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 THE MANUFACTURING & MINING INDUSTRIES,  
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Vol. 14.

TORONTO, JUNE 15, 1888.

No. 12.

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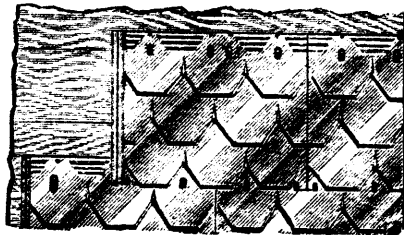
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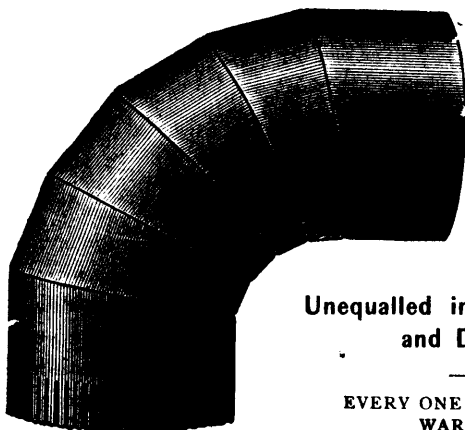
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MR FREDERIC NICHOLLS is Secretary of  
The Canadian Manufacturers' Association,  
The Woolen Manufacturers' Association, and  
The Tanners' Association.

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

## Captains of Canadian Industry.

WE take pleasure in presenting to our readers another group of representative Canadian manufacturers. The likenesses of them are remarkably good and truthful, and the faces are familiar throughout the Dominion. The sketches of the lives of these men are valuable studies, and will prove strong incentives to the youths of the land to emulate them. The group will add a valuable page to our album. Mr. James Watson was one of the earlier presidents of the Manufacturers' Association, which honorable position he held for some three years. Mr. Elliot was president of the Association for the year 1885, and was succeeded by Mr. Cowan; and Mr. Ellis is a member of the executive committee.

### JAMES WATSON.

JAMES WATSON, of Hamilton, Ont., President of the Strathroy Knitting Company, whose mills are at Strathroy, Ont., was born in Glasgow, Scotland, December 18, 1831, his father being cashier of the Union Bank of Scotland, of that city. He received his education at a collegiate school in Glasgow and at Glasgow College, after which he received a commercial education in the well-known mercantile house of Messrs. William Connal & Co., Glasgow, where he was employed for five years.

Ambition and a desire to better his fortunes led this young man to Canada, and soon after his arrival here James Wat-

son found employment in the mercantile house of Messrs. Buchanan, Harris & Co., of Hamilton, where he remained many years. His sterling integrity and business energy were so well appreciated in Hamilton that he was made president of the Hamilton Powder Company, one of the most important manufacturing industries in Canada, and he held this position for ten years. As president of the Ancaster Knitting Company he became prominently identified with the manufacture of knitted goods, and his usefulness and influence in that field became greatly enlarged when he became a large stockholder in and president of the Strathroy Knitting Company, which position he now occupies.

At a meeting of delegates from various Boards of Trade in Ontario, Quebec and New Brunswick, held in Montreal October 5, 1870, for the purpose of organizing a Dominion Board of Trade, Mr. Watson was present as a representative of the Hamilton Board, of which he was then president, and took an active and influential part in such organization; and was made a member of its Executive Council. The chief object of this body was to secure unity and harmony of action in reference to commercial usages, customs and laws throughout the Dominion; and especially that a united opinion should be obtained so as to secure a proper and careful consideration in Parliament of questions pertaining to the financial, commercial and industrial interests of the country; and the efforts made by Mr. Watson, as a member of the Dominion Board of Trade, specially in creating a wide and influential sentiment favorable to protection to Canadian manufactures, against the efforts of foreign manufacturers to monopolize and assimilate our home markets, are felt to this day.

Mr. Watson, too, was an active spirit in the organization of the Manufacturers' Association of Ontario, composed, as the name indicates, of the leading manufacturers of this Province; and he was the president of it for some three consecutive years, and until 1878, when he was succeeded by Mr. W. H. Howland. The name of this association was, during the incumbency of Mr. Watson, changed to Ontario Manufacturers' Association; and later, again changed to the more enlarged and comprehensive one of Canadian Manufacturers' Association.

Mr. Watson is indeed a "Captain of Canadian Industry;" and nothing that affects the prosperity of Canada and the welfare of Canadian manufacturers is a matter of indifference to him. One of the pioneers of Protection, he is always zealous in upholding that National Policy which has lifted Canada to the high plane of prosperity and importance which she now holds as a result of that policy. Gentle and unobtrusive in manner and deportment, he is loved and respected by all who know him; and no manifestation of the esteem of his fellows is more pleasantly remembered by him than that for years he was president of the Young Men's Christian Association of Hamilton.

### R. W. ELLIOT.

ROBERT WATT ELLIOT, was born July 26th, 1835 in the township of Eramosa, County of Wellington, Ontario. His father, William Elliot, was born in Hammersmith, London, England, from which place he came to Canada in 1827. His mother, Mary Oliphant, was born in the University City and

PLATE II.



THOMAS COWAN, GALT, ONT.



R. W. ELLIOT, TORONTO, ONT.



JAMES WATSON, HAMILTON, ONT.

1888



JOHN F. ELLIS, TORONTO, ONT.

# Captains \* of \* Canadian \* Industry.

(SUPPLEMENT TO THE "CANADIAN MANUFACTURER.")

ARTOTYPE; CANADA BANK NOTE CO., L.T'D. MONTREAL.

ancient capital of Scotland—St. Andrew's. By her mother's side she was related to James Watt, the celebrated mechanical engineer, and it was from this connection Mr. Elliot derived his middle name.

After living for some years upon a backwoods farm, Mr. William Elliot moved to the town of Dundas, Ont., where he engaged in the drug business; eventually moving from there to Toronto, in 1853, to become managing partner in what was for seventeen years known as the firm of Lyman, Elliot & Co, of which R. W. Elliot, the subject of this sketch, was from the first an active assistant, and for the greater part of the time junior partner.

His primary education was gained in a township schoolhouse built of logs, to which the children came from homes some of them twelve miles apart. While living in Dundas he was grounded in geometry and Latin under the late Patrick Thornton, who was, for many years, Inspector of Schools in Wentworth and Halton counties; and after coming to Toronto, young Elliot studied chemistry, natural history and anatomy in the University here.

Having thus laid the foundation of his technological education, no time was wasted in putting it to practical use. Being in charge of the manufacturing department of the business of Lyman, Elliot & Co., R. W. Elliot actively engaged in the manufacture of chloroform, ethers, nitrate of silver and other chemicals, in which he showed great proficiency, and achieved large success. Later, after the dissolution of the first partnership here alluded to, his firm acquired the large mills on Beverley street, Toronto, which covered about two acres of ground, and here Mr. Elliot combined the manufacture of the lines of chemicals spoken of with that of linseed oil and oil cake, the grinding of white lead, and the manufacture of paints. No pains or expense were spared in bringing the products of this enterprise up to the very highest state of perfection; and it was in encountering the numberless difficulties constantly presenting themselves in this business, and in building up this important industrial enterprise, that Mr. Elliot became an advocate of what was eventually known as Canada's National Policy, even before the question became one of practical politics. In the struggle to create a strong public sentiment in this direction, with such valuable co-workers as the late John Gordon, the late Isaac Buchanan and the elder Maclean, Mr. Elliot was a no inconsiderable figure. In other public matters also he has figured as president of the Toronto and Nipissing Railway Company; director of six other railways in Ontario; president of the Toronto Board of Trade, of which he is still an active member; one of the promoters of the Credit Valley Railway, now a part of the great system of the Canadian Pacific Railway; and a director of the Toronto Grey and Bruce Railway Company during the time of the reconstruction of the road. He has been president of the St. George's Society of Toronto; president of the Ontario and Owen Sound Steamship Company; Harbor Commissioner; president of the Ontario College of Pharmacy; director of the Toronto Industrial Exhibition Association, and has held other trusts and offices.

With the restless energy that always characterised the man; as a promoter of and active participant in the almost numberless schemes and enterprises of a public or semi-public character, all of which were designed and intended to increase and magnify

the importance of Canada and to add to the wealth and happiness of her people; and as manufacturer of certain lines of goods that required the rare combination of high scientific and technical learning; good and accurate judgment as to the extent of the demands of trade for such goods; the practical knowledge of compounding chemicals and manufacturing them into articles of commerce, and the ability to govern, regulate and direct such a vast industry as that over which he has presided for so many years, the high reputation of which is known all over the American Continent; it would be strange indeed if R. W. Elliot was not a firm believer in and supporter of Canada's National Policy. And such he is. And being such, and being a Canadian manufacturer, naturally he has always taken active interest in the Canadian Manufacturers' Association. He has been president of this association, and at this time he is chairman of its executive committee; and his devotion to the interests which this association espouses is based upon the professed belief that upon the successful development of Canadian manufacturing industries depends the glorious future of our Dominion.

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#### THOMAS COWAN.

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THOMAS COWAN is a native and typical Canadian. He was born at Clochmohr, near Galt, Ontario, his present place of residence, and in the earlier years of his life acquired thorough and practical knowledge of farming. At the same time he also acquired a good public school education, which was subsequently supplemented by a course of study in a commercial college, and a systematic and close application during otherwise spare hours to text books and standard works on those subjects regarding which Mr. Cowan now possesses such wide and useful knowledge, and which has contributed so much to his success in life. While yet a young man he abandoned the farm, and for several years was a successful school teacher. Later he made his advent into mercantile life by becoming a commercial traveller for the firm of Messrs. Lutz & Co., manufacturers of stoves and agricultural implements, in Galt. While in this capacity Mr. Cowan travelled extensively through Canada, particularly in Ontario; and being a quick observer of the necessities of the people, stored up a knowledge that subsequently was exceedingly useful to him.

In 1874 Mr. Cowan became connected in business with Mr. Cameron, under the firm name of Cameron & Cowan, and acquired the business of Messrs. Lutz & Co. They changed the character of the work that the old concern had been manufacturing, and their establishment was named "The Galt Foundry, Engine and Machine Works," and the new firm became manufacturers of engines, boilers and wood-working machinery. Mr. Cameron died in 1879, when Mr. Cowan became the senior partner and principal proprietor; and under his skill and management the concern has ever since enjoyed an uninterrupted career of prosperity.

For a number of years Mr. Cowan was a member of the public school board and of the town council of Galt. As school trustee, his name was associated with important reforms in the management of the public schools, and also with the introduction of what is now known as the "Galt System" which has been adopted into many of the schools in other towns in On-

tario. He was a representative to the Dominion Board of Trade in 1874, in which year the summer session was held in St. John, N.B., and in 1875, at the regular winter session, which was held in Ottawa. It will be remembered that it was at these meetings that the remarkable propositions of Hon. George Brown, with reference to reciprocity were discussed; one of the proposals being to abolish the tariff by reducing the duties thirty-three and one-third per cent. a year for three successive years. Mr. Cowan strongly opposed this scheme, holding that it would be better to abolish the tariff at one blow, and thus kill off instantly the manufacturing industries of Canada, than to subject them to slow torture but no less certain death by lingering starvation. It was during the agitation of this subject in 1876-7 that Mr. Cowan became connected with what is now the Canadian Manufacturers' Association, and took a most active part in advocating the adoption of that National Policy which has made this Canada of ours the manufacturing community it now is. He was prominent among those who were sent to remonstrate with the then Government, with a view to procuring a change in the fiscal policy of the country; but who, seeing the futility of their efforts, and the impossibility of getting the views of the manufacturers adopted by the Government, quit the party with which he had been previously identified. At the general election of 1878 Mr. Cowan did great service to his party by his powerful advocacy of their views from the public platform; and he has been prominent and most useful in that direction ever since. He is an exceedingly earnest, fluent and eloquent speaker—earnest in presenting facts and arguments, fluent in interesting and polished language, and eloquent always when depicting the glorious future which he contends lies in the near distance before our young Dominion.

In politics Mr. Cowan's career began in the fight that was made to inaugurate the National Policy—a ten years' conflict, from 1878 to 1888. He went into that struggle not for personal honors in politics, but to carry the cause to victory; and the success that crowned the efforts made in that behalf was more than the most sanguine could anticipate. Where are now the enemies of the "National Policy" and the "National Highway"? Where are those who sneered at the battle cry of "Progress and Development"? Whatever others may think, Mr. Cowan can assuredly look back over the decade of struggle with a feeling of intense satisfaction. It bears a record of hard fought battles, it is true, but also of glorious victories for the country and for the party who had the courage to fight in behalf of a true Canadian nationality instead of barren provincialism.

On January 27, 1886, Mr. Cowan, who was at that time first vice-president of the Ontario Manufacturers' Association, was elected president thereof, succeeding Mr. R. W. Elliot; and it was under Mr. Cowan's term that the name of the association was changed to that which it now bears—the Canadian Manufacturers' Association. Mr. Cowan has recently been made postmaster at Galt, the appointment meeting with the entire approbation of the community. As the head of a firm doing a large manufacturing business; as a member of the boards of managers of several insurance and other companies, and as taking a lively interest in the many other affairs herein briefly alluded to, Mr. Cowan's life is a busy one; but like all

other public spirited men, he always has time to enjoy the companionship of his friends, and to lend a willing ear to all who approach him.

#### JOHN. F. ELLIS.

JOHN F. ELLIS, vice-president and managing director of the Barber & Ellis Company, of Toronto, was born at Mount Pleasant, Brant County, Ontario, forty years ago. His mercantile life began when he came to Toronto at the age of twenty years, and entered the stationery manufacturing establishment of Messrs. A. Dredge & Co., where he acquired a thorough and practical knowledge of the business.

In 1876 Mr. Ellis engaged in business with Mr. James Barber, Jr., son of Mr. James Barber, of Georgetown, Ont., the proprietor of the Georgetown Paper Mills, of that place, under the firm name of Barber & Ellis. Their first business location was at 53 Yonge street, where they engaged in the manufacture of blank books, envelopes, etc., and in jobbing stationers' supplies. The rapid growth of their business required more room than was available at this location, and the firm leased the large four-story building at the intersection of Jordan and Melinda streets, and greatly enlarged their facilities for manufacturing; and soon they added the adjoining four-story building on Melinda street to their premises.

In 1885 the growth of the business necessitated the formation of a joint stock company, and the Barber & Ellis Company was organized. At this time Mr. James Barber sold out his interest in the concern to his brother, Mr. John R. Barber, who, with Mr. Ellis, became the principal stockholders in the new company, the business management of which devolved upon Mr. Ellis. The business still increasing very rapidly, and there being no opportunity to still further expand the premises at the location at Jordan and Melinda streets, the company acquired a suitable plot of ground on Bay street, between Front and Wellington, on which they erected last year what is perhaps the largest and best arranged factory in Canada for the special purposes of their business. This new building includes the street numbers 43, 45, 47 and 49; fronts 100 feet on Bay street, and contains six flats. A suitable steam engine located in the basement supplies power for the entire establishment, the power being conveyed to the factory department by the Dodge system of rope transmissions. The general offices, which are commodious, well arranged and finely furnished, are on the main floor, and the three lower flats, with the exception of the offices and engine room, are used as show and warerooms; while the three upper flats are utilized for manufacturing purposes, and where nearly 200 hands find constant employment.

The principal lines of goods manufactured here are account books, in every variety and for all purposes—manufacturers, banks, insurance companies, county offices, etc.—paper boxes of every description, etc. The manufacture of envelopes is an important feature of the business, there being at this time some fourteen machines in operation, the capacity of which is 60,000 envelopes per day each. Four additional machines are being built which will enable the company to manufacture more than a million envelopes per day. This envelope machine is the invention of Mr. L. P. Bouvier, a foreman in these works. It



has been patented in Canada, United States and Europe, the patent being owned by the Barber & Ellis Company.

Mr. Ellis is identified with and holds prominent and honorable positions in many enterprises organized to advance the prosperity of Canada, among which are:—Member of Executive Committee of Canadian Manufacturers' Association; director of Canadian Merchant Travellers' Association; director of Manufacturers' Life Insurance Company and Manufacturers' Accident Insurance Company of Toronto; member of Toronto Industrial Exhibition Association; member of Toronto Board of Trade, etc.

A fluent and effective speaker, during the campaign previous to the general election of 1886 Mr. Ellis rendered the Government valuable service in discussing and upholding the National Policy, his intimate knowledge of the necessities of the manufacturing industries of the country in that connection always giving great weight to his arguments.

#### EXHIBITIONS—THEIR INFLUENCE ON THE ARTS AND INDUSTRIES.

At the first annual convention of the Canadian Association of Fairs and Exhibitions, recently held in Toronto, Mr. Fred-eric Nicholls, of the CANADIAN MANUFACTURER, read the following paper on "Exhibitions—Their Influence on the Arts and Industries."

I do not think it will be out of place to commence this paper with a short reference to the great International Exhibition of 1851, inasmuch as it was by means of this, the pioneer of international exhibitions, that the world first learnt of the vast influence for good exercised by such competitive displays of the products of art, industry and nature, between countries foreign to each other, although purely national exhibitions had been previously held in various countries with more or less successful results. As a brief retrospect of their early history may possibly interest those present, who are all prominently connected with successful exhibitions in our own country, I may say that to the British Society of Arts belongs the credit of inaugurating national exhibitions. In 1776—about the period when the Royal Academy first began its Royal Art Exhibitions—it offered prizes for improvements in the manufacture of tapestry carpets, porcelain and other things, and exhibited the articles which were offered for competition. It also offered prizes for improvements in agricultural and other machines, and a gentleman was paid to attend an exhibition of machinery in the society's rooms, and to explain the models exhibited. This was but a small beginning, it is true, but was the foundation of the great and important exhibitions which have since followed, and is the parent of all exhibitions, great and small, which are now of annual occurrence. Great Britain having set the example it remained, I am sorry to say, for the French to develop the utility of exhibitions as an educational force; and even up to the date of the English exhibit of 1851 there were men of influence who affected to remember that such exhibitions were had recourse to in France in order to excite a manufacturing spirit in those countries; and it was held that it was derogatory to the acknowledged supremacy of the English manufacturers to place their goods in competition with those of foreign countries. In France the value of exhibitions was far differently estimated, and the first held in that country was opened in Paris in 1797 by the Marquis d'Aveze, who originated the idea. This exhibition remained open only three days, and the exhibitors numbered only one hundred and ten, the exhibits being mostly articles of luxury rather than such as were in popular demand. Everything must have a beginning, and this first attempt in France, small as it was, stimulated

competition, and had such an educational effect, that at the second exhibition in 1801 there were four hundred and twenty-nine exhibitors; one year later, when a third exhibition was held, the number had increased to five hundred and forty, and, according to a historical review, I learn that mechanical science and invention, influenced by knowledge gleaned at previous exhibitions, had caused not only a reduction in price of all articles in popular demand, but had resulted in the material improvement of all such articles. From this time onward until 1849—the year in which the last of the exhibitions was held prior to the great International Exhibition of 1851—each successive French National Exhibition had surprised the country by reason of the success attained, and the last mentioned—that of 1849—was supported by 4,494 exhibitors, and we learn from the records that its great predominating character was machinery. I have followed the results of these French exhibitions as in the earlier years of the present century France more fully realized their importance than any other country, and I am consequently enabled to point an instructive moral therefrom, for have we not seen that the first exhibitions contained mostly articles of luxury; that later on it was shown that there had been not only a reduction in price of all articles in popular demand, and material improvement in all such articles; and that the last cited—that of 1849—was remarkable for the importance of its display of machinery. This, I hold to be a pretty clear case of cause and effect, and we may see many similar results in our own times. For instance, an article, either of ornament or utility, is exhibited at some favorable exhibiting point, but by reason of certain crudities in its method of manufacture, or by reason of the expensive nature of the material used in its manufacture, its price places it beyond the reach of the masses. This fact being recognized by visitors of inventive genius to the exhibition, or by those possessing keen business instinct, and ways are found, possibly by the aid of ingenious machinery or the utilization of less costly raw material, to produce goods similar in character and design at a cost that brings them into popular favor at once; and as a consequence thousands are manufactured in place of hundreds, and employment is given not only to those directly engaged in the manufacture of the article in question, but also to others who manufacture the necessary machinery for their production; and others again who produce the raw material, besides those who handle the raw material, the machinery and the finished goods when being transhipped from one point to another. If this particular article had not in the first place been publicly exhibited the chances are that it might never have entered the lists as an article of regular consumption, for its original cost precluding its introduction, it would have been seen by but few, and the intelligent minds, which solved the problem of how to place it on the market at a reasonable price, would never have had their attention drawn to it. I have cited a hypothetical case, as we all know of instances such as the above which have really occurred, and I venture the assertion that there is not an exhibition held but through the influence of which some such gratifying results are secured. In returning to the great International Exhibition of 1851, the success of which, and the educational results derived therefrom are now matters of history, I may say that it was undertaken in fear and trembling, and its early struggles as described by Mr. Hollingshead in the preface to a work entitled, "A Concise History of the International Exhibition of 1862," reads so much as if it were a history of the early struggles of our own Toronto Industrial Exhibition, and, for aught I know, of many others in the Province of Ontario, that I make no excuse for quoting his remarks. He says: "When the great Exhibition of 1851 was first put in motion, its promoters knew little of the probable success of such a display, of the extent to which it would be supported by the exhibitors, or visited by the public. They could only be encouraged by the records of certain exhibitions which had been merely national in character and design. They were fed upon statistics more or less reliable, which sometimes led them to hope and some-

times to despair. They had to overcome the apathy of many supporters, and to check the wild enthusiasm of others.

"They met with assistance where they least expected it, and opposition where they expected assistance.

"Unmanageable crowds were pictured assembling on the chief thoroughfares to make the exhibition a stalking horse for riot and plunder. Wild fears produced over caution in the laying out of plans, and the police were concentrated as if for an internal war. When the statistics of 1851, however, came to be gathered together, it was found that there had been less crime, less disorder, and fewer accidents than the annual average. Like boys who have hesitated long on the banks of a clear stream, but who, leaping in, full of dread, are surprised to find how harmless and pleasant the water really is, we can afford to smile at our fears of twelve years ago. Unless friendly intercourse, hard work and industrial rivalry are hollow mockeries, it is impossible that 1851 can have left no good mark upon the world."

Apply the last paragraphs of this quotation to our Toronto Exhibition and see how near the analogy is. I remember that at the last annual meeting of the association, held in February last, a gentleman, Alderman Boustead, if I remember rightly, rose in his place and admitted that he had looked upon the undertaking with a great deal of scepticism, and considered that the then president, Mr. Withrow—who has remained president ever since, with constantly increasing popularity—had overestimated not only the possibility of successfully establishing such an enterprise, but had also overestimated the beneficial results likely to accrue therefrom. He further admitted that he had been completely converted, and with all the zeal of a convert he is now working both as a director of the exhibition and as an alderman of the city for its future progress and advancement. I mention the circumstances surrounding the inception of the Toronto Exhibition because I am more intimately acquainted with its inside history than of any other of our Ontario fairs; but I have no doubt that the same remarks apply to others which I have visited in London, Hamilton, St. Thomas and elsewhere, and all of which are now doing their appointed work, and doing it well. That they are still doing such work with such signal success, proves that, in newspaper parlance, they are "filling a long felt want;" but I ask you, gentlemen, if they could be kept going from year to year if the masses who patronize them, and the exhibitors who contribute to their attractiveness, did not feel that they derived not only pleasure but profit from their attendance. Let us look at the case from a visitor's standpoint. Take the case of a merchant living in a remote country town who visits his nearest central exhibition. He sees a variety of articles such as he is accustomed to purchase offered for sale by a number of rival manufacturers. Being afforded the opportunity of seeing these articles and comparing them together at one and the same time, he perhaps finds that a certain manufacturer finishes his goods a little better than others, or perhaps constructs them on more artistic lines which render them lighter and more symmetrical. Such being the case, he decides to purchase from such manufacturer, and his competitor, finding that others are doing likewise, brings his mental forces into play, and experiments and contrives until he has made equal or greater improvements in his own goods to meet the demand for a better article; the popular taste having been educated up to this standpoint by reason of public competition; and the manufacturer in turn having been educated to the necessity of making such improvements through the influence of the exhibition. It may be said that a purchaser would have ample opportunities of comparing goods when offered for sale by travellers, but I think not unless the representatives of every manufacturer of such goods happened to strike his town on the same day instead of at more or less lengthy intervals, and even then there are many goods sold only from photographs or engravings, and which are only shown at exhibition times. Let me give an instance:—

Nearly three years ago, when travelling in the Maritime Provinces, I called upon a manufacturer of stoves who men-

tioned to me that he thought he could sell his manufactures in the Upper Provinces. Although dubious of the success of such an undertaking, I suggested that possibly the best means of making the experiment would be to exhibit at Toronto and feel the pulse of the markets. This suggestion was adopted, and he sent a shipment of stoves and came along with them to superintend their arrangement and prospect for business; but he found to his chagrin that they were poor in design and finish, and could not, in these particulars, compete with western makes. He was not discouraged, however; the educational influence of the exhibition was not lost, for he made a study of such points in which he found he was deficient, and went home a wiser man. The next year he again made an exhibit, and a glance was sufficient to prove the influence for good of his previous experience and opportunity for industrial study, for he then produced goods to meet the requirements of the market; and the result is the establishment of a permanent warehouse in this city, and a considerable extension of our inter-Provincial trade. Similar cases might be referred to in numbers.

In order to show in another way the influence of exhibitions on the arts and manufactures, I may mention that specialties of real merit are enabled, by means of public competition, to take their rightful place as leading articles of commerce, when otherwise their salient points might not be brought directly under the notice of the purchasing public. Take many such articles as are sold in hardware stores, furniture stores and other lines of business. When such specialties are offered for sale in the stores they are simply units amongst a multitude of other articles, and the merchant has, perhaps, neither the time nor the inclination to parade its special merits before the prospective buyer, who may simply ask to be shown an article for a certain use and be shown such as may be held in stock and from the sale of which the most profit is to be derived. At an exhibition a different method is pursued. The manufacturer of such specialties or his duly qualified agent is on hand for the purpose of fully explaining the merits of his goods; of illustrating their effectiveness in use; of descending upon their economical properties and their many superior qualities as articles of use, production or ornament, and finally poses, and correctly so, as an educator of the public which has already had an opportunity of examining, in the same building and without loss of time and with equal facilities for acquiring information, similar goods made by rival firms, and he then exercises his own judgment with the fullest knowledge of the facts in his possession. Had he not had an opportunity of educating his mind such as is afforded by attendance at any of the exhibitions represented by the gentlemen present, he would have been largely dependent upon the advice of the merchant from whom he would purchase the required article, and, as we all know, such advice is more often prompted by the percentage of profit gained than by ambition to introduce articles, which, though of superior merit, offer inferior inducements as a means whereby the yearly balance of profit may be increased.

#### SPECIAL ADVERTISEMENTS.

TO RENT.—Two large flats on Pearl Street, Toronto (in rear of *Mail* building), well lighted, steam heated, and with available steam power up to 10 H.P. Apply at 10 Pearl Street.

THE owners of Patent No. 24,369, dated June 21st, 1886, for the manufacture of Sodium and Potassium, are prepared to grant licenses in Canada, or to negotiate for the sale of the Patent. HENRY GRIST, *Patent Agent, Ottawa.*

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### EDITORIAL NOTES.

WE have no quarrel with any labor organizations whatever, as long as they refrain from meddling with things that don't concern them. Those of them that do unto others as they would have others do unto them will always find us an amiable neighbor.

WE understand that Mr. D. R. Gibson, Mr. James Farr, and Mr. John T. Laing, all of the city of Hamilton, Ont., have publicly certified to the fact that Mr. James Farr is a member in good standing of the Bricklayers' and Masons' Union, of that city, and has been such for some years.

THE Grand Jury of the Court of General Sessions, in Hamilton, Judge Sinclair presiding, have found a true bill against David R. Gibson, William Mitchell and William Littlejohns, members of the Bricklayers' and Masons' Union of that city for conspiracy against Edwin Buscombe, a non-union bricklayer. The evidence taken in this case before the examining magistrate was given in our issue of May 4.

AN esteemed correspondent "R. W. E." has sent us a communication *re* "Gasolene" in which he gives some very interesting facts concerning the article, and argues against its use for domestic purposes because of its dangerousness. We regret that we cannot publish "R. W. E.'s" communication in this issue, but will cheerfully do so in our next. While we agree as to facts regarding gasoline our conclusions are widely divergent, but the matter will bear discussion and our readers will have the opportunity of hearing both sides of it.

SOME who may attach importance to the matter might be led to enquire how a man who is and has been for years a member in good standing of a labor union; who can and does produce official certificates to that effect, and who, being such, is always in a position to obtain work when any work is being done, can willingly "lay off" and allow his old and decrepit wife to support him and their children by performing such menial work as scrubbing offices, etc. It might also be asked if the standard of honor and morality in such labor unions as that to which such a man belongs admits of such a man being in "good standing" when he allows his old wife to support him in idleness, and allows both her and their children to suffer from cold and hunger when the old wife becomes crippled and incapacitated from work from a broken arm? Perhaps such conditions are in accord with the "ethics" of tradesunionism.

THE CANADIAN MANUFACTURER of June 1 presents its readers with a supplement in which are found the photographs, reproduced by the artotype process, of four "Captains of Industry," namely, Mr. W. H. Story, glove manufacturer of Acton, Ont., president of the Canadian Manufacturers' Association; Mr. Samuel May, of Toronto, first vice-president, and manufacturer of billiard tables; Mr. Bennett Rosamond, second vice-president, and president of the Rosamond Woolen Company, of Almonte, and Mr. George Booth, of Toronto, treasurer of

the association. The likenesses are all admirable. Accompanying them is a sketch of the life of each of the gentlemen, written in an appreciative spirit and replete with facts of interest to Canadians generally. The CANADIAN MANUFACTURER is what its name implies—a representative industrial journal, fair to all sections of the Dominion, and, we may add, given to dashes of enterprise that are most creditable to its management.—*The Empire.*

THE Forty-third Provincial Exhibition of the Agriculture and Arts Association of Ontario will be held in the city of Kingston, commencing on Monday, September 10th, continuing until Saturday, September 15th next. We are in receipt of the prize list of this Exhibition, the competition at which is open to the world. The rules and regulations refer to membership; entries; transportation of articles, placing them on exhibition, and charge of them while there; railroads and customs; admission to the ground; judges and their duties; general arrangements, etc. The classification of the prize list covers sixty-nine different classes of entries. A valuable feature of the book is a schedule of dates of the different agricultural and industrial exhibitions to be held in Canada, and of twenty-six exhibitions in the United States in 1886. The book is attractively gotten up, the first cover showing a lithographic view among the Thousand Islands near Kingston, and the back cover a beautiful view of Kingston and the Royal Military College from Wolfe Island.

COMMENTING on the recent destruction of St. Paul's Cathedral in Buffalo, by an explosion of natural gas, the *New York World* says:—"We are certainly having too much of this kind of progress, and are very much like children handling edge-tools." St. Paul's Cathedral cost probably a quarter million dollars, but it could never have been built without the use of edge-tools; and if, because edge-tools may be more or less dangerous to handle, no workmen could have been found to handle them, that stately edifice would never have been built. Therefore, even, if edge-tools are dangerous, if we encourage such progress as calls for the erection of cathedrals and other fine buildings, they must be used. Tools that have no edge are not available for such purposes, and progress and edge-tools necessarily go together. In one immense iron works alone in Pittsburg natural gas is used exclusively, where, before its introduction, 5,000 tons of coal a day were required for fuel: should the use of natural gas in this establishment be abandoned because of the destruction of St. Paul's Cathedral? Verily no. Or should the use of any useful article be abandoned because, forsooth, more or less danger may lurk in such use? We think not. There is scarcely any substance or article now in use for the generation of heat, light or power that does not contain a large element of danger; but it does not follow that we are to live in cold and darkness for fear that some buildings may be burned, or some human lives destroyed. The Almighty has endowed us with intelligence and reason to enable us to control the elements of danger that exist in our surroundings. We cannot conveniently get along now-a-days without such edge-tools as steam, to drive our machinery; electricity, to light our streets; gasoline, with which to prepare our food in hot weather, and natural gas, with which

to heat our cathedrals, even if boilers do sometimes burst; electricity cause accidental deaths, and natural gas explode and destroy churches. These edge-tools are indispensable to modern progress.

WHEN Charles II. was King of England a sumptuary law was passed expressly forbidding the cultivation of tobacco in that country under a very heavy penalty. The law was passed specially to benefit the cultivation of tobacco in Virginia, which was then a Crown colony. That old law still stands upon the Statute books. One might smile to think that such a law should ever have been made, and that it should remain for so long a time unrepealed; but less than ten years ago quite as ridiculous a law was made here in Canada forbidding the use of gasoline under a heavy penalty also, which law was passed specially in the interests of fire insurance companies.

WE call the attention of Mr. Carson, of the Labor Commission, to an item which appeared in the Peterborough Review of June 1, which reads as follows:—

“Mr. James R. Brown, Factory Inspector for Central Ontario, has been in town examining the factories in Peterborough. He finds the requirements of the Ontario Factory Act fairly met, but pointed out where minor improvements were needed in some cases.”

Mr. Carson recently stated in Ottawa that the Ontario Factory Act was practically useless—that it was not and could not be enforced. Mr. Brown, one of the inspectors under that Act, says that the requirements of the Act are “fairly met.”

THE People's Exchange of Chicago is a concern which acts as the agent of owners of property who desire to effect insurance upon it. The laws of Illinois provide that all insurance companies doing business in that State shall conform to certain requirements, the object being to suppress “underground” business. The “Exchange” alluded to was indicted for conducting “underground” insurance, and on the trial Judge Altgeld decided against the prosecution and in favor of the Exchange, which he said acted only and exclusively as the agent of the property-owner, and never as the agent of the insurance company. “There is no question,” he said, “but that a property-owner has the right to insure anywhere he pleases, whether the insurance company is doing business under the laws of Illinois or not. If he has the right to do this himself he has the right to employ an agent to do the work for him.” This may serve as a pointer to property owners in Canada who may desire to use gasoline stoves. An insurance exchange such as that in Chicago, acting for Canadian property owners, and insuring their property in reliable foreign companies, would probably do a large and satisfactory business.

A JAWSMITH of the Knights of Labor says that “The labor question in China was settled over two thousand years ago.” We suppose that the Chinese method of settlement is what the jawsmiths of the labor organizations in Canada desire. It is certain that they are striving to bring about a condition in Canada similar to that which prevails in China, according to a report from the American Minister at Peking. That official in a communication to his government states that “a man be-

longing to an association of goldbeaters, at Soochow,”—probably Goldbeaters' Assembly, No. 999 Knights of Labor—“recently took more apprentices than one. This is forbidden; so the local organization took up the matter, and condemned the man to be bitten to death, and the sentence was literally carried out. One hundred and twenty-three men had bites at him before he expired.” We can understand now how labor organizations in Canada hope to enforce their edict against technical education in public schools, and to prevent bosses from taking on more apprentices to learn trades than the numbers assigned them—the offender must be bitten to death. Time was when people looked upon the bite of mad dogs as being the most terrible affliction that could befall an unfortunate, but the Knights of Labor method of punishment, as inflicted in China, and which the jawsmiths in this country would like to introduce here is infinitely worse.

MR. J. E. PALMER, the publisher, 176 Broadway, New York, has sent us a copy of “The Blue Book,” just published by him, which is a pocket directory of the textile manufacturers of the United States and Canada, a complete list of all the mills, and their location, etc., being given. The book contains 260 pages, and cannot but be invaluable to all who desire such information as it contains. Cloth binding, \$2. Leather, \$2.50.

WIDE AWAKE, for June, is marked No. 1 of volume 27. As remarked by Madame de Sevigne regarding La Fontaine's Fables, it is “like a basket of strawberries; you begin by taking out the largest and best, but little by little you eat first one, then another, until at last the basket is empty.” All *Wide Awakes* are of this character, and although the largest strawberries may be first taken, they are all equally good, and one never feels like laying down the book until every picture is examined, every story read, and at least an effort made to solve the “tangles” which always provoke curiosity. The June number, like all its predecessors, is brimful of interest, and, as we have before remarked, no more appropriate present could be made to a boy or girl than this beautiful magazine. D. Lothrop Company, Boston, publishers. 20 cents a number, \$2.40 a year.

“CANADA'S Great Fair,” the Toronto Industrial Exhibition will open at the grounds of the Association in this city September 10th, and close on September 22nd next. Mr. H. J. Hill, secretary and general manager, has sent us the prize list, by which it will be seen that unusual inducements are offered to exhibitors; and from the well known efficiency with which these exhibitions are always conducted, the affair promises to be most enjoyable and successful. That the manufacturing interests of Canada are well looked after is shown in the fact that Messrs. D. C. Ridout, George Booth, and R. W. Elliot are directors of the Association; and president and secretary of the Canadian Manufacturers' Association, honorary directors, besides a large number of manufacturers who are assigned to various appropriate committees. In Machinery Hall no charge is made for power with which to put machinery in motion, and every facility and convenience will be afforded all exhibitors.

THE following tariff decisions were rendered by the Board of Customs during April and May:—Chocolate drops, 1½c. per lb. and 35 per cent. *ad valorem*; cabinet makers' hardware, if made in whole or in part of iron or steel, should be classed under item No. 231, at 35 per cent., but if wholly devoid of iron or steel, should be classed according to the material of which made; Dukehart's malt extract, \$2 per l. g. and 30 per cent.; egg cases, containing eggs, are dutiable, not being packages “for exportation only;” fish hooks with flies, 30 per cent.; file blanks, 30 per cent.; fruit syrups of all kinds not containing alcohol, 1½c. per lb. and 35 per cent.; fruit juice, not sweetened, nor containing alcohol, 20 per cent.; flower bulbs, 20 per cent.; oyster knives, 30 per cent.; parchment paper, 35 per cent.; porous and hollow earthenwares for fire-proofing purposes, known as terra cotta lumber, brickwood, cellular pottery and holdstein or woodstone, intended for making buildings fire-proof, 35 per cent.; rubber hat covers, 35 per cent.; sweetened biscuits of all kinds, 1½c. per lb. and 35 per cent.; tallow stearine, 1c. per lb.; Valentines' meat juice, as extract of beef, 25 per cent.; wax flowers, 20 per cent.

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# Manufacturing.

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

THE Canadian Hosiery Company, Beeton, Ont., are enlarging their factory.

THE authorities of Galt, Ont., have decided to purchase a new chemical fire engine.

MESSESS. BICKLE & MAY, Petrolea, Ont., will build a seventy-five barrel roller flour mill.

THE Preston Carriage Company, Preston, Ont., has been incorporated with \$10,000 capital stock.

ANOTHER fine flow of natural gas has been struck at Collingwood, Ont., this time at a depth of only 140 feet.

MESSESS. NICKERSON BROS. lumber mills at Victoria Harbor, Ont., was destroyed by fire May 26th, loss \$4,000.

MESSESS. JOHN BERTRAM & SONS, Dundas, Ont., shipped a carload of machinery to British Columbia last week.

THE Anthes Manufacturing Co.'s works at Berlin, Ont., were destroyed by fire, June 2nd, loss about \$14,000.

THE capital stock of the St. Lawrence sugar refinery, Montreal, has been increased from \$400,000 to \$750,000.

THE Toronto Radiator Manufacturing Company, Toronto, has been incorporated with \$100,000 capital stock.

THE New York Freestone Quarrying Co., Sackville, N.B., are shipping a quantity of stone by rail to Chicago.

MESSESS. GILLIES & MARTIN, Teeswatin, Ont., manufacturer of agricultural implements, will enlarge their works.

THE People's Heating and Lighting Gas Company of Ottawa, has been incorporated with a capital stock of \$500,000.

MR. JAMES CROSSEN, proprietor of the Crossen Car Works, Coburg, Ont., will remove his establishment to Toronto.

MR. V. DENNE, Newmarket, Ont., will introduce the Cochrane system of rolls into his new flour mill now being built.

MR. GEORGE HALL, Virden, Man., will increase the capacity of his flouring mill, and also build a large grain elevator.

THE Trenton Bridge Company, Trenton, Ont., are building an iron bridge over the Welland river at Port Robinson, Ont.

THE Uxbridge Cabinet and Organ Manufacturing Co., Uxbridge, Ont., have commenced the manufacture of first class pianos.

MESSESS. CRAIG & SONS, Napanee, Ont., will increase the capacity of their flour mill by the introduction of additional machinery.

MR. S. WAINWRIGHT, Orillia, Ont., employs twelve hands in his tannery, and manufactures about \$40,000 worth of leather a year.

MR. WILLIAM RAMSAY, Orillia, manufacturer of carriages, etc., made a shipment of sixty buckboards to Manitoba a few days ago.

MESSESS. SADLER, DUNDAS & Co., Lindsay, Ont., have just placed another eighty horse-power steam engine in their large flour mill.

MESSESS. CAMPBELL, STEVENS & Co., Chatham, Ont., will increase the capacity of their flouring mills from 250 barrels a day to 500 barrels.

THE works and stock of the J. F. Pease Furnace Company, Toronto, were damaged by fire on June 5th, to the extent of about \$10,000.

ANTIGONISH, N.S., is excited over the discovery of coal at Hallo well, near that place. The seam shows fourteen feet of surface coal of superior quality.

MR. ALEXANDER ROCKEY, recently with the Essex Centre Manufacturing Company, Essex Centre, Ont., will start a wagon factory at Ridgetown, Ont.,

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TORONTO AGENT:

W. H. BOOTH, - 65 Front St. West.  
For Specimen of Work, see Bank of Montreal, Toronto.

MESSESS. MASON & RISCH, piano manufacturers, Toronto, will build a large addition to their factory in this city, making it almost double its present size.

THE Cookshire Mills Company, Cookshire, Que., who have an extensive saw mill plant at Cookshire, are building another large mill at Sawyerville, Que.

THE Canadian Wire Mattress Company, West Toronto Junction, are having a switch run into their premises connecting them with the Grand Trunk Railway.

MESSESS. A. BLACK & Co., Orillia, Ont., manufacturers of furniture, etc., employ fifty hands. They make a specialty of upholstered goods and mattresses.

MESSESS. ALLAN BROS., Carleton, N.B., are supplying the machinery for the new lumber mill of Mr. D. J. McLaughlin, being built at Pollet River, N.B.

MR. JOHN ELWOOD'S shingle mill on the Semiahmoo spit, near Westminster, B.C., was burned recently. This mill was turning out large quantities of shingles.

THE planing mill and box factory of Messrs. John Craigie & Son, Penetanguishene, Ont., were destroyed by fire, May 26th, loss about \$5,000. The works will be rebuilt.

MR. JAMES R. AYER, Sackville, N.B., in addition to his tannery business, which is large, also manufactures shoes, harness, and many other articles constructed of leather.

THE lumber mills of Mr. D. J. McLaughlin, Pollet River, N.B. (Peticodiac), which was recently destroyed by fire is being rebuilt, and will soon again be in operation.

THE Hamilton Whip Company, Hamilton, Ont., had their supply of hydrant water cut off a few days ago by a sea serpent of small dimensions getting into the delivery pipe.

THE Crompton Loom Works, Worcester, Mass., have the contract for all the fancy cotton looms to be placed in the new mill of the Fisher Manufacturing Co., Fisherville, Mass.

MR. GEORGE WRIGHT, Wareham, Ont., will introduce the roller system into his flour mill. He has already laid the foundation walls for the necessary extension of his mill building.

MR. ROBERT DAVIES, proprietor of the Dominion Brewery, Toronto, probably the largest establishment of the kind in Canada, is making extensive enlargements of his works.

THE Rathbun Co., of Deseronto, Ont., intend increasing the number of their charcoal kilns to twenty, which will supply sufficient charcoal to run a blast furnace for the manufacture of charcoal iron.

MESSRS. FADER BROS., who recently bought a small flouring mill at Vancouver, B.C., have got it in running order, and one of the firm has gone east to arrange for additional machinery.

MESSRS. OSBORNE, KILLEY & Co., Hamilton, Ont., are building an eighty horse power automatic compound steam engine, and boiler for the same, for the Dundas Axe Factory, Dundas, Ont.

THE Canadian Rubber Company, Toronto, will supply all the necessary belting in the new grain elevator now nearing completion in this city belonging to Messrs. Gooderham & Worts.

THE Dominion Bridge Company, whose works are at Lachute, Que., are building the Clarke's patent fire escape tower, which is specially adapted for factories, mills and other large buildings.

MR. J. W. CUTHBERTSON, proprietor of the Dominion Pump Works, Bothwell, Ont., is piping an artesian well at Glencoe, Ont., which is flowing 100 barrels per hour of remarkably fine water.

THE Vulcan Iron Company of Manitoba, Winnipeg, Man., are making important additions to their plant, included in which is the latest improved machinery for grinding and corrugating mill rolls.

THE Toronto Terra Cotta Company, (Messrs. M. J. Hynes & Bro.), Toronto, have just received two immense brick machines manufactured for them by Messrs. Goldie & McCulloch, Galt, Ont.

MESSRS. BELDING, PAUL & Co., Montreal, are offering for sale two Knowles' looms for narrow goods, and a number of double shed Jacquard looms. These looms are in good order, and will be sold cheap.

MESSRS. A. HARRIS & Co., Brantford, Ont., manufacturers of agricultural implements, etc., a few days ago made a shipment of six car loads of machinery to the Argentine Republic, valued at \$20,000.

MESSRS. WAGNER, ZEIDLER & Co., proprietors of the Dominion Show Case Works, Toronto, have recently manufactured a set of elegant show cases for the jewelry store of Mr. James Trotter, Galt, Ont.

THE box factory of Messrs. Hewitt & Harvey, Toronto, was destroyed by fire June 5th, loss about \$5,000. A new outfit of machinery had just been placed in this factory, about all of which was totally ruined.

MESSRS. M. BEATTY & SONS, of the Welland Iron Works, Welland, Ont., have completed and delivered one of the two immense steam shovels heretofore alluded to in these pages. It weighs about forty tons, and cost about \$7,000.

THE Freezing and Cold Storage and Artificial Ice Company, of Toronto, has been organized with a capital stock of \$150,000, for the purpose of manufacturing pure ice, and for the freezing and cold storage of articles of a perishable nature.

MR. C. J. MILLAR, proprietor of the Couchiching Tannery, Orillia, Ont., and manufacturer of the Couchiching brand of harness and other leather, has an annual output valued at about \$50,000. He gives employment to about eighteen hands.

MR. P. MADDEN, proprietor of the Couchiching Planing Mills, Orillia, Ont., makes a specialty of manufacturing doors, sash, blinds, moulding, etc. His factory is 72x40 feet, two stories high, and is equipped with best machinery throughout.

THE Canadian Copper Mining Company is constructing smelting works at Sudbury. This is an evidence that the company have confidence in the permanency and profitable character of Sudbury's mining industries.—*Carleton Place (Ont.) Herald.*

MESSRS. E. LEONARD & SONS, London, Ont., have recently placed a sixty horse-power Leonard-Ball automatic engine in Messrs. Lyman Sons & Co.'s drugmill, Montreal, and a 100 horse power similar engine in the planing mills of Mr. Y. LeFontaine, same city.

THE Speedsville Woolen Mills, which were destroyed by fire some time ago, have been rebuilt and will be in full operation this week. The new mills are of stone, three stories high, with mansard roof and tower, and are a credit to the enterprising proprietor, Mr. S. C. Martin.—*Dumfries Reformer.*

THE Williams Piano Company, Oshawa, Ont., have perfected the plans and specifications for the proposed enlargement of the Joseph Hall Machine Works, recently purchased by them, and are asking for bids for doing the work. When finished these piano works will give employment to upwards of 300 hands.

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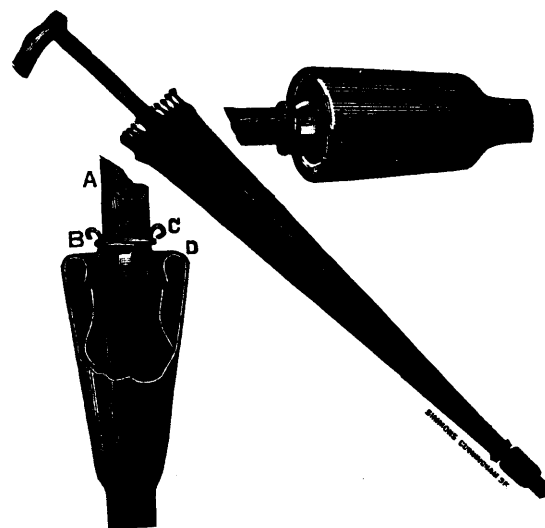
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TORONTO.

## Drip Cup for Umbrellas.



This engraving represents a novelty of real merit and usefulness just patented by Mr. A. G. Nygard, of San Francisco, Cal. The invention relates to a drip cup for the tips of umbrellas, in which the water is received when the umbrella is closed, instead of being permitted to drip upon the floor or carpet.

A sample of this invention may be seen and examined as the Permanent Exhibition of Manufactures.

Messrs. NICHOLLS & HOWLAND are Agents for the sale of the Canadian Patent.



MESSRS. J. & J. TAYLOR, proprietors of the Toronto Safe Works, Toronto, have recently supplied one of their new fire and burglar proof safes to Mr. W. H. Tracey, jeweler, of Ottawa. It is four feet wide and six feet high, and embodies all of the latest and most approved conveniences, devices, and safeguards.

THE Royal Oil Company, Toronto, address themselves to the users of machinery, cylinder and wool oils, through our advertising pages, and request a share of patronage. The concern is an entirely reliable one, and are familiar with the business. They have ample capital at their command, and are in a position to do the trade right.

THERE has been in operation in this city for the past few days, for the purpose of giving it a thorough test, a machine for manufacturing cigars, which it is claimed will turn out between 3,000 and 5,000 per day. The machine, if successful in every particular, will do as much work in one day as ten or twelve men.—*St. Thomas, Ont., Journal.*

MESSRS. MUCKLOW & COMPANY, Bury, England, and Glasgow, Scotland, have appointed the Dominion Dyewood and Chemical Company, Toronto, their sole agents for Canada. Consumers will find a great saving by trying Mucklow's celebrated Extracts and Dyewoods of which the Dominion Dyewood Company will carry a large stock.

THE Dominion Militia Department have received some splendid specimens of nine-pounder shells and shrapnel shells manufactured at the Government cartridge factory at Quebec. It is the intention to proceed with the manufacture of these nine-pounder shells on an extensive scale; the capacity of the factory to turn out a good article having been demonstrated.

MR. M. SIMPSON, ship builder, Hamilton, Ont., successfully launched the new steamer *Grayhound*, built by him. This vessel is built for passengers and excursion purposes, and will have accommodation to carry 800 passengers. She is a screw steamer 125 feet long and 25 feet breadth of beam, built of oak, and will be propelled by compound engines of 400 horse power.

THE Geo. T. Smith Middlings Purifier Manufacturing Co.'s works, Stratford, Ont., are being run full time and with a full staff, there being a large amount of work ahead. Among the large contracts recently entered into are for mills in St. Thomas, Petrolia, Milton and Cummerville, these being for either new mills entirely, or changing stone mills into roller mills.

THE McFarlane Milling Company, Sherbrooke, Que., have recently refitted their flouring mills at that place with an outfit of roller process machinery manufactured for them by the George T. Smith Middlings Purifier Manufacturing Company, of Stratford, Ont. The capacity of the new machinery is about 100 barrels a day, in addition to the custom work performed by the old machinery.

THE Standard Drain Pipe Company, St. John, Que., is one of the most prominent of the manufacturers of drain pipes, fire-clay lining for chimneys, and all descriptions of fire-clay goods in Canada. They have recently placed some large contracts with the Montreal authorities, in which they will supply a better article than similar goods brought from Scotland, and at very much lower prices.

THE Massey Manufacturing Company, Toronto, made their annual delivery of agricultural implements at Sarnia, Ont., for that section of the country, a few days ago. Forty teams, loaded with agricultural implements, and headed by the Sarnia band, paraded the streets, after which the patrons of the company proceeded to a hotel and sat down to an excellent dinner provided by the company.

MR. JAMES CROSSEN, proprietor of the Crossen Car Works, Cobourg, Ont., recently built two sleeping cars for the Intercolonial Railroad, concerning which the *Moncton, N.B. Times* says:—"They are the finest cars on the road, the sides of the upper berths being inlaid with mother of pearl, and the upholstering most elaborate." Mr. Crossen is building three other similar sleepers which are nearing completion.

A SPLENDID specimen of coal has been received at the Geological Survey Office, Ottawa, from near Kamloops, B.C. Particulars of the "find" are not to hand, so that the depth of the seam is not known, but Dr. Dawson pronounces the specimens to be those of excellent anthracite. It was secured within three miles of Kamloops station, and if the seam is a good one there will be little difficulty in getting the coal to market.

MR. J. W. HERMAN, Toronto, manufacturer of the patent boiler-water purifier, an illustration of which appears in another page, informs us that the demand for this purifier is increasing very rapidly,

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We have just issued a new edition of our Book called "Newspaper Advertising." It has 256 pages, and among its contents may be named the following Lists and Catalogues of Newspapers:—

**Daily Newspapers in New York City**, with their advertising rates.

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and that it is in high favor with steam users because of its exceeding simplicity. The apparatus can be removed, cleaned and replaced in the boiler with very little trouble without emptying the boiler of hot water, which means a great saving of time, labor and fuel.

AMONG the recent discoveries in new dyestuffs, gambine is one of the most important. Gambine is now being largely used in England by tweed and carpet manufacturers for producing fast browns, greens and olives on wool, which is said to stand the most severe fulling and scouring. Gambine is manufactured only by Read, Holliday & Sons, Huddersfield, England, for whom the Dominion Dyewood and Chemical Company, Toronto, are sole agents for Canada.

THE extensive box shoo factory of Messrs. Barnes & Co., at the Chaudiere, near Ottawa, was destroyed by fire May 31st, loss about \$100,000. This was a new concern, the works having been in operation less than a month, and an order was being filled for 125 car loads of shooks for parties in the United States. The machinery destroyed was entirely new and cost \$70,000. 125 hands were thrown out of employment. It is not probable that the works will be rebuilt.

MESSRS. WILLIAM JOHNSON & Co., Montreal, manufacturers of Johnson's magnetic iron paint, obtain their peroxide of iron, of which this paint is made, from the St. Maurice district, Que., where they own a large tract of land which produces this material. They have furnaces, or kilns, erected on the land for roasting the ore, the works giving employment to a large number of hands, the daily output being about sixteen tons. The supply of ore is practically inexhaustible.

MESSRS. INGLIS & HUNTER, Toronto, are working full time on jobs among which are included the following:—New marine boiler for steam tug *Mary Ann*, of Port Arthur; two large boilers for Massey Manufacturing Company, Toronto, from designs furnished by Mr. J. Fraser Torrance, of the Dominion Safety Boiler Company, Montreal; enlarging cylinder of engine in Messrs. McLaughlin & Moore's flour mill, Toronto, and new condensing machinery for steamer *Bell Wilson*, of the Georgian Bay Navigation Company.

MESSRS. A. ROBB & SONS, Amherst, N.S., inform us that within the last few weeks they have made shipments of their celebrated Monarch steam boilers, and Hercules steam engines, as follows: to Albert county and to Campbelltown, N.B.; to Halifax county and to Springhill, N.S., besides two engines to Amherst. They have also recently placed rotary saw mills of their construction at Newville and Sackville, N.B., and Morristown, N.S., and are now loading one of their 70-horse power engines and boilers, and rotary saw mill, for Hartland, N.S.

THE annual meeting of the Westmoreland and Albert Mining and Manufacturing Company, was recently held in Moncton, N.B., at which Mr. H. R. Emerson was elected president, and Mr. E. B. Chandler was re-elected secretary. The property of this company is situate at Rockland, N.B., and consists of oil and shale works. It is understood that negotiations are pending which will probably lead to the active working of the property by American capitalists. The company has been reorganized with this end in view and to complete the negotiations.

A NEW GLASGOW, N.B., dispatch says:—Mr. McKam here says the building of puddling furnaces in New Glasgow is a solid fact, which must give great impetus to the growth of our pushing town. The Steel Company is doing a rushing business, adding to their already large works, so that they may double their present large output. The Forge Company are crammed with orders and have work enough ahead for the next ten months. The Glass works are booming, and are manufacturing and selling from \$9,000 to \$10,000 worth of goods each month.

MR. J. D. RONALD, Brussels, Ont., recently completed a steam fire engine for the city of Winnipeg, which is giving great satisfaction. On the trial test twenty pounds of steam was made from cold water in seven and a half minutes; with 100 pounds of steam a vertical stream 137 feet high was thrown through one inch nozzle, and two horizontal streams thrown 147 feet; with 200 feet hose out, four streams were sent 148 feet each through one inch nozzles; then, through 1½ inch nozzles upon a Y, 2,500 feet of hose intervening, two streams were sent 125 feet.

MESSRS. INGLIS & HUNTER, Toronto, are manufacturers of Corliss steam engines, and stationary and marine engines and boilers, in which high economy and superior work is guaranteed. They also manufacture flour, mill machinery, including the Case improved system, Cyclone dust and shavings collectors, etc. This firm is now building two Field-Stirling patent high pressure boilers of 200-horse power each, for the Massey Manufacturing Company, Toronto, from designs furnished by the Dominion Safety Boiler Company, Montreal, the owners of the patent.

THE Ontario Glove Works, Brockville, Ont., one of the most important industries of that thriving town, was established by Mr. James Hall, the head of the present firm of Messrs. James Hall & Co., in 1865. The works, which are of massive stone and brick, three stories high, cover an area of more than an acre and a half of ground, and are thoroughly equipped with the most improved machinery and appliances, and give employment to eighty hands. The goods manufactured by these works are well known throughout Canada, from Halifax to Vancouver.

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THE steel steamer *Algonquin*, the largest vessel that ever entered the Cornwall Canal, arrived at Cornwall, Ont., a few days ago. She was built by Messrs. Napier, Shanks & Bell, Glasgow, Scotland, and left there April 21st. She is 253 feet long, 40 feet beam and 23 feet deep. Her engine is 1,350 horse-power. She will carry about 2,100 tons on 14 feet of water and 2,650 on 16 feet. She is owned by Thomas Marks & Co., of Port Arthur, and will ply between Port Arthur and Kingston in the passenger and freight trade. She has been cut in two and will be put together again on Lake Ontario.

THE quarry of beautiful marble at Garden River is in a fair way of being opened up. Mr. Snow, manager of the Hitchcock Marble Works, of Chicago, has been looking over the ground this week preparatory to ordering machinery from Montreal. It will be remembered by readers of the *Pioneer* that the colors of this stone equal those of the best Italian marbles, and that a number of articles have been worked from it and placed on exhibition by the above named firm. In addition to these extensive beds the company have other quarries near Echo River, which are probably a continuation of the Garden River vein.—*Sault Ste. Marie (Ont.) Pioneer.*

MR. JAMES HARRIS, senior partner of the firm of Messrs. James Harris & Co., St. John, N.B., car builders, iron founders, etc., died in that city June 11, aged eighty-five years. Mr. Harris began life in St. John as a journeyman blacksmith, and sixty years ago he began a machinist and foundry business with Thomas Allan, and the partnership continued for thirty years. Since 1860 he managed the business himself until a few years ago, when his son-in-law, Mr. Robertson, became a member of the firm. Harris & Co. have paid out in wages nearly \$3,000,000 during the last twenty-five years. Mr. Harris was greatly respected for his sterling integrity and loved for his kindness and generosity.

MESSRS. LOCKHART, MILLICHAMP & Co., who act as agents for many of the textile manufacturers of Canada, and whose head office is at Toronto, with branches at Montreal, Winnipeg and Halifax, avail themselves of our advertising pages to call the attention of the trade to some facts regarding their business. They are agents for the Standard Woolen Mills Company, Toronto, manufacturers of fine blankets, etc.; Galt Knitting Company, Galt, Ont., knitted underwear, etc.; Thorold Knitting Company, Thorold, Ont., knit goods; Waterloo Woolen Manufacturing Company, Waterloo, Ont., tweeds, etc.; A. W. Brodie, Peterboro', Ont., flannels, etc.; A. Dobson & Sons, Cannington, Ont., blankets, etc.; Slingsby & Sons, Brantford, Ont., blankets, etc., and others.

MESSRS. JOHN BERTRAM & SONS, proprietors of the Canada Tool Works, Dundas, Ont., are busy filling a large order for the Canadian Pacific Railway, for their shops at Montreal, in which is included special planers, lathes, frame slotters, boring machines, etc.; a good three month's job. They are also filling a large order for the Canada Atlantic Railway Company for locomotive wheels, hydraulic presses, planers and borers. They also have large orders from the Manitoba and North-Western Railway Company, and other parties in different parts of the Dominion, for large quantities of machine tools, which will keep them exceedingly busy for six months to come. They will make a large shipment of tools, etc., to Vancouver, B.C., in a few days. There are 160 skilled mechanics now employed in these works.

MR. W. C. HIBBARD, Montreal, manufacturer and dealer in electric supplies, has sent us an illustrated circular descriptive of the combined magneto-telephone and call bell manufactured by him. It is represented as being ornate in design, and simple and compact in construction, and it is made of the most durable material, and in the most substantial manner, so as to eliminate all possibility of the instrument getting out of order in ordinary use. In its operation the mere act of speaking into the resonant mouth-piece is sufficient to generate the electric current. No voltaic battery is required, as the electric current, both for signaling and talking, is mechanically generated; consequently, after the instrument is set up, with ordinary care it will last for years without requiring repairs. Mr. Hibbard manufactures and keeps in stock all supplies necessary for telephone exchange system, regarding the adoption of which in small towns great economy may be effected. After the first outlay the cost of minimized, and ought not to exceed an annual cost of ten dollars, as the cost of maintenance can be regulated by the subscribers. Further information may be obtained on application.

MESSRS. C. N. VROOM & Co., St. Stephen, N.B., are building up a large trade in the Richardson patent carbonized stone sewer pipe manufactured by them—the only works of the kind in the Dominion—so it is claimed. The material used in the manufacture of this pipe is a clean sharp sand, mixed with the best cement. This mixture is sufficiently softened to make it set and is then pounded solidly into steel moulds. This sets it compactly together, making a

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Engines and Boilers

FOR SALE,

- 1 "Goldie" Engine, 12 by 22 Cylinder.
- 1 75-Horse Power Locomotive Steel Boiler.
- 1 75-Horse Power Babcock-Wilcox Boiler.
- 1 75-Horse Power Tubular Steel Boiler.

All in Perfect Condition. Good as New.

WM. JOHNSON & CO.

St. John St., Montreal.

close grained pipe, free from bubbles or air holes. The steel core is then drawn out, leaving the inside of the pipe perfectly smooth and uniform. The pipes are then set away in air-tight chambers which, when full, are closed. These chambers, containing 6,500 gallons each, are then filled with carbonic acid gas, and the process of hardening is so speedy that after standing over night subject to the action of the gas, the heaviest pipes, weighing about 150 pounds, can be safely handled and carried about.

MESSRS. E. BROAD & SONS, St. Stephen, N.B., manufacturers of axes, edge-tools, hammers, etc., are among the oldest manufacturing concerns of that place, the business having been established in 1844, forty-four years ago. The motive power of their factory is supplied from a twenty-four inch Hercules water wheel, giving seventy-five horse power. The forge shop is 80x37 feet; polishing and woodworking shop 37x30 feet, two stories high; the engine room and store room for raw materials 40x30 feet; and grinding and finishing shop 72x25 feet, with wing 24x13 feet, two stories high. In the engine room is an auxiliary seventy-horse power Waterous steam engine. There are ten forges, including two tempering forges; seven trip hammers; a power press; five two-ton grindstones; emery wheels; automatic handle lathe in which tool handles are made with great rapidity and accuracy, etc. About thirty skilled workmen are constantly employed, and the output this year will amount in value to about \$50,000.

THE Dominion Safety Boiler Co., Montreal, inform us that two of their standard steam boilers of 100 horse power each are being built in Toronto by Messrs. Inglis & Hunter, for the Massey Manufacturing Company, of this city. These boilers are becoming exceedingly popular with steam users in Canada, some recent placements being in the works of the Rathburn Company, Deseronto, Ont.; Messrs. A. W. Morris & Bro., and the Canada Sugar Refining Company, Montreal; and two such boilers are now being constructed for the large building of the Imperial Insurance Company, Montreal. These prominent concerns who have ordered and are using these boilers, had given the matter very careful and thorough investigation, and adopted them for the following reasons:—1. Safety, as they are placed where the lives of many men would be sacrificed should a boiler explode. No explosion is possible with these boilers under any circumstances because the water space is divided into small sections, and the heat comes in contact with sections only. 2. Economy. On account of the high pressure of steam that can be carried, the high temperature and perfect combustion of gases in the furnace, and the low temperature of escaping gases, these boilers are very economical. 3. Fire protection. The protection from fire due to the rapidity with which steam can be raised in these boilers is a very important matter in case of a fire occurring at night or on Sundays; steam can be gotten up in them in only about half the time required for other boilers. The two boilers alluded to, being built by Messrs. Inglis & Hunter, are from plans furnished by the Dominion Safety Boiler Company, and will be constructed of the best Siemens-Martin steel. Messrs. Inglis & Hunter having already built three of these boilers of 200 horse-power each.

THE Ball Electric Light Company, Toronto, have sent us an exceedingly attractive hand-book, having reference to their business specially, and also giving much useful information regarding the many uses of electricity. The use of electricity for illuminating purposes is not in its infancy as some claim; it is now well developed and understood, and it is evidently the artificial light which in the future, will be chiefly used for municipal and business purposes. The great advantage of the electric light is in the volume of light afforded, and that buildings are illuminated by its use to an extent impracticable through the use of gas or oil. The cost of it is usually no greater than that of gas. It is the experience of manufacturers and mill owners that while using electric light their output is nearly or quite as great as during an equal number of hours of daylight; and for those having surplus power, that can be used for generating it, the electric light is cheaper than gas or oil, and is in all cases safer and more desirable. Owners of water and steam power favorably located can, in many instances, render their power the source of considerable income during the hours of darkness by renting or selling power, in the form of light, to any desiring it. Regarding the Ball system it is claimed for it that it requires but two-thirds of one horse power to produce each full arc of light of 2,000 nominal candle power, and can be operated on arc or incandescent lights separately, or both in combination, in one circuit, or in two separate circuits, at the same time. A partial list of Ball plants in service enumerates over fifty users in Canada, and nearly one hundred in the United States. This system is specially adapted for streets, mercantile and manufacturing, domestic, mine, marine and coast lighting, arc or incandescent, or both combined. The company will take pleasure in giving further information on application.

# To Manufacturers!

## THE LAND SECURITY COMPANY

OF TORONTO

Offer for sale or to lease a number of very desirable sites suitable for manufacturing purposes, among which they mention one lot containing 1½ acres, and one lot containing 1¼ acres on King Street west, on Subway, and on line of Grand Trunk, Toronto Grey & Bruce, and Canadian Pacific Railways. Also the contiguous property, containing about 3 acres, known as the Dominion Bridge Co's Works, having switches connecting with all the Railways entering Toronto. The Shops, Forges, Steam Power and Shafting are all in capital working order.

The Company have also lands where the main lines of the Grand Trunk (Northern) and Canadian Pacific Railways cross at Davenport. Switches are obtainable from either or both roads, and abundant space can be afforded for very extensive works; and for the erection of all dwellings that may be required by workmen.

Portions of these lands are in York Township whence suburban and street car services will give frequent access to the city.

WM. I. MACKENZIE,

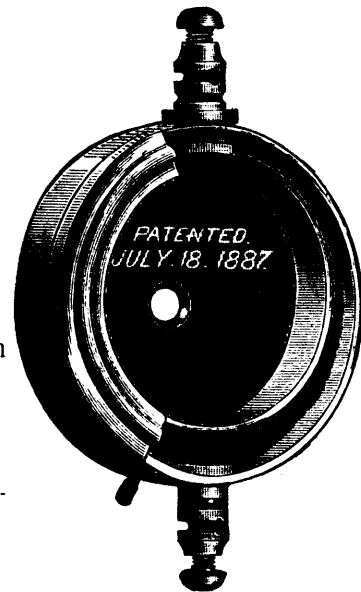
COMPANY'S OFFICES IN TORONTO,  
NO. 7 VICTORIA STREET.

Manager.

# W. C. HIBBARD, MONTREAL,

MANUFACTURER OF

Campbell  
Water-proof  
Wires.  
Annunciator  
and  
Office Wire.  
Silk and Cotton  
Covered  
Magnet Wire.  
Aerial and Sub-  
marine Cables.



Superior  
Water-proof  
Tape.  
Telephones.  
Hotel & House  
Annunciators.  
Gas Lighting  
Apparatus.  
Burglar Alarms.

## AUTOMATIC FIRE ALARM APPARATUS

And all Electrical Appliances and Supplies.

MR. JOHN R. BOTHWELL, Halifax, N.S., was in New York a few days ago for the purpose of interesting capitalists there in purchasing a number of Cape Breton collieries, which are to be consolidated under one management. Among the companies said to be selling to Mr. Bothwell are the Sydney and Louisburg Coal and Railway Company, the International Coal Company and the Caledonia. It is proposed to invest a large amount of fresh capital in the Cape Breton coal mines.

A FIRM on Wall street, New York, has in operation and on exhibition what is probably the smallest working printing press in the world. It is an inter-changeable cylinder, printing from a continuous roll, with a cut-off. It is but twelve and a half inches in length and seven and a half inches high. Its width in the widest part is ten and a half inches. At the office where it is in use it has been necessary to furnish to brokers and others a daily letter of financial news. Until the invention of the press this service was performed by the manifold system. Nine manifolders were required, working very rapidly. By simple hand power, after the type is set, 200 copies per minute of any circular can be printed. With a dynamo machine to furnish the power, over 500 copies can be printed in the same time.

In his tariff message Mr. Cleveland had it all figured up that the increased cost on wool and woollens per year to the individual consumer, by virtue of the tariff robbery, would reach \$36. This looked well enough until a mightier than Cleveland came along and demonstrated that the annual consumption of wool *per capita* in the United States, for all purposes, does not average seven pounds, and could not possibly be enhanced in price by the tariff as much as seventy cents for each individual. Cleveland's wool story will take rank with the story about the farmer's boots. The Free Trade orator had torn the air at considerable length to convince him that he might have bought his boots for \$2.50 less but for the tariff. This passed the farmer's understanding because of the fact that his boots had only cost \$2, robbery, tariff and all.

MR. J. B. PERRY, of Toronto, has invented a novel attachment for anchoring carriage horses, doing away entirely with hitching posts, tie straps, and lifting heavy weights out and into carriages. His device consists of a simple strap buckled at one end of the reins and passing through between eccentric rollers and a slot in the bottom of the carriage attached at the other end to a drag-weight of a new design. When not in use the drag is drawn up to hug tightly the bottom of the carriage, and to anchor the horses a small lever is touched and the drag drops to the ground holding the horses direct from the bit as naturally and safely as if held by the driver. Mr. Perry has filed applications for letters patent in Canada, the United States, England, France and Germany, and will put the new anchor on the Canadian and United States markets almost immediately.

MESSRS. BURROW, STEWART & MILNE, Hamilton, Ont., have purchased from Messrs. A. T. Whiting & Co., Utica, N.Y., the exclusive right to manufacture and sell in the Dominion of Canada the full line of Superior scientific and Alaska hot air furnaces as now manufactured in the United States by the said A. T. Whiting & Co. The fact that Burrow, Stewart & Milne had under consideration several different lines of hot air furnaces now manufactured in the United States, but after a thorough investigation of the merits of each, accepted the line of furnaces manufactured by A. T. Whiting & Co., speaks for itself in the highest terms of the perfect construction of the Superior line of furnaces; which are having a large increase of sales over previous years, and are destined to come into the fore rank with the most popular hot air heaters of the present day. — *American Artisan.*

THE Kemp Manufacturing Company, Toronto, late Messrs. McDonald, Kemp & Co., have sent us an illustrated circular having reference to the McAdam butter tub manufactured by them. This tub is made in three sizes, and will contain fifty, thirty, and fifteen pounds of butter respectively. It is constructed of two kinds of material, tin forming the inside lining, and wood pulp, or inodorous paper the outside covering, the cover of the tub being held in place by an ingenious and simple fastening. The following merits are claimed for this tub:—It is light, being only half the weight of an ordinary tub; convenient in form and size; its non-porous sides prevent any loss by absorption by the wood; air tight; surrounded by a perfect non-conductor of heat; ventilated at the bottom; there can be no shrinkage of the contents, nor contamination by contact with wood; saves freight in transportation because of exceeding lightness; and can be opened and closed, and made perfectly air tight, with great ease and facility. A testimonial from a butter merchant in New York states that this tub is especially adapted for the export trade, and is just what is wanted for that business.

# MONARCH VAPOR STOVES



(ALL SIZES.)

The manufacturers feel safe in saying that no means of summer cooking ever introduced has gained such a marvellous hold on the public favor. Though only a few years since first introduced, to-day they are felt to be a part of the family economy. So widespread has become the demand for these Stoves that it is claimed that over

**ONE HUNDRED THOUSAND**

Were sold in the United States during the past year.

They are especially servicable for summer use, doing the entire work of any ordinary cook stove, and with an absence of heat so desirable in hot weather.

These Stoves are very simple in operation and no more dangerous than an ordinary Lamp.

**EVERY STOVE WARRANTED.**

MADE BY

**McCLARY MANF'G. CO'Y**

London, Toronto, Montreal & Winnipeg.

Another testimonial from a Boston house says that with this tub butter retains its flavor and keeps perfectly sweet a much longer time than in any wooden package, leaving the top and sides in perfect condition. The manufacture of the McAdam butter tub is a new industry in Canada, and Canadian dairymen and butter makers will no doubt be glad to learn that so excellent an article for marketing their butter is being made here.

RECENTLY some five hundred brewery workmen in New York city who had been locked out four weeks, because the boss brewers refused to recognize their union, marched down town to Mayor Hewitt's office and asked the Mayor, through S. E. Shevitch, the noted anarchist, to do something in their behalf. The Mayor advised the men to give in and go back to work. Shevitch said if the men did that they would be called "scabs." That was too much for the Mayor. He interrupted Shevitch and excitedly denounced labor organizations for their tyranny in compelling men to join them. "It is tyranny that no American will submit to," said he. "You have half a million men in two labor organizations, let us say in the United States, yet you seek to control 58,000,000 people. You have no right to take away my liberty. It is a violation of law. You talk of 'scab' as a term of reproach. I consider the 'scab' a moral hero, who refuses to surrender his individual liberty."

Largely owing to the settlement of the North-West and the retention of that market for our own people through the beneficent policy of protection to home industry, the manufacture of farm wagons has assumed very large proportions in Ontario; one concern alone, the Chatham Manufacturing Co., of Chatham, Ont., having shipped already this season, five hundred of their standard wagons to the far west, including British Columbia. This concern has 170 men employed in their wagon works, and about fifty in their saw mills; and in addition to their wagon manufacturing business they export large quantities of lumber. Being situated in the centre of the hard-wood growing district of the Province, they are enabled to select the very choicest timber for their wagons, from the output of their own mills. Mr. D. R. Van Allan, the president of the company, is a gentleman who has had a long practical experience in manipulating lumber, and previous to the formation of the company of which he is the head, he was engaged in saw milling for thirty years.

It seems, and really is, but a very short time since the manufac-

ture of wood pulleys was begun as a regular business. Old home-made wood pulleys could be found in many places, and can yet, for that matter, but the regular shop-made pulleys is yet so new a thing as to be considered in many quarters a novelty. But it would surprise those who have not noticed it, to know how rapidly this kind of pulleys is coming into favor. There are nearly a dozen concerns in the western states making wood pulleys their specialty, and the number is increasing every year. All of these pulleys have more or less merit, and all of them possess the essentials of lightness and great holding power for the belt. The use of wood pulleys in wood-working mills is rapidly increasing, and a writer in an exchange, speaking of equipping a new sawmill, is about right when he advises his readers to "last, but not least, use a wood split pulley. They are the nicest, handiest, cheapest, and generally the most glorious little invention of the age. Greatly lessened slip of belt, ease of application to shaft and safety of person, are a few of the things to recommend it. None of those little set-screws which, through skinned limbs and torn garments, have caused more profanity, with the exception of the telephone girl, than anything in the United States. You can not do without these pulleys."—*Wood Worker.*

ONE of the flourishing industries of Winnipeg is the factory of the Manitoba Wire Company, of which A. Chisholm is manager. This industry was established here several years ago, and at present is enjoying a very busy season. The factory has been kept working several hours overtime for many weeks back, and still orders are behind. The Manitoba Wire Company owns the patents under which it is working, and is independent of the Washburn-Moen barb wire monopoly. The monopoly has endeavored to prosecute the Winnipeg concern, but in this has signally failed. So hopeless was the case for the barb wire monopolists, that the suits against the Manitoba Company were allowed to go by default, and were thrown out by the Queen's Bench, with costs against the combine. Lately the capacity of the Winnipeg factory has been doubled, but still is pushed to the utmost to fill the demand, owing to the extensive use of barb wire in this country. The quantity used is rapidly growing larger every year, with the development of the country, and when it is considered that throughout the great prairie region that is about the only thing used for fencing, the large demand can be accounted for. The trade extends throughout Manitoba, the Territories and British Columbia. The best English Bessemer steel is used, and the wire is galvanized to prevent rust. The

# BARREL • TRUCK

FOR MOVING BARRELS WITH HEADS IN OR OUT.

WILL CARRY FROM 700 LB. BARRELS DOWN TO A NAIL KEG. (WILSON'S PATENT, 1887.)



These Trucks are now ready for the market. Nothing to equal them for the purpose designed. Send order early.

Read the following Testimonial for the first Truck purchased from the Inventor.

Office of THE MORSE SOAP Co'y.

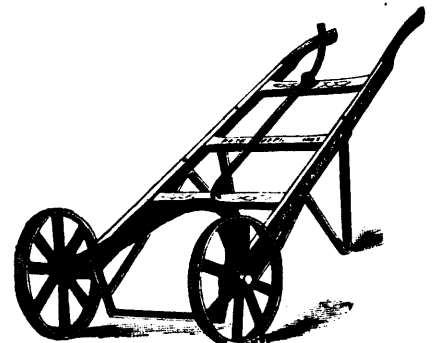
JOHN TAYLOR & Co., Proprietors.

TORONTO, April 25th, 1887.

We have pleasure in saying, that the Barrel Truck we bought from George Wilson, for moving liquids unheaded is quite a success, and has already saved us much labor and material, on account of its convenience.

Respectfully,

[Signed], MORSE SOAP Co



Manufactured only by GURNEYS & WARE SCALE COMPANY, HAMILTON, ONT.

machine used for barbing the wire is the Ross, which produces the true "lock barb," and which is said to be greatly superior to the ordinary article.—*Winnipeg, Man., Commercial.*

MESSRS. JOHN BERTRAM & SONS, proprietors of the Canada Tool Works, Dundas, Ont., are sending out to their friends and customers their new 1888 catalogue of machinist's tools and wood-working machinery, manufactured by them. They tell us that they have been engaged in this business for the last twenty-seven years, during which time they have been and are constantly adding to and improving their machines to meet the new and increasing wants of the public—that it is their aim and ambition, as the pioneers of this branch of business in Canada, ever to stand foremost among their competitors for public favor and patronage. They also tell us that every machine they build is what it is represented to be, being put together and tested on the work it is designed to do before leaving the shop. None but the best materials are used in the construction of their machinery, the castings being made of Scotch and Canadian pig iron, which insures strength and durability; and all the fast running spindles are made of the best English steel. They take pleasure in drawing attention to the fact of their success at the recent International Exhibition at Philadelphia, where their firm was awarded a diploma and medal for wood-working machinery and machinists' tools; also Canadian diploma and silver medal by the British judges for engineers' tools. At the recent Colonial and Indian Exhibition, in London, England, the tools of this firm on exhibition merited the attention of eminent engineers there, and were selected for illustration by the leading mechanical journal in London. The late improvements this firm have made in all their new machinery have placed it in very high estimation among machinery users, and they feel warranted in recommending their tools for finish, durability, and the quality of work they produce. Attention is specially drawn to the list of locomotive and car machinery of new and improved patterns, of which photographs with description is forwarded on request of interested parties. The catalogue embraces all the various more modern designs of wood and iron-working machinery, the names of which it is unnecessary here to mention; and besides these the firm also manufacture and supply complete outfits for railway machine shops, locomotive builders, car builders, implement manufacturers, bridge works, sash and door factories, etc. The book contains some 155 pp. of text, printed on good paper and in flexible covers, illuminated.

### IRON SMELTING IN TORONTO.

MR. SAMUEL D. MILLS, of Toronto, is engaged in organizing a company for the purpose of building a furnace in or near this city, for the manufacture of coke iron, regarding which he says:

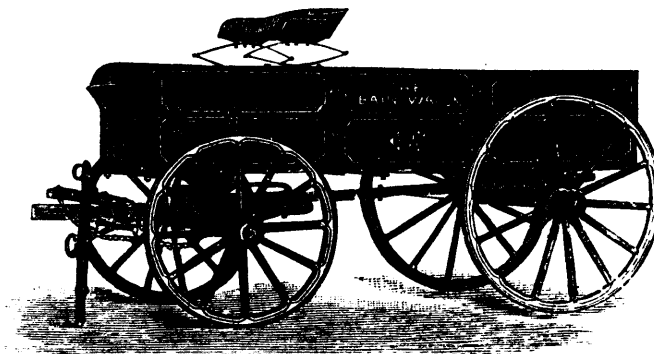
"The city of Hamilton alone would consume two-thirds of the output of a seventy-ton blast furnace; the city of Toronto consumes nearly thirty tons per day, besides scrap; then there are the foundries in London, Brantford, Brockville, Kingston, etc., making up a very large total, so that we may be certain that if a company gets fairly started with one seventy-ton furnace they would soon follow it up by erecting a second furnace of larger dimensions; then would come the question of erecting puddling furnaces and rolling mills, to provide the bar and structural iron which we are now importing; and after that has been done, the establishment of Bessemer or other steel works, with their plants of converters, reheating furnaces, rail mill, etc., will follow in due course, so that from the nucleus of the first blast furnace, which can be built and started into successful operation for less than \$150,000, there will spring, if the affair is properly handled, an immense industry that will give employment, directly and indirectly, to more than 1,000 men in the neighborhood of Toronto, besides those employed in the mines; and where the first furnace goes, there will, in all probability, the whole of this great enterprise be ultimately located."

Mr. Mills has received very satisfactory accounts respecting many little known deposits of iron ore, showing that Toronto is as good a centre for the manufacture of iron as can be found on this continent. They can make iron cheaper in the Southern States, but the freight is a sufficient protection against it. The furnaces in Southern Pennsylvania may suffer, but even if we had not the present protective tariff, the Canadian market would be little affected by the Southern States furnaces; in fact the establishment of furnaces in Toronto would so reduce the price of iron in this country, that as far as coke iron is concerned, the tariff will cease to trouble the consumer. We can make iron at a profit selling at present Pittsburg prices.

Now is the time to start an enterprise of this kind if it is ever to be done. The iron industry is the backbone of every independent and self-reliant nation, and all who desire the prosperity of Canada, must feel the value of such enterprises as this and that of Mr. Rathbun, at Desonto.

# Bain Wagon Co.

— MANUFACTURERS OF —



LIGHT RUNNING

**FARM, SPRING AND FREIGHT WAGONS**

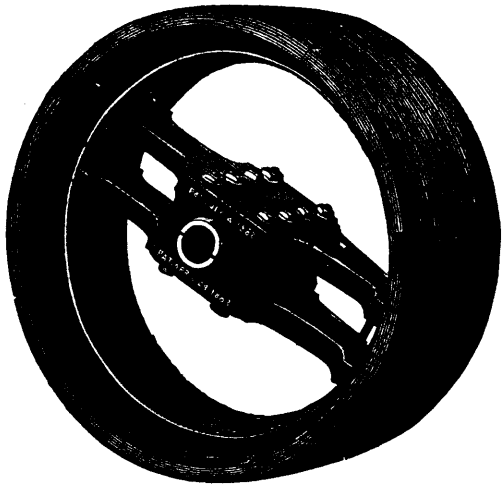
Also Heavy Sleighs and Steel Skein Log Trucks.

SEND FOR PRICES TO

**BAIN WAGON CO.**

**Woodstock, Ont.**

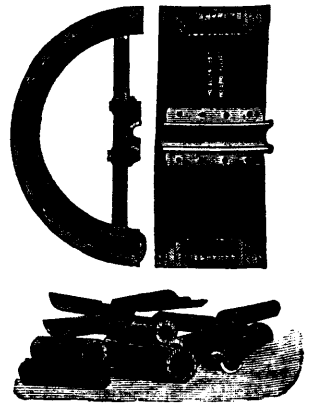
# Dodge Patent Wood Separable or Split Pulleys.



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

## With our Patent Bushing System

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



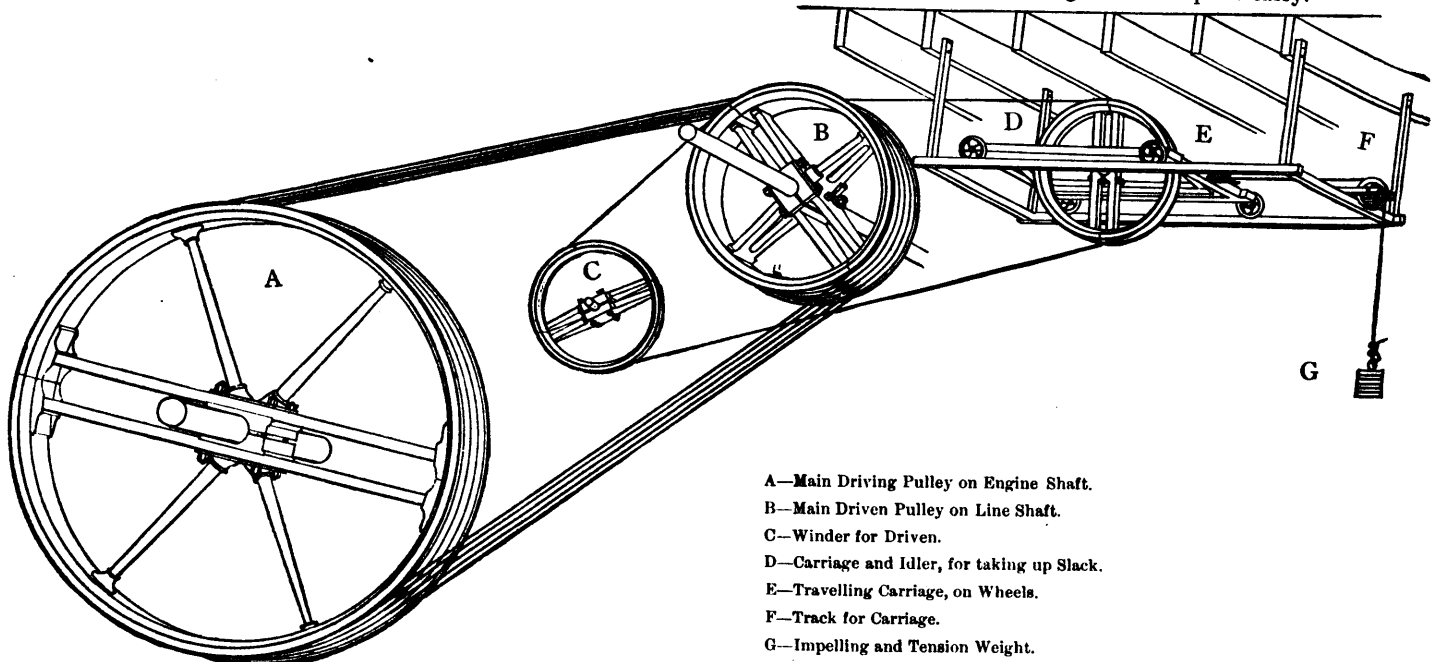
## THE TRANSMISSION OF POWER BY ROPES AND THE DODGE PATENT WOOD PULLEYS.

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

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

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

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



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

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

A. R. Clark & Co., Leather and Glove Manufacturers, 50 H.P.; T. Tushingham & Son, Builders, 35 H.P.; J. R. Black, Carriage Works, 50 H.P. Barber & Ellis Co., Stationers, 8 drives, 87 H.P.; Jas. Lochrie, Rope Manufacturer, 60 H.P.; J. P. Wagner & Co., Show Case and Keyboard Manufacturers, 50 H.P.; J. Taylor, Morse Soap Works, 60 H.P.; Joseph Simpson, Knitting Mills, 80 H.P.; and numerous others whose testimonials can be seen in our catalogue. Parties who are in want of anything in this line, or who are interested in the efficient and economical transmission of power, are cordially invited to call at our works and see the ropes and wood pulleys in operation, as we are driving our whole factory by this system. Send for Price List, Catalogue and Cypher Code, for ordering by telegraph, to

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



*Every Instrument*  
**Warranted.**

# “ BELL ”

**ESTABLISHED**  
**25 Years.**

## UPRIGHT PIANOS      CABINET ORGANS

*We have just commenced the manufacture of Pianos—which contain all the best known practical improvements. In quality, the best that can be produced with first-class material and skilled labor.*

*Have a universal reputation as being strictly first-class, and are recommended by Highest Musical Authorities. In tone, design and workmanship unsurpassed.*

**SEND FOR CATALOGUE TO**

**W. BELL & CO. HEAD OFFICE AND FACTORIES, GUELPH, CANADA.**

Branch Warerooms at Toronto, Hamilton, St. Thomas, Winnipeg, London, Eng. and Sydney, N.S.W.

**Maw & McFarlane**  
**DUNDAS, ONT.**

**IRON FOUNDERS, ENGINEERS AND MACHINISTS,**

MANUFACTURERS OF

**Drop Hammers,**

LIFTERS, DIE SINKERS AND PRESSES.

**✉ CORRESPONDENCE SOLICITED.**

**TERRA COTTA FIREPROOFING**

FOR USE IN NEW AND OLD BUILDINGS.

The best thing made. Endorsed by leading Architect Absolutely Fireproof, and “brimfull” of other good qualities. Address,

**THE RATHBUN COMPANY,**  
**DESERONTO, ONT.**

### WHAT OUR CUSTOMERS THINK OF THE **BEAUDRY UPRIGHT CUSHIONED POWER HAMMER.**

Office of **FROTHINGHAM & WORKMAN**, Iron Merchants,

**MONTREAL, February 3rd, 1888.**

**MESSRS. MILLER BROS. & MITCHELL.**

GENTLEMEN,—Your enquiry of the 30th ult. as to my opinion of the **BEAUDRY UPRIGHT POWER HAMMER**, 125 lbs. Head, purchased from you about a year ago, to hand. Would say, it has given perfect satisfaction, and during my experience I have seen nothing to equal it for our work.

Yours truly,

**JOSEPH DUNN,**

*Manager St. Paul Shovel Works.*

Can be seen at Permanent Exhibition of Manufactures in Toronto.

**MILLER BROS. & MITCHELL, Sole Makers for Canada, MONTREAL**

# TO USERS OF LEATHER BELTING

## SOME PERTINENT SUGGESTIONS.

**FIRST** { We tan our own Leather especially for Belting.  
 { We have increased our trade threefold during the last few years.  
 { We sell our Belting according to a list that is 25% to 30% lower than the American list, which some sell by in Canada.

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

**NOW** { **WE HAVE CUSTOMERS** { To whom we have sold 3,000 to 40,000 Dollars worth of Belting.  
 { **AMONG THE** { One firm alone buying from us last year to the amount of \$10,000 for their Mill.  
 { **BEST MILLS IN CANADA.**

**CAN YOU** { **HARMONIZE THESE FACTS WITH** { 1st. That our **PRICES** are **RIGHT**?  
 { **ANY OTHER THEORY THAN** { 2nd. That our **LEATHER** is **GOOD**?  
 { { 3rd. That our **BELTS** are **WELL MADE**?

**IF NOT** { Send us a Sample Order and see if we cannot please you.

**ROBIN & SADLER,**  
MANUFACTURERS,

129 Bay St., TORONTO.

Notre Dame St., MONTREAL.

C. C. CLEVELAND

**J. L. GOODHUE & CO.**

G. F. CLEVELAND.

MANUFACTURERS OF

# LEATHER BELTING

Canadian Leather,  
Canadian Made,  
Canadian Price List.

Thoroughly Stretched,  
Carefully Made,  
Runs Straight.

— AND —

## LACE LEATHER, DANVILLE, - QUE.

OUR BELTING IS MADE FROM

### CANADIAN TANNED LEATHER

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AT PRESENT BEING APPLIED TO FLUED BOILERS.

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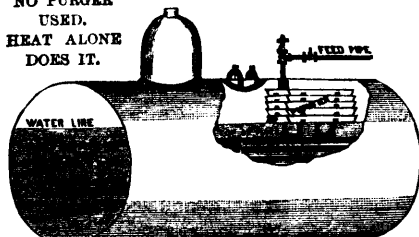
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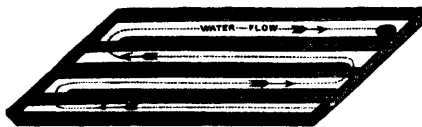
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NO PURGER  
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HEAT ALONE  
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SHOWING ONE OF THE PANS OF PURIFIER.

THIS PURIFIER ENTIRELY PREVENTS THE FORMATION OF SCALE UPON SHELL AND FLUES OF ANY BOILER IN WHICH IT IS USED. ALL IMPURITIES ARE EXTRACTED FROM THE WATER BEFORE IT REACHES THE WATER LINE, AND ARE DEPOSITED IN THE PANS OF THE PURIFIER.

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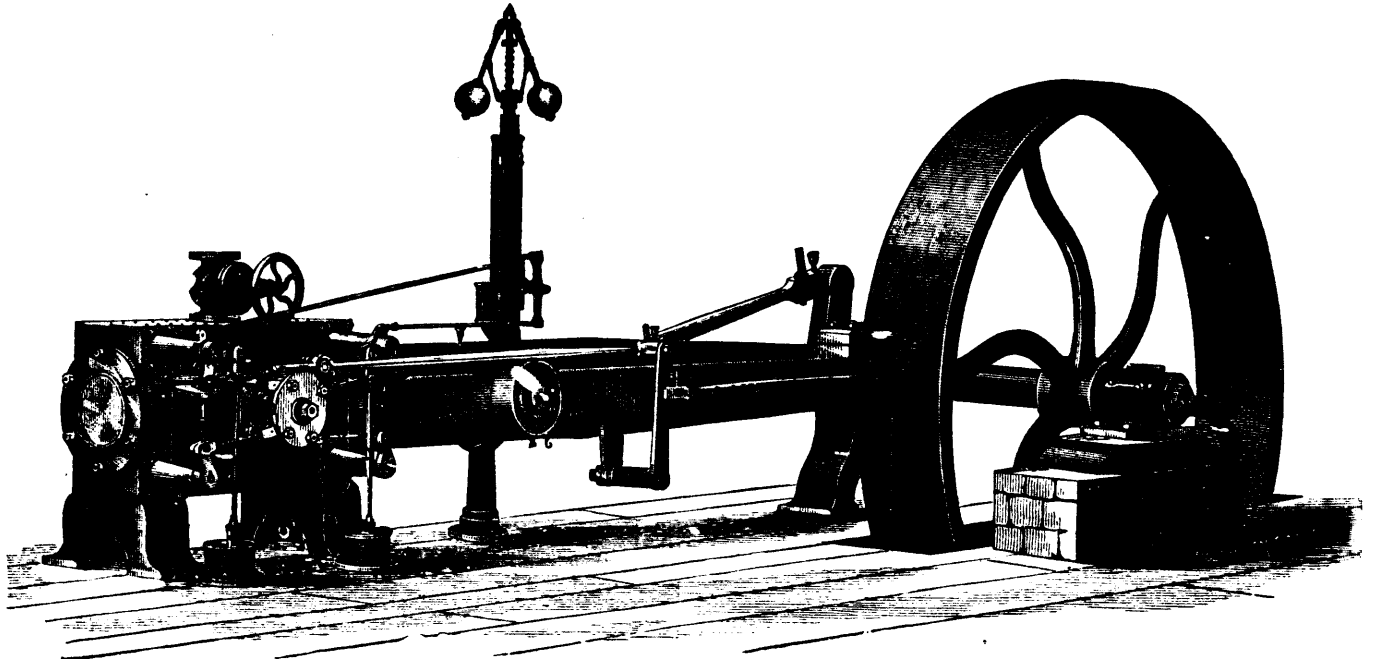
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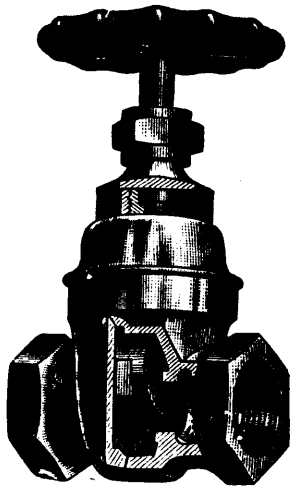
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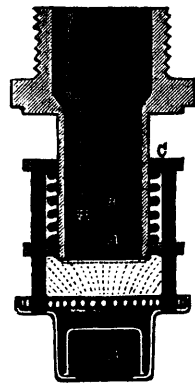
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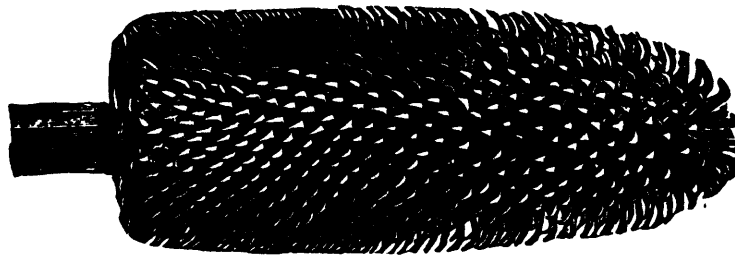
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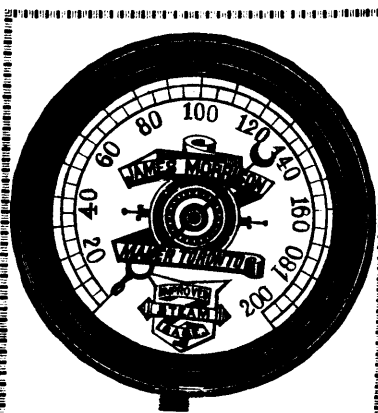
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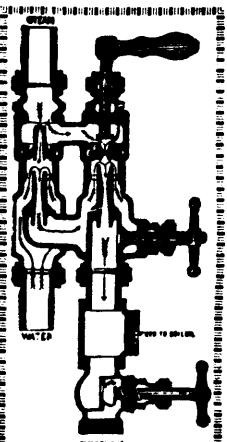


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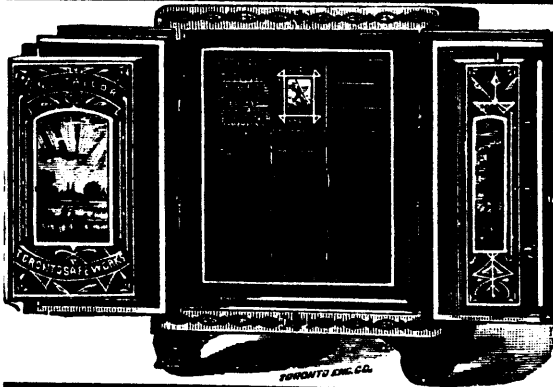
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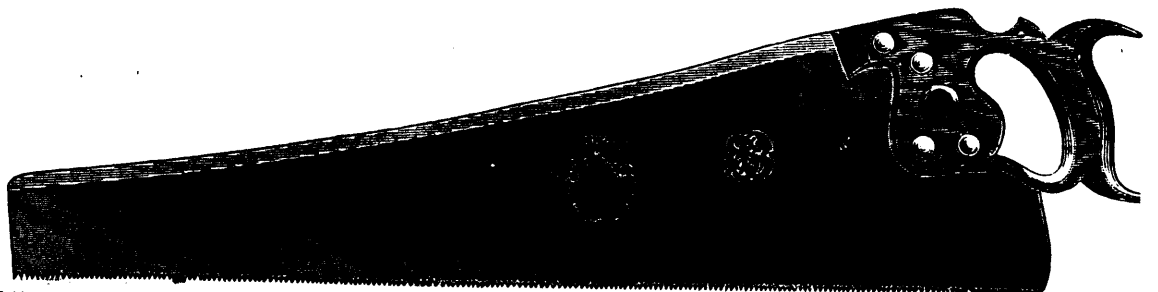
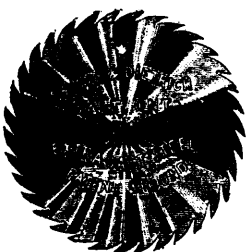
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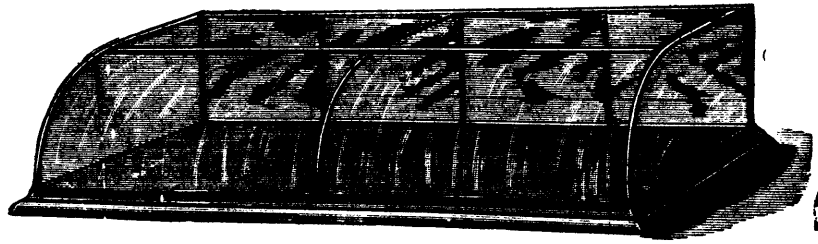
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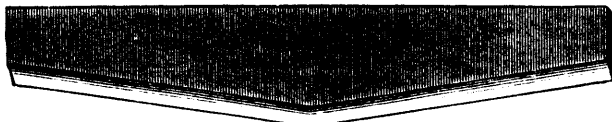
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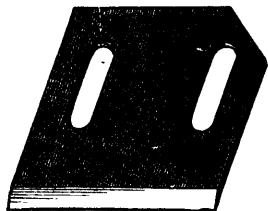
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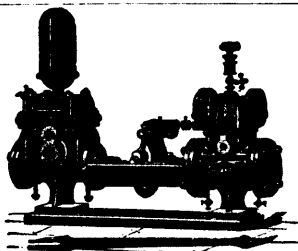
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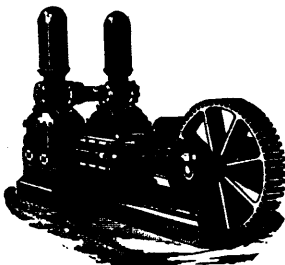
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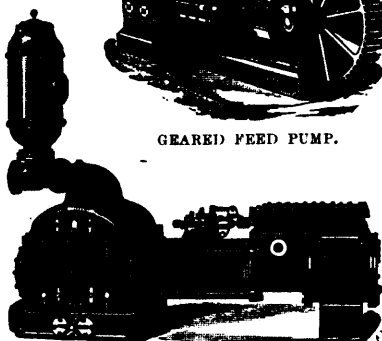
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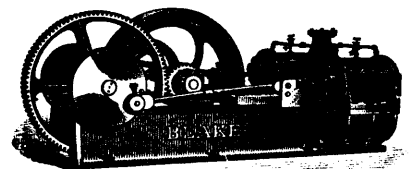


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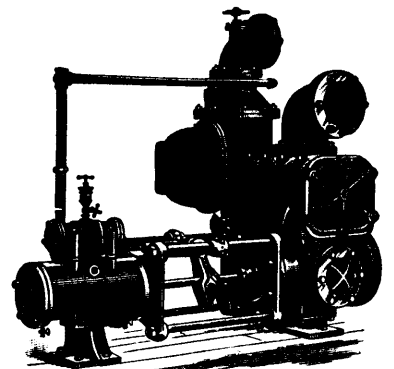
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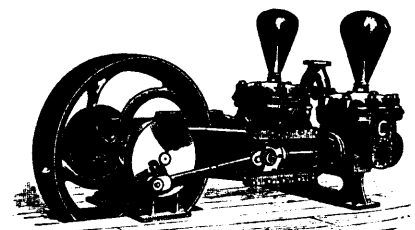
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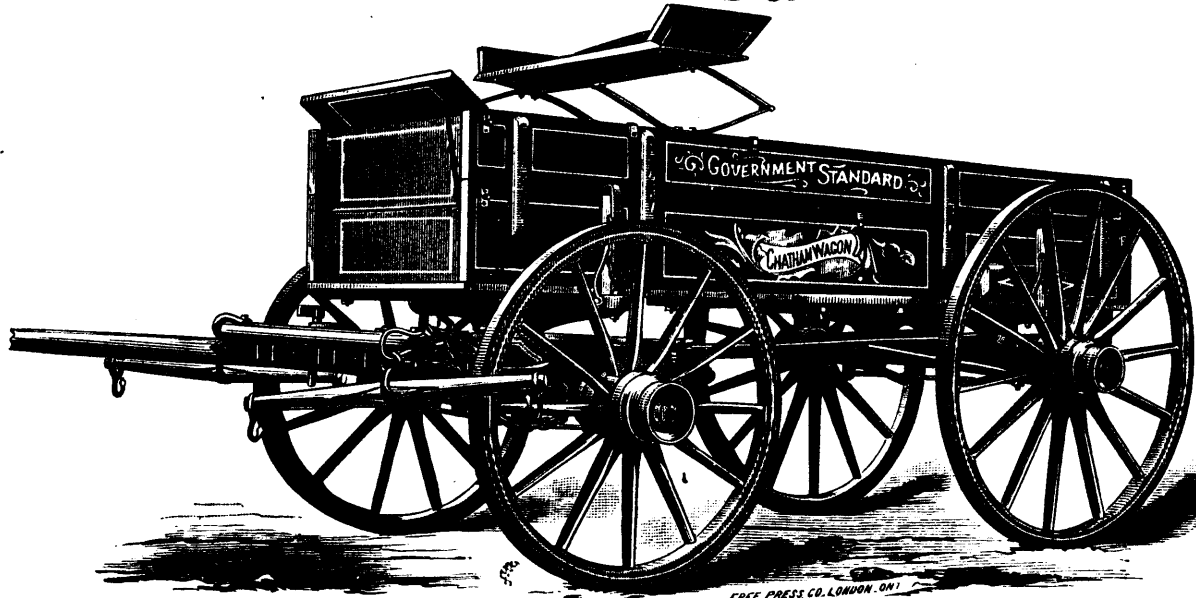
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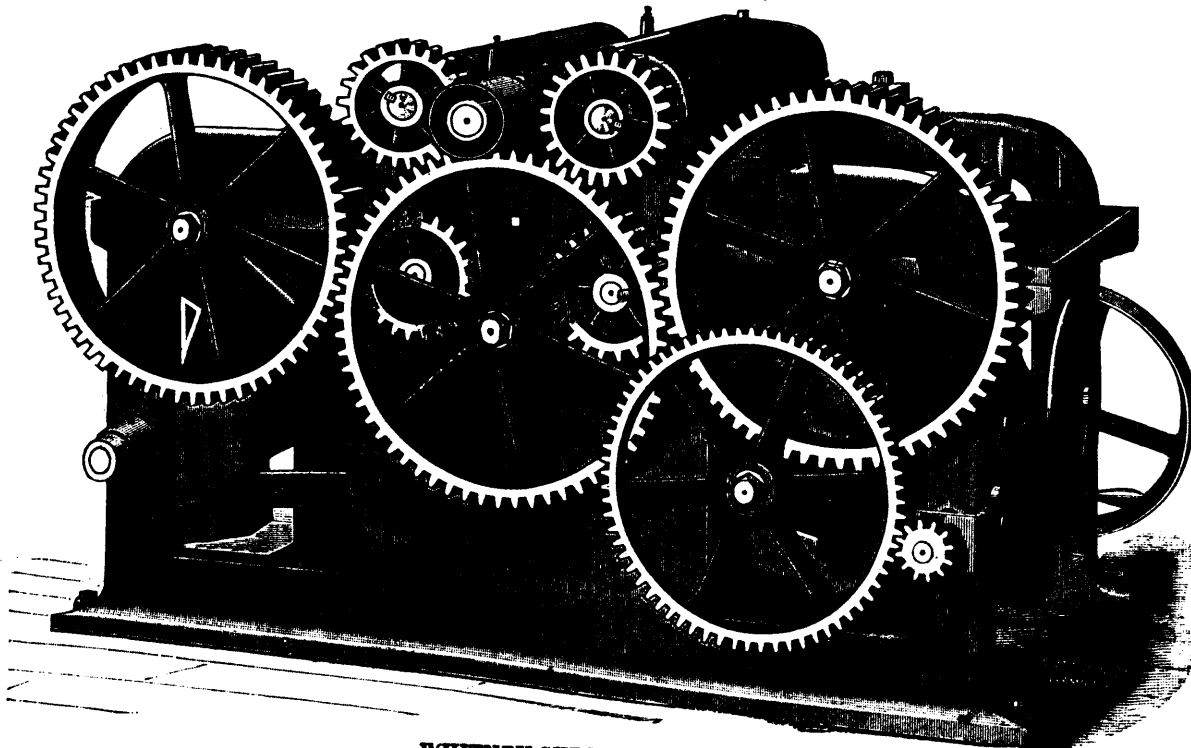
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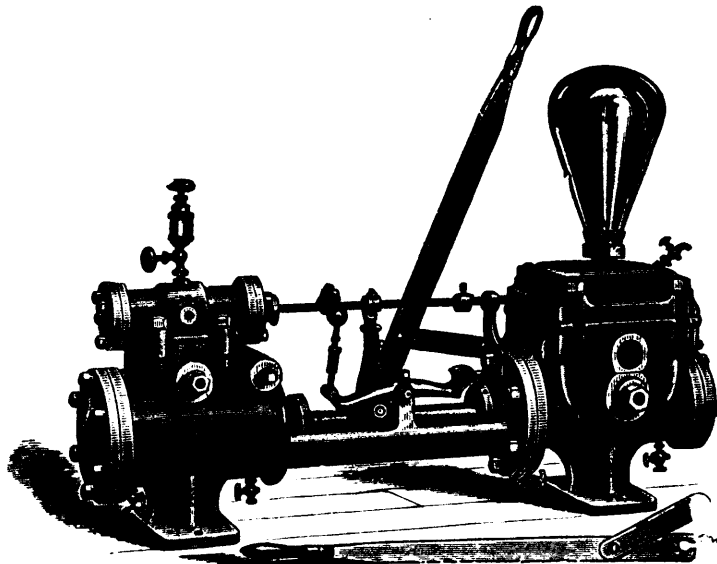
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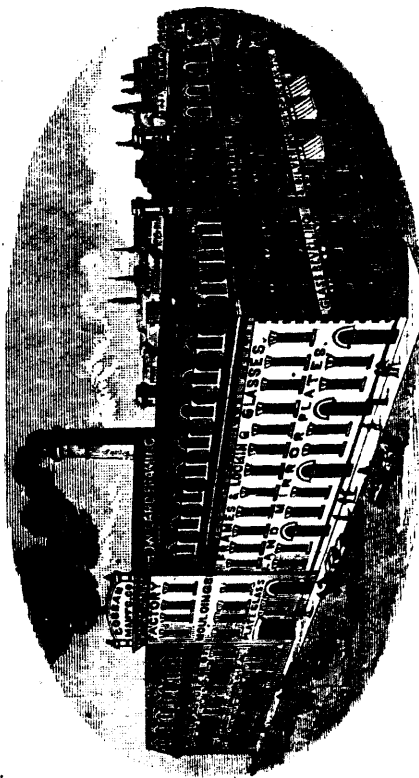
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