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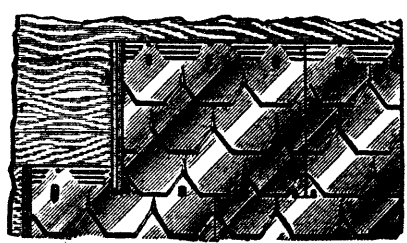
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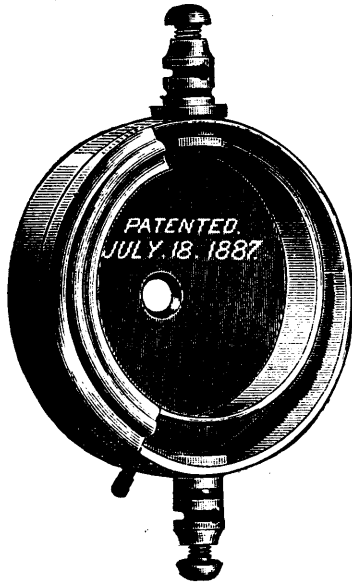
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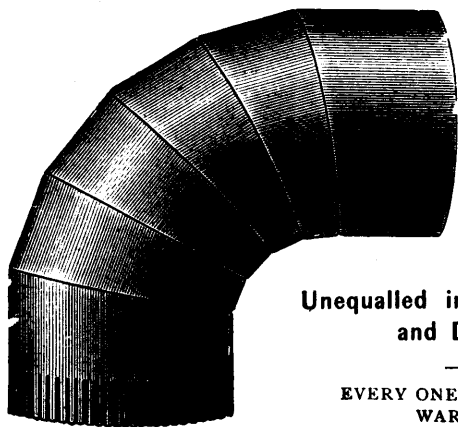
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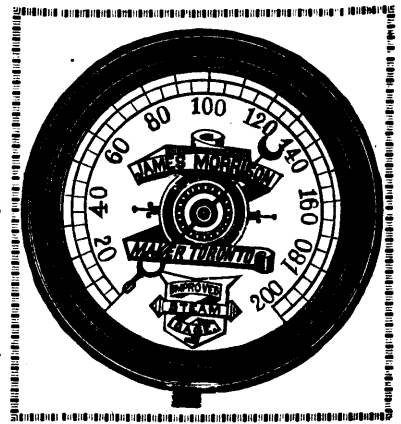
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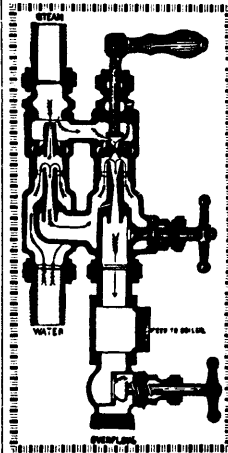


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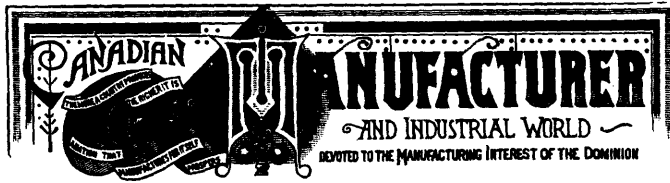
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### OURSELVES.

It is not often we undertake to laud our own enterprise, for we consider that public appreciation of a trade journal such as this is best measured, not by congratulatory remarks, but by the tangible proof of such appreciation as is evidenced in the support it receives from those desirous of reaching the constituency it aims to represent. If this view is accepted as correct, our advertising pages may be looked upon as indisputable evidence of the fact that the CANADIAN MANUFACTURER is the representative industrial journal of Canada, for no other paper published in the country can boast of such a list of advertisements of those engaged in manufacturing pursuits.

To first secure and then retain the confidence of those who so liberally favor us with their patronage has been no easy task. Over seven years ago this paper made its first bow to the public. Looking at the first number we are ready to admit that the infant was puny enough to deserve the pessimistic remarks with which its appearance was greeted by many of our contemporaries, and we acknowledge that it was only by enthusiasm for the cause we were espousing, and a dogged determination to succeed, that we passed the critical stage in the life of a newspaper. Since then, however, our progress has been steady, and improvements in the paper of frequent occurrence. We have endeavored to serve our constituents well. We have ever kept faith with our advertisers, and we are just egotistical enough to think that our present prosperity is not greater than we have fairly earned.

To be able to publish such a list of advertisers as the following is gratifying to us, and will be appreciated by our many friends, who will also notice that the list includes the names of the most representative concerns in Canada. The improvements which commence with this number, which is the first of

the fifteenth half-yearly volume, are all in the line of progress, and will commend themselves without any unnecessary explanation.

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of the business, which has since enabled him to bring the manufacture of organs up to the high plane of excellence for which all Bell organs are now so justly celebrated. This partnership did not continue very long, Mr. Robert Bell selling out to his brother and emigrating to California, where he now resides.

From the time William Bell acquired the entire control and management of this business, "push," and all the significance attaching to the word, signalized it. The beginning of it, as stated, was small, the output for that year—1864—being but about twenty-five instruments; but the increase from that time on was rapid and exceedingly gratifying. In 1865 larger and more commodious quarters were occupied, and the output that year amounted two hundred instruments; but the big growth of the business began in 1878, since which time it has ceased to be an infant industry, and has acquired a robustness that makes it the equal of any on the American continent. These works now embrace two large factories which have an aggregate floor space equivalent to eight and a half acres. They are equipped with full outfits of the very best machines, machinery and appliances essential for doing the required work; driven by a 175-horse-power steam engine; are airy, light, well ventilated and heated, and a sixty-five horse-power steam engine supplies the power necessary to drive two Brush dynamos now being put in, which will supply abundant artificial light through six hundred and fifty Brush incandescent lamps of sixteen candle-power each. These works give constant and profitable employment to some five hundred hands.

Recently this concern determined to go into the manufacture of pianos as a part of the business, and at the same time to largely increase their capacity for manufacturing organs; and with this object in view their works have been enlarged to the dimensions and conveniences above mentioned; and they are now turning out about five hundred and fifty organs and eighty to a hundred pianos per month. Always of uniform and most excellent quality, the Bell organ is well and most favorably known all over the world. More than fifty styles of these instruments are made, varying from the low-priced cottage organ, to be found in thousands of homes throughout the land, up to the pretentious church organ, with double bank of keys, and equipped with all the accessories necessary for scientific music in large religious edifices. In the manufacture of pianos the greatest pains and care are taken so as to ensure at least as perfect and acceptable an instrument as well directed artistic skill can produce; and some of the best musical experts of the day unhesitatingly pronounce the Bell piano all that could be desired.

The business of this concern extends to almost every habitable portion of the globe. Their average shipments of organs to Europe, distributed through their agency at London, England, amount to seven or eight car loads a month, and to the Australian market about twenty car loads a year, besides a considerable and rapidly growing trade with Mexico, Central and South America and South Africa; and they have recently been making considerable shipments to China and Japan. The export to foreign countries business, of this concern is larger than that of any similar concern in the United States.

The reputation of these instruments is not ephemeral; nor was it won lightly. It is the reward of long and unremitting

struggle for excellence, directed by the educated and observant mind, and the skill and cunning of the expert hand. No instrument is permitted to leave the factory until it has been thoroughly tried, tested, and found to come fully up to the highest requirements; and it is because this high reputation attaches to all Bell instruments that the business of the concern has always proved so entirely successful.

This concern is composed of William Bell, A. W. Alexander, W. J. Bell, and Mrs. Edith L. Kennedy, the latter two being the only children of Mr. William Bell. Mr. W. J. Bell, although a young man, is possessed of a large and valuable business experience; and it is due chiefly to his energy and business tact that the branch house of the firm in London was established; and out of which has grown the branches in Australia and other distant countries. He is specially adapted to this branch of work, and has frequently circumnavigated the globe in behalf of his business. Mr. A. W. Alexander, who was born at Thurso, North Scotland, is also an important person in the firm. For many years he was Mr. Bell's head clerk, book-keeper and business confidant; and because of his rare business qualifications and sterling worth he was admitted to membership in the concern about six years ago. The home management of the business department of this immense concern, with its army of busy artizans, is confided to Mr. Alexander.

Mr. William Bell has been identified with all political movements in Canada looking to the protection of Canadian manufacturing industries by means of a tariff. He was one of those who assembled in the Rossin House, Toronto, in 1874, out of which meeting grew the Manufacturers' Association of Ontario (now the Canadian Manufacturers' Association), in the proceeding of which, in St. Lawrence Hall, Toronto, begun November 23, 1875, Mr. Bell took a prominent part, being one of the Executive Committee, and was on the standing committee on Resolutions and Order of Business. Always giving a strong and active support to Canada's National Policy, his aid and counsel have been most valuable when most needed. Having been a vice-president of the Canadian Manufacturers' Association, he is still one of the most active members of its Executive Committee. He is also vice-president of the Traders' Bank of Toronto; vice-president of the Manufacturers' Life Insurance Company, and Manufacturers' Accident Insurance Company, of Toronto, of which Sir John A. Macdonald is president; a director of the Millers' and Manufacturers' Fire Insurance Company, of Toronto, and president of the Guelph Junction Railway Company.

Surely William Bell is one of the "Captains of Canadian Industry," of whom Canada is justly proud.

#### JOHN BERTRAM.

JOHN BERTRAM, head of the firm of John Bertram & Sons, Dundas, Ontario, was born in Peeblesshire, Scotland, in 1829. He received a good education in the schools of his native town and when sixteen years of age he went to Galashiels, the centre of the Scotch tweed manufacture, and learned the trade of an engineer with his uncle, Mr. Thomas Aimers, proprietor of the Waverly foundry there. In 1852 he came to Canada

and took employment with the late John Gartshore, in Dundas, who was then proprietor of the Dundas Foundry. In 1864 he entered into co-partnership with Mr. Robert McKechnie, of Dundas, for the manufacture of machinists' tools and wood-working machinery, calling their establishment the "Canada Tool Works," under which designation the firm became the pioneers of this branch of manufacture in Canada. In 1886 this firm dissolved co-partnership, Mr. McKechnie retiring from the business. Mr. Bertram then took in as partners his two sons, Messrs. Alexander and Henry Bertram, the name of the firm being changed to John Bertram & Sons. Under this regime, extensive additions and improvements have been made in the plant and machinery of the Canada Tool Works, and important changes have been made in the styles and designs of the tools and machinery manufactured by them, so as the better to adapt them to modern requirements; and there are very few, if any, towns in Canada between Halifax and Vancouver, which are without valuable representation of their manufacture.

As has been shown, Mr. Bertram has been engaged in this particular business for the last twenty-seven years, and as a pioneer in it, his concern stands in the front rank among competitors for public favor and patronage; and attention is drawn to the fact that at the recent International Exhibition at Philadelphia this concern was awarded a diploma and medal for wood-working machinery, and the Canadian diploma and silver medal by the British judges for engineers' tools. At the recent Colonial and Indian Exhibition, in London, England, the exhibits from the Canada Tool Works, merited the attention of eminent engineers there, and many of their tools were selected for illustration by a leading mechanical journal in London.

The aim of this firm has always been to manufacture only strictly first-class goods at reasonable cost, and since the establishment of Canada's National Policy they have been enabled to largely extend their business, enlarge their works, and give steady employment to a largely increased number of skilled workmen; and now the heaviest class of tools required in railway machine shops and locomotive works is manufactured by them—a class of work which had never before been attempted in this country.

Mr. John Bertram is acknowledged to be one of the first mechanics in Canada, both as a designer and originator of first-class machinery; and in this he takes great pride. He does not, however, confine himself entirely to his private affairs, but devotes much of his time to improving the condition of his town, always taking an active interest in municipal matters, having been reeve, councillor, etc. He has also been a director of the Dundas Mechanics Institute ever since 1867. Since the inception of Confederation Mr. Bertram has consistently and on purely economic grounds always advocated a protective policy, by which Canada might be prevented from being depleted of capital, and that best of capital—skilled labor—and of allowing her manufacturers the opportunity to develop more perfect and much cheaper machinery. Convinced from long observation of manufacturing operations in the United States that Canada could never excel in her products without taking a leaf from their book, he has always given an active support to Canada's National Policy.





WM. BELL, GUELPH.



1888



JOHN BERTRAM, DUNDAS.



WM. CHAPLIN, ST. CATHARINES.

— Captains \* of \* Canadian \* Industry. —

(SUPPLEMENT TO THE "CANADIAN MANUFACTURER.")



### JOHN R. BARBER.

JOHN ROAF BARBER, son of James Barber and his wife Hannah Patrick, was born in Georgetown, Ontario, July 5, 1841. He was educated at the Streetsville Collegiate Institute, and completed his course under the late Charles Dade, M.A. It had been the intention of Mr. Barber to enter the University of Toronto, but the destruction by fire of the Streetsville Woolen Mills, in which his father was interested, changed the course of his life from professional to mercantile pursuits. He entered the business office of his father, intending to remain there only until the mills were rebuilt, but he never returned to college. Becoming strongly interested in the business in which he had been called to assist, he showed great aptitude in grasping all its details, and his services became so valuable that the financial affairs of the concern were placed entirely in his hands, which responsible position he held until the death of his father in 1880.

Shortly after this event Mr. Barber came into possession of the paper mills and other valuable property in Georgetown; and under his control and management these mills were remodeled and enlarged to double their original capacity. He is the largest stockholder in the Toronto Paper Mills, whose works are at Cornwall, Ont., and has been president of the company ever since its organization in 1880; and he is also president of the Barber and Ellis Company, of Toronto, one of the largest manufacturers of blank books, stationery, envelopes, etc., in the Dominion. He is also a director of the Empress Sewing Machine Company, of Toronto; of the Empress Sewing Machine Company, of Chicago, and of the Star Hosiery Manufacturing Company, of Georgetown.

In 1865 Mr. Barber was elected reeve of Georgetown, which position he occupied for ten years; and in 1875 he accepted a seat in the council of his native town, from which board he has been until this time absent only one or two years. In 1882 he was again made reeve, and in 1885 was warden for the County of Halton. He has been president of the Georgetown Mechanics Institute ever since 1880.

In 1863, while captain of the 20th Rifles, Mr. Barber was gazetted major of the Halton Reserve Battalion, and he is now paymaster of that military organization.

An adherent of the Reform party, Mr. Barber was one of the earliest and strongest advocates for a protective tariff in Canada; and at the crystallization of that idea, in Hamilton, in 1876, when the first meeting of Canadian manufacturers was held for the purpose of organization, and of impressing their views upon the Dominion Government and demanding the adoption of that National Policy which has since done so much for the manufacturing interests of Canada, Mr. Barber was present and took an active part in the proceedings, and has been a strong tariff man ever since; and in this connection, it is due to Mr. Barber, to say that he was one of the fathers and originators of what is now the Canadian Manufacturers' Association.

### WILLIAM CHAPLIN.

WILLIAM CHAPLIN, of St. Catharines, Ontario, was born in Forfarshire, Scotland, in 1839, and acquired a good education in the Burgh and High Schools of his native land. He came

to Canada in 1858 and settled in Toronto where, for a number of years, he enjoyed a first class training, and acquired a most valuable experience in the office of one of the leading legal firms in the city, doing an extensive commercial business.

In 1873, Mr. Chaplin, with several of his friends, formed a joint stock company, under the name of The Welland Vale Manufacturing Co., and took over the Welland Vale Works at St. Catharines, to which city he removed, so as to give the business his close personal supervision. The business was fairly prosperous for several years under his management, and until a disastrous fire destroyed the works in 1877. Although the financial prospects of the concern were depressed for a while by this untoward event, Mr. Chaplin determined to overcome the adversity, and with the indomitable energy and perseverance, characteristic of his countrymen, at once set about doing so. Upon the ruins of the old shops larger and more commodious works were built, which were equipped with all the newest, best and most approved appliances. Nothing was spared to put the new establishment in the very best possible condition for doing a more larger and prosperous business; and now, under Mr. Chaplin's energetic and shrewd management, aided by our fostering and beneficial National policy, the works of the Welland Vale Manufacturing Company are perhaps the largest in the Dominion for the production of the special lines of goods made there. And it is here that many thousands of chopping and other axes are made annually; also scythes, forks, hoes, rakes, handles, etc., in large variety of designs, suitable for the special markets which they are intended to supply. These goods are all made of the very best materials, and with the most ingenious labor-saving machinery and appliances known, the works giving steady employment to some 130 intelligent and well paid workmen. The works are equipped in every respect equal to the best of similar establishments in the United States; the goods manufactured in them are equal in quality and finish to any made anywhere in the world, and the claim is confidently made that these products are sold in Canada at actually lower prices than what similar goods are sold to the trade for in the United States.

Mr. Chaplin is ably assisted in the management of the Welland Vale Works by two of his sons, William and James, both of whom are entirely familiar with all the details of the business, and are able to relieve him of many of the details which formerly over-taxed his time and strength.

Mr. Chaplin has always been a very strong supporter of Canada's National Policy; and having lent his voice and pen to its introduction and establishment, is always equally ready to use them for its retention.

### OUR CAPTAINS FAVOR PROTECTION.

THE *St. John Globe*, noticing the fact that we had published "a handsome page containing portraits of four gentlemen who are described as 'Captains of Canadian Industry,'" says:—"The other day there died in St. John a true 'Captain of Canadian Industry,' Mr. James Harris; and a year ago or so died Mr. George Fleming, another of these captains. Others could easily be named, who founded, long before there was any protection here, when there was only a ten per cent. tariff—and, perhaps, scarcely that—flourishing industries which survive

them. \* \* They began business when protection was a great political and economic heresy, and it does not prove that protection was necessary to their success. \* \* As for the gentlemen in the MANUFACTURER'S picture, we are glad to believe all that our protectionist contemporary tells us of their energy and enterprise, and we console ourselves with the reflection that under unrestricted reciprocity, commercial union, or even annexation, these gentlemen will hold their own, and will worthily sustain the manufacturing renown of Ontario."

We suggest to our respected contemporary that he first take a look towards the United States and see what protection has done for the manufacturers there, and then enquire within his own mind, "Why should not protection do equally well for Canadian manufacturers?" The United States established a high protective tariff in 1860; but previous to that time there were flourishing industries there, even as there were flourishing industries in St. John previous to the advent of our National Policy. But as energetic as Mr. James Harris and Mr. George Fleming were; and as successful as their enterprises proved to be, these gentlemen evidently felt that they were handicapped in business, and most earnestly longed for protection and most gladly accepted it when it came, as the *Globe* admits.

Admitting that protection was not necessary for the full and final success of these men, as the *Globe* claims, and which we deny, we ask it to compare the manufacturing condition of Canada as it was twenty years ago with what it is to-day. The *Globe* mentions the names of two gentlemen (and thinks it could mention the names of others), who then established what has since proved to be flourishing industries, but reference to its own columns discloses the fact that there are scores of such industries in St. John at this time, the proprietors of which will unhesitatingly declare that without protection they would never have been attempted. And what is true regarding St. John is equally true concerning all Canada, and the United States also. Will our contemporary kindly inform us what wonderful power it was that lifted the United States from the financial prostration it found itself in at the close of the rebellion to be what it is to day, probably the most wealthy nation upon the face of the earth? Previous to the war, when the slave-owners controlled the Government, all efforts looking towards protection were suppressed, for the slave-owners were and always had been professed free traders; and even the constitution of the so-called Confederacy provided that no import duties should ever be levied. Opposed to the existence of any system of labor whatever except that of human slavery, the Southern States encouraged no manufacturing enterprises, and, except in rare and isolated cases, there were no such enterprises in existence there. A result of the war was the destruction of the slave system; and, already strongly imbued with free trade ideas, the South was free to continue its opposition to manufacturing as an employment for the people; but we see that that same element which controlled and dominated the whole country before the war—we mean the Democratic element as exemplified in the Southern white man—has changed its mind, and is to-day very strongly in favor of protection; and even the recent declaration of Democratic principles made at the St. Louis convention does not advocate free trade, but advocates a certain measure of protection for

all American manufacturing industries. Why is this? It is simply because, under protection, the Southern States have become manufacturing communities; and the only difference now between the Democratic and Republican parties in the United States, aside from the efforts of the "outs" to get in and the "ins" to stay in, consists in how best to regulate the tariff so as not to have too big a surplus in the treasury.

We are glad to believe that our contemporary is "glad to believe" all that we tell regarding the energy and enterprise of the Captains of Canadian Industry whose portraits we publish from time to time. Without exception they are all strong supporters of that National Policy which has lifted this Canada of ours to the high place which she now occupies among the nations as a manufacturing state. Of course we cannot produce immediately the pictures of all the Captains of industry embraced in the grand army of Canadian manufacturers, although we intend showing a great many of them, but our contemporary may rest assured that they are in favor of protection; and while the *Globe* consoles itself with the reflection that possibly "under unrestricted reciprocity, commercial union, or even annexation," these gentlemen might hold their own; it may also console itself that no such political situation will ever come to Canada if these Captains of Canadian Industry can prevent it. Their judgment is the other way.

#### GASOLINE.

WE cheerfully give room for a communication from "R. W. E." which will be found in another page, regarding the dangerousness of gasoline, and the suppression of its use. Our correspondent gives us much valuable information regarding the production of petroleum, the extent of the trade in it, and the peculiar properties of some of its products obtained in the processes of refining. He tells us that gasoline, one of these products, "is more dangerous than gun-powder or dynamite," and ventures the opinion that "the destruction of it should be compelled when and where it is produced."

While admitting all the facts stated regarding the properties of gasoline, we differ with our correspondent regarding the danger arising from its use. In theory and according to chemical and insurance experts gasoline is too dangerous a thing to have in domestic use; but the every day experience of the hundreds of thousands of people who use gasoline in the United States proves that the article is no more dangerous to human life than many other things in domestic use; and that the use of gasoline stoves is no more dangerous as far as fires and the destruction of property is concerned, than the ordinary coal or wood stoves used for similar purposes, when ordinary care is observed. Facts are stubborn things, and when facts and theory differ as widely as they do in considering this matter, so much the worse for the theory. Facts are like the locomotive, and theory like the bull on the track—the facts are irresistible, and theory must stand aside and not interfere with the procession.

We suggest to "R. W. E." that gasoline is not the only thing that might cause destructive fires in railroad freight sheds and whiskey distilleries; and there would be quite as much sense and reason in demanding the suppression of cows, because the fire that destroyed Chicago was started by a cow

kicking over a lamp in a stable, as there is this outcry against gasoline because fires started from it destroyed railroad and distillery property. It is the opinion of many that there are many other articles in common use that cause more destruction of life and property than gasoline. A match carelessly packed in a bale of cotton has caused the destruction of an immense cotton mill; a small bit of nail or wire, accidentally dropped in a cotton gin has caused equal devastation, and a lantern carelessly lowered into a gasometer, in Montreal, recently caused great destruction of both life and property; but these are not sufficient reasons for abolishing the use of cows, matches, nails, or lanterns. We have previously shown in these pages that two fires occurring in the city of Buffalo—one caused by the upsetting of a lamp, and the other by tapestry coming in contact with a gas jet—had resulted in the loss of property to the value of \$441,000; and it was but a few days ago that St. Paul's Cathedral, in that same city, was destroyed through an explosion of natural gas, the loss on building and contents exceeding \$300,000; but it would be folly to demand the suppression of the use of lamps, gas jets and natural gas because of these incidents. Our correspondent alludes to petroleum as being a "thing of sweetness and light" and "the world's illuminant;" but in our issue of May 18th we showed on the authority of the *American Exchange Review*, a prominent and reliable journal devoted to the interests of insurance companies, that of the 811 known causes of fires occurring in dwellings in Massachusetts during 1887, no fewer than 107 were caused by explosions or upsettings of kerosene lamps, and not one from gasoline. The world has been and is constantly being more extensively illuminated by fires arising from petroleum—this "thing of sweetness and light," than from gasoline, which "R. W. E." denounces as "more dangerous than gun powder or dynamite."

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#### SPECIAL ADVERTISEMENTS.

FOR SALE.—Two Knowles' Looms for narrow goods, in good order. Also a number of double shed Jacquard's cheap. Apply to BELDING, PAUL & Co., Montreal.

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#### EDITORIAL NOTES.

THE Presidential contest in the United States is now fairly begun, the Democrats having Cleveland and Thurman as their standard bearers, and the Republicans General Harrison, of Indiana, for first place, with Hon. Levi P. Morton second. Both parties clamor for such "reform" as will reduce the surplus in the treasury without distrusting the manufacturing interests of the country. In default of any more interesting rallying flag the Democrats hope to win by flaunting Mr. Thurman's red bandana handkerchief as their standard, while the Republicans will undoubtedly use the "old flag" for a similar purpose. The Thurman red bandana, as the Democratic banner, will be hailed until November next with vociferous hosanna; when in some mysterious manner, Mr. Cleveland

and his banner, will step on a banana, while triumphantly will wave the standard of Harrison of Indiana, or words to that effect.

THE *Financial Chronicle* reports 16,394 noteworthy fires in the United States during 1887, an increase of 1,172 over 1886. The value of the property burned was \$119,209,380, an increase of \$14,285,630 over 1886. The average loss by each fire was \$7,272, against \$6,760 in 1886. Incendiarism and defective flues are reported as being the chief causes of these fires, and it is shown that other fruitful causes were spontaneous combustion, lightning, sparks, friction in machinery, from stationery engines and boilers, matches, explosions of lamps, forest fires, and from locomotive sparks. Fires arising from the use of gasoline stoves are not alluded to; but explosions of lamps were the more fruitful causes of fire in New York and Pennsylvania than anything else. As we have previously shown, there was not one fire originated from the use of gasoline stoves in the State of Massachusetts during the year 1887.

A CORRESPONDENT who is a large manufacturer of boots and shoes calls attention to the fact that some merchants very often take pleasure in ordering the same class of goods from several different manufacturers, to be shipped at the same time, for no other purpose than overhauling the cases and comparing the different goods, and in many instances returning all of the goods so ordered. Our correspondent does not know that he is the only manufacturer who is thus treated, but he thinks that the names of such customers should be made known to the general trade, seeing that doing so would guard the trade against such unbusiness like doings. If other boot and shoe manufacturers have any experience in this direction, and desire to suppress such exuberance on the part of so-called merchants, our correspondent would be pleased to confer with them on the subject. His name can be obtained by application to this office.

THERE are some energetic and enterprising men in Canada who are unabating in their endeavors to establish direct trade relations between Canadian ports and some of the countries far to the south of us. This journal has frequently called attention to the importance to our manufacturers of opening up these markets, and to the efforts being made in this direction. The Dominion Government has, through its commissioners sent out for the purpose, shown the possibilities to Canadian enterprise should such trade be opened up; and we have shown what was being done by the St. John Forwarding and Trade Promoting Association towards establishing communication between St. John, N.B., and certain West Indian and South American ports. Ontario gladly joins hands with the Maritime Provinces to open up and develop this trade, and all Canada is under obligations to Messrs. George Robertson & Co., of St. John, and Messrs. Murdoch, Dickson & Co., of Toronto, for their efforts in this behalf. The United States Government will probably spend \$800,000 within the next year in this direction, and Canadians will not be satisfied if their Government does not lend a helping hand to open up these new markets for Canadian products.

THE following important item appeared in the telegraphic dispatches from Washington under date of June 15:—"The Post Office Appropriation Bill was taken up, amended and passed. Among the amendments agreed to is the insertion of an item of \$800,000 for more efficient mail service between the United States and Central and South America and the West Indies." It certainly cannot be that Canadian manufacturers comprehend the full import of this information, for if they do they would be busily interesting themselves in urging the Dominion Government to do just what our Yankee neighbors are about accomplishing through the Congress of the United States. As vast and important as the manufacturing interests of the United States are, and as anxious as the manufacturers there are to secure to themselves the markets of the countries mentioned in the telegrams alluded to, they can in no wise sell their products to them on any better terms and prices than Canadian manufacturers; and many lines of the most marketable goods can be supplied even more cheaply from our factories than from those of the United States. Certainly the field is ripe to the harvest, and if Canadian manufacturers do not enter in and garner their sheaves—and a very liberal supply of them, too—they should not be surprised at being anticipated by their energetic rivals. Canada has frequently sent agents to spy out the land and size up the situation; and their reports have always been of the most encouraging character, and now the time for more energetic and decided action has come. Private enterprise has done much in this direction, and many of our manufacturers are ready to send out their "angels of commerce" into these lands to solicit orders for their products, and are willing and anxious to fill all such orders, knowing that they will be at fairly remunerative prices; and the urgent need is that the Dominion Government do for them somewhat as the United States Government is about doing for American manufacturers—lend some material aid in establishing direct steam communication between Canada and at least some of the countries alluded to. Every manufacturer in Canada is interested in this matter; and each should feel it to be his personal and imperative duty to urge upon the Government the importance of doing something, and that without delay, to capture this valuable prize that now hangs so invitingly before us.

#### GASOLINE.

*Editor CANADIAN MANUFACTURER:*

AGREEING so heartily with your aims and manner of presenting trade topics, I feel it a duty to state my views, although opposed to yours, in a matter where human life and large monetary interests are at stake.

Petroleum, though used hundreds of years in India, is comparatively a new article of commerce in America. At one time under the name of "American oil" it was sold for one dollar for a six-ounce bottle. This was the crude oil gathered from the surface wells in Seneca county, New York. Young, of Scotland, first sent petroleum to Canada for illuminating purposes, the article being distilled from shale. Then a much superior article came, produced from shales from the Albert mines in the Maritime Provinces, much of which was distilled and refined at Portland, Maine, and under the name of "kerosene" was largely sold at one dollar and twenty cents per wine gallon.

We have all noticed the marvellous development of the production of petroleum in late years; and we now witness the struggle between New York and Batoum for supremacy as exporters of it; and it may be interesting to remember that from the beginning of this year to the end of May, New York exported the almost incredible

quantity of over one hundred and fifty million of gallons of liquid petroleum products. Consider also that Philadelphia, Baltimore and Boston, furnished large quantities of similar exports, as well as paraffine wax, vaseline, etc., and some idea may be formed of the vast extent of the business.

It has naturally followed that rapid progress should have been made in the evolution from foul-smelling black crude oil to "the thing of sweetness and light" which is now the world's illuminator. Analytical chemists are constantly dissecting, modifying and changing the form, and enlarging and extending the uses of petroleum; and scarcely a month passes without some important discovery being made in that field. Early in their investigations it was discovered that great differences existed in the specific gravity of petroleum oils taken from different localities, and that the lighter of them possessed the greater liability to cause fires and accidents. Governmental and civic authority stepped in, and forbade the sale of dangerous oils, and provided standards of gravity below which these products might not be sold, used or transported; and have also regulated the manner of their storage. Thus it will be seen that in the New York quotations 110°—120°—130°—"State"—150°—300°— and New York 100° flash tests are at differing prices, and destined for places where these different standards and qualities are allowed to be used.

These standards all depend upon the degrees of temperature at which inflammable and explosive vapor is given off; and the Canadian standard of 120° is none too high.

In order to obtain a safe oil it is necessary to separate what is variously known as naphtha, benzine, petroleum spirits, gasoline, rhigolene, etc., which products have a much lower "flash point" than ordinary refined commercial oil. To separate these products increases the cost of the saleable oil, hence great efforts are made to find a market for the lighter products.

It is an indisputable fact that gasoline is more dangerous than gunpowder or dynamite, and the destruction of it should be compelled where and when it is produced. Its unalterable nature is to produce and give off inflammable and explosive vapor at the heat of a summer day, or the temperature of a warm room, rendering it totally unfit to be used by people ignorant of their danger.

Not to speak of thousands of lives lost by its use, but considering the matter from a cold-cash standpoint, any one who will look at the statistics will find it a terrible factor in the enormous fire waste of this continent. The destruction by fire of the Detroit and Milwaukee Railroad freight warehouse, entailing a loss of \$1,500,000, was caused by gasoline which leaked from a barrel which had been taken for shipment; and the burning of the Gooderham & Worts' distillery, in this city, entailing a loss of \$300,000, was caused by the explosion of a barrel of benzine.

A modern instance is the destruction of Wannamaker's chapel and tent, with serious injuries sustained by a great proportion of the 700 persons assembled, caused by a gasoline lamp. Another from Zanesville, Ohio, reported the day following, tells of an explosion in a rear building where gasoline was stored, destroying a wholesale drug store in front, and the buildings laterally adjacent, with loss of seven lives, "so far as known," the report says.

But why multiply harrowing and distressing incidents out of thousands offering? Rather let me declare firm belief that the transportation, storage, sale, and use of gasoline in crowded communities can find no standing room in an argument as to its necessity or economy, so far as the general public is concerned, and it is only on such grounds it can appear in court.

On the other hand let me strongly urge that other sources of light and heat are available; just so cheap as far as money value is concerned, and more safe as to life and property. Then why allow it to be transported, stored, sold or used, especially in villages, towns, or cities?

The danger lurking in gasoline is inherent and not to be overcome; and the insurance companies in prohibiting its use in insured buildings do not necessarily benefit themselves, as losses could be transferred to the insuring public in the shape of increased rates; but they act for the general good in stopping a preventable loss.

Toronto, June 20.

R. W. E.

"BRADSTREETS," a journal of trade, finance and public economy, published by the proprietors of the Bradstreet Mercantile Agency, New York City, has a circulation of more than half-a-million copies a year. These weekly issues, averaging at least 10,000 copies, go to the better class of business men of the whole country, including bankers, lawyers, railroad and insurance officials, merchants, manufacturers and public men. The subscription price is five dollars a year.

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## NOTICE.

We manufacture Belting from  
**HOYT'S PURE OAK-TANNED LEATHER.**



**BELTS CUT FROM THE SOLID PART OF THE LEATHER ONLY,  
and all made with short laps.**

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**GEO. F. HAWORTH & CO.**  
11 JORDAN STREET,  
TORONTO.

# Manufacturing.

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

MR. WILLIAM FLEMING, St. John, N.B., will establish new locomotive works in that city.

THE Canada Jute Company, Montreal, will increase their capital stock from \$50,000 to \$100,000.

THE Mendelssohn Piano Company, Toronto, has been incorporated with \$100,000 capital stock.

THE Brandon, Man., town council will grant a bonus to any one erecting a flouring mill in that place.

THE Albert Manufacturing Co., Hillsboro', N.B., are manufacturing about 400 barrels of plaster per day.

THE Merrickville Home Company, Merrickville, Ont., has been incorporated with \$10,000 capital stock.

MR. C. DOULL, Sackville, N.B., is enlarging his furniture factory and adding considerable new machinery.

THE capital stock of the Ontario Pump Company of Toronto has been increased from \$50,000 to \$100,000.

THE Nonotuck Silk Company's new silk thread factory at St. John's, Que., has been put in operation.

THE American Electrical Construction Company of Toronto has been incorporated with \$2,500 capital stock.

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

THE new natural gas well at Collingwood, Ont., has developed a capacity of two million cubic feet of natural gas a day.

MESSRS. KRAMER BROS. saw mill, near Teeswater, Ont., was destroyed by fire June 27. They will probably rebuild.

THE Thornbury Oil and Mining Company, Thornbury, Ont., have struck a fine flow of natural gas at a depth of 110 feet.

MR. THOMAS TAIT'S saw mill at Germania, Ont., near Gravenhurst, was destroyed by fire June 28; loss about \$12,000.

THE saw and shingle mill of Mr. J. S. Leverich, Sturgeon Lake, Ont., was destroyed by fire June 21st. Loss, about \$4,000.

THE Ormstown Brick and Terra Cotta Company has been incorporated with \$50,000 capital stock, with head offices at Ottawa.

THE shoe-last and peg factory of Messrs. John Lewis & Son, Truro, N.S., was destroyed by fire 2nd inst. Loss, about \$50,000.

MR. R. S. WILLIAMS, manufacturer of pianos, Toronto, will spend about \$30,000 improving and enlarging his new works at Oshawa, Ont.

THE Portland Lime Company, Portland, N.B., has been incorporated with \$30,000 capital stock, for the purpose of manufacturing lime.

THE Canadian Pacific Railway Company will build two new grain elevators at Fort William, Man., with capacity for 1,300,000 bushels each.

THE Canadian Locomotive and Engine Company, Kingston, Ont., are now building sixteen new locomotives for the Intercolonial Railway.

THE Hamilton Bridge Co., Hamilton, Ont., are building an iron bridge over the Thames river, at Delaware, Ont., at a cost of \$13,130.

MR. THOMAS KERR is manager of a new woolen mill recently erected at New Westminster, B.C., said to be the only one in the Province.

THE Hamilton and Toronto Sewer Pipe Company has been incorporated with \$90,000 for manufacturing sewer pipe at the places indicated.

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RAILWAY CAR WORKS, | PORTLAND ROLLING MILLS,  
PARADISE ROW. | STRAIT SHORE.  
PORTLAND, ST. JOHN, N.B.

Railway Cars of all descriptions. Chilled Car Wheels, "Washburn Peerless" Steel Car Wheels. Car, Machine, Mill, Ship, and all kinds of Castings. Steam Engines, Mill and other Machinery. Nail-Plate, Bar Iron, Street and Mine Rails, Ships' Iron Knees, Hammered Car Axles, Shafting and Shapes.

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PETERBOROUGH, ONT.

MANUFACTURERS OF THE MOST MODERN

### SAW MILL MACHINERY

ALLINGTON'S PATENT DOUBLE COLUMN BAND MILL,  
WITH ROLLER GUIDES.

SINGLE COLUMN BAND MILLS. WILKINS' PATENT COMPENSATING  
BALANCE GANG, NO FOUNDATIONS REQUIRED.

Circular Saw Mill, and everything required in first-class  
Saw Mills. Send for Circular.

MR. H. LOUGHBOROUGH, Kalamazoo, Mich., will establish a furniture factory somewhere in Canada, and is looking around to find some town that will bonus him to select it.

THE Keewatin Milling Company of Rat Portage, Man., intend commencing on another large flour mill and elevator as soon as the one now under construction is in operation.

THE New Glasgow Forge Company, New Glasgow, N.S., have contracted to forge 10,000 car axles for the Canadian Pacific Railway, the deliveries of which extend through a year.

THE Barnum Wire and Iron Company, Windsor, Ont., have been awarded the contract for making all the interior iron work for the new Government buildings now being erected at Ottawa.

MESSRS. MCINTYRE & McDOWELL will remove their milling plant from Oxford Mills, Ont., to Kemptville, Ont. A cash bonus of \$2,500 and a mill site is said to have been the inducement.

MESSRS. HOUSTON & HARDING, Montreal, are adding to their works at Cote St. Paul, near that city, by the erection of a new dyed-wool stock factory, the foundations for which have already been laid.

MR. JOHN PERKINS, Toronto, has sent us an illustrated catalogue descriptive of the Brown automatic steam engine built by him. The "Brown" is a fine engine and has acquired a wide popularity in Canada.

THE Woodstock Woolen Mill, at Woodstock, Ont., has been rented to Mr. McCormack, of Dundas, a thoroughly experienced man in the woolen business, who will refit and operate it as a custom mill.



MR. W. W. BELDING, Katrine, Ont., will add a band mill and shingle making machinery to his lumber mills at that place. The Wm Hamilton Manufacturing Co., Peterborough, will furnish the machinery.

THE Amherst Boot and Shoe Manufacturing Co., Amherst, N.S., are doing a prosperous business. During the past year their sales aggregated more than \$322,000, an increase of \$35,000 over the previous year.

THE Lindsay-Seldon Furniture Company, of Peterborough, will soon offer to the trade a novelty in the shape of a portable folding bedroom suite, including bedstead, bureau, washstand, etc., complete in one piece.

THE Nova Scotia Steel Company, New Glasgow, N.S., are manufacturing the metal of which the New Glasgow Forge Company will forge the 10,000 car axles they are making for the Canadian Pacific Railway Company.

MESSRS. IRVING & LEWIS, woolen manufacturers, Vienna, Ont., are building a new warehouse in connection with their mills, to replace the one recently destroyed by fire. Their works are busy running on blankets.

MESSRS. T. S. SIMMS & Co., St. John, N.B., are requesting the attention of the trade to their business through an attractive card in another page of this journal. They are manufacturers of brushes, corn brooms, whisks, etc.

AT a recent meeting of the Neepawa Milling Company, Neepawa, Man., the stock books showed that \$20,000 had been subscribed out of the capital of \$30,000. Tenders for the erection of a mill will be called for immediately.

AN agitation is on foot in Kemptville, Ont., to offer a bonus of \$5,000, the site, and exemption from taxation for ten years to Messrs. McDonald & McIntyre, of Oxford Mills, Ont., to move their roller mills to the former place.

MR. JOHN LORIGAN, Montreal, has begun the manufacture of slate and wood mantels, which, by a patented process, are made to imitate all the more valuable and expensive materials with a fidelity to nature which is said to be remarkable.

THE Orillia Steam Carriage Works, Orillia, Ont., of which Messrs. W. Tudhope & Sons are proprietors, employ from twenty-five to thirty hands the year round, and manufacture upwards of 700 vehicles a year, valued at over \$70,000.

THE Hibbard Electric and Manufacturing Company of Montreal, will be incorporated with \$150,000 capital stock. Mr. W. C. Hibbard will be at the head of the concern, which is simply an enlargement of his large and important business.

MESSRS. P. FREYSING & Co., Toronto, manufacturers of cork goods, have presented the city with a number of cork life buoys for distribution at different places along the banks of the Don river, within the city limits. The gift is timely.

A BY-LAW is to be introduced at an early day into the Toronto City Council making it imperative on the part of manufacturers and all users of large quantities of bituminous coal as fuel, to place smoke-consuming apparatus in their furnaces.

THE Ontario Canoe Company, whose works are in Peterborough, have attained a reputation for their class of goods which finds for them a ready sale, not only in Canada, but in Great Britain and Europe. The present season has been a very busy one.

MESSRS. P. W. ELLIS & Co., Toronto, manufacturing jewelers, made the silver spade with ebony handle presented to Mrs. Alex. McCall by the citizens of Simcoe, Ont., for turning the first sod of the South Norfolk Railroad, at that place, on the 2nd inst.

THE Polson Iron Works Company of Toronto, who have contracted to build one or more large iron steamers for the Canadian Pacific Railway Company, will establish their ship building yards at Owen Sound, Ont. Their iron works will be retained in Toronto.

MESSRS. FADER BROS., Vancouver, B.C., who already own and operate an extensive saw mill at that place, are duplicating their plant by the construction of another mill into which they will introduce \$20,000 worth of machinery, recently built for them in Ontario.

MR. R. L. TUPPER AND MR. CASE will leave at once for Riding Mountain, for the purpose of developing the Manitoba oil wells. They are taking a full outfit of boring machinery, a considerable portion of which has already arrived at Strathclair.—*Manitoba Free Press.*

THE

# Dartmouth Ropework Co.

*Halifax, Nova Scotia.*

MANUFACTURERS OF

## MANILLA, SISAL and

## Tarred Russia Cordage,

### MARLINE, HOUSELINE,

### HAMBROLINE, SPUN YARN AND OAKUM.

SPECIAL ATTENTION GIVEN TO

## BINDER TWINE.

1835 - 1888

## Phoenix Foundry and Locomotive Works,

POND ST., ST. JOHN, N.B.

## JAMES FLEMING

(Successor to GEO. FLEMING & SONS),

MANUFACTURER OF

### LOCOMOTIVES, Marine and Stationary Steam Engines, Steam Boilers, Ship Tanks, and

### MACHINERY OF EVERY DESCRIPTION.

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MAKE A SPECIALTY OF  
**Fine Color Work**

CHROMO ADVERTISING

CARDS and NOVELTIES

also do a Superior Class of Wood Engraving

THE Napanee Cement Company, Napanee, Ont., have recently removed from that place and taken possession of the new buildings erected for them at Napanee Mills, on the Napanee Railway, five miles from the town of Napanee. They will add considerable new machinery.

THE Vulcan Iron Works, Montreal, are building a steel steamer for the Ottawa River Navigation Company of the following dimensions:—length, 160 feet, breadth of beam, 25 feet, depth of hold, 8 feet. This company will soon make considerable enlargement of their works.

MR. GEORGE HAMILTON, of the W. E. Sandford Manufacturing Company of Hamilton, Ont., who went to Japan in the interests of his company several weeks ago, a notice of which appeared in these pages at the time, has recently returned, reporting a most successful business trip.

THE Howard Pulpware Company, Montreal, has been organized with \$30,000 capital, and are applying for incorporation. They propose to manufacture kegs, pails, boxes, barrels, etc., making a speciality of pulp cigar boxes. They already have orders booked for \$10,000 worth of goods.

MESSRS. EMERSON & FISHER and Thomas Kirkpatrick, of St. John, N.B., and Edward Cogswell and Wm. B. Dixon, of Sackville, N.B., with \$40,000 capital stock, ask for incorporation as the Enterprise Foundry Company, for the purpose of manufacturing stoves, etc., at Sackville.

THE Steel Company of Canada, Acadia Mines, N.S., are manufacturing the cast iron water pipe for the Montreal water works. Eight carloads of twelve long tons each have already been shipped, and other shipments are to follow rapidly. This company now have about 800 hands in their employ.

EXTENSIVE improvements in connection with Kingston, Ont., Penitentiary are to be undertaken this summer. The cells are to be enlarged and new fireproof workshops will be built in the southern end of the yard. The work will take over three years to complete, and convict labor will be utilized.

THE Chaudiere lumber mill owners purpose engaging two or three capable engineers to co-operate with any that may be appointed by the Government to make a thorough and scientific examination of the Ottawa river with the view of disclosing fully the effects of throwing sawdust and other mill refuse into the stream.

GOWRIE (Nova Scotia) coal has proved a success for coke making. The coke turned out by the two ovens there has been so favorably received that twelve more ovens are to be built forthwith. This marks a new departure for Cape Breton. It is reported that orders have been received for all the coke the company can make.

OUR information was not quite correct in *re* new paper mill. The mill will be built by Hamelin & Ayers, fitted up with power and shafting, and leased to Messrs. John Ford & Co., who will carry on the business. The grades of paper to be manufactured range from the finest tissue to roofing.—*Lachute Watchman*.

THE Terra Cotta Company is a new concern recently formed at Milton, Ont., with a capital stock of \$20,000, for manufacturing terra cotta, pottery and other goods, of a new kind of clay recently discovered near that place. This clay is of two colors, and is said to become almost as hard as stone when exposed to the atmosphere.

MR. J. NICHOL, Waterloo, Ont., has invented and patented a shipping box to be used for sending butter to market during warm weather. It resembles an ordinary family refrigerator, and will hold about 125 pounds of butter which can be kept at an even temperature of forty-five degrees, one supply of ice sufficing for forty-eight hours.

THE Dodge Split Wood Pulley Company, Toronto, of which Mr. Samuel May is president, have purchased a site for their new works at West Toronto Junction, near this city, and will, during the present season, erect extensive buildings thereon, a full description of which will be given in this journal as soon as the plans are perfected.

PACIFIC coast capitalists are said to have made arrangements with the Main Compress Company, of Bangor, to introduce its sawdust baling machine on the coast, which presses a ton of wet sawdust into three bales, each 24x24x36 inches, a reduction in bulk of 75 per cent. One coast concern agrees to bail twenty tons of sawdust daily.

THE Intercolonial Railway Company are having four locomotives built in Scotland for their road. Mr. Pottinger, the superintendent

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**ROYAL OIL COMPANY,**  
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OUR MOTTO: "High Class Oils at Low Prices."

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QUALITY

OF  
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— FOR —  
CYLINDERS, ENGINES, SCREW CUTTING, ROLLS, WOOL,  
HARNESS, BELTS, SEWING MACHINES, ETC., ETC.

Black Oil (Summer and Winter), Pure Surface Oil, Paraffine Oils,  
Red Oil 22° and 25°, and Benzine 62° Gravity.

**STOVE GASOLINE, 72° GRAVITY.**

IF YOUR DEALER DOES NOT KEEP OUR BRANDS. ORDER DIRECT.

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**FOR SALE**

A fine Manufacturing Premises within easy reach of Toronto, in one of the most pleasant towns in Canada. No cash money required. Will take mortgage for whole amount at five per cent. per annum interest. Buildings all new, and aggregate over 16,000 square feet of floor surface. New boiler and engine. Shafting will be sold if required. Excellent shipping facilities. Free of all municipal taxes for ten years. Other substantial privileges go with the property.

For further particulars apply to

**THE CANADIAN MANUFACTURER,**

6 Wellington St. W., Toronto.

**ENGINE WORKS FOR SALE**  
IN THE CITY OF HAMILTON.

**A well established ENGINE and BOILER WORKS**  
**And General Machine Shop,**

Furnished with heavy Lathes, Drills, Punches, Plate Rollers, etc., and every appliance necessary for doing a general machinery business. These works now manufacture a Superior Threshing Engine, in which there is an established business of some years standing, as also in Boilers and Engines of all kinds, and general repairs

Price low and terms easy.

The premises can be had on lease for term of years, or will be sold with the machinery.

The proprietor being engaged in other business finds it impossible to give the necessary attention to this.

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**F. M. WILLSON, Accountant,**  
22 JOHN STREET, HAMILTON.

of the road, states that the sole reason these engines are built abroad is because all Canadian locomotive building works are so full of orders that none of them could build those wanted within reasonable time.

We learn from a Lachute, Que., paper that Messrs. J. C. Wilson & Co., Lachute Mills, Que., who already own and operate a large paper mill at that place, will enlarge their plant by the erection of a mill for the manufacture of paper pulp. The new building will be of stone, 60x60 feet, three stories high, and equipped with best machinery throughout.

MR. JAMES FLEMING, late of Messrs. George Fleming & Sons, St. John, N.B., proprietors of the Phoenix Foundry and Locomotive Works, announces that he has purchased that entire property, and will carry on the business of manufacturing locomotives, marine and stationary steam engines, steam boilers, steamboat and mill machinery, bridge work, etc.

THE Dartmouth Ropework Co., Halifax, N.S., make liberal use of our advertising space in calling the attention of the trade to the goods manufactured by them. They give special attention to the manufacture of binder twine, besides which they also make manilla, sisal and tarred Russia cordage, marline, houseline, hambroline, spun yarn, oakum, etc.

MESSRS. THOMAS CONNOR & SONS, proprietors of the New Brunswick Cordage Works, Portland, N.B., have a very attractive card in another page in which the lines of goods manufactured by them are alluded to. They are manufacturers of all kinds of hemp and manilla cordage, binder twine, clothes lines, lath and paling ties, lobster marline, ratline, lanyard rope, etc.

MR. ROBERT LILLIE has sold out the machinery and stock of the Perth Bolt Works to Messrs. Pillow, Hersey & Co., of Montreal and the Toronto Bolt Works, and has given them a lease of the bolt factory for six years. These are rival manufacturers who found it would pay them to buy Mr. Lillie out. —Perth, Ont., *Expositor*.

It is estimated that the saleable produce of the soil of England and Wales £112,511,490. Upon this the farmer pays in tax £16,013,000, over fourteen per cent. of their products, yet they have no protection against the farmers of other countries, who have no share in meeting the expenses of the Government. Such a condition of affairs is both idiotic and cruel.

MESSRS. CHARLES BOECKH & SONS, Toronto, have recently made another large purchase of broom corn for manufacturing purposes in their factory here. It consists of twenty-one car loads—about 350,000 pounds—all of which is of the very best quality. This firm is now arranging to make additions to their works, which will enable them to increase their output to 100 dozen brooms per day.

THE Piedmont Reduction Works, Thomasville, N.C., under the superintendency of Capt. Croslemire, are said to be the only works in the world where chemically pure zinc is made. The process was discovered by Capt. Croslemire, who has patented it in the United States and in Europe, and \$100,000 has been offered for the right to manufacture under it in the United States, excluding North Carolina.

THE Peterborough Lock Manufacturing Company doubled their facilities for manufacturing at the commencement of the year by occupying the premises vacated by the Central Bridge Works. This company is now the only one in Canada devoted solely to the manufacture of lock and door furniture, and their new catalogue which is in the press, will show that great advances in this branch of industry have recently been made.

RECENTLY Mr. Carl Faber, the celebrated lead pencil manufacturer from Germany, was in Toronto and visited the new warehouse of Mr. Geo. F. Bostwick on Front street. Mr. Faber was so pleased with the office appliances that he was there shown that he gave Mr. Bostwick an order to ship one of his finest Stahlschmidt & Co.'s desks to his establishment in Germany, where they will be used in Mr. Faber's own private office.

COURTRIGHT has several gushers, but it was running wild over what it claimed was one of the greatest natural gas gushers between there and Findlay, Ohio, and as great as the best one at that place. It was a well of the Salt Company down there, and was figured on being able, along with others in use, to allow the company to manufacture at one-half the former cost. The gas is conveyed to the works by the necessary pipes. —Sarnia Ont., *Sun*.

MR. HENRY J. BIRD, proprietor of the Bracebridge Woolen Mills, Bracebridge, Ont., has recently completed a very substantial

## YOUNGER'S COUNTING-HOUSE GUIDE

Price 75 cts. at Book Stores, or from R. R. Younger, Gananoque, Ont.

" . . . The true system of bookkeeping outlined with singular clearness and brevity, the most simple and practical presentation of systematic bookkeeping we know of."—*The Merchant*.

## Barnum Wire & Iron Works, WINDSOR, ONT.

Bank and Office Railing, in Brass, Iron, Steel, Bronze or Plated.  
Church Metal Work, Altar and Pulpit Rails, Lecterns, etc.  
Architectural Iron Work of all kinds. Stairs, Gates,  
Fences, Stable Fixtures, Elevator Cabs and Enclosures, Grates, Fire Places, Andirons,  
Fenders, Fire Screens, Hall and Newel  
Lights. Fine Brass Castings, Fine  
Forging, Nickle, Brass and Copper  
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Metal Work.

DESIGNS AND ESTIMATES SUBMITTED. SEND FOR CATALOGUES.

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For Specimen of Work, see Bank of Montreal, Toronto.

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AND OTHER ACCIDENTS TO STEAM BOILERS,  
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Lieut-Governor of Ontario, PRESIDENT.

JOHN L. BLAIKIE, ESQ., VICE-PRESIDENT.

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For a check for \$20 we will print a ten-line advertisement in One Million issues of leading American Newspapers, and complete the work within ten days. This is at the rate of only one-fifth of a cent a line, for 1,000 Circulation! The advertisement will appear in but a single issue of any newspaper, and consequently will be placed before One Million different newspaper purchasers, or FIVE MILLION READERS; if it is true, as is sometimes stated, that every newspaper is looked at by five persons on an average. Ten lines will accommodate about 75 words. Address with copy of advertisement and check, or send 30 cents for Book of 256 pages. GEORGE F. ROWELL & CO., 10 Spruce Street, New York.

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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**Bargains in Advertising in Daily Newspapers** in many principal cities and towns, a List which offers peculiar inducements to some advertisers.

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**The Best List of Local Newspapers,** covering every town of over 5,000 population and every important county seat.

**Select List of Local Newspapers,** in which advertisements are inserted at half price.

**5,472 Village Newspapers** in which advertisements are inserted for \$42.15 a line and appear in the whole lot—one half of all the American Weeklies. Book sent to any address for **THIRTY CENTS**.

33x27 feet three story brick and stone building to be used as a warehouse in connection with his mills. This building is claimed to be the best fire-proof structure existing in Muskoka. The office, which is embraced within this building, is well furnished with every necessary convenience, including a fine Goldie & McCulloch fire-proof vault.

MR. JAMES FLEMING, successor to Messrs. George Fleming & Sons, proprietor of the Phoenix Foundry and Locomotive Works, St. John, N.B., makes liberal use of our advertising space for calling attention to his business. This is one of the oldest manufacturing concerns in Canada, having been established in 1835. These works manufacture locomotives, marine and stationary steam engines, steam boilers, ship tanks and machinery of every description.

MR. JAMES CROSSEN, of Cobourg, Ont., has recently built a magnificent new sleeping car for the Intercolonial Railway, which is described as a miniature palace. It is heated by steam, can be lighted by electricity or oil, each berth has an electric push button, ladies' toilet rooms have hot and cold water, and the car contains a smoking room and miniature drawing room. The finishings are of the finest, and the car is said to have cost \$35,000. Its route will be between Halifax and Quebec.

THE new shops of the Canadian Pacific Railway Company being built in Montreal include a passenger car shop 400 feet in diameter and two stories high; wood machinery shop 400x100 feet, two stories high; blacksmith and machine shops 300x100 feet, one story high; storeroom 350x90 feet, two stories high; and a foundry 150x100 feet, two stories high; all of which are to be built of brick and stone, and which, for the buildings alone, will cost about \$300,000. When completed these works will give employment to about 1,000 hands.

MESSRS. MURDOCH, DICKSON & Co., Toronto, have recently made a collection of specimens of Canadian red cedar wood, and other fine woods, gathered in Ontario and British Columbia, some from the Rocky Mountain district, which they have sent to a prominent pencil manufacturer in Germany, for the purpose of ascertaining their value in the manufacture of lead pencils. There seems to be no doubt that hereafter the world's supply of pencil wood will be drawn from Canada, and that Messrs. Murdoch, Dickson & Co. will be the pioneers in this promising business.

THE Dominion Dyewood and Chemical Company, Toronto, advise their friends that they have been appointed sole representatives in Canada for Farbenfabriken, vormals Friedr. Bayer & Co., Elberfeld, Germany, manufacturers of aniline colors and alizarines; also patentees of the well known "One Dip Benzidine Colors" for cotton and wool mixed goods; and that they will carry a large stock of the above firm's products, and will always be happy to supply patrons with the latest information on dyeing, as well as quoting prices and supplying samples.

MRS. MARIA E. BEASLEY, of Philadelphia, has made a fortune from the most remarkable invention which the mind of woman ever conceived. In 1884 Mrs. Beasley took out a patent for a machine for the construction of barrels. Up to that time barrels had been made almost altogether by hand. The machine is worked by three men and turns out more than 600 completed barrels a day. Mrs. Beasley was born in North Carolina of wealthy parents. She possesses wonderful mechanical genius. Her first invention was a machine for hooping barrels. It will hoop 1,700 barrels a day, and is used by the Standard Oil Company.

DURING the course of last week some interesting experiments were conducted from the steamer *Präsident Herweg* with the apparatus constructed by Herr Pellenz, engineer, for producing an electric light under sea, which is expected to promote the high-sea fishing industry in the North Sea. The technical difficulties which were anticipated do not seem to have been met with, for the apparatus worked without any interruptions at the bottom of the sea, producing a light equal to 200 normal-candles, with a cable length of 200 m. and a travelling pace of about four miles. As there can be no doubt that fish are attracted to light like other animals, these experiments ought really to prove of importance to the fishing industry. The experiments hitherto made in England and America have been confined to rivers of no great depth. We are thus enabled to report the first actual success in the high seas.—*Kuhlow's German Trade Review.*

MESSRS. MASON & RISCH, piano manufacturers, Toronto, inform us that in the improvements now being made in their factory, in this city, they are removing the old two-story wooden structure in the rear, replacing it with a four-story brick building with concrete

## Corliss Engines

STATIONARY and MARINE ENGINES and BOILERS

High Economy and Superior Work Guaranteed.

FLOUR MILL MACHINERY,  
CASE'S IMPROVED SYSTEM.

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## Engines and Boilers

NEW DESIGN OF PLAIN SLIDE VALVE

### SAW MILL ENGINES

Leonard-Ball Automatic Cut-Off Engines

### AND STEEL BOILERS

A SPECIALTY.

WE HAVE A QUANTITY OF SECOND-HAND COMMON ENGINES AND BOILERS FOR SALE CHEAP.

E. LEONARD & SONS, London, Can.

## 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.

basement—in all five stories—in addition to which the front factory, which is of brick, will be widened from 40 feet to 53 feet, making the entire premises, when completed, 150 feet deep. This firm employs at present about seventy-five skilled artisans, and turns out about eight fine pianos a week. On completion of the improvements now being made their capacity of output will be doubled.

SOME time ago mention was made of extensive purchases having been made in this city of goods, which were shipped to the Orient by the C. P. R. steamers. Trade in this direction is now steadily increasing. Our townsman, John Weiler, has shipped several lots of furniture to Japan and per steamer *Abyssinia*, sailing on the 29th will send a carload of parlor and bedroom furniture to a firm in Kobi, Japan. This trade is altogether in walnut goods, nothing common suiting the æsthetic proclivities of the Japs. When it is remembered that these shipments are sold in competition with San Francisco houses it will be seen that our manufacturers are wide awake and prepared to take full advantage of this new opening for trade.—*Victoria, B.C., Colonist.*

The Longford Manufacturing Company, manufacturers of woodenware, Orillia, Ont., of which Mr. George Thomson is manager, informs us that they are now getting their works in fine shape. They have been cutting staves for a couple of weeks, but the machinery for making pails and tubs has not yet been received. All of the manufacturing machinery in these extensive works is being imported from one of the most celebrated makers in the United States, and is of the best and most approved patterns. When fully under way this company will make a specialty of manufacturing water pails, wash tubs, butter tubs, candy pails, etc. At the start they will turn out about 1,500 pails and from 300 to 500 tubs a day. Considering that Orillia is in the very heart of a fine district abounding in just such timber as is required in these works, the prospects of this company are exceedingly flattering.

ALONG the bayous and lagoons of Florida grows some of the finest timber in the South, much of it in places considered entirely inaccessible until J. L. Maul & Son hit upon the plan of constructing a floating saw mill. This idea they carried into execution, and their mammoth mill, which now lies off the banks of Burton & Harrison's hammock, near Palatka, is, according to the *Southern Lumberman*, a marvel of mechanical ingenuity. It has a length of eighty and a breadth of forty feet, and is so solidly built that the motion of the machinery has no more effect upon it than if it were built upon the solid land. Although it stands five feet high out of the water, its draught is only about a foot-and-a-half, which permits it to be taken into the shallowest lagoons, where timber could not be floated. It is equipped with the latest machinery, planer, box header, shingle saws, and a fine forty horse power engine and boiler. On the hurricane deck is the cabin and office for the proprietor, while the cook house, where the men board, is in a corner of the main deck, which is otherwise free for the piling of lumber, the machinery being all below it. This floating mill has so far proved eminently successful, exceeding the expectations of the proprietors in this respect, and is probably the pioneer of numerous craft of the same kind.

MESSRS. KNOX & ELLIOTT, architects, Toronto, whose business card appears in another page, are gentlemen who have had large experience in their business. Mr. Wilm Knox was in the business on his own account in Edinburgh, Scotland, for five years, during which time he was employed as architect on the Royal Edinburgh Asylum, and several other large and important buildings. Coming to Canada, he made the plans and superintended the erection of the Canada Screw Company's new factory at Hamilton, a detailed description of which was published in this journal in the issue of April 6 last, since which time, until recently, he was with the well known Chicago architects, Messrs. Burnham & Root. Mr. Elliott is a native Torontonion. In 1879 he entered the office of Messrs. Ware & Van Brunt, architect, Boston, where his exceptional ability soon placed him at the head of the office, in which capacity he made the drawings and superintended the erection of several very important buildings in that city. From Boston he went to Chicago where he entered the office of Messrs. Burnham & Root as their principal designer, and with whom he remained until he and Mr. Knox determined to embark in the business together in Toronto. These enterprising and thoroughly skilled gentlemen are already being well patronized, having plans in hand for several large manufacturing establishments about being erected in Canada, detailed descriptions of some of which will appear later in these pages.

THE Consumer's Gas Company has made a drop in the price of gas to \$1.25 per 1,000 feet; but that is intended for the supply used in stoves and the like. It is figured on introducing that business here, and as it would prove a convenient thing for many the

## NEW BRUNSWICK CORDAGE WORKS,

THOS. CONNOR & SONS,

MANUFACTURERS OF ALL KINDS OF

HEMP and MANILA CORDAGE,

BINDER TWINE, ETC., ETC.

VESSELS' OUTFITS A SPECIALTY.

BINDER TWINE,

MANILA CORDAGE,

CLOTHES LINES,

LATH AND PALING TIES,

LOBSTER MARLINE,

RATLINE,

LANYARD ROPE.

PORTLAND, N. B.

## 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 1¾ 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.

new move of the company will be appreciated. This move is for the benefit of those who desire to use gas for cooking or heating purposes. Gas is so used in many places and proves very convenient. It is also used at different points under boilers for fuel. —*Sarnia Ont., Sun.*

MR. S. M. RYERSON shipped to Boston 20,000 spruce dowels, the first shipment of the kind ever made in this province. The dowels are fifty inches long, 1½ inches in diameter, turned round and rounded at one end, resembling hoe handles. Mr. Ryerson has an order from Boston parties for 200,000 which he is having made by Messrs. Crosby & Stingles, at Carleton. What they are to be used for is not known, but they are for export to foreign countries and have to be packed in bundles of one gross each and done up in burlap. —*Yarmouth (N.S.) Times.*

MESSRS. W. E. H. and FRED MASSEY, of the Massey Manufacturing Company, manufacturers of agricultural implements, Toronto, have arrived back home after having circumnavigated the globe in the interests of their concern. They have established agencies for the sale of their implements in many far distant parts of the world, one of which is in Jerusalem, in the agricultural regions surrounding which the Massey combined mower and reaper will show the natives during the forthcoming harvests how the most improved implements of husbandry of the western hemisphere garner grain.

THE new sash and door factory of Messrs. George Cassidy & Co., is rapidly approaching completion and will commence operations in a few days. The building is a large three-story frame structure and is fitted with the latest and most approved machinery. It is the intention to supply heat by means of steam pipes to the drying rooms from the same boiler. Nearly all the machinery is in duplicate, so there is no chance of the production of any article being stopped through a breakdown. Outside of the value of the building there is already \$12,000 worth of machinery in the factory. —*Vancouver News.*

MANUFACTURERS who may be looking for an advantageous site for locating, are referred to an advertisement in another page of this paper. The business of the present occupants has outgrown the accommodations of the works alluded to, and they are compelled to move into more commodious quarters. This is a rare opportunity

to secure first-class factory accommodations, with abundant steam power, shafting, etc., all in good order and ready to be connected with machinery. Further information may be obtained at the office of this journal.

MESSRS. J. HARRIS & Co., (formerly Messrs. Harris & Allan) proprietors of the New Brunswick Foundry; Railway Car Works, and Portland Rolling Mill, Portland, St. John, N.B., in their business card, which is displayed in our advertising pages, announce that they manufacture railway cars of all descriptions, chilled car wheels, "Washburn Peerless" steel tire car wheels, car, machine, mill, ship and all kinds of castings, steam engines, mill and other machinery, nail plate, bar iron, street and mine rails, hammered car axles, shafting, shapes, etc. This concern was established in 1828—sixty years ago.

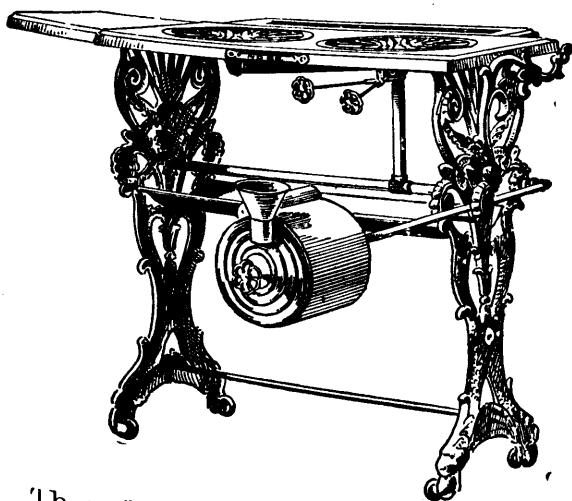
MR. F. M. WILLSON, Hamilton, Ont., is offering an engine and boiler works for sale, located in that city, which should attract the attention of any who desire to obtain such property. These works are described as being furnished with heavy lathes, drills, punches, plate rollers, etc., and every appliance necessary for doing a general machinery business. They are now employed in manufacturing a superior threshing engine, in which there is an established business, as also in building engines and boilers for general purposes, general repairing, etc. Fuller information can be had by application to Mr. Willson, whose card appears in another column of this paper.

MR. W. C. HIBBARD, Montreal, manufacturer of waterpoof electric wires, anti-induction telephone cables, cotton and silk covered magnet wire, etc., informs us that the thermostat fire alarm manufactured by him is taking exceedingly well, and that he is having a large and growing demand for it throughout all the provinces. This thermostat has been heretofore described in these pages. It is an appliance that announces the presence of fire or any unusual heat in any room wherever it may be placed, designating the precise locality; and, because of its efficiency and cheapness is coming into general use in factories, storehouses, etc. Mr. Hibbard will give further information concerning it on application.

ACTING under instructions from the Dominion Marine Department, Capt. McElhaney, the departmental agent now in Glasgow,

# 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.

## McCLARY MANF'G COMPANY

London, Toronto, Montreal and Winnipeg.



has closed a contract with the famous shipbuilding firm of Wm. Elder & Co., of Glasgow, for the construction of a steel steamer to perform the winter service between Prince Edward Island and the mainland. The vessel will be built of Siemens-Martin steel throughout. Her length is to be 200 feet, breadth 32 feet, and depth 21 feet. She will be fitted with triple expansion engines, and have a carrying capacity of 200 tons. The contract calls for a speed of fifteen knots an hour with 200 tons on board. The vessel is expected to be out of the builders' hands by November 1.

BELL'S Asbestos Company has recently been formed in London, Eng., with a capital of £200,000 sterling, who will acquire the "Bellmina" asbestos mines in the eastern townships of Quebec, belonging to Messrs. John Bell & Co., of London, and the celebrated Thetford mine, at Thetford, Que., which have been owned and worked for some years by the Asbestos Packing Company, of Boston, Mass. The new company intend at once expending a certain amount of money in improved mining machinery, including an extensive steam plant, which is at present in course of erection at the Company's mines. The management of the new company is to have the experience and be under the direction of the partners in the old firm, and all the heads of departments will be retained by them. Messrs. Bell & Son are pioneers in this industry, having for years past operated asbestos mining works in Italy, claimed to be the only other country in which the article has been discovered in paying quantities.

THERE are thirty establishments in Montreal for the manufacture of boots and shoes, fifteen of which employ large numbers of workmen, the others being comparatively small concerns. The aggregate number of employes in all these factories is about 4,000, as a general rule children under fourteen years of age not being employed. About 275 different styles and grades of goods are manufactured, the per day value of which is about \$20,000; the average cost price per pair being about \$1.20. It is estimated that ninety-four per cent. of the annual product, or 4,250,000 pairs, is consumed in Canada. The very best machinery is used in the larger factories, and ordinary machine hands earn from \$12 to \$14 per week, some as much as \$16; the average wages earned being about \$12 per week for men and \$7 for women. The capital invested in the industry in Montreal aggregates about \$5,000,000

MESSRS. GANONG BROS. confectionery factory, at St. Stephen, N.B., is fully illustrated and described in a two-and-a-quarter column article in the *St. Stephen Courier*. The building, which is now being added to, will extend 230 feet along a street, with a frontage of 79 feet on one street, and 52 feet on another, built of brick, and four stories high. There are at present some 90 names on the pay roll, which number will be increased to about 125 in September, when it is expected the improvements now being made will be completed. The machinery of the works is driven by a 50-horse power steam engine, and about every imaginary variety of candies, confections, etc., is made. One of the most interesting operations in the work is the shelling, paring and grinding of cocoanuts, the machine employed being capable of preparing 1,000 nuts per hour. The business was established in 1873, one of the founders, Mr. James H. Ganong, having died only a few weeks ago. Mr. G. W. Ganong and two of his late employes, Messrs. A. A. McCloskey and E. B. Kiesstead, now comprise the firm. The sales of goods manufactured in this factory amounted last year to \$225,000.

AN Upper Province manufacturer, in looking over the Industrial Notes in the *Critic* of May 20th, remarked that the number of hands employed by Chute, Hall & Co., of Yarmouth, was altogether too great for the amount of work turned out, as stated in that issue. In simple justice to these gentlemen, we now state what we intended to mention at that time, viz.:—That in addition to their regular organ business, Chute, Hall & Co. manufacture a large number of actions, or inside works for reed organs, as well as organ and piano stools for the trade. These organ actions, with bellows and all necessary mechanism for operating the instruments, are sold to various firms who build organ cases only, and who use the Chute-Hall action in preference to many American makes. Since the first of the year they have shipped a large number of actions to the Upper Provinces, some of which are put into cases and sent back under different names, to compete with organs manufactured in this Province. They are also getting a fine reputation for their organ and piano stools, which are now handled by many of the leading dealers in the Maritime Provinces. We have visited their factory and can speak personally of the systematic and thorough manner in which the work is done, as well as of the diligence of those employed.—*Halifax (N.S.) Critic*.

# 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.

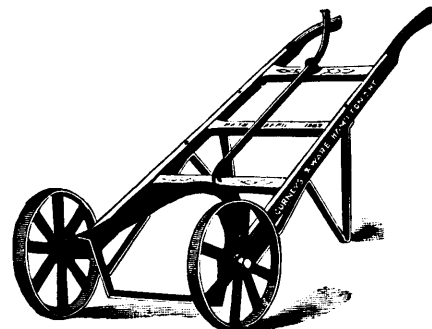
JOHN TAYLOR & Co., Proprietors.

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.



THIS SPACE IS RESERVED FOR  
**JOHN ABELL,**  
 MANUFACTURER OF STEAM ENGINES  
 AND BOILERS AND AGRICULTURAL  
 AND OTHER MACHINERY.  
 Toronto, - Ont.

# 43rd Provincial Exhibition

OF THE

AGRICULTURAL & ARTS ASSOCIATION OF ONTARIO,  
 FROM

**Sept. 10th to 15th, '88**  
**CITY OF KINGSTON.**

For Prize Lists and Posters, address

**IRA MORGAN, Esq.,** **HENRY WADE,**  
*President, Medcalfe. Secretary, Toronto.*

EVERY REPUTABLE DEALER KEEPS THEM.



Insist on having the Genuine, and see that they bear our name.

**W. H. STOREY & SON, ACTON, ONT.**

# Canada's Great INDUSTRIAL FAIR

AND

**AGRICULTURAL EXPOSITION**  
**TORONTO,**

*Sept. 10th to 22nd, 1888.*

Manufacturers desiring space will find it to their advantage to make early application for the same, and by so doing will assist the officers very materially in meeting their wishes. Prize Lists, Forms of Entry and full information will be promptly furnished on application by Post Card or otherwise, to the Secretary at Toronto.

**NO CHARGE FOR SPACE.**

Free Motive Power for all Machinery in Operation. Exhibits of Processes of Manufactures are especially invited.

This will undoubtedly be the largest and most important Exhibition ever held in the Dominion. **REDUCED RATES ON ALL RAILWAYS.**

**JOHN J. WITHROW,** **H. J. HILL,**  
*President. Manager & Sec'y,*  
**TORONTO.**

# 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,**

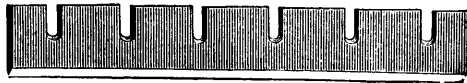
*Manager St. Paul Shovel Works.*

Can be seen at Permanent Exhibition of Manufactures in Toronto.

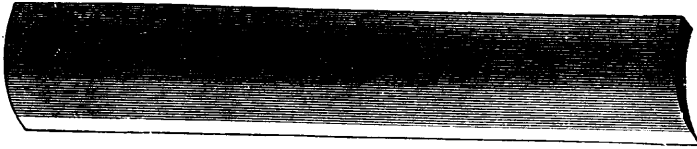
**MILLER BROS. & MITCHELL,** Sole Makers for Canada, **MONTREAL**

**GALT MACHINE KNIFE WORKS.**

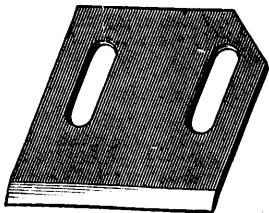
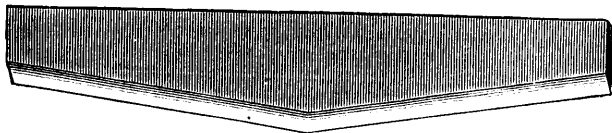
PLANING MACHINE  
KNIVES.



STAVE CUTTER KNIVES.



STAVE JOINTER KNIVES.



MOULDING, TENONING,  
MITREING,  
SHINGLE JOINTER,  
And other irregular shapes.

Cheese-box and Veneer, Paper Cutting, Leather Splitting and any special knife made to order. SEND FOR PRICE LIST. ALL WORK WARRANTED.

PETER HAY, - - - GALT ONT

**MACHINE BRUSHES**

*All kinds, Made to Order.*

**Highest Quality of Work Guaranteed.**

Send full particulars of Dimensions and Quality when ordering

OLD ROLLERS OR BLOCKS RE-FILLED  
WITH SPECIAL CARE.

**CHAS. BOECKH & SONS,**

MANUFACTURERS.

Office and Warerooms :

Factory :

80 YORK STREET.

142 to 150 Adelaide St. West

TORONTO, CANADA.

**Toronto Bag Works**

JUTE & **BAGS** COTTON

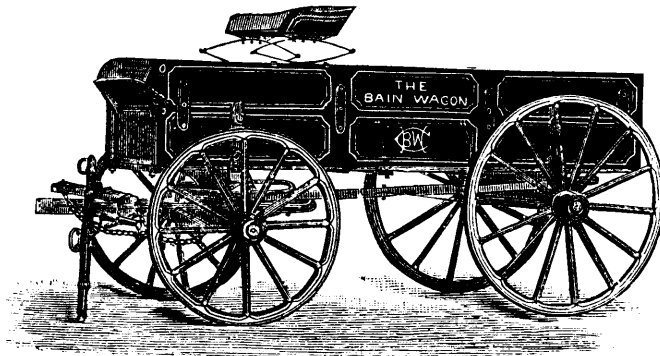
MANUFACTURED FOR ALL PURPOSES.

**BAG PRINTING A SPECIALTY.**

DICK, RIDOUT & CO., Props.  
TORONTO.

**Bain Wagon Co.**

MANUFACTURERS OF



LIGHT RUNNING

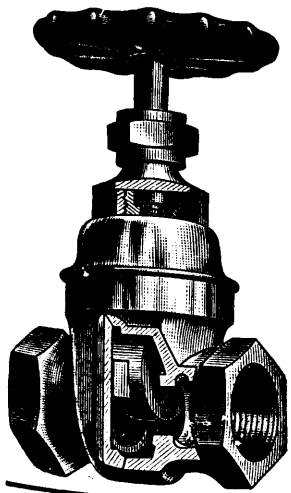
**FARM, SPRING AND FREIGHT WAGONS**

Also Heavy Sleighs and Steel Skein Log Trucks.

SEND FOR PRICES TO

**BAIN WAGON CO.**

**Woodstock, Ont.**



**WEBER'S PATENT  
Straightway Valves**

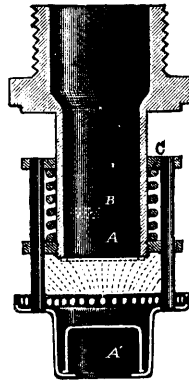
FOR  
STEAM, WATER AND GAS,  
BEST VALUE IN THE MARKET.

**KERR BROS.**  
Walkerville, Ont.

Sole right to manufacture in the Dominion.  
Send for Price Lists.

Also manufacturers of COMPOUND MARINE  
AND STATIONARY ENGINES.

**FIRE PROTECTION.**



BUILDINGS EQUIPPED  
WITH

**AUTOMATIC  
SPRINKLERS**

BY

**ROBERT MITCHELL & CO.**

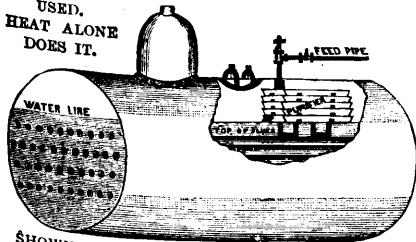
MONTREAL BRASS WORKS,

Write for estimates.

MONTREAL

**PATENT BOILER WATER PURIFIER.**

NO PURGER  
USED.  
HEAT ALONE  
DOES IT.

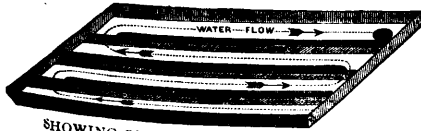


SHOWING POSITION OF PURIFIER IN BOILER.

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.

THESE PANS CAN BE REMOVED, CLEANED AND REPLACED WITH VERY LITTLE TROUBLE, AND IN A VERY SHORT TIME, WITHOUT EMPTYING THE BOILER OF HOT WATER, WHICH MEANS A SAVING OF TIME, LABOR AND FUEL.

FOR PARTICULARS AND PRICES ADDRESS



SHOWING ONE OF THE PANS OF PURIFIER.

J. W. HERMAN, 114 1/2 King St. West, Toronto, Ont.

**NAPANEE CEMENT CO'Y**

(LIMITED),

NAPANEE MILLS, - ONTARIO.

MANUFACTURERS OF

**HYDRAULIC CEMENT**

PARTICULARLY ADAPTED FOR

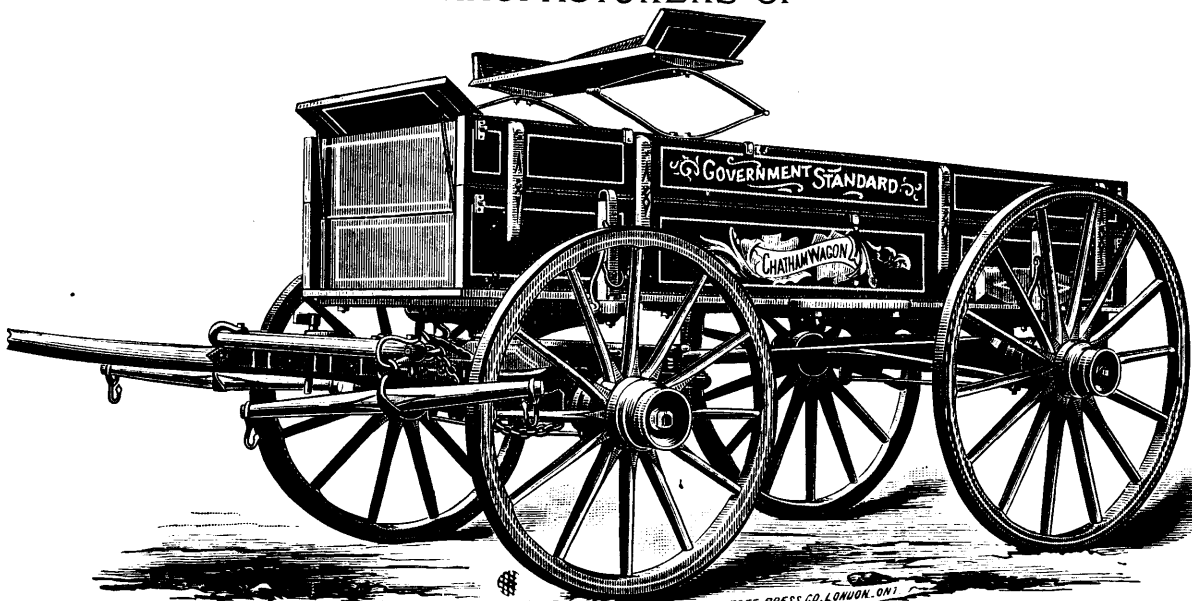
DAMS, SMOKE STACKS, FOUNDATIONS, CULVERTS,  
CISTERNS, CELLARS, ETC.

ENDORSED BY LEADING RAILWAYS AND CONTRACTORS.

**THE CHATHAM MANUFACTURING CO. (Ltd.)**

MANUFACTURERS OF

HARDWOOD LUMBER,



SHIP PLANK AND

**THE CHATHAM WAGON,**

Of which the wagon above is a faithful cut, and which the Government of the Dominion of Canada has adopted as the STANDARD WAGON.

We simply ask intending purchasers, in their own interests, to send to us for particulars of the Chatham Wagon, or if there is one convenient closely examine it before purchasing any other.

We also make Railway Platform Baggage Trucks, Farm and other Dump Carts, the Celebrated Main Bob Sleigh, the Patent Champion Hay Rack, etc., etc.

CORRESPONDENCE SOLICITED.

CHATHAM MANUFACTURING CO. (LIMITED).



**THE PERFECTION  
SMOKE CONSUMER  
— AND —  
FUEL ECONOMIZER**

FOR ALL HORIZONTAL BOILERS.  
AT PRESENT BEING APPLIED TO FLUED BOILERS.

PRICE IN MONTREAL, \$100 PER FURNACE.

AT MONTREAL WATER WORKS ; C. P. R., SHOPS ; AND  
CANADIAN RUBBER WORKS.

BOILERS SET AND TRAVELS CONVERTED TO NEW SYSTEM.  
CORRESPONDENCE INVITED.

**DOBSON & BRODIE,**  
169 St. James St., Montreal.

**Canadian Rubber Co.**

Cor. Front & Yonge Sts., Toronto.

MANUFACTURERS OF

**RUBBER SHOES & FELT BOOTS,**  
Patent Pressed Double Strip Rubber Belting,

RUBBER  
ENGINE,  
HYDRANT,  
SUCTION,  
STEAM,  
BREWERS'  
and FIRE  
**HOSE.**  
HORSE  
CLOTHING  
STEAM  
PACKING.



RUBBER  
VALVES.  
CAR  
SPRINGS.  
WRINGER  
ROLLS.  
CARRIAGE  
CLOTHS  
BLANKETS.  
STOPPLES  
etc., etc.

Mould Goods of Every Description.

LADIES' & GENTLEMEN'S TWEED and GOSSAMER CLOTHING

OUR RUBBER GARDEN HOSE IS THE  
BEST IN THE MARKET.

**J. H. WALKER, - Manager.**

Every Instrument **" BELL "** ESTABLISHED  
Warranted. **25 Years.**

**UPRIGHT PIANOS** **CABINET ORGANS**

*We have just commenced the manufac-  
ture of Pianos—which contain all the  
best known practical improve-  
ments. 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 recom-  
mended by Highest Musical  
Authorities. In tone, de-  
sign 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.

# HAMILTON COTTON COMPANY,

MANUFACTURERS OF

## THE STAR BRAND

COTTONADES, DENIMS, TICKINGS

- Star Brand—BEAM WARP.
- „ HOSIERY YARN
- „ BUNDLE YARN.
- „ CARPET WARP.
- „ BALLED KNITTING YARN.

First Prize, Silver Medals, for Beam Warps and Denims,  
Toronto, 1881.

General Agents,—

F. McELDERY & CO.,

204 MCGILL STREET, MONTREAL.  
22 & 24 COLBORNE ST. TORONTO.

# Millers' and Manufacturers' INSURANCE COMPANY.

STOCK AND MUTUAL.

### OBJECTS.

1. To prevent by all possible means the occurrence of avoidable fires.
2. To obviate heavy losses from the fires that are unavoidable by the nature of the work done in mills and factories.
3. To reduce the cost of insurance to the lowest point consistent with the safe conduct of the business.

### METHODS.

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

Much dependence will be placed upon the obligation of members to keep up such a system of discipline, order, and cleanliness in the premises insured as will conduce to safety.

As no agents are employed and the company deals only with the principals of the establishments insured by it, conditions and exceptions which are so apt to mislead the insured and promote controversy and litigation in the settlement of losses will thus be avoided.

The most perfect method of insurance must, in the nature of things, be one in which the self-interest of the insured and the underwriters are identical, and this has been the object aimed at by the organizers of this company.

**W. H. HOWLAND,** Vice-President.  
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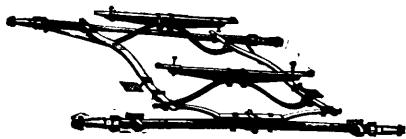
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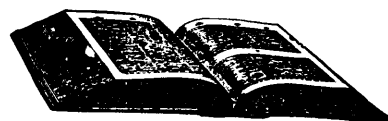
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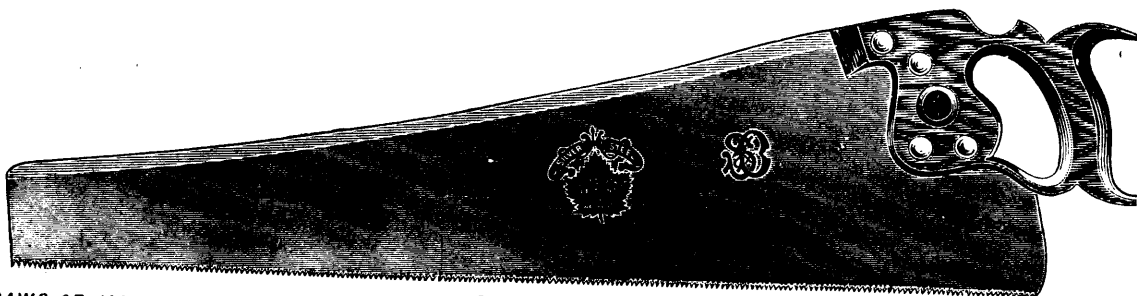
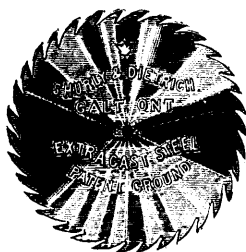
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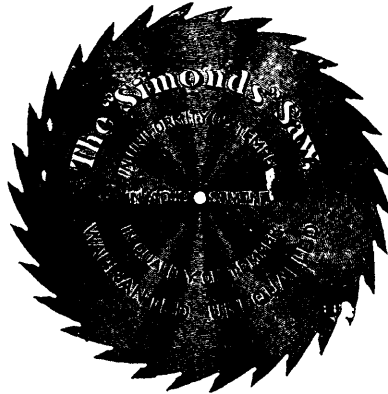
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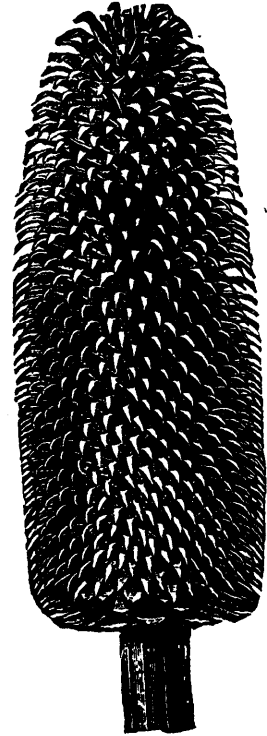
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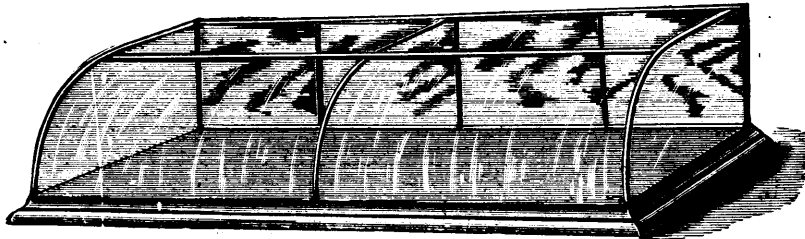
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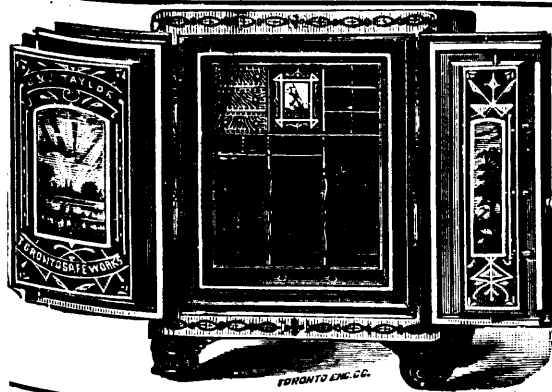


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**IF NOT** { Send us a Sample Order and see if we cannot please you.

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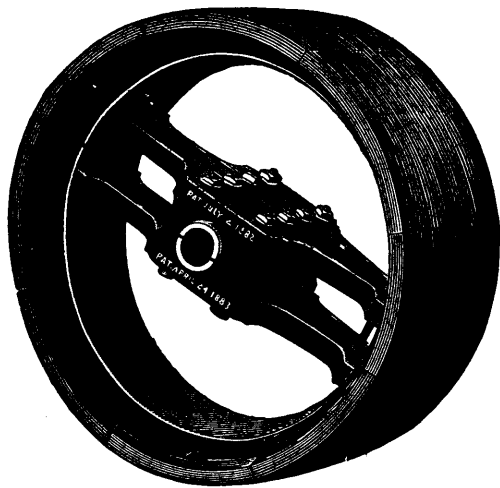
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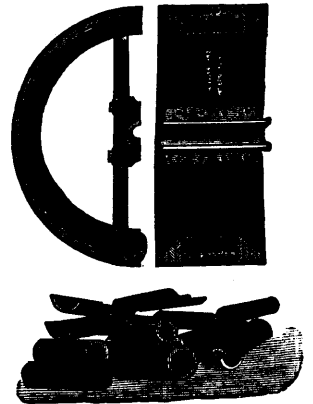
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Best Belt Surface, Lightest, Strongest, Best  
Balanced and Most Convenient  
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## With our Patent Bushing System

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.



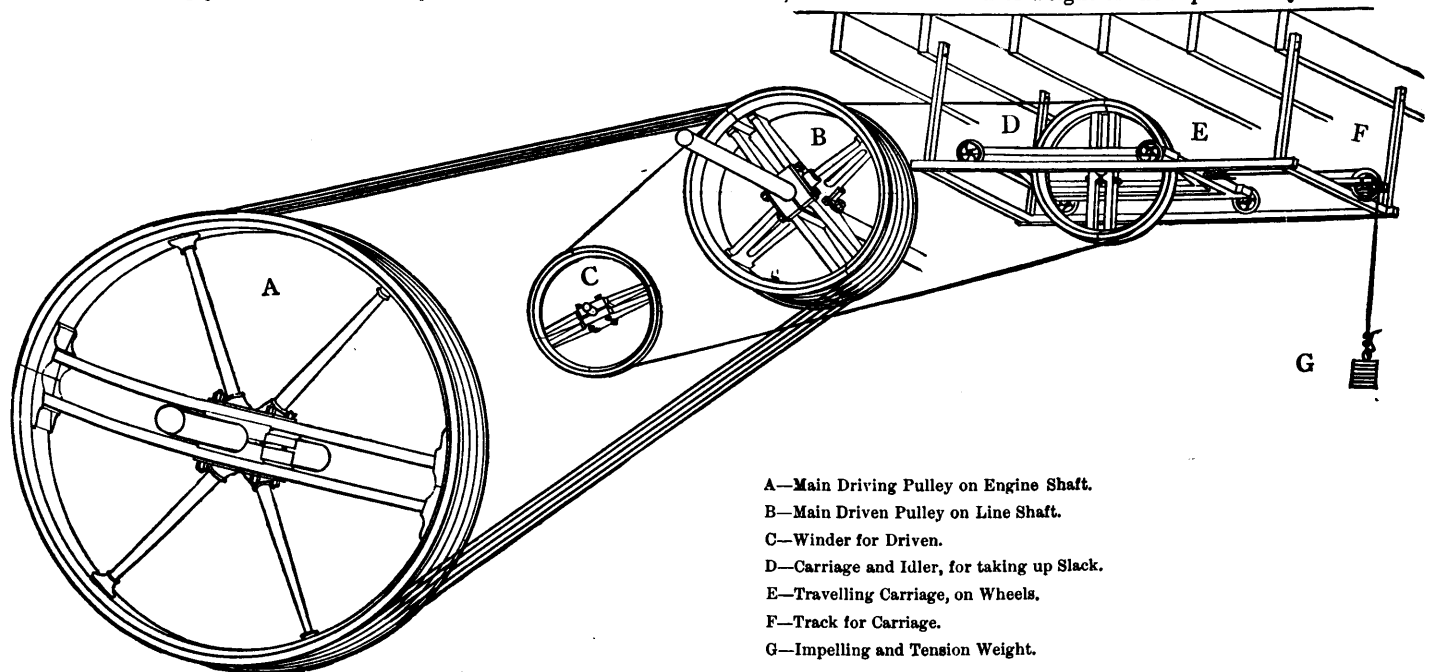
## THE TRANSMISSION OF POWER BY ROPES AND THE DODGE PATENT WOOD PULLEYS

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.

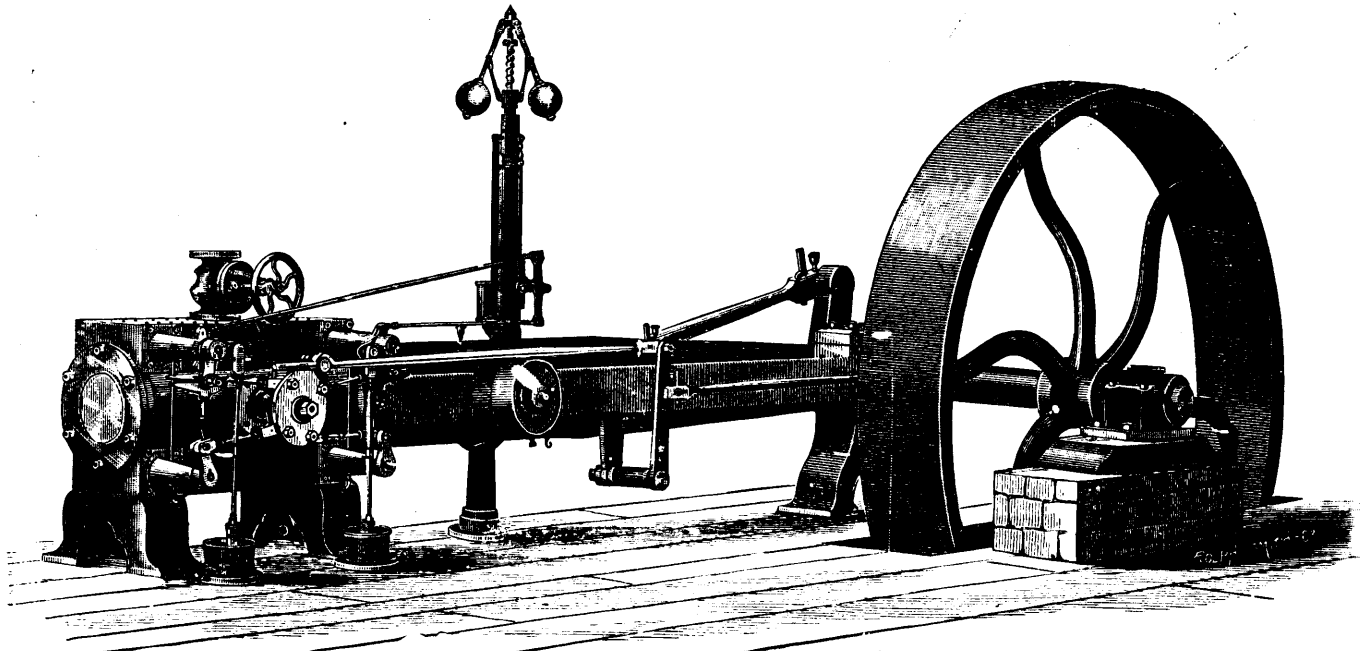
The illustration, as shown above, is one of peculiar construction, and represents an engine transmitting its power to the line shafting by the Dodge Patent System of manilla ropes and grooved hardwood pulleys. Transmissions similar to the above are now in use at the works of the following well-known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

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2nd—**The success of the Harris-Corliss Engine** lies in the simplicity and precise action of the governing elements; **the Governor** is an independent mechanism, with no extraneous load, and free to instantly respond to all variations in the angular velocity of rotating parts.

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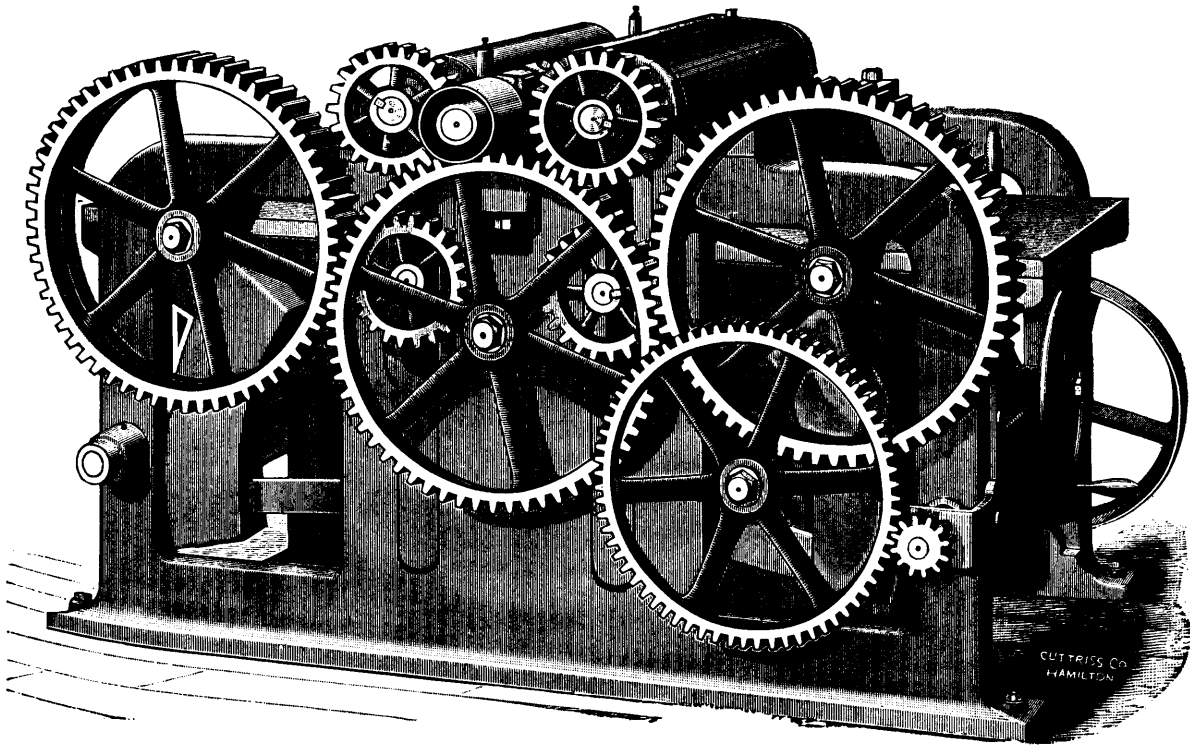
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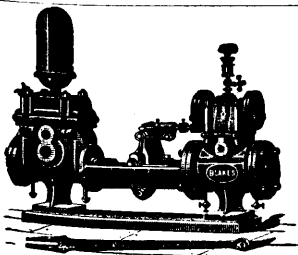
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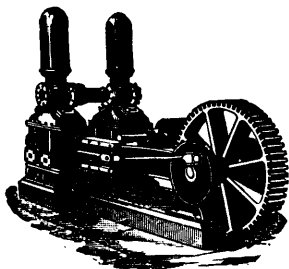
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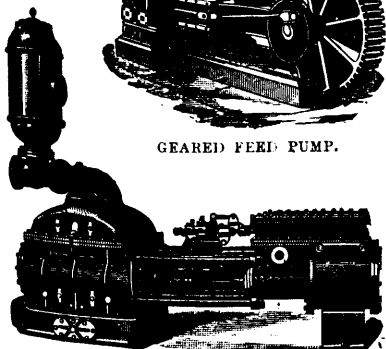
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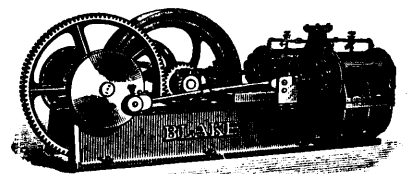
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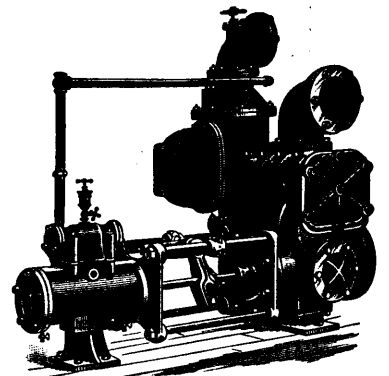
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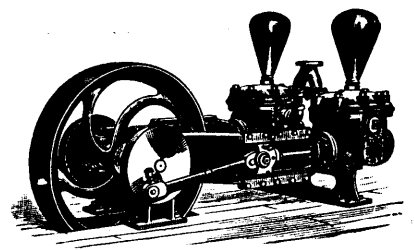
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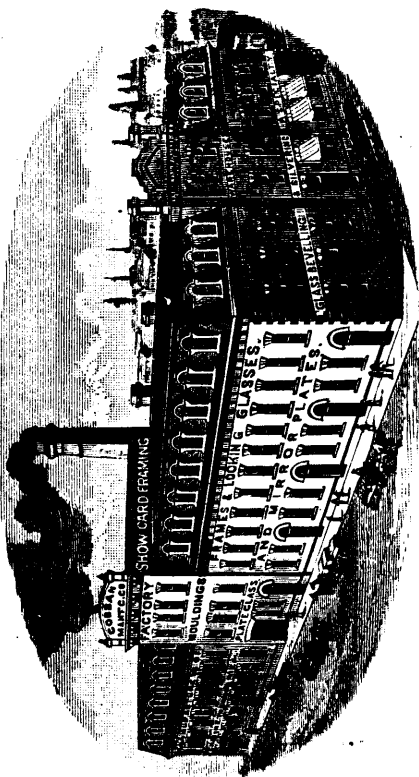
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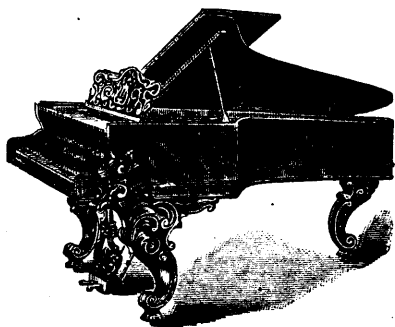
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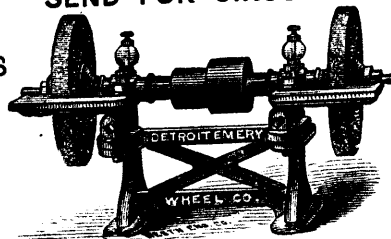
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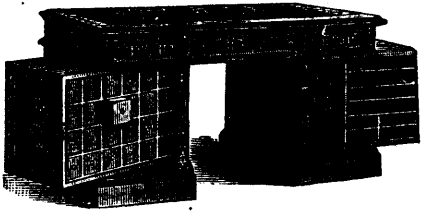
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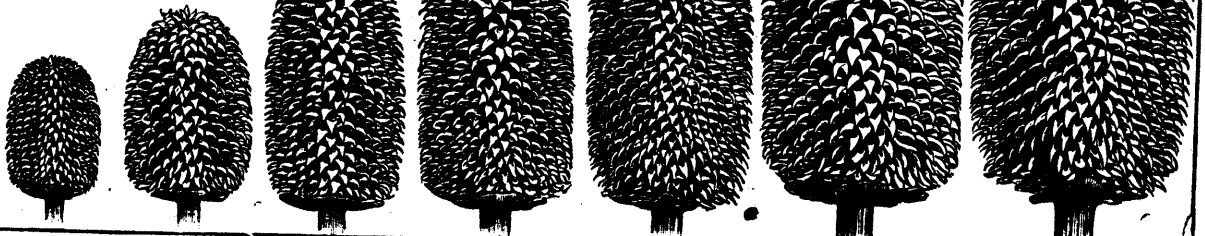
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