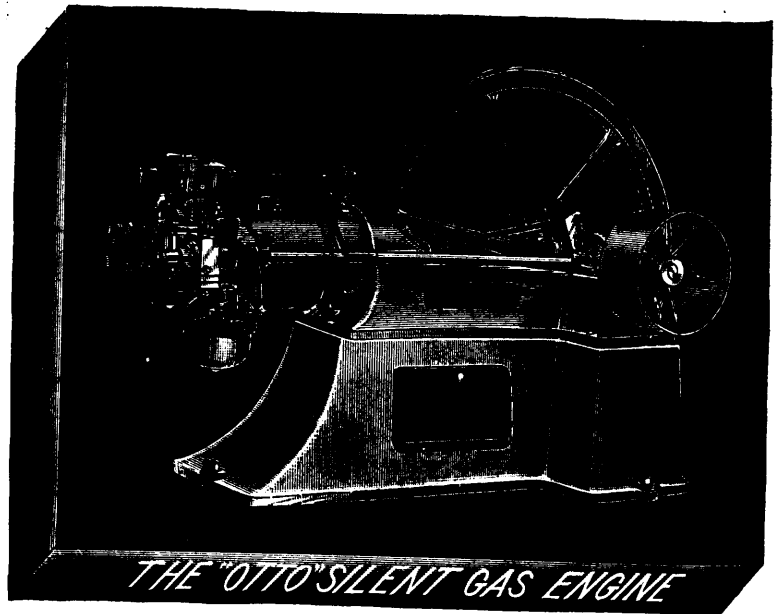
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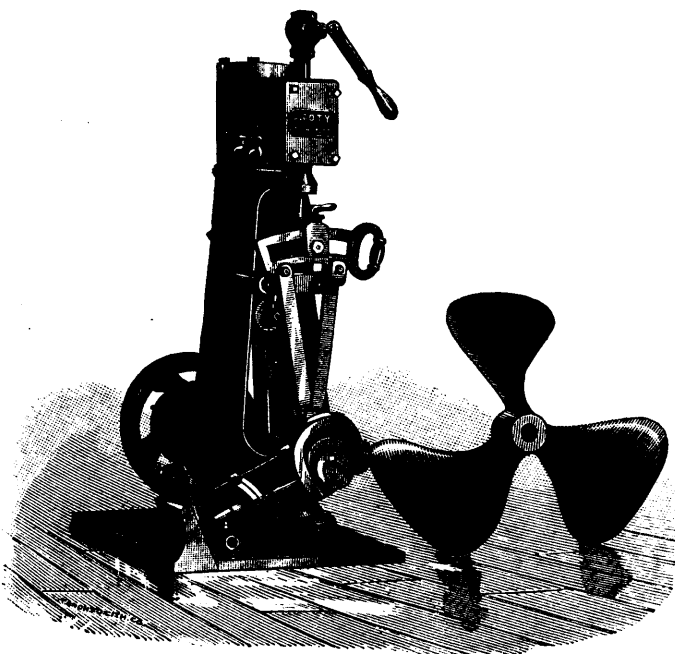
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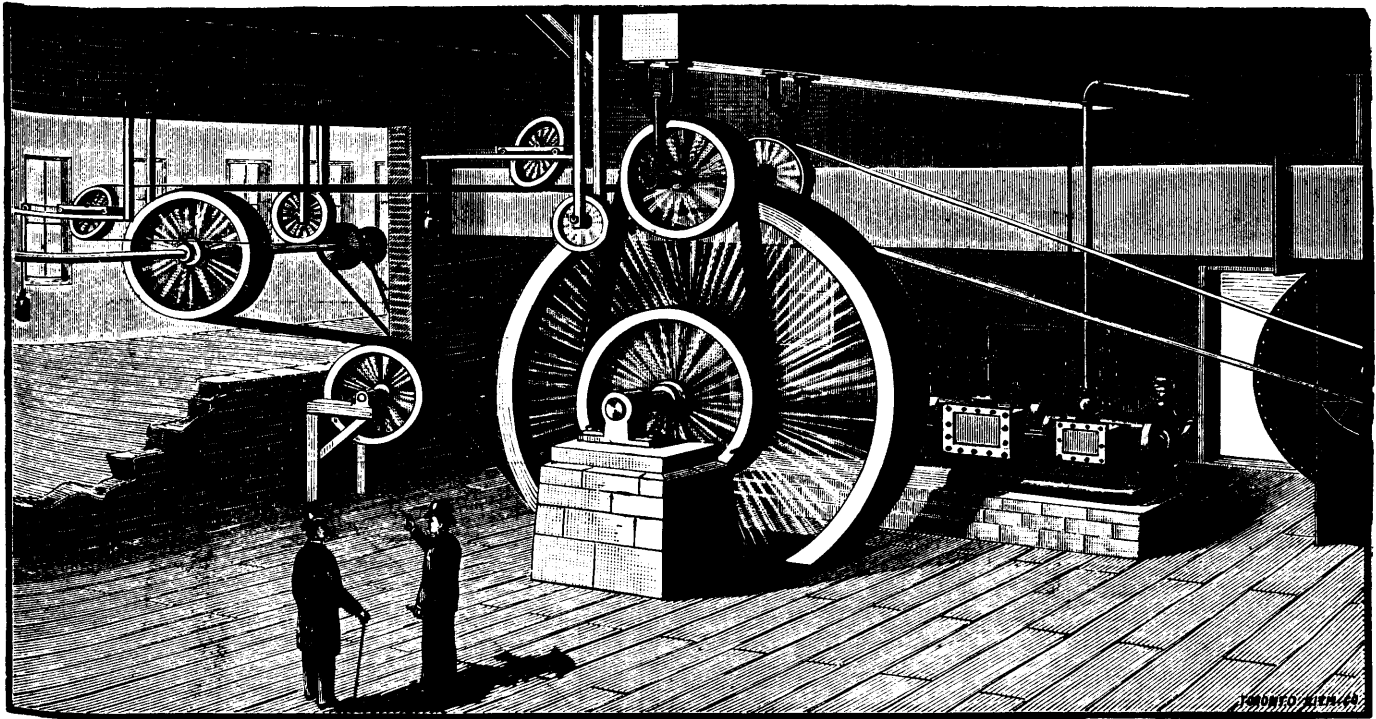
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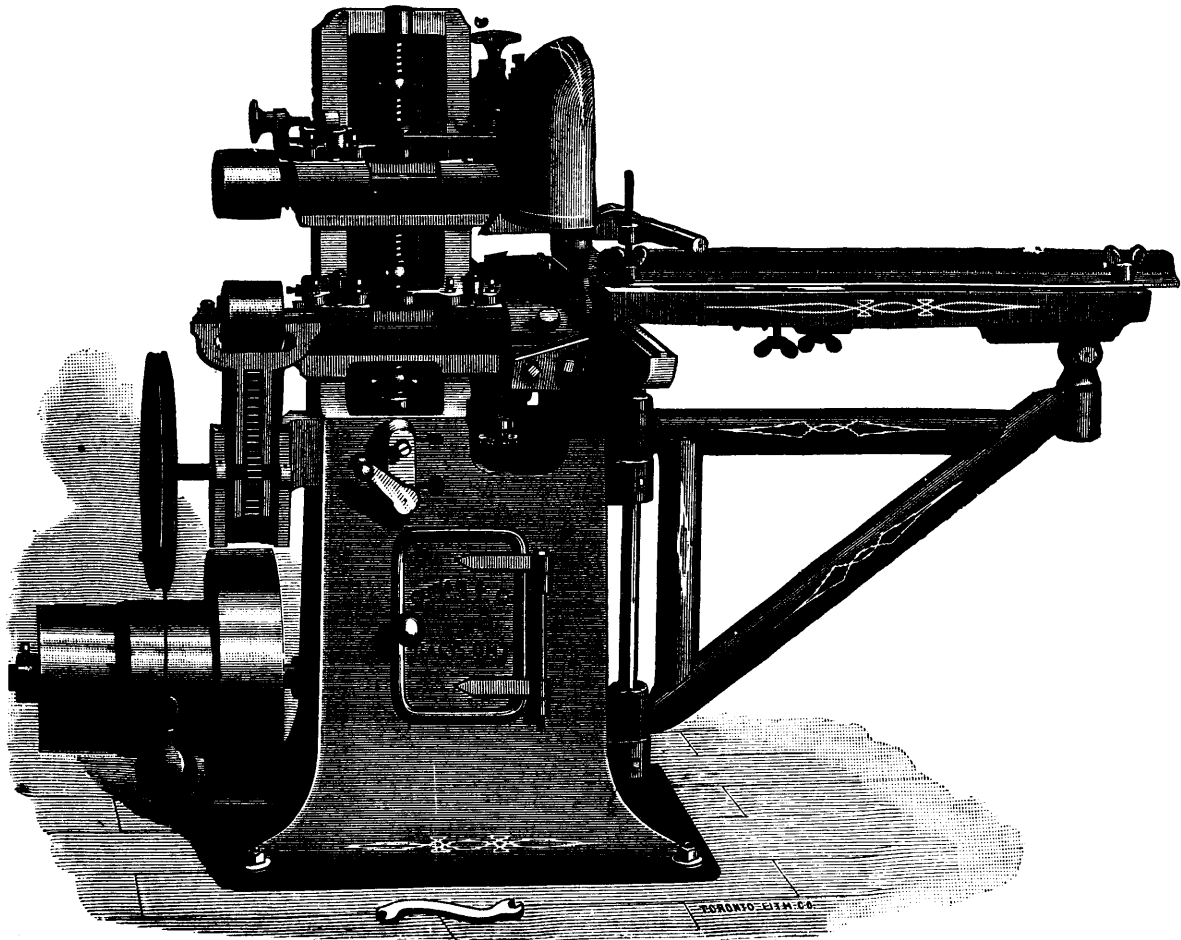
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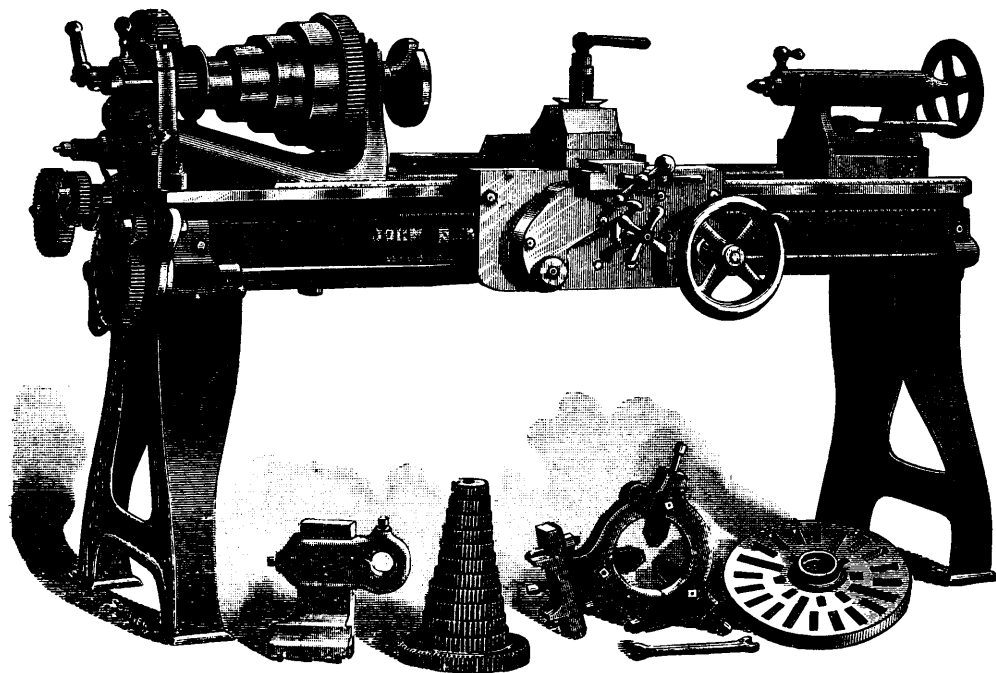
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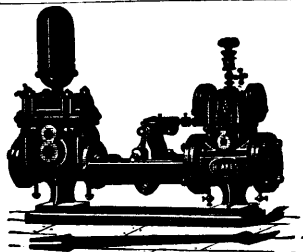
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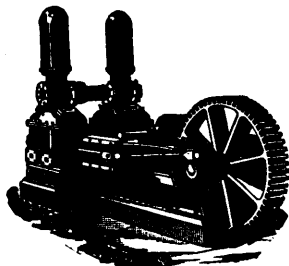
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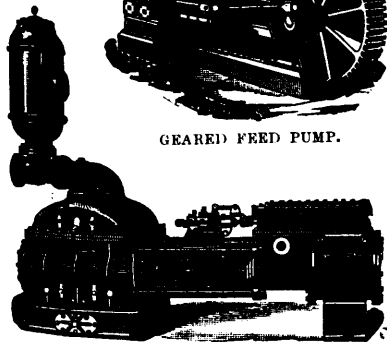
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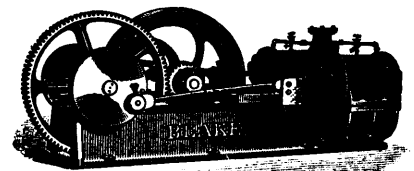
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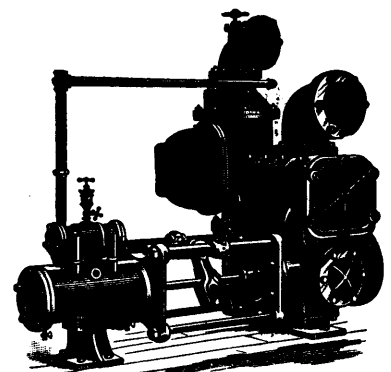
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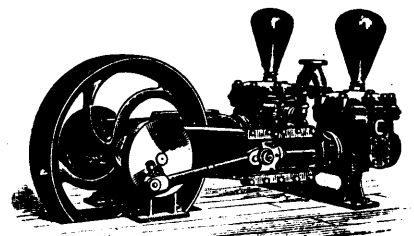
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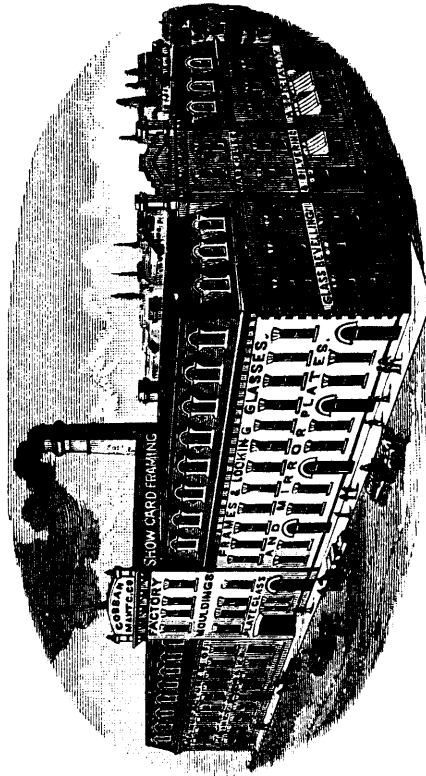
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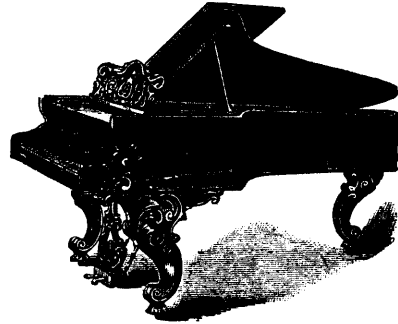
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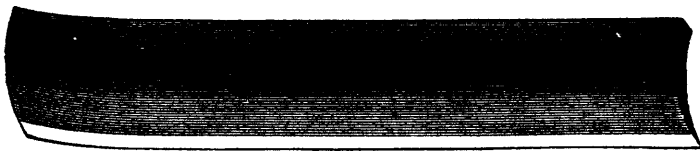
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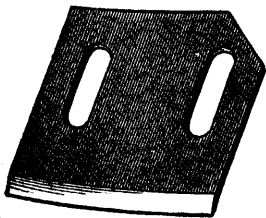
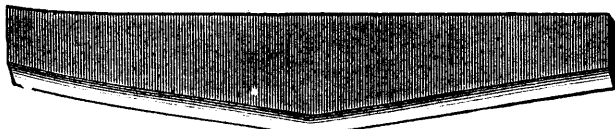
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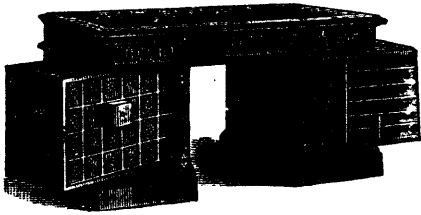
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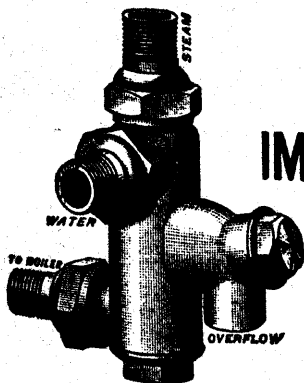
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