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**CANADIAN MANUFACTURED**  
 AND INDUSTRIAL WORKS  
 DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

Vol. 25. TORONTO, SEPTEMBER 15, 1893. No. 6.

... ESTABLISHED FIFTY-FIVE YEARS ...

**THEO. H. EATON & SON**  
 WINDSOR, ONT.  
 Importers and Manufacturers  
 OF  
**Dyewoods, Dyeing Drugs**  
**ACIDS**  
 PURE DYEWOOD EXTRACTS  
**CHEMICALS, ALKALI, ETC.**

SOLE AGENTS FOR THE CROWN ANILINE DYES AND ALIZARINES, ETC.



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 Manufacturers of *Leathers* and  
 Alizarines

Read, Holliday & Sons, Ltd., *Widmersfield, England*  
 Manufacturers of *Aniline Dyes*

Mucklow & Co., *Bury, England*  
 Manufacturers of *Dyewoods* and  
 Dyewood and *Washing Extracts*

B. Wilkinson & Co., *Church, England*  
 Manufacturers of *Indigo Extracts*  
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**F. E. DIXON & CO.**  
 MANUFACTURERS OF  
**LEATHER BELTING**  
 70 KING STREET EAST  
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Our Electric and Dynamo Belts  
 Cannot be Surpassed for  
 Quality and Durability

**LARGE DOUBLE BELTS**  
 Made up to any width.

SEND FOR OUR BELTING HANDBOOK AND DISCOUNTS.

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**TANNED BELTING**

THE J. C. McLAREN BELTING CO., TORONTO AND MONTREAL

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 BENZO COLORS  
 METHYLENE BLUES  
**DYEWOODS**  
 EXTRACTS, CHEMICALS

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 HOWARD ST. OF TORONTO LTD. CANADIAN  
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**JOHN BERTRAM & SONS**  
**Canada Tool Works**  
 Dundas, Ont.

See Advertisement, Page 248.

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 C. C. HARRIS  
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**Bar Solder, Wire Solder, Babbitt Metal, Stereotype and Sheet Metal, Etc.**

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John Abell Engine & Machine Works  
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**BOILERS**  
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**ENGINES**  
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**ROLLER MILLS**  
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**FOR MALLEABLE IRON FITTINGS, FOR STEAM, WATER, OR GAS PIPE,**  
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**Rubber Stamps, Stencils, Seals, Etc.**

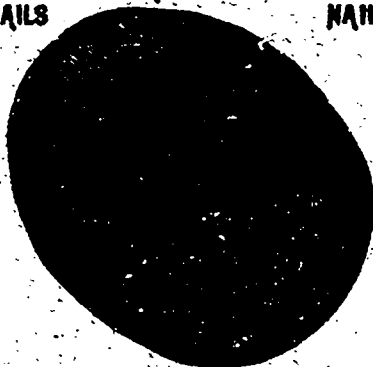
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**THE ONLY TRUE FIRE-PROOF PAINT MANUFACTURED IN CANADA**

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**CUT NAILS ALL SIZES WIRE NAILS.**



ASK FOR THE GRAMM NAILS

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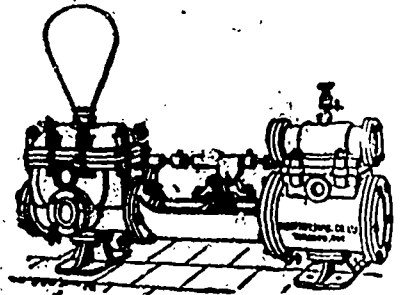
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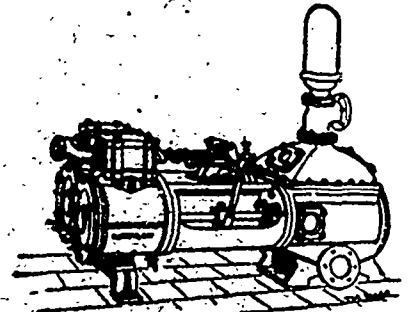
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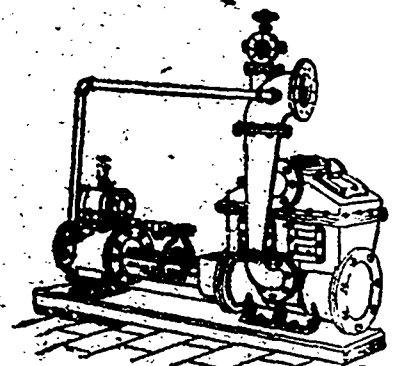


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Independent Condensing Apparatus

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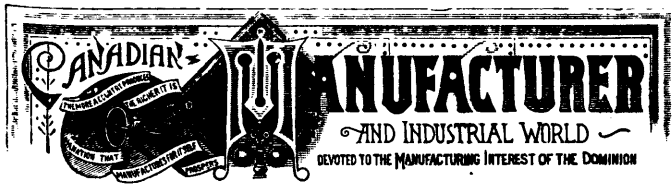
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Published on the First and Third Fridays of each Month

BY

The Canadian Manufacturer Publishing Company, Ltd.

Room 66 Canada Life Building, King Street West, Toronto.

TELEPHONE 1274.

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SECRETARY'S OFFICE:

Canada Life Building, King Street West.

MANUFACTURERS WHO EXHIBIT AT THE FAIR.

EVER since the Toronto Industrial Exhibition Association have been holding their fairs it has been the custom of the Toronto daily newspapers to have their advertising representatives upon the grounds, during the continuance of the Fair, soliciting write-up notices for their respective journals from those who exhibited there. The work has never been done in connection with the usual reportorial work of the papers descriptive of the Fair and its attractions, and it has been confined almost exclusively to exhibitors other than those who showed horses, cattle, sheep, swine, etc. In fact this soliciting has been confined almost exclusively to manufacturers who displayed their own products. These newspapers have usually given fair descriptive notices of the opening ceremonies of the Fair, and the entertainments and amusements presented from day to day; of the notable persons who lunched with the president and directors, and of the speechmaking there indulged in; of what was to be seen in front of the grand stand; of the horse racing; of the processions of fat

cattle; of the dog show; of the fireworks and the side shows. These affairs have always been given much space and prominence in the papers; and to this feature no possible exception could be taken. But it should be remembered that although the features here alluded to were included in the programmes of the Fair, one of the most important features, and that which has done more, perhaps, than anything else to give it the great eclat and deservedly popular reputation it has attained, was the exhibits of greatly varied lines of machines and machinery made by our Canadian manufacturers and shown by them. For several years after the establishment of the Fair the Exhibition Association bestowed medals, premiums, diplomas, etc., upon these exhibitors, but this was abandoned several years ago, although such awards are still bestowed upon exhibitors of live stock, agricultural products, fruits, vegetables, fancy work, etc. These awards aggregate in value quite large sums of money; and it was to save to the Association this expense that influenced the manufacturers to unanimously request the Association to abandon these awards as to them.

No exhibitors who have ever displayed their products at the Toronto Fair have ever shown more zeal and interest in the success of the Fair than the manufacturers. Their goods were heavy and very valuable. They were the product of the handiwork of the most skilled artisans in Canada. They were representative and descriptive of that which made Canada the equal of the world and independent of the world in those products of mechanical genius and skill; and just such machines and machinery as are to be seen every year at the Toronto Fair are now on exhibition at the World's Columbian Exposition at Chicago, made by the same manufacturers, exciting the admiration of experts from every country of the globe. It costs our manufacturers much money to display their products at our Fair, and it is safe to say that if they really effect any sales by having thus exhibited, the profits on such sales have never amounted to a moiety of the expense incurred. It is not, then, in the hope of any great money gain that our manufacturers bring their products to the Fair; but it is chiefly to benefit the Fair and add to its eclat, and to show to the world that as far as their lines of products are concerned, Canada is to all intents independent of the world. To withdraw the exhibits of the manufacturers from the Fair would be like withdrawing the character of Macbeth from the play.

Why is it then that while the Toronto daily newspapers give such accurate and lengthy descriptions of all other features of the Fair, for which no charge is made, no allusion whatever is made to the exhibits of the manufacturers in such descriptions; and nothing is ever said of them except the notices are paid for at the rate of twenty-five cents per line, or whatever may be squeezed out of the exhibitors? But such is a fact which cannot be denied. An exhibitor of an inferior article can have it lauded to the skies in the reading notices in the Toronto daily papers, the most extravagant and often ridiculous claims being made for it, provided the so much per line is forthcoming for it; while perhaps a most meritorious article, which deserves mention, receives never a word concerning it, and that because the exhibitor declines to incur an expense for which he well knows he will receive no return. Exhibiting manufacturers know that this is precisely the case; and the general complaint among them is that day after day and frequently during each day that they are in attendance upon their exhibits at the Fair, they are beset by

what some of them describe as the harpies and blackmailers of the Toronto daily newspapers, who make their lives miserable, filling them with disgust at the rapaciousness of the sharks that bedevil them.

Why is it that the manufacturers are obliged to submit to this condition of things? The daily newspaper advertising solicitors seem to think they are fair and legitimate game, and that they have a proscriptive right while on the fair grounds to waylay the exhibitors at every turn, and by means with which they are painfully familiar, force them to pay tribute in style that discounts Jack Cade's most effective methods, and quite as effective as the exploits of the buccaners of a hundred years ago.

Why is it that the Toronto Industrial Exhibition Association do not recognize the existence of this fearful nuisance, and put a stop to it? It is disgusting the exhibiting manufacturers, and is rapidly leading to the time when to avoid it they will be obliged to avoid coming to the Fair. It may be said that these newspapers do much to advance the interests of the Fair, and that therefore they should be allowed to carry on their nefarious practices unmolested. The answer to this is, that it would be better for the Association to pay money for such services just as they pay for other services. Other nuisances are not allowed to exist upon the grounds and this newspaper nuisance should be suppressed.

#### NEWSPAPER FAKIRS AT THE FAIR.

Now that the great Toronto Fair for 1893 is a thing of the past, we desire to direct the attention of the Industrial Exhibition Association, of manufacturers who have been exhibitors there, and of all who may be interested in the continued success of the Fair, to an evil which has been increasing in virulence quite rapidly during the last few years, and which has now become such a nuisance as to actually threaten the success of an institution in which not only Toronto but the whole country is interested. We allude to the practices on the Fair grounds of the advertising solicitors of Toronto daily newspapers.

It is the province of the daily papers to give fair descriptions of the attractions to be seen at the Fair, by which visitors may direct their steps to the exhibits which they most desire to see. In doing this it is not necessary to give technical descriptions of machinery, but rather to mention names of exhibitors and the character of their exhibits. It is not objectionable to publish "write up" notices of exhibits, but these should not be included in, or form part of such mention as may be made of the Fair and its attractions. It is to be observed, however, that no mention is ever made of any manufacturer's exhibit, no matter how meritorious and attractive it may be, if the exhibitor declines to be bled to the extent of so much per line for the notice. This method precludes the possibility of any accurate description of the Fair being given; and it is apparent that such notices as may be given are not the result of the observations of the intelligent reporter, but the dictated desires of the exhibitor to the advertising solicitor.

It may be urged that this method does not concern the general public and that the newspaper is not accountable to any outsider for the way in which its business is conducted. On general principles we are free to admit this, but the point we make is not to criticise the management of the newspapers,

but to protest against the methods of advertising solicitors which are calculated to annoy and disgust exhibitors to an extent which we think will, sooner or later, force them to keep away. Manufacturers are always at heavy expense in exhibiting at the Fair. Frequently special machines or machinery must be built at large cost. It is expensive to handle it. It must be insured. Freights must be paid. Skilled mechanics must be detailed to set it up and operate it, and if the exhibit or is a non-resident, hotel bills for himself and attendant must be liquidated. The Exhibition Association very cheerfully render the exhibitor every possible facility and convenience, but it is a heavy tax on the manufacturer to make an exhibit, and there is no reward to him except the gratifying knowledge that he is showing to the world what Canada can produce in his line, and that he has added to the success and eclat of the Fair. The manufacturers are awarded no prizes, medals or diplomas—and this at their own solicitation. They show their products on their own merits, asking no favors; but at the same time it is not pleasant for them to observe that in the newspaper reports of the Fair space may be purchased for a price where any competitor may have said anything he pleases in praise of his exhibit, he who declines to be taxed for such notices being ignored. The fact is, no manufacturer can hope or expect to see any notice whatever of his exhibit made in the daily papers unless he pays liberally for it; and it is but too frequently the case that a manufacturer who has been at heavy expense in displaying his products feels that however ill he can afford it, if he is to receive any recognition whatever at the hands of the Toronto daily papers, it must be paid for at so much a line. And this fact is made apparent to him most forcibly by the importunities of the advertising solicitors for the aforesaid daily papers: and these are the gentry who make life a burden to the manufacturer. In season and out of season he is beset by them, and he has no pleasure in living, or in being an exhibitor until he has contracts for a "write up" notice for one or more of the Toronto daily papers. If the Exhibition Association have any regard for the continued good will of manufacturers making exhibits they should see to it that they are protected against this imposition.

The management of the Fair have always appreciated the value of the newspapers in keeping their enterprise prominently before the public, hence their willingness to favor the papers in every reasonable direction; and in this spirit some seven years ago the Exhibition Association erected a commodious building for their use upon a prominent location on the grounds. This was a departure from what prevailed elsewhere. It is not customary elsewhere to supply any such accommodation for newspapers. In theatres and lecture halls newspaper men are supplied with admission tickets, and where important public meetings are held, tables for reporters are placed in desirable positions, this being the extent of the privileges and accommodations usually accorded to the press. These are furnished to enable the reporters to give to the public through their papers an account of what may be transpiring. It is an unheard of thing for theatre and lecture hall managers to furnish newspaper solicitors with facilities within their enclosures for pouncing upon patrons and browbeating them into signing contracts for advertising. They consider that admission tickets for reporters is all that should be required of them, and there is where the line is drawn.

As regards the Toronto Fair it is well known that it is not conducted with a view to making money for the Association: there is but one officer in it, we believe, who receives any pay for his services, and those services require his best executive ability all the year round. The Fair is a public institution run in the interest of the city and Canada generally, but under the management of an Association, the members of which are selected from a large number of sympathizing associations of semi-public character, and of certain members of the city government. These gentlemen give their time and earnest support to the enterprise. It may be contended that the newspapers are also of a semi-public character; but whatever money they may make goes into the pockets of the proprietors. They are supposed to furnish a good service to their patrons and the public, and they are paid very liberally for so doing.

One method adopted by the Fair management to obtain revenue is to impose a privilege tax upon all non-exhibitors who desire to infest the grounds during Fair time for money making purposes, except upon the newspaper men. The peanut and banana pedler, the candy butcher, the pop-corn and lemonade man, the merry-go-round and the restaurant keeper are all taxed, but the newspaper advertising solicitor is not. It is in no wise essential to the success of the Fair that "write up" advertising of Fair exhibits be displayed in the daily papers. The newspapers owe it as a duty to the public that all matters of interest transpiring in or about the city shall receive due notice by them, which includes the Fair, of course. There has been some talk of the newspapers boycotting the Fair under certain circumstances; but such vaporings are not worthy of consideration; and we are not inclined to believe that the proprietors of the Toronto daily papers would attempt any such thing, or allow it to be done, whatever may be said of some of their silly and over-exuberant advertising solicitors.

#### EDITORIAL NOTES.

In response to enquiries regarding the matter we are authorized to state that Hon. Mackenzie Bowell, Minister of Trade and Commerce, who sails on Saturday of this week from Victoria, B.C., for Australia, may possibly be ready to sail from Sydney, N.S.W., on his return trip to Canada by the steamer leaving there on November 17; but it is probable that he will not sail from there until December 17. For the benefit of manufacturers who desire to extend their business to the Australian market, but who did not communicate with Mr. Bowell before he started on his journey, and who desire to communicate with him while in Australia, we would state that the next available mail for that country leaves San Francisco, Cal., on September 21, there being no other opportunity after until the sailing of the steamer from Vancouver, B. C., on October 15. Mail matter addressed to Mr. Bowell, care Sir George Dibbs, Premier, etc., at Sydney, N.S.W., Australia, will probably reach him up to the date above indicated.

The Controller of Customs has ordered that the postal customs department of the Toronto post office shall remain open for business from 7 o'clock in the morning till 7 o'clock in the evening every business day, the hours previously observed extending only from 9 a.m. to 4 p.m. The change is a great convenience to the public.

No charge made for these notices.

## The Industrial Exhibition.

THE Fair of the Toronto Industrial Exhibition Association this year is a greater success than ever, notwithstanding the fears expressed by some that the World's Fair at Chicago, on the one hand, and the financial depression that has pervaded the country, particularly the United States, on the other, would have a dampening and discouraging effect upon both exhibitors and visitors.

The fact is, the Toronto Fair is an institution that is so well managed, and so important to the country, and so much appreciated and esteemed by the people, that its success is always a foregone conclusion.

The success of the Fair is due in very large part to the support and encouragement it receives from the manufacturers who so generously and profusely exhibit their products there, and this class of exhibitors is much larger this year than ever before. By reference to the following notices of exhibits it will be seen that more than 250 Canadian manufacturers have favored the Fair with their exhibits, and this includes only the larger and more important concerns, the exhibits which are of no particular merit, or inconsequential, not being mentioned. Of course these notices refer only to the exhibits of our manufacturers, and not to the exhibits of goods made elsewhere, and shown by merchants, dealers and agents.

#### JOHN BERTRAM & SONS,

PROPRIETORS of the Canada Tool Works, Dundas, Ont., show in Machinery Hall a duplicate of the combined fishplate punch and shear, they have on exhibition at the World's Columbian Exhibition at Chicago, which excited so much interest there among machinists. The housings are cast solid being 10 inches thick at the front and extending back 78 inches; they are cast separately, planed and bolted together with 3 inch bolts. The housings extend below the foundation like an arch to give solidity to the gap. The machine is steam driven by an attached engine with cylinder 14x14 inches, and regulating governor. The power is communicated from the engine shaft to the ram by a set of heavy multiple gearing, the last of the series being 9½ inch face and 3½ inch pitch, the wheel and pinion being shrouded to the pitch lines. The eccentric shaft is a hammered steel forging 20 inches diameter at the wheel bearing; the eccentrics are forged solid on the shaft and have a diameter of 15 inches with 5 inch stroke. The two connecting toggles are socketed in top of ram slide with a bearing 6 inches diameter and 10 inches long, and are held in place by steel straps. On the bottom of slide the shear or punch blocks are bolted as required. The shear blades are 57 inches long and 1½ inches thick, and will shear 1 inch plate. The punch blocks are steel, and planed for the reception of punches and dies at any point. The machine will punch 6 holes 1½ x 7-8 inches at one stroke, the number of strokes being 12 per minute. The ram can be stopped by a lever and steel-faced clutch on the intermediate shaft. The intermediate shaft is steel, 8 inches diameter, and the engine shaft is 6 inches, steel. The machine will shear scrap plate 18 inches wide and crop same any length, as there is a clear opening throughout between the housings. The weight is 66,000 pounds; speed of engine 150 revolutions per minute.

There is also an iron planer with 6 foot stroke and a capacity of 24 x 24 inches. This machine has a patent feed motion which produces a feed of from ¼ inch to zero. The driving motion is by worm with worm wheel, or in other words, a tangent gearing, which produces a smooth rolling motion, making the work true and smooth, a thing impossible to the ordinary planer with spur or bevel gearing. By this motion unlimited power is acquired, as the belt runs at a high velocity, with a back motion of 3 and 4 to 1. The belt shipping is produced by a cam movement, which shifts one belt completely before the other moves. There is also a 15-inch shaper with a 15-inch stroke, worm gearing, high belt velocity, back motion 3 to 1 stroke, and can be altered while in motion from 15 inches to zero. The machine is very powerful, and will cut heavily while on the full stroke and work up to a line. Both of the above machines feed automatically at any angle. There is also

No charge made for these notices.

a gap lathe of the latest design, 24-inch frame, 12-foot bed, with extra heavy spindle, powerfully geared, and a saddle with extra long slides. The whole is solid and substantial. A plain milling machine with 24-inch table and automatic feed and stop motion, and an Acme 1½-inch bolting screwing machine also attract much attention.

#### THE DODGE WOOD SPLIT PULLEY CO.

THE Dodge Wood Split Pulley Co. of Toronto, make a very fine display of their patent wood split pulleys in Machinery Hall, also numerous special pulleys of different designs. Their exhibit is very tastefully arranged. Several pyramids of pulleys ranging in size from many feet down to a few inches are to be seen and go to show the extensiveness of the stock carried by this Company. There are also several pulleys of large diameter and narrow face, such as are in much demand for electrical purposes, shown running at a high speed demonstrating their perfect balance. Some very handsome cone pulleys, tight and loose pulleys, paper pulleys, special dynamo pulleys, heavy wood pulleys for saw mills, light iron centre pulleys for cotton mills, in fact belt pulleys suitable for all purposes are plentifully shown; and few mechanics enter Machinery Hall without having a good word to say for the Dodge wood split pulley. The motion supplied for the running of pulleys is a very neat illustration of the Company's patent system of rope transmission of power, driving a shaft at right angles to the main shaft. From this a lower shaft is belted and controlled by a Brown patent friction clutch pulley, a very popular New York made clutch which the Dodge Company are sole agents for in Canada, showing the great convenience of a neat, compact and yet positive and powerful clutch for stopping and starting of intermediate shafting at will.

The Dodge Company although a comparatively young company have made very rapid strides, their works having now a capacity of 200 pulleys per day. They have many of the leading mills in the country as patrons, and have been particularly successful among the large saw mills where the Dodge belt pulley and Dodge system of rope driving has become almost a necessity. In addition to the Company's large Canadian trade they have a very extensive foreign export trade, and when it is known that complete stocks of the Dodge patent pulleys are carried in over 60 cities in Europe an idea of their progress may be had.

The Dodge wood split pulley is carried in stock in all the principal towns and cities of Canada; and users of power should have no difficulty in promptly procuring a good pulley when desired.

They now have in work for the Gilmour Company a piece of work which when completed will, they say, eclipse anything of the kind yet attempted in America as far as can be learned, the transmission of some 400 horse power across a half mile of rough country. Three car loads of iron grooved pulleys are now ready for shipment for this drive, which is expected to be in running order by Oct. 15th.

They also have in work for the Montreal Cotton Company's mill at Valleyfield, Que., some very large pulleys, the largest of which are 168x38 inches, 144x20 inches, 110x38 inches, 96x20 inches. These are made with heavy iron split centres and maple rims, and are probably the largest pulleys of this kind yet produced in Canada. They have also in work for the same Company a very large Rope Drive for conveying power to their new mill now in course of construction.

The Company have removed their Toronto city office and show rooms to more commodious premises, at 68 King St. West, where they will carry a complete stock of their goods.

#### JOHN STARR, SON & CO.,

HALIFAX, N.S., have a fine exhibit in the electrical department of Machinery Hall, in which are included annunciators, batteries, bells, chemicals, dynamos, electric light supplies, incandescent lamps, motors, switches, telegraph instruments, telephones, wire and general electrical apparatus and supplies. This concern have just completed a number of extensions for the Union Telephone Co., with headquarters at Arichat, Cape Breton. This company have some seven different exchanges. They have just laid a submarine cable across Lennox Passage, and have recently overhauled and rearranged the telephone exchange in Antigonish, altering all the instruments, putting on new transmitters, etc., which render the greatest satisfaction.

#### CANADIAN MINERAL WOOL COMPANY,

TORONTO. This company have a fine exhibit of their products in Machinery Hall, including pipe covering, loose wool for deadening walls and ceilings, covering for furnaces, etc.; also specimens of

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the blast furnace slag from which their product is made. We are informed that this is the only concern in Canada engaged in this particular industry. The company have recently secured suitable premises in Hamilton, Ont., and will immediately erect machinery for manufacturing the mineral wool from slag brought from blast furnaces near Buffalo, no other slag being at this time available; but when the proposed Hamilton furnace is put in operation the supplies of slag will be obtained from that source. This will be an industry entirely new in Canada. The raw material which the Canadian Mineral Wool Company now use is brought, we believe, from New Jersey.

#### THE HEESON GRATE BAR CO.

THE Heeson Grate Bar Company, Toronto, displayed a specimen of their Heeson improved rocking furnace grate in Machinery Hall. The construction of this grate may be made to conform to all kinds of heating furnaces, a great advantage of its use being that fully ten per cent. of fuel is saved, or its equivalent in increased steaming capacity of boilers. Some of the largest steam plants in the country are equipped with the Heeson grate. Under date of July 15, 1893, Mr. H. A. Massey, of the Massey-Harris Company, Toronto, gave his opinion of this grate as follows: The Heeson Grate Bar Co.:—I am asked my opinion as to the benefits of your grate bars over others that I have used and had the opportunity of investigating. I have much pleasure in stating that as far as I have been able to judge, I consider your grate bar superior to any other grate that I know of. Having used one under my boiler for the past two seasons, I am confident that there is a saving of at least 15 per cent. in fuel over and above the ordinary grates, and I have no hesitation in recommending it. Persons wanting economical grates should purchase yours.

#### ROBB ENGINEERING COMPANY.

THE Robb Engineering Company, Amherst, N.S., is a late outgrowth of the firm of A. Robb & Sons, well known as manufacturers and dealers in engines, boilers, saw mill outfits, hot air furnaces, etc. About two years ago the company got out the Robb-Armstrong high speed engine, combining the best points in the most modern American engines, and they are now making a specialty of putting out steam plant with their engine and their patent Monarch economic boiler. These steam plants they have supplied for electric light stations as far west as Windsor, Ontario; they are busy on an outfit of their boilers to go to London, Ont., and they are just shipping one of their automatic engines to Lethbridge, N.W.T. One of their boilers they shipped a few days ago to Preston, Ont., and they already have their engines and boilers scattered throughout Ontario and Quebec. Their buildings are all new and substantial, and fitted according to the most approved method. They consist of a large brick moulding shop and mounting shop for furnaces, and a very large boiler shop with travelling cranes. They also have a well equipped pattern shop and drawing office. For the manufacture of their engines they have within the last week or two put in a large new lathe and a large pulley turning and boring lathe. The firm are also agents for the Fuller-Warren system of heating and ventilation, which they have already placed in the handsome new high schools at Yarmouth, Wolfville and Amherst. The furnaces and most of the outfit is made by the Robb Company. The business is under the direct personal management of D. W. Robb, M.E., who is president and consulting engineer, and F. B. Robb, who is secretary-treasurer and manager.

#### DARLING BROS.,

PROPRIETORS of the Reliance Works, Montreal, have an exhibit in Machinery Hall in which are lines of their products. A wire valve wheel is shown which commends itself to engineers and machinists. It is intended for use on throttle valves, radiators, water glasses, guage cocks, oilers, injectors and all hot valves. It does not become hot, like iron wheels, and never warps and splits like wood wheels. The combination of the coiled wire around the hub plate is such that it gives a strong, rigid wheel, a good grasping surface, and presents a pleasing appearance, finished in japan and nickel.

They also show the Morse valve reseating machine and outfit, with which all flat and taper seated valves from ¼ to 4 inches, that gets to leaking, can be made absolutely tight without disconnecting the valves from the pipes. Old valves that have been laid aside as

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worthless can be made as good as new eight or ten times with this machine.

Their L. P. and D. system of power transmission is shown in actual use in the display of the Ball Electric Light Company, where the power of the Armington & Sims engine made by the Doty Engine Works Company is transmitted to the dynamos of the Electric Light Company. This system employs a belt in transmitting the power and by reason of its engaging a part of the periphery of the driving pulley (not encircling it), while getting ample contact to carry any load at dynamo pulley, the belt can readily be applied or released to start or stop, and by reason of the increased contact on dynamo pulley the belt is run at a less tension, causing less friction and strain on dynamo bearings. It carries the weight of the driving pulley and shaft when in operation in the belt as in a cradle, and relieves the main bearings of all dead weight and friction as caused by direct belting or frictional drives.

#### STEVENS, HAMILTON & CO.,

GALT, Ont., show a number of their iron working machines in Machinery Hall, the most noticeable of which is their new 90-inch radial drill.

The principal advantage of a radial drilling machine is in being able to move the drill to the work. This makes a great saving of time on heavy and large pieces. This machine having a round column enables the arm to be swung entirely around it, permitting an extra wing on base, on which to support the table, leaving the main part of base always clear for the bolting of work. This is a great advantage over radial drills which will only swing about half a circle, and on which the table has to be lifted on and off the base as required. The arm is raised and lowered by power, the spindle is counter-balanced, and has a quick return movement, is provided with back gears, hand and power feed, all in easy reach of the operator. The head is moved rapidly along the arm by rack and pinion. The spindle is driven by an endless belt in such a manner that no matter where the head is the belt is the same tension. There is also provision for taking up the usual stretch of the belt instead of re-lacing. The spindle, which is always in two bearings, has a socket the outside of which is the same diameter. This can be taken out, enabling the drill to go up into the head, thereby increasing the capacity of the machine. This machine is particularly adapted for tapping holes, which is accomplished by friction pulleys on the counter-shaft, one running in the opposite direction to the other. The cap on top of column which carries the weight of arm has anti-friction rollers inside and turns very easy. This arrangement enables the column to be made fast to the base which makes a stiffer machine than if column turned.

#### KAY ELECTRIC WORKS,

HAMILTON, Ont., have their usual fine display of electrical machinery in Machinery Hall. This company have already placed a large number of their motors in business establishments in Toronto, where they are giving excellent satisfaction. Their constant potential dynamos and motors are made in all sizes and voltages for both lighting and power, the advantages claimed for them being substantial construction; smooth running and durable; well protected from external injury; parts easily removed for attention or repairs, automatic self-lubricating journal, wastes no oil; current generated with least sparking—consequently small wear of commutator and brushes; perfectly self-regulating and so simple any man of ordinary ability can run them.

A beautiful little machine exhibited by this company is used mainly by silver and nickel platers, and is suitable for small shops that require but a little electrical energy. Weight, 90 pounds. Requires about  $\frac{1}{4}$  h.p. Will operate a nickel solution of sixty gallons or deposit about five ounces of silver per hour. Size of pulley, 2 x 2. Speed, 1,400 revolutions per minute. Constructed of best material and substantial.

#### ROBIN & SADLER.

MESSRS. Robin & Sadler, manufacturers of leather belting, lace leather loom straps, etc., whose head office is at 2518 Notre Dame St., Montreal, and branch office at 129 Bay St., Toronto, make a fine exhibit in Machinery Hall, showing specimens of dynamo belting, of which they make a specialty. Messrs. Robins & Sadler tan their own leather and have increased their trade very much

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during the last few years. At the recent Montreal Exhibition this firm showed a large line of goods which excited much admiration. Their Toronto exhibit is under the management of Mr. Hardman.

#### W. H. BANFIELD,

TORONTO, shows in Machinery Hall his patent planer knife sharpener. It is claimed for this machine that it will sharpen perfectly any planer or other knife from 6 to 26 inches long (or longer if necessary) to any required bevel, and will not take any more off the knife than the machine has been set for. It requires no attention after being once started, as it cannot grind deeper than the required amount. The emery wheel being hollow and the carriage holding the knife moving automatically backwards and forwards, makes it impossible to draw the temper out of the knife.

#### TORONTO ELECTRIC MOTOR CO.

THE exhibit of this company is in Machinery Hall and includes electric motors for incandescent lighting and electro plating, power generators, etc. In suggesting that they furnish complete equipments for electrical transmission of power in factories, this company suggest very pertinently as follows:—

Have you ever stopped the machines throughout your factory and then run the engine and shafting alone? If so, what per cent. of the entire power did the shafting take? Tests by competent engineers show that about thirty per cent. of the power developed in factories is used in driving shafting, even when it is in first class condition, and forty to sixty per cent. is common when the shafting is in bad condition. Why not favor the man who shovels your coal, and cut down running expenses? How? By driving one or two electric generators directly with your engine and using an electric motor for each large machine and for each short line of shafting driving small machines. It takes less coal to drive electricity through wires than to drive long lines of heavy shafting. Each machine will be independent of the others and can be shut down when not wanted; another saving.

#### PETERBOROUGH CARBON & PORCELAIN CO.,

PETERBOROUGH, Ont., of which Mr. J. W. Taylor is manager, make an exhibit of their products in Machinery Hall, in which is shown carbon points of all systems of arc lights, battery plates, carbon brushes, and all kinds of porcelain for electrical and other uses. This company make a carbon equal to any made in the United States, and they have letters received from many of the most important electric light concerns in Canada, testifying to that fact. Among these are the Ottawa Electric Light Co., the Toronto Electric Light Co., the Royal Electric Co., of Montreal, the Hamilton Electric Light and Power Co., the Consolidated Electric Co., of St. John, N.B., and others.

#### THE JAMES MORRISON BRASS MANUFACTURING CO.,

TORONTO, occupy their usual space in the centre of Machinery Hall, in which they display the Hancock Inspirator, of which they are sole manufacturers for Canada; Morrison's improved globe valve, angle valve and radiator valve, simplex lubricator, steam gauges and indicators, lubricators, steam and gas fitters' supplies, etc. The Hancock inspirator has no movable or working parts; is durable and not liable to get out of order. It has a double action, one of which is a lifter and the other a forcer, the lifter drawing the water and delivering it to the forcer, which delivers it to the boiler at any steam pressure. The simplex lubricator has no outside tubes to be disarranged or broken; has a positive flash feed, the body being cast in one piece, avoiding joints and leakage.

#### AUGUSTUS NEWELL & CO.

MESSRS. A. NEWELL & Co., Toronto, have an attractive exhibit in Machinery Hall. Mr. F. H. Wright, the manager of the works, has had years of experience in making fine machinery, and realizing the need of a first-class shop, with first-class tools, in Toronto, where those in want of fine work can be assured of a first-class job, has equipped his works with such tools as Pratt & Whitney planer, shaper lathe, etc., and Brown & Sharpe milling machines and grinders. They pay special attention to the development of new ideas where machinery is intended to be patented, the greatest accuracy and efficiency always being guaranteed.



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### THE CANADIAN RUBBER CO.

THE Canadian Rubber Co., whose head office and factory are at the intersection of Front and Yonge Sts., under the management of Mr. J. H. Walker, occupy a location in the west end of Machinery Hall. This company gives 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. The factory of this company in Montreal gives employment to about 1,000 hands, the yearly output being valued at about \$2,000,000.

### BALL ELECTRIC LIGHT CO.,

TORONTO, make a fine display in Machinery Hall, showing the following apparatus: One 1000 Light Alternating Current Dynamo with Transformers, and complete switch board, fitted with Station Transformer, Am-Meter, Volt Meter, Potential Indicator, and high and low potential lights indicating the exact pressure of the current by red and blue lights without the necessity of coming close to the switchboard to observe the volt meter. They also have one 800 light direct current generator operating both 110 volt incandescent light and 220 volt motor. This generator is connected on to a three wire circuit delivering all the current to the Main Building both for incandescent lights and motors, also operating all the incandescent lamps in their space, and five or six motors, among which are a 10, 7½, 5, 3 and 1 horse power. One of the motors is belted to a 15 light 4 ampere dynamo operating the arc lamps in the exhibit. Connected to the direct current incandescent dynamo are the company's arc lamps for direct incandescent circuits, and on the alternating dynamo, their alternating current arc lamps.

Among the other apparatus shown are recording Watt meters, lamp hour recorders, electric heaters, electric curling irons, etc.

This exhibit is driven by a Doty high speed engine the 1000 light dynamo being close belted to one drive wheel by the L.P.D. transmission device manufactured by Darling Bros., Montreal.

In another space in Machinery Hall the dynamos for supplying about 100 Ball arc lamps to the Main Building and Music Pavilion are located, power for these being furnished by a Wheelock engine. It may be noted here that the arc lights for these buildings were in operation constantly from the opening night until the closing night without any hitch whatever.

The Ball Company have illuminated the Main Building ever since 1883 or 1884 with the exception of one year, and whenever Ball arc lamps have been used in that building it has never been left in darkness. This speaks well for the reliability of the system as it would be a serious affair to have all the lights go out when it is crowded as it usually is. Ball arc lamps are so favorably considered by the Exhibition authorities that they are selected to illuminate the principal buildings. This is a high compliment to the reliability of the Ball system, as Exhibition lighting is necessarily hurriedly put in shape, and with new belts, unadjusted lamps, etc., there are more accidents liable to occur than where electric light plants are permanently installed.

### THE ROYAL ELECTRIC COMPANY,

MONTREAL, present a most attractive display in Machinery Hall, the following giving an idea of what they have on exhibition: The exhibit consists of alternating and direct current dynamos, direct and alternating current motors, automatic arc dynamos, also fan and small power motors. They also have a full line of domestic utensils consisting of, sad irons, polishing and hatters' irons, tailors' goose irons, tea kettles, tea pots, coffee pots, stew pans, broilers and toasters, pancake griddle, skillet or spider, sealing wax heater, curling tongs, office and residence radiators, all operated by electricity. Watch de-magnetizing with alternating current dynamo, or kicking coil, as used in theatres to dim or brighten the lights of the stage. Electric lamps that can be turned down low or burned full at will. The Company also have a special show of all kinds and qualities of rubber covered wires and special wire for high frequency currents, and a full line of flexible cable, also lamps, shades and fixtures of all kinds and descriptions special among which are a line of portable or stand lamps, which are much admired by the ladies. They also show a full line of testing and measuring apparatus for electrical currents and machinery.

The effect produced by the electric signs shown is exceedingly novel and beautiful. All the dynamos and machines are set up in running order and used to light their own as well as some of the

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other exhibits. The company had arranged to make a full electrical display, such as had never been shown in Toronto, but at no time did they command sufficient steam power to do so, no doubt this defect will be remedied before another year.

### NORTHEY MANUFACTURING CO.

THE Northey Manufacturing Co., Toronto, have an interesting exhibit in Machinery Hall of power pumps and pumping machinery. This company have what is probably the largest steam pump and hydraulic works in Canada, amply provided with tools specially designed for building steam pumping machinery, and are in a position to produce the very highest class of work in that line. They invite and challenge a fair comparison of their pumps with those of other makers, both as to design, adaptability to the work to be performed, and excellence of material and workmanship.

This company manufacture pumps for every possible use, and of course it would be unnecessary to attempt to describe them here.

### DOTY ENGINE WORKS CO.,

TORONTO, exhibit in Machinery Hall one of their Armington & Sims automatic cut-off engines. This engine drives the entire electric plant of the Ball Electric Light Co. This company also manufacture variable cut-off, plain slide valve, vertical, hoisting and other engines, boilers of all descriptions, saw mill machinery, iron and brass castings, etc.

### DON VALLEY PRESSED BRICK WORKS,

TORONTO, of which Messrs. Taylor Bros. are proprietors, make an attractive display of their products in Machinery Hall. This consists of fine grade pressed bricks in all colors and designs, the effect of which for ornamental purposes in building and ornamentation is exceedingly effective. This concern are now putting in a plant for the extensive manufacture of vitrified brick for street paving and similar purposes.

### A. W. SPOONER,

PORT HOPE, occupies a space in the west end of Machinery Hall with a display of copperine, one of the best and most popular anti-friction metals made. He also shows his Phenile, a disinfectant which is well known throughout Canada. Mr. Spooner is about commencing the manufacture of a fibrous metallic packing, which, he informs us, has already achieved a large and well deserved reputation in the United States.

### SHEET STEEL PULLEY CO.,

TORONTO, exhibit in Machinery Hall specimens of the Sheet steel split and solid pulley manufactured by them. They are made for main shafting, counter-shafting and similar purposes. In connection with these pulleys they show a separable paper bushing, which, they claim, holds an absolute grip upon the shaft, the same bushing being adjustable to shafts of different diameter.

### GOLDIE & McCULLOCH CO.,

GALT, Ont., make a fine display in Machinery Hall of wood and iron working machinery, friction clutch pulleys, etc., and including a fine 80 horse power Wheelock engine being used in supplying a part of the power used in the building. The construction of this engine is very simple, and in the consumption of steam it is very economical. The general design of it is after the American model, the main bed being of trunk girder pattern so arranged that the chief bulk of metal lies in the direct line of strain between the cylinder and shaft bearings. The Wheelock system is specially adapted to high speed. The valves are tight, with no necessity for balancing; and by a peculiar arrangement of the valve movement, the cut-off is very effective and positive in its action. Mr. Walker, who has charge of this exhibit, shows a long list of names of parties who are using this engine, especially in electric light plants.

### H. D. SIMMONS & CO.,

TORONTO, show in Machinery Hall the Canadian safety tackle block which presents features the value of which is quickly appre-

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ciated. The locking device consists of an eccentric, which drops of its own weight on the rope over the sheave. There is an eccentric over each sheave, acting independently of each other, thus ensuring absolute safety. The block is made only of steel and annealed malleable iron.

Messrs. Simmons & Co. are agents for the following well known Canadian manufacturers: Peek, Benny & Co. and Alex. McArthur & Co., Montreal, and J. L. Goodhue & Co., Danville, Que.

**JOHN ABELL,**

Proprietor of the John Abell Engine and Machine Works, Toronto, makes his usual extensive exhibit in Agricultural Implement Building, of reapers, mowers and other farm machinery. These exhibits attract much attention. Included in the exhibits are traction and compound portable engines, "Triumph" and "Advance" engines, straw-burning engines; "Advance" and "Pa-a-gon" steam threshers, vibrator threshers for steam or horse power and horse power threshing machines. Mr. Abell manufactures steam boilers of every description and size, and has every facility for turning out work on the shortest notice.

**MACPHERSON & CO.,**

FINGAL, Ont., show their Advance thrasher in the Agricultural Implement Building. This machine is specially designed for such heavy work as is required in Manitoba and the North-West. It has a first class record.

**J. S. CORBIN,**

PRES-COTT, Ont., successor to the St. Lawrence Mfg. Co., show numerous specimens of the disc harrows, disc drills, land rollers, etc., manufactured by him. These are all standard goods of first class quality.

**SYLVESTER BROS. MFG. CO.,**

LINDSAY, Ont., exhibit their Sylvester steel binder in practical operation every day. They are also manufacturers of many other sorts of agricultural implements and harvesting machinery.

**MANSON CAMPBELL,**

CHATHAM, Ont., shows his Chatham fanning mill, which is accepted as a most excellent machine. It has an attachment for bagging the grain as it comes from the mill.

**TOLTON BROS.,**

GRIMM, Ont., show a pea harvester which consists of an attachment for a mowing machine. It is mounted on a stand and fitted with supplementary lifters which carry the short vines over the knife and prevents any of the pods being cut off and lost.

**R. WOON & CO.,**

OSHAWA, Ont., show their improved clover mill, made in two sizes, for steam and horse power. This concern have a large machine shop at Oshawa, where all sorts of repairs for agricultural machinery are kept in stock.

**ARCHIBALD FILSHIE,**

MOUNT FOREST, Ont., shows a horse power mounted on a truck, which can be readily moved from place to place, the arrangement being such that fanning mills, clover mills, feed cutters, etc., may be operated by it.

**WORTMAN & WARD MFG. COMPANY,**

LONDON, Ont., exhibit spade harrows which, they say, are specially useful in working inverted soil, hard clay lumps, etc. The spades are made of steel which is too stiff to bend and not hard enough to break.

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**H. TALLMAN,**

BEAMSVILLE, Ont., shows lines of sulky plows, field rollers, cultivators, etc., also an improved patent disc harrow.

**P. E. SHANTZ,**

PRESTON, Ont., presents a Buckeye frameless binder which possesses many points of excellence. Mr. Shantz also manufactures mowers, hay rakes, disc harrows, etc.

**MOWAT MFG. COMPANY,**

WHITBY, Ont., exhibit in the Agricultural Implement Building their Turnbull light binder, which combines light draft, large capacity, simplicity and convenience. Weight, 1,050 pounds. They also show a Clokey patent centre cut mowing machine, which weighs but 550 pounds.

**JOHN H. GROUT & CO.,**

GRIMSBY, Ont., show mowing machines, cultivators, disc harrows, walking plows, sulky plows and a grape hoe for the cultivation of grapes and berries.

**JOHN GOODISON,**

SARNIA, Ont., proprietor of the Tunnel City Thresher Works, exhibits his new McCloskey separator.

**NEELY & DURAND,**

DORCHESTER STATION, Ont., show their patent reversible hay and grain elevators and carriers. They make complete outfits for unloading hay or any kind of loose grain.

**WATEROUS ENGINE WORKS COMPANY,**

BRANTFORD, show in operation the principle of their grip coupling and power shifter, which has heretofore been fully illustrated and described in this journal. This exhibit was constructed for and will be used in the power-house of the Wingham Electric Light Company, Wingham, Ont. The Standard French built chopping mill made and exhibited by the Waterous company attracts much attention from farmers. They also show a machine for making paving brick of shale, specimens exhibited showing that they are quite as hard and durable as scorie blocks.

**DAVID MAXWELL & SONS,**

St. MARY'S, Ont., occupy a large space in the Agricultural Implement Building, exhibiting their binders, mowers, rakes, reapers, etc. Their machines combine simplicity of construction, strength, and capacity of work. This is one of the largest agricultural manufacturing concerns in Canada.

**MCCORMICK HARVESTING MACHINE CO.**

The Bindlochine grain harvester, manufactured by this company, is shown in the Agricultural Implement Building. This is an American machine, and exhibited at Toronto as a specimen of the work the McCormick company will produce when they get their new Canadian factory in operation. Mr. P. W. Stanhope Jr., Toronto, is manager of the Canadian branch.

**WATSON MANUFACTURING CO.,**

AYR, Ont., exhibit representative lines of their feed cutters, grinding mills, root cutters, pulper and slicer, ensilage cutter, etc. They show a Webster grinding machine for grinding the sickles and knives of reaping and mowing machines. It is simple in construction, easily worked, and portable.

**J. W. PROVAN,**

OSHAWA, Ont., shows his patent car, fork and sling, a double acting self-reversing machine for carrying hay. There are but few joints, is automatic, and has neither springs nor clutch liable to wear out or break.

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**COPP BROTHERS CO.,**

HAMILTON, Ont., show their improved Queen steel frame cultivator, Empire steel harrow and Manitowan channel steel harrow. They manufacture all kinds of farm and ag. cultural implements.

**T. T. COLEMAN,**

SEAFORTH, Ont., manufacturer of improved modern agricultural implements, has in his exhibit his two-furrow plow; Model root pulper, etc. This pulper has an attachment for preventing the roots becoming blocked in the hopper, by which device the operator runs no danger of having his hands mangled by the knives.

**COCKSHUT PLOW COMPANY.**

BRANTFORD, Ont., show an extensive assortment of the implements manufactured by them. This includes a riding plow which embodies many new, novel and valuable ideas, for which patents have been obtained or applied for in all principal countries.

**MASSEY-HARRIS CO.**

PERHAPS the largest and most varied exhibit of certain lines of agricultural machinery made at the Fair is that of the Massey-Harris Co., in Agricultural Implement Building. It includes the Massey harvester, Toronto mower, Massey-Harris hay tedder, Ithaca hay rake, sectional seeder, combined drill, shoe drill, cultivator, harrows, etc. Over 45,000 machines and implements were produced by this company for the season of 1882.

**FLOETER FANNING MILL CO.,**

CHATHAM, Ont., show their fanning mill, which is recognized as possessing many merits. It is neat in design, well painted and ornamented, and shows the handiwork of experienced workmen.

**MERCER BROS. & CO.,**

ALLSTON, show their Mercer steel binder, mower and hay rake. The binder works without canvas, and the knotter requires no more power when the sheaf is being discharged than at any other time. The machinery being in motion, the exhibit is a most interesting one.

**D. THORN,**

WATSON, Ont., exhibits his Ripper feed cutter in the Agricultural Implement Building. The machine is intended to cut and split corn stalks and similar articles. There is a carrier attachment which carries the cut food away from the machine.

**RICHARDSON & WEBSTER,**

ST. MARY'S, Ont., exhibit their Champion ensilage and feed cutter. The machine is covered in on top and cased with hardwood frame; has three knives, reversible feed and angle and direct carrier.

**J. W. MANN MANUFACTURING CO.,**

BRACKVILLE, Ont., show some excellent seeders, cultivators and harvesters. They have for years confined their business to manufacturing this class of machinery.

**EMERSON & CAMPBELL,**

TWEED, Ont., show a hay carrier arranged for a sling. The car holds the draft at any desired point, and has a self-locking device.

**GEORGE WHITE & SONS,**

LONDON, Ont., proprietors of the Forest City Machine Works, exhibit on the lawn one of their excellent threshing engines. Recent improvements made in this engine include wrist pin oiler, new governor with new speeder spring, safety valve, etc. Messrs. White & Sons manufacture straw burning engines, portable and semi-portable engines, traction engines, etc.

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**WATERLOO MANUFACTURING CO.,**

WATERLOO, Ont., show their Champion separator in Agricultural Implement Building. This machine is built in five sizes. They also manufacture threshers, horse powers, etc.

**MACDONALD MANUFACTURING CO.,**

STRATFORD, Ont., manufacture the Decker threshing machine, which they show in Agricultural Implement Building. This is a popular machine for which they enjoy a large demand.

**BRANTFORD SPRING TOOTH CULTIVATOR AND IMPLEMENT CO.**

BRANTFORD, Ont., show in Agricultural Implement Building their spring tooth cultivator and seeder. In its operation it follows any unevenness of ground, and ordinary obstructions do not disarrange it or cause trouble.

**FROST & WOOD,**

SMITH'S FALLS, Ont., show, among other articles exhibited in Agricultural Implement Building, their improved Buckeye mower, which has achieved a splendid reputation; and their single apron binder, with chain drive, which is a first-class machine in every respect. Other of their products are Daisy light reapers, horse rakes, spring tooth harrows, two furrow gang plows, etc.

**SAWYER & MASSEY CO.,**

HAMILTON, show in operation on the lawn one of their S. & M. traction engines. The motion is rapid, it is capable of being turned in about its own length, it is under quick and entire control, and is sufficiently powerful to accomplish all that may be required of it.

**NOXON BROS. MANUFACTURING CO.,**

INGERSOLL, Ont., occupy a large area in Agricultural Implement Building, showing their seeding and harvesting machines. Their mechanical principles and construction are such that they have to full extent filled the requirements for a superior class of implements.

**M. T. BUCHANAN,**

INGERSOLL, Ont., shows on the lawn specimens of his dead lock wire fence, which is simple, strong and durable. It is specially adapted to farm purposes.

**TORONTO PORTABLE OVEN MANUFACTURING CO.,**

TORONTO, show one of their large portable ovens, for bakers' use. This is known as the Hubbard patent oven, and is specially designed for bakers and hotels. An arrangement of glass doors enables the attendant at all times to ascertain the condition of the contents of the oven.

**HAMILTON AND TORONTO SEWER PIPE CO.,**

HAMILTON, Ont., show on the lawn near Agricultural Implement Building an assortment of their products, including straight pipe, traps, angles, elbows, T and Y branches, etc. This is one of the most important industries in Canada, and the products are equal to the best made anywhere in the world. Mr. Henry New is president and manager.

**ONTARIO LEAD AND BARB WIRE CO.,**

TORONTO, of which Mr. A. J. Souerville is managing director, shows a machine upon which wire fencing is being made. The process is very interesting, and attracts much attention. This concern manufacture not only barb wire, but wire fencing of various designs, some of them very ornamental.

**ERIE IRON WORKS MANUFACTURING CO.,**

ST. THOMAS, Ont., of which Mr. William Rindou is manager, show an extensive line of goods for farmers' use, such as plows, harrows, cultivators, potato diggers, lawn rollers, corn shells, etc.

No charge made for these notices.

**B. G. TISDALE & CO.,**

BRANTFORD, Ont., have an attractive kiosk on the lawn, in which they show their lines of stable fixtures. These goods enable those who have horses to have them properly attended to without disfort or inconvenience.

**D. MACKENZIE,**

ST. THOMAS, Ont., shows at the front of the Agricultural Implement Building an automatic tile ditcher. The elevating scoops are so arranged on the outside of the main wheel as to act like spuds, by sinking into the ground from one to four inches, increasing its elevating power and doing away with all possibility of slipping in soft, wet ground, or choking in sticky clay soil. The plow is not hinged rigidly to the frame, but works in slides which allows it to free itself when coming in contact with stone or gravel. It is simple in its construction and not liable to get out of order.

**AMERICAN ROAD SCRAPER CO.,**

HAMILTON, Ont., show one of their excellent scrapers. It is drawn by two or four horses and operated by four men.

**B. BELL & SON,**

St. George, Ont., show some thirty machines of their manufacture, including ensilage and fodder cutters, horse powers, straw cutters, root pulpers, horse hoes, cultivators, plows, land rollers, etc.

**J. FLEURY'S SONS,**

ATLANTA, Ont., make a specialty of implements for use of stock raisers, full lines of which are exhibited. The use of such implements add largely to the profits of stock raising.

**WILKINSON PLOW COMPANY,**

Whose factory is at Toronto Junction, and offices in Toronto, show full lines of the all steel plows manufactured by them. The patent steel plow head, or frame of the plow is a departure from the old cast iron head.

**COULTHARD-SCOTT CO.,**

OSHAWA, Ont., exhibit a large line of the implements made by them. Their Lion disc harrow embodies many good features. Champion spring tooth cultivator is very strong and durable. Champion drill is constructed on well tested principles, the grass seed distributor can sow in front or rear as desired.

**BOOTH COPPER CO.,**

TORONTO, have an attractive exhibit on the middle side of the Main Building. This is a new firm, the business having been carried on for the last forty years under the name of George Booth and later Booth & Son. Mr. George Booth, head of the establishment, is also president of the Steel Clad Bath and Metal Company with manufactories at Detroit, New York and London, England. Mr. Booth is treasurer of the Canadian Manufacturers' Association, and a director of the Industrial Exhibition. The Booth Copper Company are confining themselves to the manufacture of heavy copper work used in distilleries, breweries, sugar manufactories and other establishments. They have recently filled a large number of contracts in this line, and have an order for a complete outfit for a beet root sugar factory in Quebec. They make a specialty of copper range boilers, and have succeeded in turning out an article which they claim is the cheapest and best in the market. The strength and durability of these boilers have been tested time and again and their popularity among customers is evinced by their constantly increasing sales. On October 1st the Company will place a new boiler on the market. This has several important improvements for which letters patent were secured in August.

This company are also manufacturers of varnish makers' and marine copper work. They also supply confectioners' kettles and boilers.

No charge made for these notices.

The exhibit includes a number of range boilers, confectioners' steam jacket kettles and cider kettles. All these articles are of the finest quality.

**CROMPTON CORSET CO.**

THE Crompton Corset Co., Toronto, make a fine display in the Main Building, which includes more than a dozen styles of corsets, some of which are very beautifully ornamented with lace and needle work, the prices ranging from twenty-five cents to as many dollars. The Lewis magnetic corset, shown by this company is described as being mechanically constructed upon scientific principles, symmetrical in shape and unique in design. Each section of the corset is so formed as to maintain the vertical lines of the body, and readily conforms to the figure of the wearer. It is stayed with strips of highly tempered spring ribbon steel, which is superior to other boning material owing to its flexibility, smoothness and durability. Each steel (or stay) is nickel-plated, highly polished and metal tipped to prevent the ends from cutting through the fabric. The steels are encased in separate pockets and can be removed or replaced at pleasure, and are so distributed as to afford the necessary support to the spine, chest and abdomen, while at the same time so pliable that they yield readily to every movement of the body, thus assuring constant comfort to the wearer.

**BRUSH & CO.,**

TORONTO, manufacturers of the Ball corsets, have their usual fine exhibits in the Main Building. This exhibit attracts much attention; the corsets shown being exceedingly beautiful in design and finish. These goods are all made on scientific principles, and are faultlessly correct as to shape, workmanship and style. They are made in styles and finish to meet all demands of the trade, the prices for which place them readily within the ability of those who are not wealthy, and the elegance of other specimens being all that can be desired by those who require a more expensive article. This is an important Toronto industry, which gives constant employment to several hundred hands.

**AMERICAN RATTAN CO.**

THE American Rattan Co., Toronto, exhibited in the Main Building one of the most beautiful lines of rattan goods ever shown in Canada, the display occupying a liberal space. The management of this company is in the hands of Mr. C. G. Pease. 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. These goods are on sale in all the best house furnishing establishments in the country.

**TORONTO SILVER & PLATE CO.**

THIS company make their usual beautiful display of artistic silver plate in a very handsome plate-glass showcase in the Main Building. This display includes about everything in that line desirable for domestic use. This important manufacturing establishment gives employment to a large number of expert artists and workmen. All of their products are as artistic in design and attractive in workmanship as any made in even the most celebrated establishments of London, Paris, Berlin or New York.

**TORONTO CARPET MANUFACTURING CO.**

ON the ground floor of the Main Building is the interesting exhibit of the Toronto Carpet Manufacturing Co., whose extensive factory is at the foot of Jarvis street, this city. This company has been in existence but a little more than two years, when they began with but three looms. Now they have, perhaps, the largest carpet works in Canada. The company is composed of shrewd business men backed with large capital, and are abundantly able to carry their enterprise to any extent. It is under the management of Mr. James P. Murray, president, and Mr. F. B. Hayes, secretary.

**J. S. HAMILTON & CO.**

MESSRS J. S. HAMILTON & Co., Brantford, Ont., occupy a space in the Main Building, showing specimens of the wines, etc., manufactured by them. They are sole agents for Canada for the Vin Villa vineyards of Pelee Island, the West View vineyard of the Pelee

No charge made for these notices.

Island Wine and Vineyard Co., also of that island, and others. The products which this company handle, especially their Catawba, Isabella, St. Augustine and clarets compare most favorably with foreign wines.

#### WITHROW & HILLOCK,

TORONTO, show in the Main Building a number of their refrigerators with plate glass fronts through which may be seen a variety of butcher meats, fruits, vegetables, etc. A feature of these refrigerators is the open bottom in the ice chamber. A portable combination hotel refrigerator is shown, made especially for hotel use, similar ones in smaller sizes being made for families. They are constructed with patent covers; an arrangement for the admission of cold air at the bottom of the provision chamber, and the ice chamber either at the side or top of provision chamber.

#### TRURO CONDENSED MILK AND CANNING CO.,

TRURO, N. S., have a pyramid of their goods in the Main Building, consisting of their Reindeer brand of condensed milk, tea, coffee and cocoa, and attendants who serve to visitors cups of piping hot samples of these goods, showing the readiness with which they can be adapted for domestic use, and the excellence of them. The condensed milk prepared by this company has a long established reputation, and is used extensively in the British army, and on sea-going vessels. The other articles, coffee, tea and cocoa, are of more recent introduction, but long since past the experimental stage—they are standard goods.

To prepare condensed coffee, cocoa, or tea, for use: In each cup required place a teaspoonful of the condensed article being used. Add a small quantity of boiling water and stir until contents are thoroughly dissolved. Then fill the cup with boiling water.

No waste of time or material. Flavor delicious. For home use, lunch rooms, picnics, holiday parties, church festivals, sportsmen, etc., these are ideal and indispensable preparations.

#### T. W. NESS & CO.,

MONTREAL and Toronto, have a very interesting display of telephone and electrical appliances near the fountain of the Main Building. The telephone they are making is shown in a variety of styles suitable for the wall or desk, and are largely used for connecting different departments of factories, offices, etc. The exhibit contains an endless variety of electric light supplies, electroliers and shades, electrical house furnishing goods, bell, batteries, push buttons, fan motors, medical batteries, fire alarms, etc.

The system of warehouse telephones used by this firm is coming into general use throughout Canada, especially in cities where large manufacturers wish to connect the different parts of their premises. These instruments are so arranged that the manager in the office may call up any of the departments without leaving his desk. This insures a saving of time that very soon pays for them. The system is such that each telephone is its own switchboard and therefore no central exchange whatever is required. All the objection to the old fashioned plugging system is done away with, as no plugs whatever are employed. Each instrument may be used to call up any of the others by simply turning the lever to the point desired and pressing down. This rings a bell on the instrument with which communication is desired, and on that one only, so that no annoyance is caused to other persons by having the bells rung when not wanted.

#### TORONTO STEEL CLAD BATH AND METAL CO.

ONE of the most attractive exhibits in the Main Building is that of this company. It consists of a very elegantly appointed bath room in which the latest sanitary plumbing is shown, the most important feature being the Booth patent steel bath tub. This tub is strictly sanitary, being entirely open and devoid of encasement of any kind, having no hidden corners or receptacles for disease germs or particles. It is all metal, and therefore impervious to decay, warp or shrinkage, to which wooden or composition baths are subject. It is thoroughly constructed, is handsome in appearance, and capable of unlimited possibilities in the way of decoration. It combines all the advantages and has none of the disadvantages of baths four times its price, the figure at which the steel-clad is placed bringing it within the reach of everyone.

These baths are covered by letters patent in Canada, England, United States and Australia, and factories are located in Toronto, Detroit, New York and London, England.

No charge made for these notices.

#### JOHN M. FRENCH & CO.,

TORONTO, have an exhibit in the Main Building in which is shown all the varieties of paints, colors, etc., manufactured by them. These paints are warranted to be made from the purest materials and genuine colors, being unexcelled for durability. They work freely under the brush, and dry quick and hard, leaving a glossy surface. These goods are known in the trade as the Maple Leaf brand.

#### WEATHER AND WATERPROOF PAINT CO.,

TORONTO, show in the Main Building a new patent waterproof paint, in all colors, which evidently possesses much merit. About seven years ago, we are told, an English scientist discovered this method of making mixed paint waterproof. It was patented in many countries, that for Canada being in the hands of this company. The paint is made in some 60 colors and canvas and muslin are rendered absolutely waterproof when coated with it. It is claimed to be well adapted for painting steam pipes, as it will not scale or blister, and its elastic quality is such that it can be advantageously used in making steam joints. The basis of this paint are pure white lead and pure linseed oil, reinforced by ingredients the character of which are known only to the manufacturers.

#### OTTERVILLE MANUFACTURING CO.,

OTTERVILLE, ONT., show in the Main Building lines of the house-furnishing goods made by them. These include patent carpet sweepers, folding bath tubs, bath heaters, folding cots and tables, piano stools, clothes racks, etc.

#### TORONTO GAS STOVE & SUPPLY CO.

THE gas stove is rapidly coming into favor for both cooking and heating, and the display made by this company in the Main Building illustrates the styles of this article now so popular. These stoves are made in Toronto.

#### CANADIAN OFFICE & SCHOOL FURNITURE CO.,

PRESTON, Ont., have a handsome exhibit in the Main Building, where specimens of office desks of most approved designs, office furniture, school desks, church furnishings, etc., are shown.

#### CHARLES RAYMOND,

GUELPH, Ont., who is, we believe, the largest manufacturer in Canada of sewing machines, makes a fine display of his New Raymond in the Main Building. These machines are perfect in operation, beautiful in appearance, and possess all the latest novelties.

#### N. K. FAIRBANK & CO.

MONTREAL, have an attractive booth in the Main Building in which is displayed their popular Cottolene. There is a cooking arrangement where popular and ordinary household products, such as biscuit, buns, cookies, etc., prepared with Cottolene, are cooked and distributed to visitors. Cottolene is a first-class health food which is superceding lard and butter as a cooking fat.

#### JAMES LOCHRIE,

TORONTO, shows in the Main Building a new propelling gear for bicycles, of which he is the inventor and patentee, which is intended to do away with cranks, pedals, sprocket wheels and chains. The attachment is very simple and strong, and can be placed upon any safety bicycle. It is propelled by levers instead of pedals and chain. The stroke is perpendicular, not circular. There is no lost motion. It can work a ten gear or any other up to one hundred without changing sprocket wheels, or even getting off the saddle. Can work two feet together, one foot after the other, or one short stroke and one long stroke, sometimes one way and sometimes the other, in fact, practically in any way so as to suit the taste of the rider, or the nature of the ground to be passed over. The strokes are always up and down, the wheel is made to spin rapidly on its axle with the minimum of exertion on the part of the rider.

No charge made for these notices.

### W. E. SANDFORD MANUFACTURING CO.,

HAMILTON, Ont., manufacturers of clothing, make a large display of their goods in the Main Building. This is quite similar to their display at the World's Columbian Exposition at Chicago, where the selling price of each article is marked in plain figures, denoting that such clothing is very much cheaper in Canada than in the United States.

### CHARLES CLUTHE,

TORONTO, occupies a prominent space in the Main Building in which he makes an interesting exhibit of orthopedical appliances. Mr. Cluthe has devoted a life-time to the study of surgical mechanism and has achieved an enviable reputation for such work.

### MEYER BROTHERS,

TORONTO, manufacturers of laundry machinery, show a good line of their products in the Main Building. They are prepared to supply all wants of the trade.

### TORONTO RUBBER COMPANY,

TORONTO, make a characteristic display of rubber goods in the Main Building. Included in this exhibit is about every conceivable article required for domestic purposes, druggists' sundries, etc.

### CANADIAN RUBBER COMPANY,

MONTREAL AND TORONTO, present a most attractive exhibit in the Main Building, which includes rubber foot wear, rugs, mats, rubber and cotton hose, garden hose, tubing, packing, clothing, etc.

### JOHN BOTT,

WALKERVILLE, Ont., manufacturer of pure malt Stout, has an exhibit of the same in the Main Building. It is prepared from the best Canadian barley malt. Mr. Bott has had over twenty years' experience in the malting and brewing business; and he has received a large number of letters from physicians testifying to the excellence of his product.

### EUREKA REFRIGERATOR COMPANY,

TORONTO, W. Hooy, proprietor, shows a handsome line of Eureka refrigerators for families, butchers, grocers, etc. The principal point of excellence claimed for this article is the dryness of the cooling room under all circumstances, and the ease with which it can be regulated.

### GOULD BICYCLE COMPANY,

BRANTFORD, Ont., show a large assortment of their bicycles in the Main Building. These wheels are beautiful in design and finish, and unsurpassed for ease of running and durability. All the parts are made interchangeable.

### COAL SAVING AND SMOKE CONSUMING CO.,

TORONTO and Montreal, have an exhibit in the Main Building of their coal saving and smoke-consuming compound. This article, we are told, is a chemical, by the use of which a very large saving is effected in the consumption of fuel. In other words, 24 pounds of coal, treated with this compound, will go as far and give a better heat than 32 pounds of coal not thus treated. With this compound, dissolved in water and sprinkled over the coal, in the simplest manner in the world, a bright, steady fire will be maintained in heaters, stoves and ranges, with all dampers and drafts closed, thus forcing the heat to remain in the stove and house and do forty per cent. more duty in cooking and heating.

Mr. William Angus, of Montreal, is president of this company.

### I. SHEPP,

HAMILTON, Ont., has an exhibit of the coconut prepared by him in the Main Building. This article was until recently prepared by Mr. Shepp only in New York, but a few years ago he started a factory in Hamilton, where his goods are prepared for his Cana-

No charge made for these notices.

dian trade. His pavilion at the Fair is extensively ornamented with golden coconuts, unhusked, and presents a novel appearance. The shredded or desiccated fruit is put up in attractive tins suitable for grocers and family use.

### THE JOHNSON FLUID BEEF CO.,

MONTREAL, have a prominent space in the Main Building, in which they show their stiminal, a food and a tonic in the form of palatable beef tea.

Stiminal has been designed and perfected to supply both a tonic and a food, and this has been accomplished by the addition of the tonic hypophosphites to a combination of the vital principles of beef and wheat. The combination of the two staple articles of food, beef and wheat, makes a very valuable nutrient. The albumen of beef and the albuminoids of wheat are the life principle of animal and vegetable food. These elements as used in stiminal are prepared by an entirely new method, and are combined with the extracted salts of flesh, to which is added the valuable tonic, hypophosphites.

### TORONTO LITHOGRAPHING CO.

This company did not have any particular space assigned to them at the exhibition, neither did they make any collected display, but their work was ubiquitous, for there were but few exhibitors on the grounds who did not have and distribute specimens of their work.

### TORONTO ELECTRICAL WORKS.

This Company have an interesting exhibit in the Main Building where they show a line of medical batteries, telegraph instruments, telephones, etc. They are perfecting a new telephone for general purposes which, they say, will be first class in every particular, and which they will sell at prices much lower than are now charged.

### C. WILSON & SON,

TORONTO, have an exhibit in the Main Building which includes a large variety of the scales manufactured by them, also butchers' tools, etc.

### LEE AND SEAMAN,

TORONTO, show specimens of the patent sliding blinds made by them. They are very handsome and commend themselves to builders.

### ONTARIO WATER METER COMPANY,

TORONTO, make an exhibit in the Main Building of their Hersey water meter. This meter has been adopted by the city authorities, we are informed, and water takers are assured that by the use of it the charges for water are very much lowered.

### H. SHOREY & CO.,

MONTREAL, display in the Main Building an assortment of the highly waterproof garments for ladies and gentlemen, manufactured by them. Garments are shown stretched so as to hold water, and in which water has been contained for several days, without any appearance of dampness on the other side.

### THE ANDERSON TRADING COMPANY,

TORONTO, make an exhibit of their Sharpe cash registers in the Main Building. These machines are adapted to hotels, restaurants, druggists, cigar dealers, etc., registering from five cents to ten dollars at a single operation, the registers of larger capacity being adapted to the use of the general merchant, registering from one cent up. They are shown in cabinets of elegant design in bronze and nickel, making one of the most attractive exhibits in the building, and one most interesting to Canadians, this being the only industry of its kind in this country. The machines on exhibition are perfect in detail, accomplishing with ease and satisfaction all that has been claimed for them. These machines are being manufactured by Mr. Charles Raymond, at Guelph, Ont.

No charge made for these notices.

**JOLIFFE & CO.,**

TORONTO, manufacturers of fine furniture, have a beautiful exhibit of their products in the Main Building.

**E. D. TILLSON,**

TILSONBURG, Ont., makes an interesting display of the cereal food products manufactured by him. These include specialties in wheat, buckwheat, barley, corn, peas and oats.

**GOWANS, KENT & CO.,**

TORONTO, present a beautiful exhibit of their celebrated Pittsburgh lamps in the Main Building. These lamps are made in a large variety of styles, adapted to all purposes where illumination is required.

**W. B. MALCOLM,**

TORONTO, has a beautifully fitted up space in the Main Building in which he shows lines of his plumbers' goods and house furnishing supplies. One of the most noticeable features is his patent tank and wash-out water closets. These closets are of different designs, furnished with a 3-inch supply and after-flush chamber, and so constructed as to receive the entire contents of the tank in less than half the time required by the ordinary over-head tank, at the same time securing a perfect wash to every part of the basin, and are comparatively noiseless.

**CREELMAN BROS.,**

GEORGETOWN, Ont., show in operation in the Main Building the hand and power knitting machines manufactured by them. There is a full variety of machines for hosiery manufacturing, among which are automatic rib-top and automatic plain machines. They also exhibit a full line of ribbing machines for seamless hosiery and with both transfer cone dile rivers and flat dile rivers. They also supply full equipment for hosiery manufacturing, such as steam winders, steam presses, glove and mit machines, etc. Those interested in the family knitting machines should see their \$10 and \$15 plain and rib machines.

**CANADA SANITARY COMPOUNDS COMPANY.**

TORONTO, display in the Main Building the Jeyes' cholera fluids and disinfectants made by them. This is a non-poisonous preparation which is possessed of much merit.

**McSPADDEN & CO.,**

TORONTO, show in Main Building a recently invented ventilator for walls and chimneys manufactured by them. It is easily put into any chimney or wall of houses already built or being erected.

**W. A. HART,**

TORONTO, is a lad scarce yet in his teens who has invented a foot power fan which he exhibits in the Main Building. It is adjustable to either chair, table or desk, and is set in motion by a simple and light movement of the foot.

**NOVELTY MFG. COMPANY,**

NEWMARKET, Ont., show in the Main Building extensive lines of toy novelties, including sleds, clippers, sleighs, doll cabs, boys' bicycles, girls' tricycles, etc. They also manufacture an extensive line of children's carriages.

**BOAKE MFG. COMPANY,**

TORONTO, manufacturers of step and extension ladders, picture moulding, veneer, etc., display lines of their goods in the Main Building.

**COOKE HARDWARE COMPANY,**

HAMILTON, Ont., show in the Main Building some of their products including a foot or hand power emery grinder for sharpening knives, scissors, edge tools, etc., and a heavier machine of same character for sharpening mower knives, etc.

No charge made for these notices.

**MACDONALD MANUFACTURING CO.,**

Toronto. One of the most attractive exhibits of fine tin goods at the Fair is that of the Macdonald Manufacturing Co., shown in the west end of the Main Building, and for which the Toronto Industrial Exhibition Association have awarded them a silver medal which is the highest award that any exhibitor can gain, and which is evidence of the excellence of the exhibit. The articles shown include show cards, tea chests and caddies, tobacco tins, biscuit boxes, blacking and spice tins, and all sorts of ornamental ware. Their decorated ware is of exquisite workmanship, beautifully delicate and harmonious in coloring, some of it being exceedingly artistic in design and finish. Other articles produced by this company include cans for oil, baking power, mustard, coffee, syrup, jam, honey, etc. The concern are men experienced in their business, and well acquainted with what their raw materials should be, and are thereby enabled to produce goods that are strictly first-class in every respect.

**BELL TELEPHONE CO.**

THIS company occupy a very prominent place near the centre of the Main Building where they exhibit comprehensive lines of telephone and electrical apparatus and supplies. The company are manufacturers and dealers in all descriptions of telephones, electric bells, push buttons, house and hotel annunciators, door pulls, etc., also fire alarm and police signal telegraph systems. Mr. N. C. Marshall has charge of the exhibit.

**C. ZARONI,**

TORONTO, shows in the Main Building a fine display of Florentine statuary of all kinds, made by him, of plaster, plastique and cement; and consisting of busts, columns, centre pieces, groups and decorations.

**GILBERT BOAT CO.,**

GANANOQUE, Ont., have a beautiful exhibit in the Main Building of family and fishing boats, sailing and paddling canoes, racing skiffs, etc. The materials and workmanship in these boats are all first class, and the correctness of their construction is shown in the fact that Gilbert boats have been most successful prize winners on the St. Lawrence, the Hudson, etc., during the past season.

**W. H. BANFIELD & CO.,**

TORONTO, manufacturers of aluminum goods, make a good display in the Main Building of their products, including medals, advertising devices, plaques, paper cutters, photo frames, etc.; also aluminum in ingots, bars, sheets, wire, etc.

**MESSRS. ELLIS & KEIGHLEY,**

TORONTO, make a good exhibit in the Main Building, special reference being had to the Royal dandelion coffee made by them. It is put up in tins only.

**THE BARBER & ELLIS COMPANY.**

THIS old and well known Toronto concern have recently begun the manufacture of several lines not heretofore included in their catalogue. The celluloid boxes of which their exhibit is chiefly composed, are of most beautiful character; and they claim that they are the only concern in Canada engaged in the production of this line of goods. It would be quite impossible to adequately describe these goods, of which they manufacture over fifty varieties, but a few, which especially attracted the attention as being of special beauty, may be mentioned briefly. A papetrie box, made in the form of a basket, in pink celluloid, is very tasty, and was well shown off by comparison with a handkerchief box in ivory celluloid, that could hardly be distinguished from richly carved, genuine ivory. One of the most artistic of all these artistic boxes is a handkerchief and glove box in antique ivory celluloid, with a remarkably natural design in marguerites on the lid. A pair of boxes with a hunting scene design, finished in white and gold, white and silver, and also in antique ivory should be a great favorite for presentation purposes, as should also the boxes in white celluloid, blue satin and gold or silver, in the shape of an antique carriage body. There are many other beautiful designs, but they must be seen to be appreciated.

No charge made for these notices.

**THE HARVARD COMPANY.**

The Harvard Company, Toronto, display in the Main Building a finely finished specimen of the physician's and surgeon's chair manufactured by them. The object of this company is to bring to the profession in one chair the capabilities heretofore diversely distributed; to render it possible for the general practitioner, so far as the attainment of movement and position is concerned, to have the facilities for as complete and thorough diagnosis and treatment as the specialist. In the accomplishment of these objects they have not introduced complications or attained movements at the expense of strength or symmetry. They have made the chair simple in its appearance, and little suggestive of its various uses. It is readily adapted to any position in which the human body can be placed. Not only have they accomplished this facility of movement, but have at the same time afforded ready means of making the whole securely rigid. The principle upon which the chair is made to turn upon its base and capable of either a lateral or backward motion, it is believed will be recognized by the profession as most important. All parts are made to work in harmony or separately.

**THE J. E. ELLIS COMPANY.**

The J. E. Ellis Company, Toronto, showed five of their electric clocks in operation for the convenience of visitors to the Fair, one in each of the following buildings: Main Building, Machinery Hall, Grand Stand, Association Offices and G.T.R. station, connected by wire with the standard clock in Main Building, and all indicating the same time with absolute uniformity. This system of time keeping is specially adapted for Government or other large public buildings, offices, schools, factories, etc., where a number of clocks are required and uniformity of time is important. Architects and others interested in the completeness of the interior arrangements of large buildings will find this system worthy of inspection, it being perfect, simple, inexpensive and permanent. One clock was built for the Globe Printing Company, and will be put in position in their offices, on corner of Yonge and Melinda streets, as soon as the exhibition is over.

**CHRISTIE, BROWN & CO.**

One of the finest exhibits in the Main Building is that of Christie, Brown & Co., Toronto, who were the pioneer biscuit manufacturers of Canada, and was established when trade in Canada was in its infancy, but was only a short time in making a provincial reputation for fine biscuits. This energetic firm in a few years made a reputation for themselves all over the Dominion and now take a high rank among the best biscuit manufacturers of the world. The exhibit consists of some 400 varieties of biscuits, displayed to excellent advantage in attractive tin boxes with glass fronts. Thousands of visitors gaze and admire this unique exhibit, but they count as nothing to the thousands of people all over the world who have for years used the delicious biscuits manufactured by this firm. This year Christie, Brown & Co. introduced into their factory the chain or travelling oven, with the idea of competing with any manufacturer. They now find that they can compete with goods turned out by English factories which have been established over a century. This chain oven has been for some time in use by all the high-class bakers in Europe. It gives a uniformity of baking superior to any other kind. The firm made an exhibit of their biscuits at the World's Fair this year, and their success there has been remarkable, for they have taken second place to neither American nor European manufacturers, and have received unstinted praise from experts. The exhibit at the Toronto Exhibition while as perfect in every respect as it could well be, gives but a moderate conception of the style and quality of the work done on their premises. As early as in 1858 this firm carried off the red ticket for high class biscuits, and almost annually since then they have not failed to secure it at all large fairs held in Canada.

**TRENT VALLEY CANNING WORKS.**

One of the most attractive exhibits in the Main Building is that of Messrs. Miller & Co., proprietors of the Trent Valley Canning Works, at Trenton, Ont. The chief object of attraction is a log cabin, which is the trade mark of this company, and is stamped on every tin of goods they send out. This company make a specialty of canning tomatoes, berries, peaches, beans, apples, pork and beans. The pork and beans are canned especially for picnics and excursions, and have only a thin top, so that they can be easily opened with a penknife.

No charge made for these notices.

**IRELAND NATIONAL FOOD COMPANY, OF TORONTO.**

This company show a large and complete exhibit of breakfast cereals in the Main Building which attracts a great deal of attention. They show grain in the sheaf, the selected grain from which their products are made, the manufactured goods, and then in packages as offered to the public. Out of some twenty-five varieties were noticed, particularly, the dessicated wheat, both rolled and granulated; dessicated rolled oats, snowflake barley, buck-wheat flour, self-rising; farinose or germ meal, farina, etc., and gluten flour. Their extensive mills are situated near North Toronto station, and are complete in every particular.

**SAMUEL MAY & CO.**

Messrs. Samuel May & Co., Toronto, who are the largest manufacturers of billiard tables in Canada, and all kinds of similar goods, and whose exhibits have always been viewed with great interest by all visitors attending Toronto's Great Fair, supplied the table played on by Mr. John Roberts, the English champion, at his exhibition in this city last week. The table played on by Mr. Roberts was a polished mahogany English style, 6x12, full scale, manufactured by Messrs. May & Co., and was certainly a perfect specimen of the billiard table makers' art, not only in the cabinet work and finish, but also in its admirable playing qualities, the running of the balls showing the bed to be absolutely level, while the speed and action of the cushion delighted the players. Mr. Roberts was more than pleased with the table, and after the exhibition took pains to so express himself to Mr. May and a number of the prominent gentlemen present who had witnessed the game. Mr. May felt no little satisfaction in being so complimented from so reliable an authority on what an English table should be and thought it quite an assurance to all parties contemplating the purchase of either English or American style tables that they might get all they desired at home from a reliable Canadian manufacturer.

**MACLAREN'S IMPERIAL CHEESE.**

Messrs. A. F. MacLaren & Co., Windsor, Ont., make a fine display in the Main Building of their Imperial cheese, put up in jars and pots of convenient size for family and hotel use. All epicures know what MacLaren's cheese is—it is delicious, healthful and digestible.

**DOMINION WEATHER STRIPS.**

Mr. William Beers, Toronto, displayed lines of his improved weather strips. Now that winter is approaching this article is indispensable. They prevent rattling of windows and slamming of doors, and keep out all dust, wet, cold, snow, rain or wind. They save 25 per cent. in fuel and add 50 per cent. to comfort.

**MESSRS. JOHN MANN & SONS,**

BRANTFORD, Ont., display in the Main Building a new adjustable spring bed recently patented by them, and which possesses considerable merit. It is easy, strong, clean, durable, light and quality considered, cheap.

**THE COMET CYCLE COMPANY,**

Toronto, display a fine and attractive line of Comet wheels in the Main Building. They claim that a bright particular star in the bicycling world is their Comet. It is a neatly made machine that meets with much favor.

**THE TORONTO SALT WORKS,**

Who are manufacturers of salt for table, dairy and meat curing purposes, make a beautiful display in the Main Building. They announce that the Acme salt manufactured by them will not cake. Thousands of visitors never knew what rock salt was until they observed it in this display.

**MESSRS. MICHAEL LEFEBVRE & CO.,**

MONTREAL, occupy a prominent space in the Main Building for the display of specimens of the jams, jellies, pickles, etc., manufactured by them. These goods are equal in all respects to those imported, and quite as attractive in appearance, and are sold for much less money.



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**THE STEEL HARROW COMPANY,**

NEW GLASGOW, N.S., show in the Main Building a comprehensive line of samples of the steel tempered goods manufactured by them, including harrow teeth, rake springs, etc. The goods made by this concern are meeting with deservedly large encouragement among Ontario manufacturers of agricultural implements.

**MESSRS. J. O. PARKER & CO,**

Toronto, successors to Messrs. Booth & Son, present a very attractive display of brass goods in the Main Building, including kettles and stands, plumbers' trimmings, and household furnishings.

**THE SCIENTIFIC VARNISH MANUFACTURING COMPANY,**

Toronto, display in the Main Building a full line of samples of the leather varnish and top dressing for beautifying and giving finish to all kinds of enameled and patent leather, enameled and rubber cloth, etc., such as tops, dashes, waterproof spreads, and all leather trimmings on carriages and wagons.

**MESSRS. GANONG BROTHERS,**

St. STEPHEN, N.B., occupy a beautiful kiosk in the Main Building, enclosed with plate glass, containing samples of the large varieties of fine candies, chocolates, creams and confectioneries manufactured by them. This is the largest concern, we believe, in the Maritime Provinces, and one of the largest in Canada. They have established a depot in Toronto, at 67 Yonge street, under the management of Mr. H. A. Lyle, from which their Ontario and western trade will be supplied.

**RECLINING HAMMOCK & CHAIR COMPANY,**

PARKHILL, Ont., display in the Main Building many specimens of the easy and comfortable chairs made by them. Their hammock chair can be suspended or taken down in a moment, folded compactly for carrying about, and used with equal comfort on verandah or lawn, standing on its feet or hung as a hammock. The Solid Comfort reclining chair is so perfectly adapted to the movement of the body as to require no effort to change position, as the chair responds to the will of the occupant as readily as the head or limbs, and moves in perfect concord with the body, while affording a flexible and comforting support to the entire person.

**THE BROWN BROTHERS.**

ONE of the most attractive exhibits shown in the Main Building is that of the Brown Brothers, bookbinders and manufacturers of account books, etc., Toronto. It might be noticed that this concern do not patronize the "write up" department of the Toronto daily papers; and this is explained in a business card they have in the advertising pages of one of those papers in which they say: "We generally advertise in the regular advertising columns of the daily and other papers, and believe the system of printing reading matter in the news columns, to say the least, is misleading to the public. However meritorious or deserving, unless you pay for it—

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no notice. The more you pay the bigger and more gushing the puff. We thank our appreciative friends, who understand what they are saying, for the unqualified commendation we have received—that our exhibit at the Fair of account books, bookbinding and leather goods is the finest display of the kind ever made in Canada.

**MORSE SOAP COMPANY,**

Toronto, otherwise Messrs John Taylor & Co., occupy a prominent space in the Main Building, in which they present a most attractive display of two lines of their products. Facing on two aisles, on one is seen a full assortment of plain, fancy, domestic and laundry soaps. These different styles include an almost endless variety of specialties, from the most delicately scented and perfumed toilet soap to the "Morris Mottled," known throughout Canada. In the other aisle is displayed in beautiful cut glass show bottles, big and little, the perfumeries, extracts and fine toilet preparations made by this concern. These goods are all first-class in every respect, and are recognized as such by the trade.

**THE GURNEY FOUNDRY COMPANY.**

ONE of the most interesting exhibits at the Exhibition is that made by the Gurney Foundry Company of Toronto, seen in their own separate building. This concern have been manufacturing stoves since 1843. On the ground floor of the building is shown the radiators, among which are the old box coil, the Bundy patent steam and hot water, the Gurney steam and hot water line, the Rugby two loops and the Rugby quintet. The Rugby quintet is made direct or indirect for schools, hospitals and similar buildings, where fresh air is essential. Another of their specialties is the Dado, which is invaluable for bay windows so that curtains or other draperies can be hung without interference. The line of radiators run from 12 inches high up to 47 inches and from one foot of surface up to 13 square feet of surface per loop. Outside the building is exhibited a very large and fine display of Oxford hot-air furnaces for coal and wood, and also a line of Oxford wood furnaces. They also exhibit the Gurney, the Oxford and the Oxford Double Crown hot water

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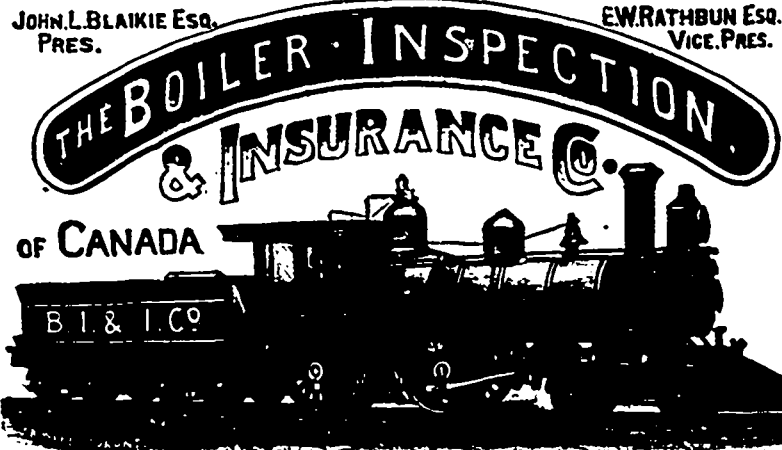
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boilers. The Double Crown is used in some of the largest and best buildings in Canada and the United States, and a duplicate pair of the ones used in the Protestant Orphans' Home in Toronto, are now heating about 30,000 feet of surface. On the second floor of the building are shown the latest production in the Countess of Oxford base burner, which is a marvel of the mechanic's art in economy and heating power. The Wasp heater is also shown, and this is undoubtedly the smallest heater made. The John Bull heavy rolled steel-plated range with a capacity of cooking for 400 people is also to be seen. Outside of the building stands one of the first stoves made by this firm, made in 1845. The object of the Gurney Foundry Company has been to make heaters that will not only heat the smallest amount of space but also the largest building.

**WARDEN KING & SON,**

MONTREAL, have a fine exhibit in the Stove Building of their Daisy hot water heater, the apparatus being shown in actual operation. The Spence "Daisy" Heater is portable, easily set up, and of the simplest construction. The only water joints are those which connect each section with the water post at the back, each section in itself being an independent heater. The water is fed into each section direct from one side of the water post; it passes through the section, and is discharged into the other side of the water post, and does not require to traverse the successive sections above; consequently, there is the least possible friction, and circulation issues from each section as fast as it becomes heated. When the temperature outside ranges around the zero point and a good fire is necessary, all the sections will contribute to the system through the water post, but in Spring and Fall, when a slight fire is sufficient, the lower sections will receive the heat from the fire, and the water will pass from the hottest part of the system, without passing through the sections above, which may be colder; this is one of the many valuable points in this Heater, and is a feature of far more importance in a hot water heater than in a steam boiler, as in the latter case there must be always sufficient fire to raise the temperature of the water to 212°.

**J. F. PEASE FURNACE CO.,**

Toronto, occupy their usual space in the Stove Building for the display of their Economy hot water and warm air combination heater with pipe boiler. The primary advantage embodied in this apparatus, we are informed, is one which has been a large element in making a popular reputation for this combination heater, and that is a double capacity for producing direct and indirect heat. The

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indirect heat is produced by taking the air from the outside through the cold air duct and passing it through the air-heating chamber in the same manner as by a warm air furnace. The air is properly heated, moistened by water evaporation, and distributed through the warm air pipes to the registers in the principal apartments nearest to the heater. The direct hot water radiation is obtained by a continuous circulation of water, which passes into the lower chamber and then, on being heated, passes through the upright pipes to upper chamber and through the feed pipes to the radiators where the heated water radiates its heat and by natural gravity returns to the lower section of the heater to be reheated. The construction of this heater is such that the best results are insured. The circulation of water through the pipes is positive, being almost direct from the lower to the upper chamber. The position of the heater in the dome of the furnace is such that the draft is not impeded or destroyed in any way, but passes between and around the pipes of the boiler before it reaches the radiator. The total products of combustion in this way come in direct contact with the water chambers and pipes making a very powerful and effective boiler. This style of boiler has been thoroughly tested and proved itself very easy to keep clean and most durable and satisfactory in every way.

**TORONTO RADIATOR MANUFACTURING COMPANY,**

Toronto, Ont., make an exceedingly fine display of the Safford radiators manufactured by them. The design and mechanical construction of this article and the really artistic ornamentation bestowed upon the specimens shown attracts the attention of visitors and evoke their most favorable comments. They are made in every variety of size and style to meet all emergencies and to fill all long-felt wants. A large number of residences in Toronto, and elsewhere, are equipped with them, and some of the largest and most important public buildings in Canada are heated by them.

**R. McDOUGALL & CO.,**

GALT, Ont., make their customary display of their Eclipse hot water boilers in the Stove Building. Regarding the principle of hot water heating for residences, hospitals, schools, etc., Messrs. McDougall say that as now generally understood, it is based on the law of gravitation, and is the circulation of water through coils and radiators, caused by the difference in weight of the two columns of water at different temperatures. A constant circulation is obtained as long as the generative force of heat exists, and even longer, as it will continue to circulate until the water in the system is the same temperature as the surrounding atmosphere. The system being open to the atmosphere through the expansion tank, the temperature of the pipes, etc., cannot exceed 212 Fahr., and the formation of steam is therefore impossible, so that a perfect system of heating is thus secured, free from danger and noiseless in oper-

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ation. To make hot water heating satisfactory, economical and effective, a good and powerful heater is necessary—one which is not over-rated, but that has sufficient grate area and fire surface; then attach sufficient radiation in a proper manner, and a satisfactory heating system is obtained. It is according to this system and principle, we are informed, that the Eclipse heater is constructed.

#### WROUGHT IRON RANGE COMPANY,

TORONTO JUNCTION, Ont., have a model and ideal kitchen fitted up in the Stove Building, the most prominent feature of which is the Home Comfort steel cook range made by them. This article is not as well known in Canada as it will be in a very short while from now when the company have their works in full operation; nor is it as well known here as it is in the United States, where it was founded in 1864, and where hundreds of homes in about every state of the union is furnished with Home Comfort ranges. The Wrought Iron Range Company's works in St. Louis, Mo., cover the entire city square bounded by Washington and Lucas avenues and Nineteenth and Twentieth streets, and they operate with a capital of \$1,000,000; therefore, their Canadian venture cannot but prove a success.

#### WATSON PERFECT COMBUSTION HEATER CO.,

TORONTO. This is a branch of a large concern doing business in Chicago, and their heater is a new and popular favorite in Canada. They make a good display in the Stove Building; and they claim for their apparatus as follows:

Practically complete combustion, smokeless and odorless, with no escape of poisonous gases.

Economy,—a maximum of heat at a minimum cost.—Soft coal and coal of lower grades, produces with safety results equal to hard coal, and at a large net saving.

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Compactness of build, less complicated in construction, with no joints exposed to direct heat, and of easy manipulation, with almost complete absence of soot and cinders, and entire absence of coal tar.

Free and rapid water circulation without conflicting currents. The water space in thin sheets allowing the heat to act promptly, with a material lessening of tear and wear.

As the hottest section of the furnace is on a level with the surface of the grate, it is particularly well adapted for heating conservatories, and all descriptions of basement.

In this heater the fuel is always heated before it reaches the fire. The gas contained in the fuel is gradually drawn off, and is never formed in large quantities. The fire is always hot where the fresh gas and fuel meet it. The amount of air admitted is always sufficient for the complete combustion of the fuel and never in large excess. The air admitted is always heated. Owing to the complete combustion all carbon is burnt to carbonic acid gas.

#### HAPPY THOUGHT RANGES.

WILLIAM BUCK, proprietor of Buck's Stove Works, Brantford, Ont., occupy the entire north side of the Stove Building, 120 feet long, with an exhibit of his Happy Thought cook ranges, stoves, furnaces, heaters, etc. These goods are all made on the best approved scientific principles, and are proved by long experience to be all that is claimed for them. They include all the latest improvements.

#### THE MOFFAT STOVE COMPANY,

WESTON, Ont., show a very handsome cook range, which they call Splendid Pearl, and which possesses many points of excellence, one of these being that the hot water boiler, which is usually detached, standing on end in a corner, is, in this range a part of it, being placed horizontally above the warming closet. It is handsome in appearance.

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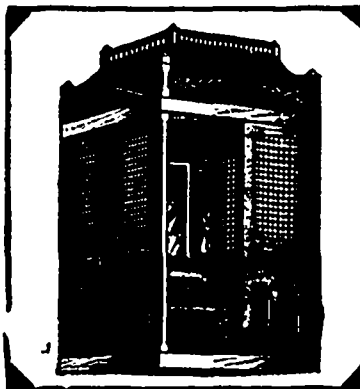
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**THE COPP BROTHERS COMPANY,**

HAMILTON, Ont., show a full line of their stoves, ranges and heaters in the Stove Building, special prominence being given to their American Warrior range which possesses great merit for economy of fuel and general utility. It is beautifully finished and attractive throughout.

**BURROW, STEWART & MILNE,**

HAMILTON, Ont., show a line of their stoves, notable among them being their Home Jewel cook, a heavy, substantial stove of handsome appearance, made in two styles—with oval fire pot and draw centre shaking grate, and with square fire box and patent duplex grate. The oval fire pot is made in six sections which over-lap and make air-tight joints, and when one section is burned out it can be readily replaced. Not a particle of fuel need be wasted, there being no square corners where unburnt coal can lie, and the fire needs but very little attention. A good clear fire is maintained

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which will burn all night and need never be allowed to go out. All ashes and clinkers can be readily removed through opening in draw centre shaking grate, which is of the very latest and best construction. When wood is to be used instead of coal the whole fire-pot can be removed without trouble and new linings placed in position, giving a capacious fire box, with large fire door.

**GURNEY—TILDEN COMPANY,**

HAMILTON, Ont., make an excellent display in the Stove Building of their Souvenir stoves and ranges. There are 66 different styles of this stove on exhibit. They also show a full line of wood and coal cooking stoves, round base burners, service burners, boiler iron stoves, box stoves, furnaces for wood and coal, hot water heaters and radiators. Some of these lines are made in almost as many varieties as the Souvenir. The Souvenir range is shown principally on account of its special construction. Stoves of the same design obtained great favor at the Chicago Fair.

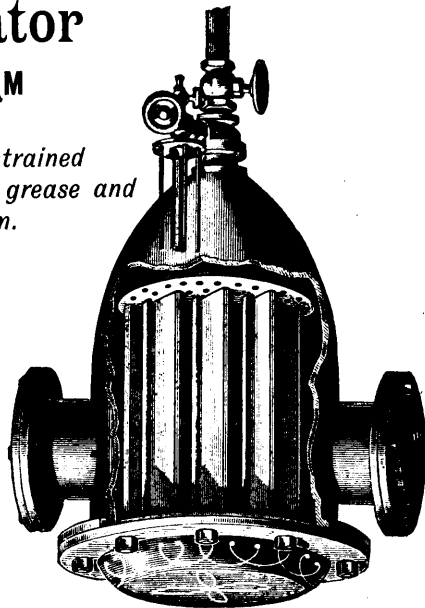
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**R. BIGLEY,**

TORONTO, exhibits in the Stove Building his patent base burning furnace, by which he claims that two-thirds of the heat required to warm a dwelling can be supplied by his hot water system in connection with this furnace, and the balance with hot air. This combination system of Mr. Bigley's seems to do all that he claims for it. The hot water heater is placed in the base-burning furnace. It does not in any way interfere with the heating surface of the furnace, but adds two-thirds to its heating capacity. The advantage of this system is, it saves fuel and secures a uniform heat throughout the dwelling. Mr. Bigley also shows his patent gas cooking attachment which can be attached to any cook stove or range. This attachment is bolted to the back end of the stove so that the attachment and range can both be used at the same time. These attachments are so constructed as to do away with any objectionable smell that so frequently comes from gas cooking as the ovens are ventilated into the stove or range, always insuring a circulation up the smoke pipe. This attachment requires no additional room, as it takes the place of the drop shelf on the back of ange.

**CLARE BROTHERS & CO.**

PRESTON, Ont., show representative lines of their heating furnaces in the Stove Building, prominent among them being their Marvel, which is a steel plated furnace, for coal and wood, possessing some very important features. It is constructed of cast iron and heavy steel plate, and has an extra large ash pit, which contains sifter and ash pan of ample size. It also has a large dust escape from the back of the ash pit direct with the chimney, which is operated from the front of the furnace. The firepot is very heavy and of the most approved shape. It has a draw-centre, anticlinker dumping and shaking grate, which rests on wheels and is easily shaken, can be completely or partially dumped and is so set that the furnace can be raked. An upright shaker bar is provided, with which the grate is effectually operated without stooping, and this is a very essential point in a furnace. In having a double low

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radiator, which adds largely to heating capacity, it is most desirable. Every part of the furnace can be easily cleaned, which people should consider a strong point. The feed door is large, so that rough wood can be utilized at such portions of the year as desired. It is also fitted with a gas burning device. With the Marvel furnace a person will not be obliged to walk downstairs to the cellar every time they wish to turn on the drafts, because it can be operated with direct or indirect drafts, which are arranged so that they can be regulated from above.

**THE ONTARIO STEEL SINK & RANGE BOILER CO.,**

TORONTO, but whose factory is at New Toronto, near this city, have an exhibit in the Stove Building, which includes their Peerless range boiler the peculiarities of which are that it has no rivets,

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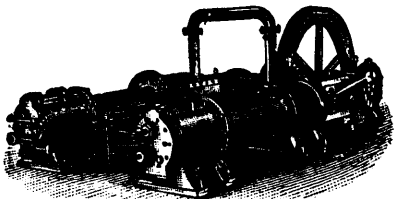
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Manufacturer of

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**SHUTTLES**

OF EVERY DESCRIPTION.

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**LAMKIN'S PATENT**



**A GREAT LOSS!**

If you have any Pipes or Boilers uncovered you are losing on same at the rate of 80 cents every year on each square foot of surface exposed. By having them covered with our Mineral Wool Sectional Covering you will save 85 per cent. of this loss. The saving thus effected in fuel will in one year more than pay the cost of covering, which we guarantee to last as long as the pipes.

Our covering is the best fuel saver on the market.

Canadian Mineral Wool Co., Ltd., 122 Bay Street TORONTO

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The seams, is absolutely water tight, reliable and handsome in appearance. The body has a longitudinal rib in the interior of the boiler (greatly adding to the strength), on which the seams are drawn by an entirely new and patented process, which makes a perfectly even and flat surface. The heads or ends are secured on the outside of the body with a swedge by a patented process, making a handsome finish and doubling the strength. They are tested to 200 lbs. pressure. The Peerless wrought steel sink is made from one plate of steel and of standard thickness, 15 Stubbs gauge, and are superior to cast iron sinks, being lighter, stronger and more durable. It is well known that cast iron sinks break easily in shipping, storing, placing in position for use and from various other causes, adding largely to average cost to dealers, and annoyance and loss to users. These sinks, being of wrought steel, will not break from heat, cold, or any cause whatever. The bowl and projecting thimble are stamped in one piece from the same plate.

**DANVILLE SLATE COMPANY,**

DANVILLE, Que., have in the Stove Building an exceedingly interesting display of the slate goods manufactured by them, the slate being the product of their quarries near that place. The goods shown include school slates, roofing slate, tiles, wash tubs, sinks, urinals, stable fittings, etc. The slate is of the very finest quality and is capable of receiving very high polish. The exhibit is in charge of Mr. M. Real.

**ROBERT C. IRWIN,**

SHELBURNE, Ont., displays a double truss cornice brake for sheet metal work. It is built of sound maple; the leaves are double trussed and faced with steel plates planed straight and true; the clamping device, hinges, quadrant gauge, &c., are all made of malleable iron and all parts are adjustable; it takes in sheets 8 ft. 2 in. long and forms 24 gauge iron or lighter, without springing; it splits the sheets and forms the iron on the same principle and with the same speed as iron brakes; makes mouldings of all kinds, ridging, valleys, gutters, eav-trough, square pipe, &c.

**THE SULLIVAN CARRIAGE WORKS,**

TORONTO, display in the Carriage Building some sixteen vehicles including novelties in sleighs, a specially designed carriage for physicians' use, phaetons, Victorias, Stanhopes, Concords, Tilbury carts, etc. Mr. W. J. Hunter is manager.

**GUELPH CARRIAGE TOP COMPANY,**

GUELPH, Ont., make a specialty of making an improved folding buggy top. When this top is thrown back the front part acts as a hood, covering the lining and preserving it from mud and dust. The convenience in entering a buggy with this top will be appreciated by all, especially ladies and old people. In all tops Cateby's improved prop spring is used. This spring is covered with wrap block rubber, and does away with broken bows, bent seat rail and rattling joints. One of the features of their display is a patent adjustable body or seat for cutter or carriage. This invention, which was patented in July last, is so arranged as to seat two or four passengers. Mr. John Mitchell is in charge of the exhibit.

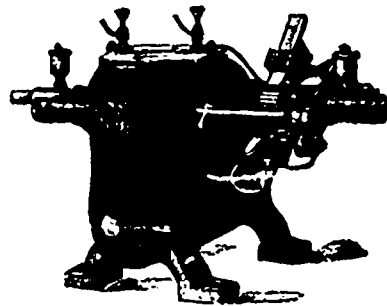
**PORTLAND CEMENT**

- Drain Pipes,
- Mortar Colors,
- Fire Clay,
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- Fire Bricks,
- Enamelled Sinks,
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**KAY ELECTRIC CO.**

Manufacturers of



**DYNAMOS**

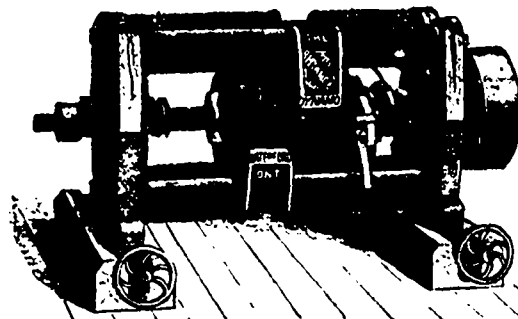
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ARC and INCANDESCENT  
LIGHTING.

PLATING MACHINES,  
MEDICAL BATTERIES

And all kinds of

**ELECTRIC APPLIANCES**

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**THE  
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MANFG.  
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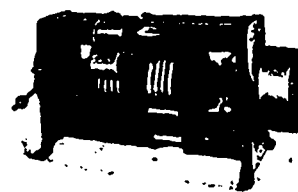
Manufacturers of The  
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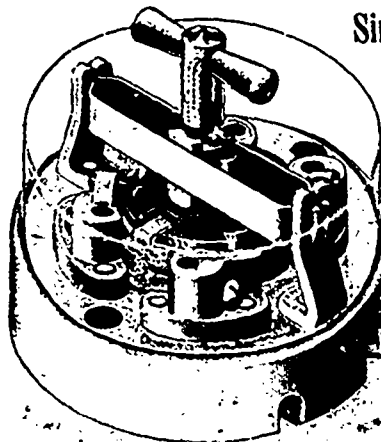
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Single and Double Pole  
**SWITCHES**

From 5 to 150 Amperes.

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All of Superior  
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Manufactured  
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**PERKINS' ELECTRIC  
SWITCH MFG CO.**

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For Sale by the Canadian General Electric Co., Toronto.

No charge made for these notices.

**LUGSDIN & BARNETT,**

TORONTO, occupy a liberal space in the Carriage Building in which they show a large and varied line of harness and saddlery goods manufactured by them. This is an old and well known concern, and their fine harness for city use cannot be excelled.

**CANADIAN HARNESS COMPANY,**

TORONTO, of which Messrs. Adams Brothers are proprietors, displayed in the Carriage Building some forty or fifty sets of harness made by them, also whips, saddles, etc. A branch factory is maintained at Brandon, Man.

**S. BROWN,**

SUCCESSOR to Johnson & Brown, Toronto, display a beautiful line of the fine carriages manufactured by them. They are all intended for city use, and are finished in best style.

**THE BRANTFORD CARRIAGE COMPANY,**

BRANTFORD, Ont., show specimens of their Galbraith adjustable carriage pole, the simplicity and utility of which are its strong recommendation. It is adjustable to any vehicle varying from 32 to 49 inches between the shackles.

**G. W. ROBINSON,**

MANUFACTURER of fine carriages and sleighs, Kingston, Ont., shows a good assortment of his vehicles in the Carriage Building. They are strong, substantial, and well finished.

**B. J. NASH & CO.,**

LONDON, Ont., make a display of their products, the most striking of which is, undoubtedly, their hearses. These vehicles are equipped with all the best modern improvements. They also exhibit very beautiful specimens of buggies, cabs and carriages.

No charge made for these notices.

**J. B. ARMSTRONG MFG. COMPANY,**

GUELPH, Ont., occupy a liberal space in the Carriage Building in which is shown specimens of their products. An adjustable seat cutter is shown, the patents for which cover an adjustable seat body, allowing of one seat sliding under another, tapered spring easy back, etc. As arranged for four passengers the cutter body is roomy, well made and strongly braced. Their Portland cutter has patent steel scroll brace cutter gear, very strong, durable and easy. Their tempered steel bob sleigh is made in two sizes, suitable for democrats, carryalls, express and delivery sleighs, etc.—capacity from 1,200 to 2,000 pounds.

**WILLIAM RAMSAY,**

ORILLIA, Ont., displays a line of his Mineola road carts, which are very attractive. He is just in receipt of an order for one of these vehicles for the use of their Serene Highnesses the Duke and Duchess of Teck. Shipments of them have recently been made to Calcutta, to Bermuda, and 200 to England.

**THE McLAUGHLIN CARRIAGE COMPANY,**

OSHAWA, Ont., make one of the largest exhibits in the Carriage Building. This is an old concern, having been in business many years, and they have acquired a deservedly high reputation for their vehicles. They include all varieties of both two and four wheel carriages, adapted for all purposes. Some of the more pretentious of these carriages shown are Aberdeens, Gladstones, Kingstons and Mikados. All the exhibits are first class in every particular.

**WILLIAM GRAY & SONS,**

CHATHAM, Ont., occupy a very large space on the north side of the Carriage Building, displaying complete lines of Victorias, lan-

**E. LEONARD & SONS**

LONDON - - CANADA

MANUFACTURERS OF

**Engines and Boilers**

(NEW DESIGNS)

**STEAM PLANTS EQUIPPED FOR ALL PURPOSES****Highest Economy, Regulation Perfect. Send for Circular. Interviews Desired.****THOS. NOPPER, - Sales Agent**

79 YORK STREET, TORONTO, ONT.

**ARMINGTON & SIMS****AUTOMATIC HIGH SPEED ENGINES**

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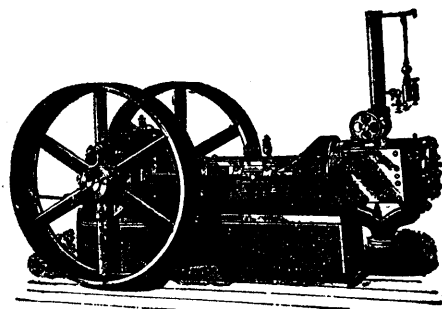
—AND—

**GENERAL FACTORY PURPOSES**

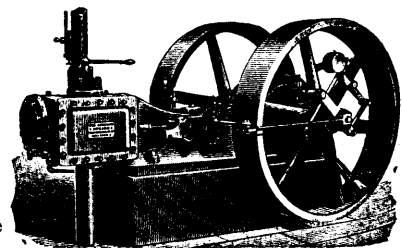
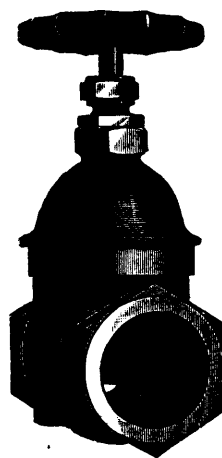
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AUTOMATIC

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Perfect Alignment. Large  
Bearings**Robb Engineering Co. Ltd., Amherst, N.S.****THE WEBBER PATENT****Straitway Valve**

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WALKERVILLE, ONT.

Sole Manufacturers for Canada.

Send for Price List.

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daus, dog carts, phaetons, surreys, sleighs, etc. These goods are all first class. The firm is an old one, and one of the most reliable in Canada.

**THE GANANOQUE CARRIAGE COMPANY.**

In the exhibit of this company in the Carriage Building are some thirty-five specimens of their vehicles, all of high grade. The manufacturing operations of this company were until about a year ago confined to Gananoque, Ont., but they now have even a larger plant in Brockville, Ont., a full description of which has already been given in this journal.

**TUDHOPE CARRIAGE COMPANY,**

ORILLIA, Ont. This concern are wholesale manufacturers of carriages, buggies, phaetons, spring wagons, carts and ceters; and they show lines of these vehicles in the Carriage Building. This concern was established in 1855, and have a reputation for producing first class work.

**NEWLANDS & CO.,**

GALT, Ont., show a number of specimens of their Saskatchewan buffalo robes in the Carriage Building. When the buffalos disappeared a few years ago from their haunts on the Western prairies it was believed that no substitute could ever be found to take the place of its pelt or skin, which had proved so valuable for general

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purposes as a robe in our northern climate, where warmth and durability are great necessities. Fur robes are too expensive and cannot be obtained in large numbers. Goatskin robes have not the warmth nor yet the durability, and in addition their smell is objectionable. Many substitutes for the almost invaluable buffalo robe have been tried, but all failed to fill the want until Newlands & Co., of Galt, invented their now well-known Saskatchewan buffalo robe. It took three years to develop and perfect this article so as to give the many good qualities which are essential in a good robe. The invention has had five years' trial, and has been tested in all kinds of weather, and the verdict is, that five years of rough, general usage does not injure them any more than it would have done the old buffalo skin. The Saskatchewan buffalo robe has the following good qualities: It is as strong as any leather, it is handsome, soft and pliable; it is warmer, with lambskin lining, than a buffalo robe; it is impervious to wind, also to moths; it is easily dried after having been wet. It is made in three sizes, lined with a handsome, durable and warm lambskin lining, either in scarlet or black, and is suitably trimmed. In addition to the manufacture of buffalo robes Messrs. Newlands & Co. make a specialty of buffalo coats, and also black astrachan coats.

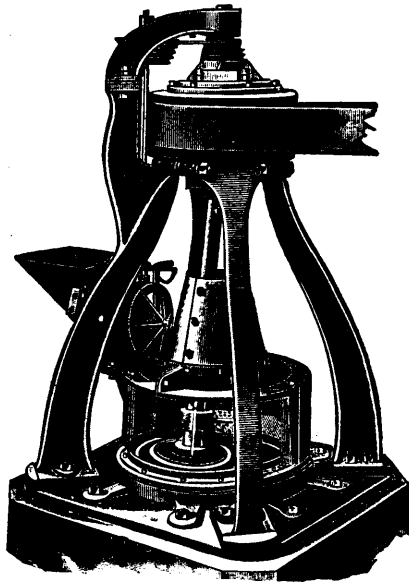
**WILLIAM J. HAMMILL,**

St. CATHARINES, Ont., shows in Carriage Building his composite pneumatic tire and ball-bearing sulky, which attracts much attention from horsemen. This arrangement can be used on either steel or wood wheel.

**THE GRIFFIN MILL**

**The Only Perfect Pulverizer**

OF  
**QUARTZ,  
 GOLD  
 OR SILVER  
 ORES,  
 PLUMBAGO,  
 PORTLAND  
 CEMENT,**



OF  
**PHOSPHATE  
 ROCK,  
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 FACINGS,  
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Will work either wet or dry, and deliver a finished product. Capacity, 3 to 4 tons per hour on Phosphate Rock, 1½ to 2 tons per hour on Portland Cement, Quartz or Ores, depending on hardness of material to be pulverized and fineness of product. Grinds from 30 to 250 Mesh with equal facility.

NO JOURNALS IN GRINDING CHAMBER. BALL RIGID ON SHAFT HAVING DIRECT POSITIVE ACTION ON MATERIAL. MINIMUM POWER PRODUCES MAXIMUM AMOUNT OF PRODUCT. IT IS ABSOLUTELY GUARANTEED IN EVERY RESPECT, BOTH AS TO CONSTRUCTION AND CAPACITY. FIRST COST, WEAR, AND OPERATING EXPENSE MUCH LESS THAN STAMP MILLS. LARGE NUMBER OF MILLS IN USE ON DIFFERENT MATERIALS WITH POSITIVE SUCCESS IN EVERY INSTANCE.

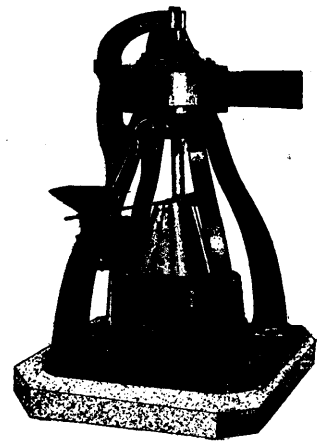
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**BRADLEY FERTILIZER CO., 92 State St., Boston, Mass.**

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PULVERIZES PHOSPHATE ROCK, FOUNDRY FACINGS & REFRACTORY SUBSTANCES OF ALL KINDS.

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Branch Office - 16 VICTORIA SQUARE, MONTREAL

CORRESPONDENCE SOLICITED

**The Canadian  
 Manufacturer**

**\$1.00 a Year**



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**ROBERT PARKER,**

GUELPH, Ont., shows a good line of patent slide-seat sleighs and surreys which are very attractive.

**HUTCHINSON & SON,**

TORONTO, display in the Carriage Building a varied and comprehensive line of their carriages which excite the admiration of all who see them. This is an old Toronto concern who have for twenty years supplied many of the beautiful carriages to be seen on the streets of this city, and in many other places also.

**E. HEMMING,**

TORONTO, shows the Ladies' Favorite pony cart, a well constructed two wheel vehicle with platform spring.

**JOHN VANDYKE & SONS,**

GRIMSBY, Ont., show a very natty and attractive road cart in the Carriage Building, of which they are the inventors and manufacturers. It is specially adapted for physicians' use in country practice.

**D. CONBOY,**

TORONTO, makes a good display in the Carriage Building, which includes his improved bow socket carriage top, etc. These goods are made in every desired variety for the trade. Mr. Conboy has an exhibit in the Transportation Building at the World's Fair, Chicago, for which he has just been awarded the highest diploma.

No charge made for these notices.

**THE VERNON CO.,**

TORONTO, show an assortment of their patent clutch pulleys, working with chains, for lifting and handling heavy articles, which possess much merit, and they also show their Vernon car coupler, which seems to be all that is claimed for it.

**CHATHAM MANUFACTURING CO.,**

CHATHAM, Ont., D. R. VanAllan, manager. This company have a desirable and conspicuous location in the new Wagon Building, where they exhibit some half dozen specimens of their work, the most prominent being a Chatauqua Giant, finished in oil, to show the character of the wood; other noticeable vehicles being a farm wagon, a lorry, a dump cart and a pair of oscillating bob sleighs. Recently three tons of pig iron were drawn in a Chatham wagon weighing but 618 pounds. A wagon manufactured by this company, and exhibited by them at the World's Fair, at Chicago, has been awarded a first prize bronze medal for combining highest utility and strength at most moderate cost. A full description of the works of this company has heretofore been given in these pages.

**BAIN BROS. MANUFACTURING CO.,**

BRANTFORD, Ont., show an assortment of the wagons manufactured by them in the Wagon Building. The exhibit includes farm and freight wagons, bob sleighs, hay and stock rack wagons, one-bench Manitoba bobs, etc. These vehicles are well made, nicely ornamented and very attractive.

# Machinists' Fine Tools

Drills, Chucks, Reamers, Etc.

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## TOOLS

# RICE LEWIS & SON, Ltd.

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# Dominion Wire Manufacturing Company

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Wire Drawers, Galvanizers

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MANUFACTURERS OF

IRON WIRE BRASS  
STEEL WIRE COPPER

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Also

Steel and Brass Wood Screws, and  
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Crescent Coat and Hat Hooks, Steel and  
Brass Jack Chaff.

2 and 4 POINT BARB and PLAIN TWIST FENCING.

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# HAVE YOU A SODA FOUNTAIN ?

If so read this :

**Good Formulas, Good Drinks,  
Good Drinks, Good Profits**

IF YOU ARE A LIVE MAN You need a copy of

**"DUBETTE'S NEW BOOK OF FORMULAS"**

For all the Latest Novelties for the Soda Fountain

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| New Malt Phosphates.  | Delicious Fruit Meads | Soluble Wine Bitters  |
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| Cream Fruit Lactarts  | New Fancy Egg Phos-   | Exquisite Ice Cream   |
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| New Modern Punches    | Shakes                | Etc., Etc.            |
| "Par Excellence" Milk | Favorite Wine Bitters |                       |
| Punches               | Shakes                |                       |

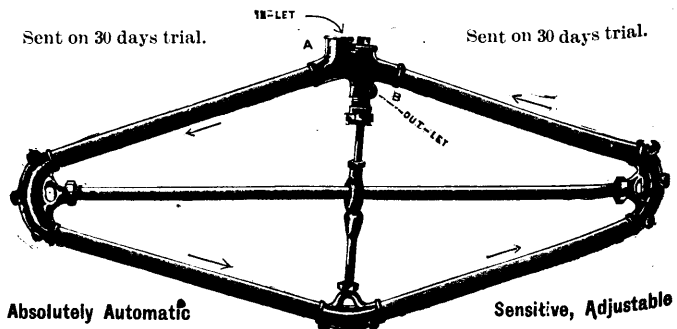
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Sent on 30 days trial.

Sent on 30 days trial.



Absolutely Automatic

Sensitive, Adjustable

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28 AND 30 DALHOUSIE ST., TORONTO, ONT.

FINE BRASS CASTINGS.

A Trial Order Solicited.

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**MCCRANEY PATENT CART CO.,**

Toronto, exhibit a patent cart which is exceedingly useful and convenient. The box is only 20 inches from the ground, giving an easy draft; wheels, 5 feet 2 inches high, easy to load; does not need special harness; easy to dump, and very handy for scavenger purposes. The McCrane cart, with steel body, has no tailboard, is watertight, and practically indestructible. It is hung on a crank axle as other carts.

**THE BAIN WAGON CO.,**

Woodsstock, Ont. This company shows some excellent wagons in the Wagon Building, the reputation of which is well established. The Bain wagon is always a prime article.

**ADAMS & SON,**

Paris, Ont., show an excellent truss rod wagon, which is strong, light running and of good appearance. This firm also make low wheeled farm trucks, logging trucks, one and two horse lorries and heavy freight sleighs.

**SPEIGHT WAGON CO.,**

Markham, Ont., have a large and attractive exhibit in the Wagon Building, which includes farm, express and delivery wagons, coal carts, a jump seat and a Buffalo road wagon. This company was established in 1830. Its products are all first-class.

**SNOWBALL WAGON CO.,**

St. George, Ont., show their usual line of wagons in the new Wagon Building. This concern was established in 1834, and has been in continuous business ever since. Their goods are reliable.

**“STARR”**  
**Incandescent Lamps**



**HAVE NO SUPERIOR UNRIVALLED QUALITY**  
**HIGH EFFICIENCY MOST ECONOMICAL**  
**FULL CANDLE POWER LONG LIFE CHEAP**

The “Starr” Lamps are Made of any Candle-power and Voltage, and with bases to suit the different sockets in use. The quality of these Lamps is unsurpassed, and users of Lamps will find it greatly to their interest to give them a trial. They have a long life, give out full-rated Candle-power, and do not blacken.

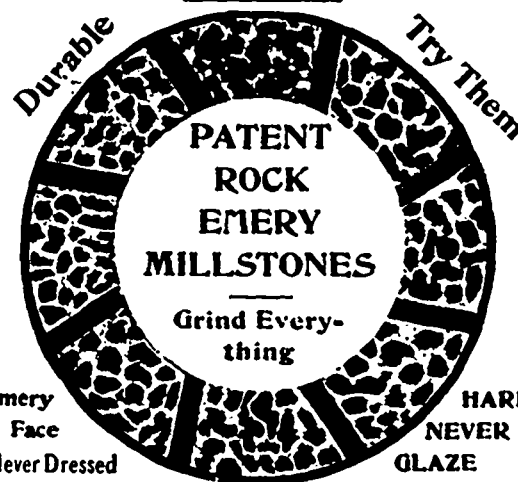
**QUOTATIONS GIVEN ON APPLICATION**

Stating Candle-power, Voltage, Base, and quantity wanted. The Lamps are packed in an improved manner, each Lamp being done up in a separate package, with particulars stamped on the outside. This renders them most convenient to handle, and avoids breakage. They can also be packed in smaller compass.

**CORRESPONDENCE SOLICITED.**

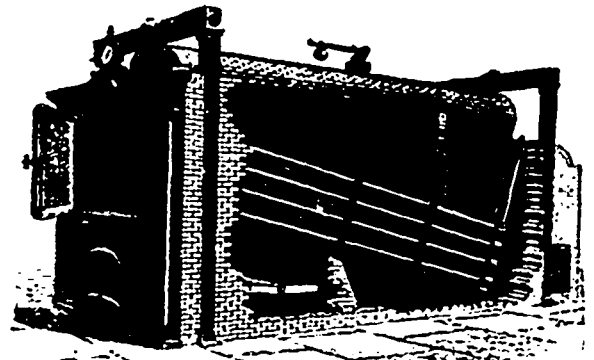
**John Starr, Son & Co., Ltd.**  
 Manufacturers and Dealers  
 in Electrical Apparatus and Supplies  
**HALIFAX, N.S.**

**FASTEST GRINDER KNOWN**



**PATENT ROCK EMERY MILLSTONES**  
 Grind Everything  
 Durable Try Them  
 Emery Face Never Dressed  
 HARD NEVER GLAZE

**Sturtevant Mill Co., Boston, Mass.**



**The Babcock & Wilcox Co.**

**WATER TUBE STEAM BOILERS**

*Now being manufactured in Canada*

Agents for the Dominion  
**A. HOLDEN & CO.**  
 Waddell Building - 30 St. John St., MONTREAL  
 Send for book “STEAM” free on application.

**THE CANADIAN COLORED COTTON MILLS CO.**

**FALL, 1893**

Ginghams, Zephyrs, Cheviot Suitings, Flannel-ettes, Dress Goods, Skirtings, Oxfords, Shirts, Cottonades, Awnings, Tickings, Etc.

**NOW READY :** See samples in Wholesale Houses

**D. MORRICE, SONS & CO., Agents**  
 MONTREAL AND TORONTO

No charge made for these notices.

**BENNETT & WRIGHT,**

PLUMBERS and gas fitters, Toronto, have a good exhibit in Machinery Hall, which includes some beautiful gas fixtures, plumbers' work—baths, wash stands etc., and hot water and steam heating. They are engineers and contractors for complete electric plants, electric light wiring, etc., and Canadian agents for Eddy motors and dynamos.

**GARLOCK PACKING CO.,**

HAMILTON, Ont., show in Machinery Hall specimens of their steam, water and ammonia packings. This packing has an established reputation in the United States and in Canada also.

**MAGNETIC HAMMER CO.,**

ST. HYACINTHE, Que., show in Machinery Hall an ingenious invention in their magnetic hammer, nail and tack puller. It will extract all sizes of nails, with or without heads. It is intended for opening boxes or pulling nails or tacks where they cannot be pulled by a hammer. It will remove the nails or tacks without scarring the woodwork. It takes the place of the hammer and nail puller and does away with the old, clumsy nail puller or box opener.

**C. BARBER,**

MEAFORD, Ont., is the inventor of a turbine water wheel which he exhibits in Machinery Hall, and which he says is the result of 25 years of constant practice in building and setting up water wheels. He shows a large number of letters confirmatory of the claims he makes for his wheels.

**A. LAIDLAW & CO.,**

TORONTO, show in Machinery Hall their Laidlaw wheat scourer, which has acquired a good reputation. The scouring cylinder is a new device and is an effectual cleaner which does not waste or break the grain.

No charge made for these notices.

**PARIS TOOL MANUFACTURING CO.,**

PARIS, Ont., show in Machinery Hall their Houghton patent key lock wrench, which recommends itself for its simplicity, strength, durability and easy and quick adjustment. It locks with the pressure of the thumb, and can be held and readily adjusted with one hand.

**C. REHDER,**

PARIS, Ont., displays his new Winner patent stove pipe damper, for which he is enjoying a large demand. This demand arises from the fact that the damper is a meritorious article. The spring, which constitutes the handle, engages in the hole in the pipe in which rests the spindle of the damper. This spring being on the outside, will not burn out or become worthless.

**W. M. MORSE & CO.,**

ST. THOMAS, Ont., show the Atwater patent pipe wrench jaw, made by them, Nos. 1, 2 and 3 sizes will make a practical pipe wrench to fit any size screw wrench, and take the place of numerous heavy and cumbersome tools, occupying but very little room. A complete set in a case weighs only 1½ pounds, and they will take all sizes of pipes from the smallest up to and including 3 inches.

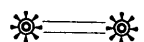
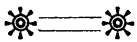
**A. R. WILLIAMS,**

TORONTO, occupy a good space in Machinery Hall, in which they show a large variety of the power machinery manufactured by them. Mr. Williams is prepared to supply equipments for railway and machine shops, planing, saw and shingle mills, etc.

**COLLINS MANUFACTURING CO.,**

TORONTO, have an interesting exhibit in Machinery Hall, including a machine in operation upon which the Hathaway patent fence wire is made. This fence wire forms a very attractive border for

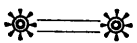
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Than  
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and Much Cheaper**



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## THE DODGE WOOD SPLIT PULLEY COMPANY

Office and Warerooms

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the protection of lawns and gardens, or as a division fence between city houses. It is composed of two main strands, or cables, and a lining of brace wire, forming a panel or ribbon about two inches wide.

**TORONTO SMELTING AND REFINING WORKS.**

A VERY comprehensive display of the products of this concern is to be seen in Machinery Hall, consisting of silver, Babbitt metal, etc. The Hercules metal is a combination of metals chemically treated in a manner which produces a fine quality of anti-friction metal suitable for bearings.

**WHIPPLE & COOPER,**

HAMILTON, Ont., show specimens in Machinery Hall of the aluminum bearing metal manufactured by them. Aluminum, they inform us, toughens, closes the grain and lowers the temperature, all necessary qualities to gain satisfactory results in bearings. This metal is put up in ingot bars, and graded according to the special purposes for which it is desired.

**THE CANT BROS. CO.,**

GALT, Ont., have a collection of the wood-working machinery made by them, in Machinery Hall. They are manufacturers of machinery for use in planing mills, builders, furniture, sash and door, carriage, wagon and window blind factories.

**RICE, LEWIS & SON.,**

Toronto, have a fine display in Machinery Hall, where they show lines of machinery and blacksmith's tools, etc., of both Canadian and foreign make.

Besides this exhibit this concern have their own beautiful pavilion, which occupies a most prominent position in the grounds, in which they show some very fine iron and brass bedsteads, wood

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mantles, gas fires, fire brands, fire place goods, fenders, tiles for floors, bath rooms, halls, vestibules and conservatories. This exhibit is a great centre of attraction for the ladies.

**BELL ORGAN & PIANO CO.**

OCCUPYING a prominent location in the Music Pavilion is the exhibit of the Bell Organ & Piano Co., whose head office and factories are at Guelph, Ont. Heretofore when musical instruments were displayed in the Main Building, the Bell company occupied a space near the eastern entrance. That space was necessarily contracted and entirely too limited to allow of the exhibition of an assortment of even the more prominent lines of organs and pianos made by this concern. It is decidedly in the interests of the manu-

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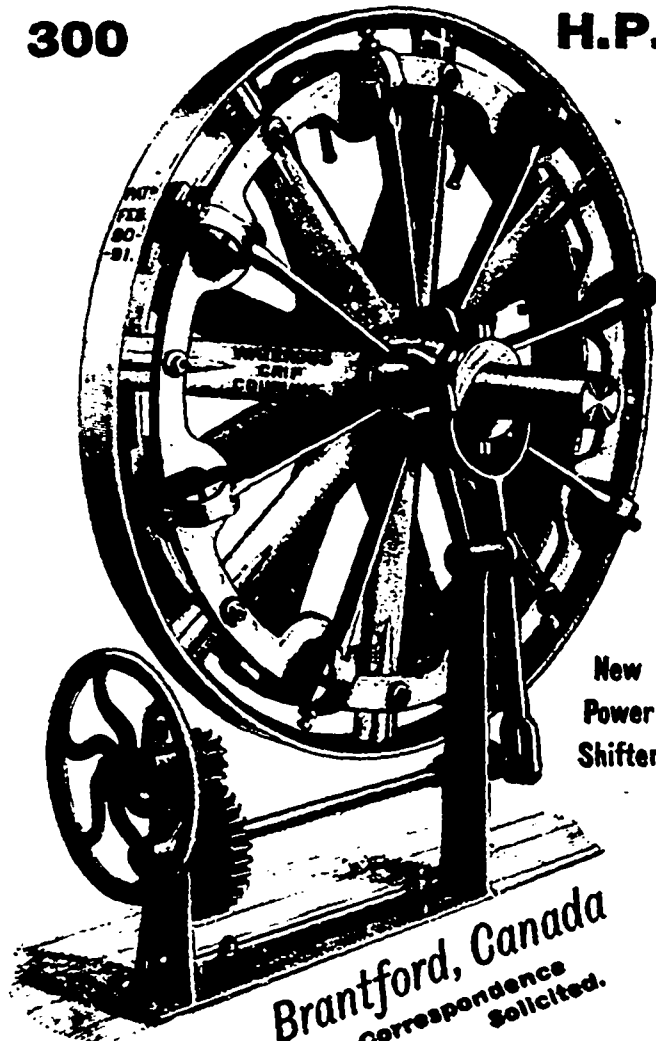
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Manufacturers of musical instruments that the new quarters have been assigned them; and the Bell company have improved their opportunity to decorate and arrange their space in a most tasty manner, and to show several lines of instruments not heretofore exhibited at the Fair. A close description of these goods is not necessary here—they are well known not only in Canada, but all over the world.

#### DOMINION ORGAN & PIANO CO.,

BOWMANVILLE, Ont., occupy their own Pavilion, and in exhibiting their instruments they are free from the annoyance of hearing other instruments being played upon at the same time. Probably their most interesting exhibit is their Farwell piano, exhibited for the first time last year. This instrument is built with a solid metal frame constructed to hold all the interior works of the piano, such as action, rest plank, tuning pins, etc., thus rendering it doubly strong and durable. On this metal framework a line of nickel agraffes are threaded directly into the plate. This replaces the old cast-metal bridges in use in almost all other pianos. Through holes pierced in the agraffes each of the strings pass. These individual agraffes have a threefold purpose. They insure purity and a singing quality of tone found only in the best pianos. They remove 50 per cent. of the strain of the strings from the tuning pins. It is also provided with a system of double sounding boards, ensuring a rich volume of tone. A number of other excellent organs and pianos are also shown. This company have recently received an order through Sir Francis de Winton, of the Duke of York's household for a parlor organ for the newly wed Duchess of York. Sir Francis de Winton, who is one of the ablest critics in England, was here in the Princess Louise's suite, and so became acquainted with the Dominion organs. Among other organs exhibited are the Cottage, the Villa Gem, a great favorite, and the Cabinet Grand, the Mozart Grand and the two manuel chapel organ.

#### HEINTZMAN & CO.

THE Music Pavilion is what was heretofore known as the Annex of the Main Building; and all other exhibits having been removed

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from it, it is devoted entirely to the manufacturers of musical instruments. In this Pavilion Messrs. Heintzman & Co., Toronto, have a fine display of their pianos. The reputation of these instruments is well known. The firm is an old one, and every member of it is thoroughly practical in the part of the business over which he has supervision. Their pianos are made in all desirable styles, and the carvings and furnishings of them are of the most elegant description.

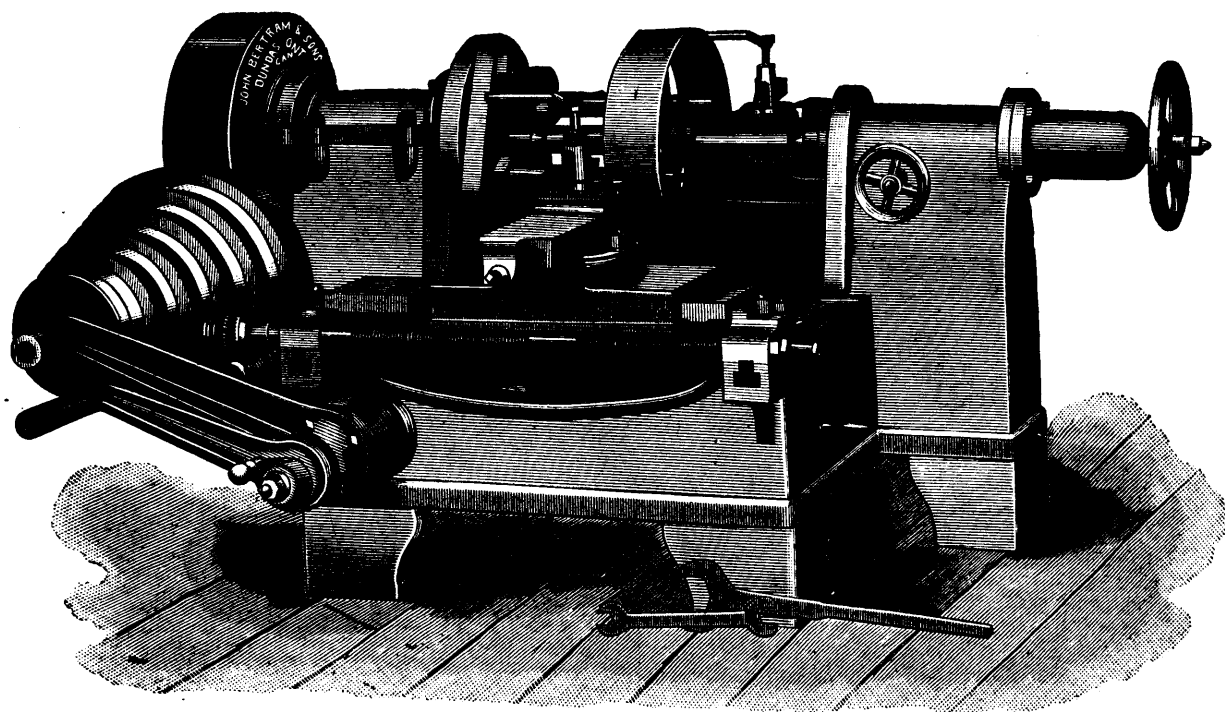
#### THE MASON & RISCH PIANO CO.,

TORONTO, present a fine display of their instruments in the Music Pavilion, the most noticeable of which is their vocalion organ. The Vocalion Organ is constructed on the principles of the Pipe Organ. In both instruments the tone is produced by the stationary vibrations of columns of air. They differ, however, in two very important particulars, i.e., in the method adopted for producing the stationary vibrations and in the size of the chambers to which the stationary vibrations are confined. In the Vocalion, Metallic Reeds are employed to produce the vibrations; in the Pipe Organ air reeds perform this function. The former require chambers of small capacity, the latter chambers (pipes) of large capacity. By this ingenious device of substituting the metallic reed for the air reed, tones are obtained which have even increased purity, richness and delicacy to those obtained from pipes. The Vocalion Organ in its method of producing tones as well as in its construction, is a patented invention and is the outcome of many years of labor and experiment, involving large expenditure.

#### D. W. KARN & CO.,

WOODSTOCK, Ont., occupy a prominent position in the west side of the Music Pavilion, made exceedingly attractive by the tasteful ornamentation of the space, and the fine display of pianos and organs manufactured by them. This is an old, long established and wealthy concern who have acquired a world-wide celebrity for their instruments. They have always received the highest awards where-

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ever exhibited, where awards have been made, not only in Canada, but also at the International Exhibition at London, at Barcelona, Spain, at Kingston, Jamaica, and other places.

**OCTAVIUS NEWCOMBE & CO.,**

Toronto, who manufacture a most excellent piano, presented an attractive display of their instruments in the Music Pavilion. They possess all the necessary requisites, both as to mechanical and artistic construction and give much satisfaction to all who use them.

**MENDELSSOHN PIANO CO.,**

Toronto, make a good display of their pianos in the south end of the Music Pavilion. These instruments all embody special features, such as the company's improved sounding board, wrist plank, etc.

**R. S. WILLIAMS & SON,**

Toronto, show a fine line of pianos in the Music Pavilion, also a chapel organ which is exceedingly beautiful and which attracts much attention. This is an old established concern, Mr. Williams having begun the manufacture of pianos in 1849.

**DOHERTY ORGAN CO.,**

Clinton, Ont., display a number of their parlor and concert organs in the Music Pavilion. These instruments are well known to the public, and are much appreciated.

**GODERICH ORGAN CO.,**

Goderich, Ont., display specimens of their instruments in the Music Pavilion which present a very attractive appearance. Some of the special features embodied in these organs are the Hessler wind regulator and a transposing arrangement which adds much to their value. They are well adapted to Sunday school and church use.

No charge made for these notices.

**H. & F. HOERR,**

Toronto, manufacturers of grand, square and upright pianos, display a number of these instruments in the Music Pavilion. They are attractive in appearance, give forth sweet, melodious tones, and are in much favor with musicians.

**WHALEY, ROYCE & CO.,**

Toronto, the well known manufacturers of brass band instruments etc., have a fine display in the Music Pavilion including some beautiful specimens of the Reimer pianos, in the manufacture of which they are now largely interested. A peculiarity of this piano is a separable case so arranged that the entire front may be instantly removed from the back. The convenience of this device is at once apparent, as the difficulty of moving the ordinary instrument is entirely obviated, it being possible by this arrangement to carry the piano through small doorways and up narrow staircases. Another ingenious device is a tone liberator, which so acts that when the music desk opens a space of three inches wide and the full length of the upper part of the top door falls back, thus allowing the fullest power of tone to escape.

**MORRIS, FIELD & ROGERS,**

Listowel, Ont., are a new concern engaged in the manufacture of musical instruments; and they show a fair line of these in the Music Pavilion, their pianos being artistic in design, of good construction, and possessing many points of excellence.

**TORONTO FENCE AND ORNAMENTAL IRON WORKS.**

This concern, of which Mr. Joseph Lea is manager, occupies an enclosure on the lawn near the Agricultural Machinery building, in which is shown specimens of their work, such as iron fences, stairs, balconies, fire escapes, shutters, guards, gratings, tower ornaments, signs, etc.; also bank and office railings and furnishings. The ornamental iron work of many of the finest public and private buildings in Toronto was made by this concern, a notable job being the switch board in the power house of the Toronto Railway Co.

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### THE METALLIC ROOFING COMPANY,

TORONTO. The exhibit of this company certainly covered more space at the Fair Grounds than any other exhibit. It is everywhere. With the exception of some of the buildings erected there during the past year, about every building that has a metallic roof is covered by the product of this company. There are acres and acres of it, and it gives the utmost satisfaction or it would not be there.

### PEDLAR METAL ROOFING COMPANY,

OSHAWA, Ont., show a very elaborate line of sheet metal work, including shingles, roll top and ridge caps for hips and ridges; valleys, sidings, sheet steel pressed brick, etc. These are exhibited in their own miniature buildings on the grounds, and also a covering on some of the many buildings erected there during the past year. These exhibits explain and illustrate the various uses to which sheet metal has been adapted in the construction of all kinds of buildings. At the present time it stands superior to lumber, plaster and composition, being more durable, cheaper, less liable to repairs, weather proof, saves insurance, danger from fire, lightning and sparks.

### PAGE WIRE FENCE COMPANY,

WALKERVILLE, Ont., have a good out-door exhibit of lawn and ornamental fences and gates. The Page fence is made of the best hard steel wire in the form of a coil spring, thus overcoming the effects of all changes of temperature. If displaced by accumulations of snow and ice, the coil by its elasticity brings it back to its proper place in the springtime. It is used with fewer posts than other wire fences, the coil keeping it tight and straight without support. For cheapness, neatness, durability and efficiency it is commendable. In its construction the large steel wires forming the horizontal bars are first coiled around a  $\frac{3}{4}$  inch rod, thus practically becoming coiled springs their entire length. These are securely tied together by 16 cross bars to the rod. The cross bars are the best quality of annealed wire, (galvanized), wrapped three times around each horizontal bar.

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### H. A. STRINGER,

LONDON, Ont., has an exhibit on the lawn of the "Sure lock clamped wire fence," manufactured by him, regarding the construction of which we are informed that the crimp in the wire in combination with Steel clamp, when locked acts as a spring adjusting the fence to heat or cold, the cross stays three feet apart or as agreed serve as posts, also prevent the wire from spreading and hold the fence solid throughout, and will not let it sag between posts, which are set 25 to 50 feet apart. The crimp in the wire takes up all slack, making the strongest wire fence made at no advance in cost over ordinary wire fences; smooth, twisted or barbed wire can be used.

### THE LOCKED WIRE FENCE COMPANY,

INCERSOLL, Ont., have an out-door exhibit showing a fence which should commend itself to every farmer in the country. The construction of it is so simple, yet so strong, that instead of the strain being on only one strand of wire, it is evenly distributed over the several strands and is made taut and strengthened by upright strands. This company have no patent on the fence, but they have a patent on the machine used for its construction.

### CHAMPION FENCE COMPANY,

TORONTO, exhibit an interesting assortment of the ornamental iron fencing, cresting, etc., made by them. These goods are designed for lawns, gardens, stables and wherever ornamental iron work may be desired.

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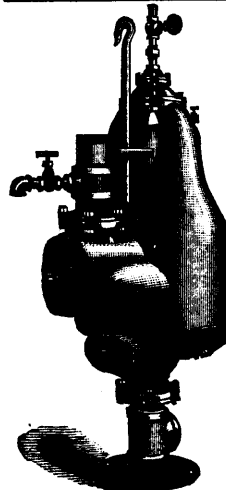
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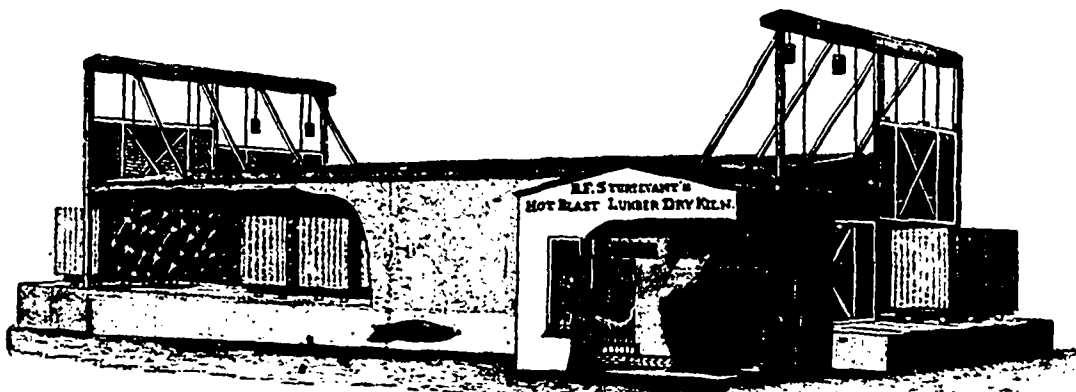
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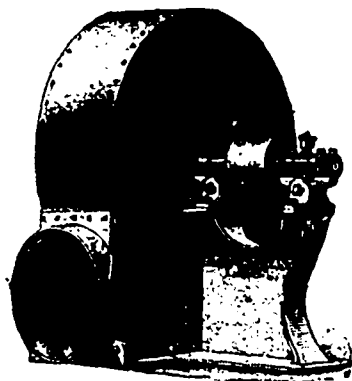


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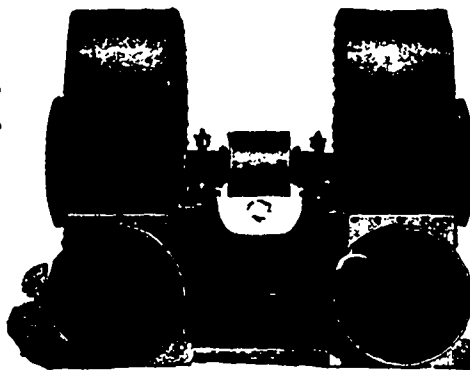
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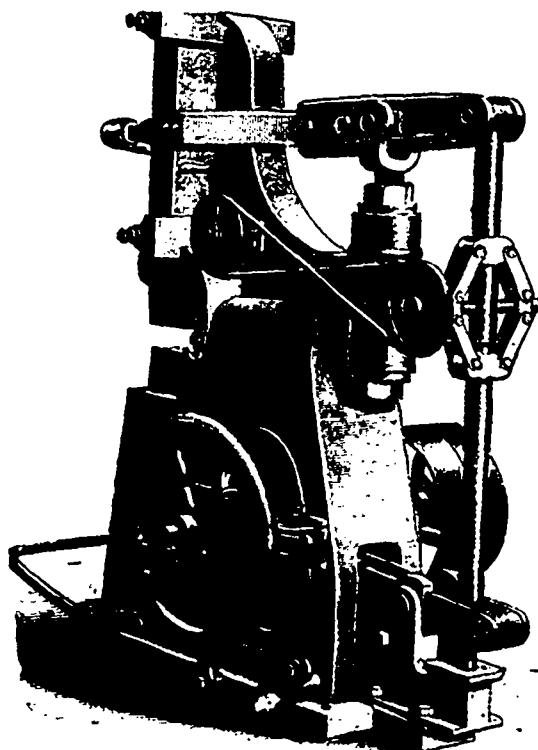
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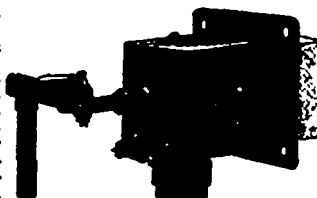
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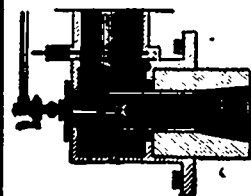
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Average tensile strength of 25 to 30 bricks, each, 1 in. square, made of best cement consistency of mortar.	7 days 3 mths 6 9 12	371.04 323.70 519.12 651.52 699.16 686.76	319.04 445.06 549.20 626.20 646.56 648.00	192.06 212.32 359.84 391.76 629.36 not given	337.12 523.44 551.84 389.72 601.20 614.00	303.52 447.00 448.20 330.20 601.20 615.96	93.12 190.80 349.56 309.24 406.88 428.28	54.20 130.28 257.88 326.40 333.96 367.96	69.60 111.72 214.00 311.80 370.20 383.02	331.52 55.32 134.24 178.68 199.76 221.00
Average tensile strength of 25 to 30 bricks, each, 1 in. sq., neat Cement, rammed in mould.	7 days 3 mths 6 9 12	376.12 421.22 537.91 614.74 637.24 649.24	467.70 512.30 544.30 623.40 601.12 628.40	391.80 373.40 420.60 427.60 498.20 446.12	431.72 532.40 688.20 698.84 618.32 610.36	313.32 423.88 510.24 542.88 546.08 336.12	196.18 271.08 417.58 472.10 484.34 508.66	206.92 171.92 314.76 393.36 380.88 436.32	172.02 164.16 233.32 403.32 389.32 330.63	69.92 60.72 134.06 236.82 261.00 278.00

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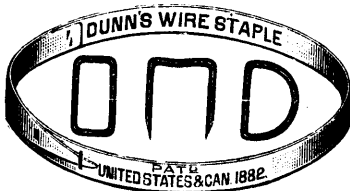
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STENCILS BRANDS

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DOMINION DYEWOOD & CHEMICAL CO., sole agents in Canada for Farbenfabriken, vormals Friedr Bayer & Co., Elberfeld, Germany and Read Halliday & Sons, Huddersfield, England.—All shades for woolen, cotton, leather and paper manufacturers. Latest information on dyeing as well as dyed samples on application.



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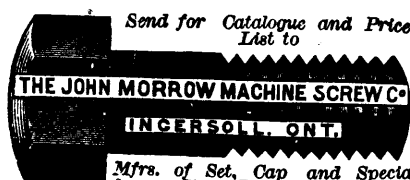
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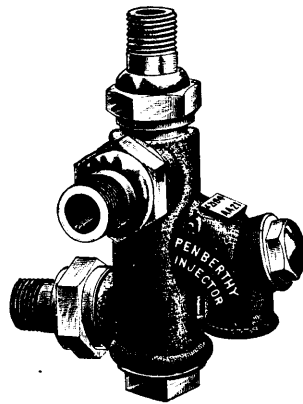
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City of Quebec

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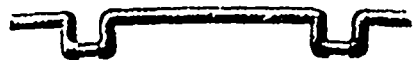
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Forged by Special Machinery from one bar, without welding, and of all lengths of sweeps from

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Manufacturers of the world-renowned

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Are superior in many respects to most in the market. Made by

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THE B. GREENING WIRE CO., Ltd., Hamilton, Ont. Performers of zinc, iron and steel; manufacturers of wire cloth, all grades, wire ropes, bank and office railings, etc.

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## IMPROVED DUPLEX SYSTEM



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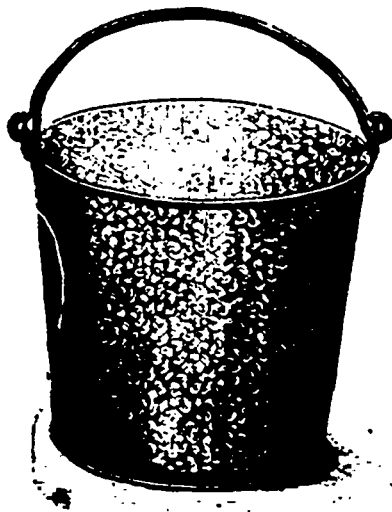
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Something entirely new, and superior to old style Buckets,  
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They are superior to the ordinary Flaring English Bucket,  
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They are stronger in shape, consequently more durable.

They will not slop over or tip over, owing to the wide bottom.

They nest very close and firm, which protects them in shipping.

The rim is in one piece with the body, consequently cannot get  
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They are Galvanized and not lead coated.

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Boilers and connections kept free from Scale, Sediment, and  
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General Agents  
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LONDON, ONT., CAN.

Manufacturers of

Machine Shop Equipments, Lathes, Planers,  
Drills, Column, Radial and Suspension  
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Automatic Gear Cutters and Cutting-Off Machines,  
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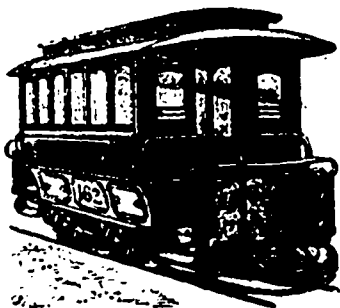
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*Steel Bridges for Railways and Highways  
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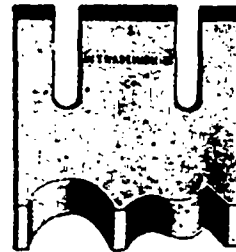
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St. Catharines, Ont.

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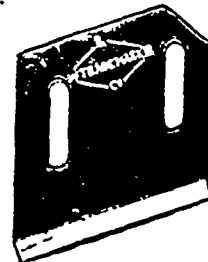
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Goods the best. Prices Moderate.  
Quality Warranted.

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## THE AERATED FUEL CO. SPRINGFIELD, MASS., SYSTEM

This system uses oil with a higher pressure of air, and is adopted in the United States and Canada for all kinds of iron and steel forging, tempering, welding, annealing, etc.; in glass works, for furnaces, glory holes, etc.; for generating steam; for burning lime, cement, sewer pipes, terra cotta, brick, etc.; for heating chemicals and asphalt; for japanning; for oxidizing lead; for drying sand, salt, etc.; for singeing cloth, etc.

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Especially adapted for Mills and Factories.

Agents for

D. H. and C. Haggie's Patent Wire Rope for Mining Purposes

**Millers' and Manufacturers' Insurance Co'y**

**STOCK AND MUTUAL**

ESTABLISHED 1885

The President, James Goldie, Esq., in moving the adoption of the report on the business of 1892, said: I have much pleasure in drawing your attention to the fact that this Company has verified, in a marked degree, every expectation set forth in the original prospectus when organized in 1885.

Up to the present time the insurers with this Company have made a saving, when compared with the current exacted rates, of \$90,000. And in addition thereto bonus dividends have been declared to continuing members amounting to \$21,227.72.

Besides achieving such result, we now also have, over all liabilities including a re-insurance reserve (based on the Government standard of 50 per cent), a cash surplus of 1.50 per cent, to the amount of risk in force.

Such results emphasize more strongly than any words I could add the very gratifying position this Company has attained. I, therefore, with this concise statement of facts, have much pleasure in moving the adoption of the report.

The report was adopted and the retiring Directors unanimously re-elected. The Board of Directors are now constituted as follows: James Goldie, Guelph, pres.; W. H. Howland, Toronto, vice-pres.; H. N. Baird, Toronto; Wm. Bell, Guelph; Hugh McCulloch, Galt; Neelon, St. Catharines; George Pattinson, Preston; W. H. Story, Acton; J. L. Spink, Toronto; A. Watts, Bramford; W. Wilson, Toronto.

**JAMES GOLDIE, Pres. W. H. HOWLAND, Vice-Pres. T. WALMSLEY, Treas. HUGH SCOTT, Man. Dir.**

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Please address **MILLERS' AND MANUFACTURERS' INSURANCE COMPANY, No. 32 Church Street, Toronto**

**MANUFACTURERS' LIFE**

**INSURANCE COMPANY**

Head Office, **YONGE ST., Cor. COLBORNE, TORONTO**

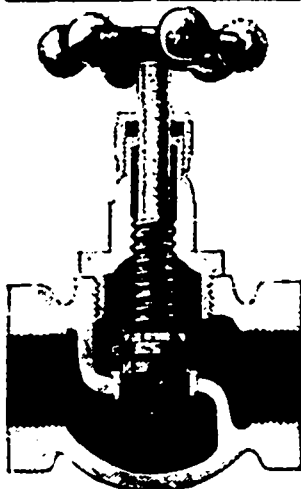
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Increase in Assets in 1892, - - - - - **\$111,000.00**  
Increase in Insurance in 1892, - - - - - **750,000.00**

The Premium Rates are lower than those of any other regular Company in Canada.

Proportion of Total Assets to Liabilities greater than any other Company  
Ninety per cent. of Profits guaranteed by law to Policy-holders.

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**GLOBE VALVE**

Patented

Constructed to prevent Seals or Grains of Dirt being Caught between faces at point of closing.

When the projection on valve enters the seat orifice, of which it is an easy fit, only clean fluid rushes past. Seals, etc., are pushed back and the faces meet with nothing between to injure them. Send for prices and particulars to

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BALL VALVES for various purposes  
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**IT LEADS THEM ALL**

**THE OLDEST  
THE LARGEST**

**THE SAFEST  
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Canadian Life Assurance Company is

**The CANADA LIFE ASSURANCE CO.**

Capital and Funds over **\$13,000,000**

WRITE FOR PROSPECTUS.

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Established 1872

**THE ACCIDENT INSURANCE COMPANY**

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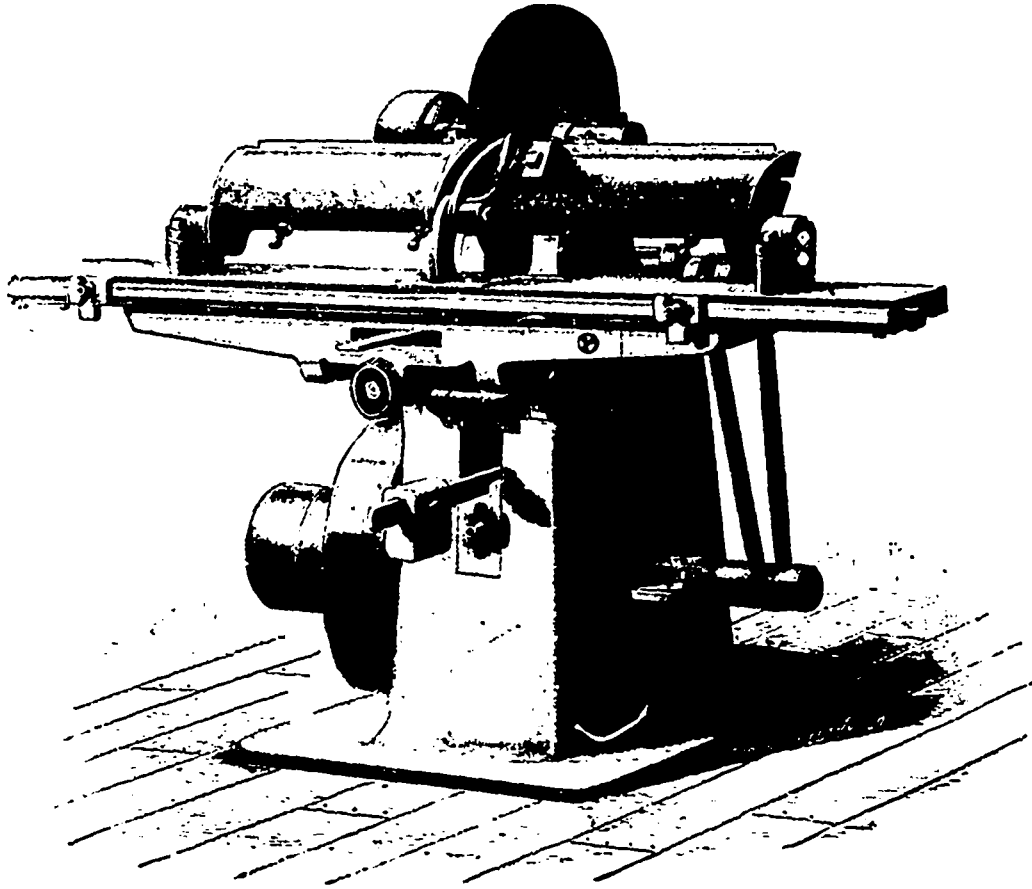
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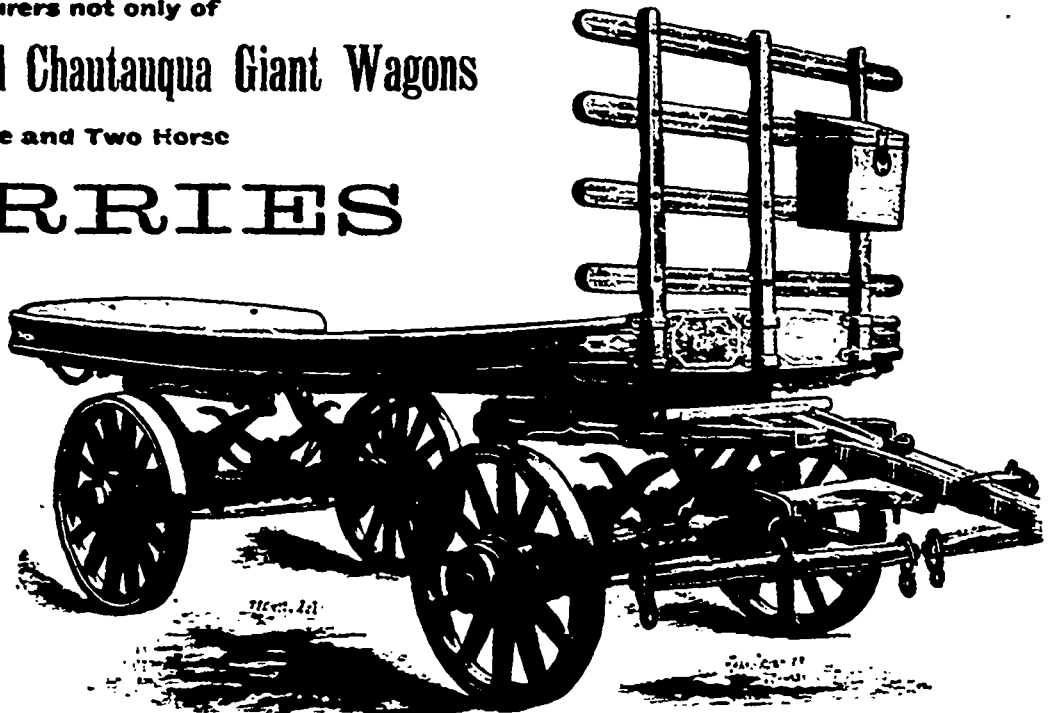
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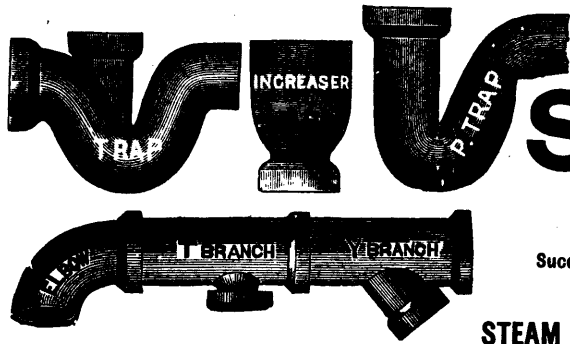
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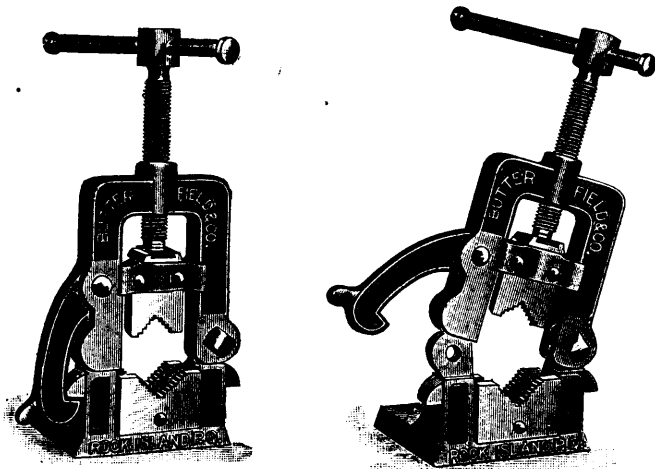
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- To enable those in all branches of manufacturing enterprises to act in concert as a united body whenever action in behalf of any particular industry, or of the whole body, is necessary.
- To maintain Canada for Canadians.
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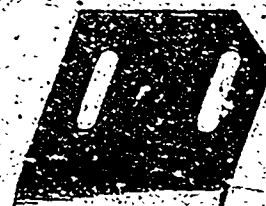
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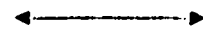
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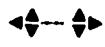
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