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**CANADIAN MANUFACTURER**  
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Vol. 24.

TORONTO, JUNE 2, 1893.

No. 11.

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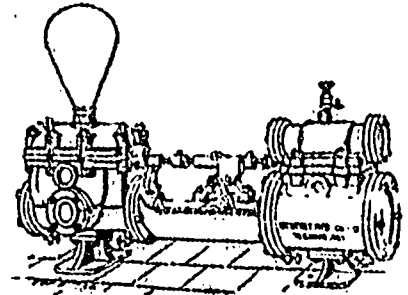
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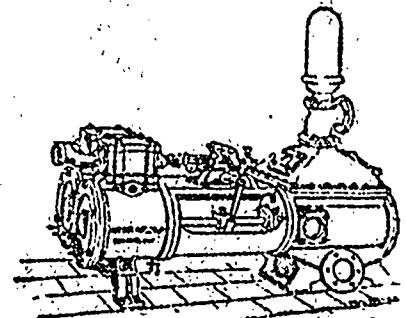
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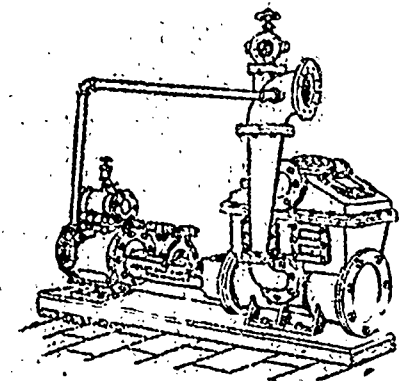


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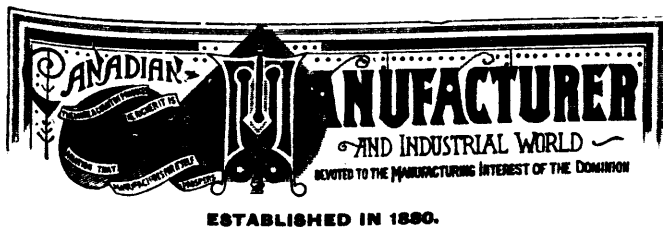
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CUSTOMS RULINGS.

THE Customs Department have issued a memorandum to collectors of customs throughout Canada which states that in view of the necessity of forwarding to the department samples of various goods for examination by the Dominion analyst, in cases where collectors are in doubt as to the proper rating of the same for duty, and in order to avoid correspondence and delay in such examination, they are advised that the following rules should be observed as to quantities to be sent to ensure a satisfactory analysis being made:—

Butter, lard, oils and fats	1 lb.
Malt liquors	1 quart.
Wine and distilled liquors	1 pint.
Medical tinctures, &c.	An 8 oz bot.
Drugs and spices	½ pound.
Syrups and sugar	½ pound.
Paints and varnish	½ pint.
Fertilizers	1 pound.

By an Order in Council passed May 16th, it is ordered that olive oil imported into Canada for use in the canning of fish known as sardines, by those engaged in the business of canning such fish, for such use only in their own factories, and

under such regulations and restrictions as may be made or imposed by the Controller of Customs, may, until otherwise ordered or provided, be admitted free of customs duty.

By an Order in Council passed on the same date, it is ordered that steel for the manufacture of hammers, augers and auger bits, when imported by the manufacturers of such articles for use in their own factories only, be admitted free of customs duty until the end of the next Session of Parliament. In all cases where free entry is claimed under this order the importer shall be required to make oath that such steel is especially imported for the manufacture by him of hammers, augers and auger bits (as the case may be), in his own factory, and that no portion of it will be used for any other purpose or disposed of until so manufactured.

It having been brought to the attention of the Customs Department, that many Canadian vessels are sent to foreign ports for the purpose of being repaired, and that on their return to Canadian ports, the collection of duty on the cost of the repairs so made is often evaded. Collectors are reminded that all such expenditures on Canadian vessels in foreign ports, are liable to duty at the first port entered by such vessels after being so repaired, and the duty is to be levied, not only on the cost of materials used, but also on the value of the foreign labor employed.

The exceptions to this rule are, when a Canadian vessel, on an outward voyage, through stress of weather, loses spars or sails, or is otherwise damaged so that she must be refitted to enable her to return to Canada; or when a vessel is wrecked and sold on a foreign shore, and having been repaired and made seaworthy, is returned to the Dominion and registered *de novo*.

Masters of Canadian vessels which have received repairs in a foreign port must, when handing their inward report to the Canadian Customs, embody therein or attach thereto a sworn declaration, setting forth the nature and cost of such repairs, and the cause which rendered the same necessary (and when and where it arose) producing at the same time the vouchers for such cost. The non-reporting of such repairs will expose the vessel to seizure under the terms of the Customs Act.

In view of the provisions of Order in Council passed on 12th November, 1879, which was rescinded by Order in Council of 15th May, 1880, as amended by Order in Council of 15th November, 1883, authorizing the payment of drawback on ship's materials, which provided that such drawback may be granted and paid by the Minister of Customs to the builder of any ship or vessel built and registered in Canada under such regulations as to him may appear necessary, Collectors are advised that the Controller of Customs has thought it necessary and proper to make the following regulations:—

The claimant for drawback, who must also be the builder of the ship or vessel, shall be required to make a declaration stating that he is the builder thereof, and claimant for drawback on materials used in the construction of the vessel in question, giving full particulars as to where it was built and registered; and the Registrar's certificate must be thereto attached. He must also further declare that the said vessel is entirely new, and a description of its construction must be given.

There shall also be furnished by the applicant a certificate from the Registrar of Shipping showing that the vessel is entirely new and registered at his office.

All applications for payment of drawback shall be placed

before the Customs Department, with evidence as above mentioned completed, within a period of six months from date of registration of the vessel upon which claim is made, otherwise the same shall be rejected.

Drawbacks shall be paid only on vessels which have within themselves the power of independent navigation, either by means of sails, steam, or other motive power.

### CANADIAN IRON INDUSTRY.

IN January last when Mr. D. R. Wilkie, who had been elected president of the Toronto Board of Trade, was inducted into his office, in his inaugural address in speaking of the iron industry, said:—

The cheapening of the cost of iron entering into manufactures, and the encouragement of the mining interests of the country, are both exciting public attention. Is it not possible by an extension of the bounty system, and by a reduction in the tariff on iron, to fuse the apparently diverse interests of producers and consumers? At present the duties upon imported iron varies from two to thirteen dollars per ton, and there is a bounty allowed by the Dominion Government of \$4 per ton upon all iron produced and manufactured in the Dominion. The duty collected upon iron and steel, manufactured and unmanufactured, for the fiscal year ending June, 1892, amounted to \$2,792,088.12. The bonus earned by the smelting companies amounted only to \$30,294.37. The country could well afford to make a material reduction in the duty upon iron if the manufacturer in iron is enabled thereby to compete on more equitable terms than at present with his foreign rivals for his own and for their market. On the other hand, the development of the iron industry in Canada is of still greater moment, and any government that succeeds in developing that industry by bounty or otherwise, without undue pressure on the revenue, will receive the thanks of the community, irrespective of party. The removal of any royalty upon the ore now charged by provincial governments, if not more substantial assistance, would be a necessary complement to the arrangement. The establishing of smelting works in Toronto would add very largely to the wealth and importance of the city.

There is no man in Canada not directly engaged in some manufacturing industry who has shown more zeal in advocating and upholding the National Policy than Mr. Wilkie. Taking a broad and comprehensive view of the situation, from his prominent position in the financial circles of the country well able to see and understand the needs of it, and as a financier always in close and sympathetic touch with the manufacturers, his opinion has always been considered of great weight and value in the direction where he has uniformly taken so much interest. At the time Mr. Wilkie delivered his address the Dominion Parliament was in session, and a clamor was being made, both in the House of Commons and elsewhere, that some decisive and immediate action should be had by the Government looking to a reduction of the duties upon almost every dutiable article enumerated in the tariff. Some of these demands seemed to have an element of justice in them; and no items received more attention than those relating to iron. Acceding to office just at that time it was to be expected that Mr. Wilkie in his inaugural address would review the condition of the country from all the standpoints where the Board of Trade was interested. This included a number of industries where iron in different forms is a most important factor; and it was with regard of the possibilities of Canada as an exporter of manufactures of iron, including agricultural implements, etc., that he said: "The country could well afford to

make a material reduction in the duty upon iron if the manufacturer in iron is enabled thereby to compete on more equitable terms than at present with his foreign rivals for his own and for their market." This was a distinct call for a material reduction in the duty presumably upon all forms of iron.

We have never understood that those manufacturers who did not aspire to produce for foreign trade had ever made remonstrances against the iron duties. They were endeavoring to fully occupy their home market before attempting to reach out for foreign markets. But it seemed to be the more ambitious ones who desired the change—concerns like the Massey-Harris Company, who have occupied the home field and who desire to extend their trade to foreign countries—and it was and is this class of manufacturers who desire sweeping reductions in the iron duties to the better enable them to do this.

Mr. Wilkie was very explicit, however, in declaring that "the iron industry of Canada is of still greater moment" at this time than the export trade; his idea evidently being that while the export trade might be built up by reducing the iron duties, the iron industry might also be built up by the award of bonuses to the home producers. We quite agree with him that "any government that succeeds in developing that industry by bounty or otherwise will receive the thanks of the community." Considering the policy of the Government in the matter of the iron schedule of the tariff, it probably did well to bestow a bounty upon the production of pig iron made in Canada, but the result shows that something was wrong—so wrong that the bonus has failed to correct it, for after years of trial our pig iron industry has not developed into any such proportions as was hoped for; and experienced men entertain the belief that if it had not been for the inefficient tariff, which Mr. Wilkie's desires would make still more inefficient, the furnaces which were in operation at the formation of the tariff would long since have gone out of blast. Mr. Wilkie's idea, however, seems to be that the iron duties might very safely be lowered provided the bonus upon pig iron were increased. Possibly this might be the case; but by what process could additional bounties be obtained? It was only a few weeks ago that an influential delegation of the Ontario members of the Canadian Manufacturers' Association waited upon Sir Oliver Mowat to ask him and his Government to promise a bounty upon the production of such pig iron as might be made in this province. It was pointed out to him that the establishment of an iron industry in Ontario would add greatly to the prosperity of the people; and the request was directly in line with what Mr. Wilkie said in his inaugural. Mr. Mowat has declined to entertain the proposition, and as there seems to be no probability of the Dominion Government going any further in this direction than they have already gone, we do not see how we can expect the industry to live when it would most certainly be slaughtered by any material reduction of the duties.

In our opinion it would be better for the Government to assist in building up such industries as we have, and in establishing a comprehensive iron industry, than to cripple them in an effort to have a few full fledged wealthy concerns expand their trade into foreign lands. Under a 35 per cent. protective tariff the manufacturers of agricultural implements have fully occupied the home market. Other industries of great value are striving to do the same—why not assist and encourage them to do so?

## MISAPPREHENSION REGARDING THE TARIFF.

THERE are a good many good honest souls who entertain the idea that the investigation now being made by Ministers Foster and Bowell, are with a view to changing the fiscal policy of the Government, abandoning protection to our manufacturing industries, and adopting a tariff for revenue only. The prevalence of this idea is due chiefly to the persistent misrepresentations of a good many very dishonest newspapers and journals, and to the teachings of demagogues and politicians who are the persistent enemies of the National Policy.

We do not understand that the Government propose doing any such thing as here intimated. The object is not to change the fiscal policy that has heretofore given so much satisfaction, and as advocates and upholders of which they attained to power, but to change and alter and amend so as to make it more fully conform to the circumstances of the times and the requirements of the country. If the tariff needs amendment let it be amended. If it is unnecessarily high in any respect, lower it. If there are depressions, fill them up. If there are rough places, let them be made smooth. If there are incongruities, let them be corrected. There is a demand for such action, and it is in obedience to this demand that the Ministers are now making their investigations. This demand comes from the friends of the Government—from those who put the Conservative party in power—from those who believe that protection will be of more benefit to the country at large than free trade, or any near approach to it could possibly be. On the other hand the clamor that is now being raised for an entire change of policy by the substitution of a tariff for revenue only, are the old-time enemies of protection who suffered an ignominious defeat at the hands of the protectionists under the leadership of Sir John Macdonald, and who have been defeated ever since at every Dominion election that has been held.

Why then, should the Ministers entertain any idea of abandoning the policy that has for so long a time prevailed? Why should they ignore the wishes of their political friends? Why should they accept the views of their political enemies? Why should they not act upon the suggestions of their friends, find out where the tariff is incongruous, and correct the incongruities? This, we take it, is their programme. Their motto undoubtedly is "The greatest good to the greatest number." They face an oft decided verdict of the people that the policy of the Government must include tariff protection, and they would be recalcitrant to their trust if they should sacrifice this policy. They will not do it.

Protectionists are not Bourbons who never learn and who never forget. They are progressive. They know the changing conditions of the times require changes and modifications in any policy, including that of protection. But change of conditions does not mean abandonment. When Sir Charles Tupper was formulating the present tariff, he supposed that a duty of \$4 per ton on pig iron, and a bonus of \$2 upon the home production, would have given us a blast furnace industry; and his idea was that while that industry was materializing—while our iron mines were being developed and blast furnaces were being erected, the requirements of the people for bar iron could be met by domestic rolling mills, and that to encourage these, foreign wrought scrap iron should be admitted on the payment of the nominal duty of \$2 per ton.

We know now that all this was a mistake. We know that the iron mines have not been developed, and that we have no huge blast furnace industry, and knowing this, protectionists would be Bourbons indeed, if they contented themselves with the situation and decline to correct this incongruity in the tariff. We know now that if we are to have a pig iron industry we must amend the tariff with that end in view. We know further that any amendments to the tariff must produce a situation which will guarantee that all of the pig iron which might thus be produced, will be consumed at home. And this means that we must manufacture at home all our requirements for bar iron, not merely rework in our rolling mills the wrought iron manufactured abroad, and imported into Canada in the form of scrap. We know that if our own iron mines were fully developed—that if we had blast furnaces ready for operation, with capacity to meet all possible demand, the mines would be as useless as they are now, and the furnaces would not be in active operation, unless there was a demand for the pig iron which they might produce. But there would not be any such demand as long as the manufactured products of pig iron, in the form of wrought scrap, made in other countries, is admitted at the nominal duty of only \$2 per ton. We point out these as some of the anomalies of the tariff, which it is to be hoped the Ministers will consider and rectify. Sir Charles Tupper blundered badly in placing the duty on pig iron at only \$4 per ton, when it should not have been less than \$6 or \$7, and in imposing only \$2 upon wrought scrap, when the duty upon it should have been virtually prohibitory. With this foreign article shut out of the market, there would have been a very large demand for pig iron for puddling and manufacturing into bar iron; and this demand would have stimulated the development of our iron mines and the establishment of a blast furnace industry, of sufficient capacity to meet all demands; and we point to these facts as constituting an anomaly in the tariff which it is to be sincerely hoped the Ministers will consider and rectify.

Sir Charles also perpetrated the distressing mistake that was made at the initiation of the National Policy when steel rails were placed in the free list. At this time some 2,000,000 tons of steel rails are in use in the railroad system of the country, to say nothing of the quantity that has been worn out and gone out of use since that time. It was thought that because there were no rail mills in Canada; that because the production of them required a very large investment of capital, and that because it was important that the construction of the trans-continental railway should not be delayed, every facility should be afforded in the prosecution of that work, it would be better to admit steel rails free of duty. This was done, and to this day no steel rail has ever been made in Canada. Of course the very same power and authority that called the Canadian Pacific railroad into existence, could at the same time have caused the materialization of a steel rail industry, that would have been able to have supplied perhaps all of the rails necessary in the construction of that road, if not from the beginning, certainly within one or two or three years after the construction of the road was determined upon. If the establishment of a steel rail industry had been decided upon at the same time, there would have been no necessity for the importation of steel rails from abroad. This would have meant that all the steel and iron required in the construction of the Canadian Pacific railway would have been made

from Canadian iron, smelted in Canadian furnaces, from Canadian ore. This output of 2,000,000 tons of steel rails from Canadian mills would not have represented more than one half of the steel that would have been required; for with efficient and sufficient steel plants, we would have made all the materials necessary in the construction of railway and highway bridges; all the materials necessary in the manufacture of fish plates, and all the other requirements of railroads building, and for the manufacture of the thousand other things necessary in the economy of our every day life. In other words, if at the inauguration of the National Policy it had been determined that we should have a comprehensive iron and steel industry, and the tariff had been formulated with that end in view, we would not now be importing millions of dollars worth of steel and iron that now finds its way into Canada from other countries. Do the lovers of Canada comprehend what this means? Do the Ministers comprehend it? Such a condition is impossible under our tariff as it now stands. It demonstrates and emphasizes an incongruity of it that demands recognition and action on the part of the Government, and which we must sincerely hope the Ministers will consider and rectify.

As we understand the matter, the Ministers will direct their investigations in this direction as well as to that of other things. If they discover that the best interest of Canada does not require that we should have an iron and steel policy—that it is well that our iron mines should remain undeveloped—that we would not be benefited by the erection of blast furnaces and steel plants and rail mills—that all forms of foreign steel and iron should be admitted duty free—so be it. Our opinion is that the voice of the country does not demand such a condition. If this opinion is correct—if the country does desire the development of these important industries—so may it be, and let the Government govern itself accordingly. The way to build up an iron industry is plain and simple. We believe that a very few changes of the tariff would effect it. It could be done by practically prohibiting the importation of scrap iron, and imposing a duty of say \$10 per ton on steel rails. The duty affecting all other fundamental forms of steel and iron might remain unchanged.

#### STALWARTISM VS. SPINAL WEAKNESS.

MR. G. R. R. COCKBURN, member of the Dominion House of Commons for Centre Toronto, was elected by his constituency because he proclaimed himself a staunch supporter of the National Policy; and in the canvas pending his election he gave his absolute approval to that programme. Some months ago Mr. Cockburn was a guest at a dinner of the National Club of Toronto where he made an address in which he reviewed the effect upon the country of the thirteen years it has enjoyed of protection. He did not trouble himself to give facts and particulars, but declared in a general way that certain of the industries of Canada, called into being by the National Policy, should be allowed to die out by withdrawing from them the protection they had enjoyed, and this because "the course of trade and manufacture had altered greatly since the National Policy was adopted. Science and its application to industry had made wonderful strides since then." Mr. Cockburn has frequently been asked to explain what he really meant in his speech, but up to this time he has failed

to say more than that he is as ardent a supporter of the National Policy as ever, but does not claim perfection for it, and is willing to have the details of it amended as experience may show to be necessary. This is quite as vague as his utterance at the National Club. Since that time Mr. Cockburn has made other public speeches, all in this same line and all quite as vague and unsatisfactory.

Without attaching any undue importance to anything that Mr. Cockburn might say, we mention him as a representative of a class in which is included Mr. McCarthy, M.P., who also entertains similar views, and who is equally vague in specifying facts. Both these gentlemen were elected to Parliament upon distinct and unequivocal pledges to sustain the National Policy; and they claim to represent a tangible element in the community, who, they say, desire a radical change of policy on the part of the Government.

These two Mugwumps were elected by two very distinct elements. Mr. Cockburn owes his election in large measure to the labor element of his Toronto district, including a very large number of voters employed in manufacturing industries; while Mr. McCarthy was chosen in a district where nearly all his constituents are employed in agricultural pursuits. Both these gentlemen base their mugwumpery on the ground that the masses of their constituents, the employees in manufacturing establishments and those who work on farms, are more injured than benefited by the National Policy. Our contention is to the contrary.

Just a year ago, when Parliament was in session and the Redistribution Bill was under discussion in the House of Commons, Mr. Cockburn, in speaking to the question, produced an array of facts of which it might be well to remind him now. He showed that the increase of population of Toronto from 1881 to 1891 was 88½ per cent.; that in twenty years the capital invested in manufactures had increased from \$4,000,000 to \$32,000,000; the employees in manufacturing industries from 9,400 to 26,333; the amount of yearly wages from \$2,690,000 to over \$9,360,000; the value of raw material, exclusive of those used to produce power and heat, from \$7,169,000 to over \$22,400,000; the value of manufactured products from \$13,686,000 to \$45,000,000; that the average yearly wage paid to employees, male and female, was \$355, and that the value of the output of Toronto manufacturers had increased from \$310,000,000 in 1881 to \$500,000,000 in 1891, an amount about equal, he said, to the total product of all Ontario farms. It should be held in mind that this enormous wealth, which was equal in value to all the wealth produced by agricultural pursuits in the great Province of Ontario, was the creation of only one manufacturing centre, the wealth created in all the other manufacturing towns in the Province not being taken into the account.

Mr. Cockburn directed the attention of the House to the fact that Toronto alone consumed more of the products of Canadian farms than is consumed by the whole of the 65,000,000 market of the United States; that in the fiscal year ending with June, 1890, the year immediately preceding the establishment of the McKinley tariff, the city of Toronto consumed 87,347 head of cattle, valued at \$4,218,000; 55,766 sheep, valued at \$1,672,000; 40,169 hogs, valued at \$500,000, and some 20,000 pounds of lamb, besides vast quantities of calves, poultry, eggs, etc., as against a net export of similar agricultural products from Canada to the United States valued

at only about \$8,000,000. The city of Toronto alone in those twelve months consumed nearly \$12,000,000 worth of the same products. These facts were set forth by Mr. Cockburn in the House of Commons on June 22, 1892.

Why, then, does Mr. Cockburn now wish to cripple the power of Toronto to purchase and consume so largely of the agricultural products of Ontario; and why does Mr. McCarthy wish to cripple his constituents by depriving them of the large and profitable share of this most excellent market which they now enjoy? But that is just what both of these Mugwump statesmen are striving for. A change of the fiscal system of the Government from protection to a tariff for revenue only would most certainly effect this. Such a change would be more detrimental to the interests of the workingman, both in manufacturing centres and employed in manufacturing pursuits, and in the rural sections employed in agriculture, than it would the manufacturer. Such a change would without doubt drive many manufacturers into bankruptcy, but many others of them would strive to keep their factories and workshops in operation, but under changes and modifications that would bear with cruel hardness upon their employees, and which would react with disastrous effect upon the farming community.

The ethics of protection is that the height of protection should be measured by the greater wages paid to Canadian workmen than is paid to the workmen employed in similar industries in other countries. If protection is to be levelled down to a tariff for revenue only standard, of course it must be at the expense of the workman, whose wages must of necessity be no greater than the wages paid for similar service in competing countries. Mr. Cockburn tells us that science and its application to industry has made wonderful strides of late years; and this is a fact. And it is a fact that these strides have been made in Canada and in Canadian industrial pursuits quite as rapidly as in other countries. Our manufacturers have their factories equipped with as scientific machinery as can be made; and with as cheap labor they can produce as cheaply as any other country. The employees in Canadian factories know that they receive greater wages for their services than are paid in Britain, France, Germany or Belgium; and they also know that this would be impossible if it were not for protection. They know that exaggerated caricatures and cartoons of big-bellied monopolistic manufacturers are lies and libels. The intelligent workman has but to observe the business of his employer to comprehend this fact. He knows that his employer at best makes no more than a fair remuneration for his investment, time, care and labor in his business; and he also knows that many of them do not uniformly meet with that reward. He knows, too, that when pay day arrives his earnings are paid, whether anything is left for his employer or not. And whether Mr. Cockburn and Mr. McCarthy know it or not, the workman knows that if the industry of the employer is deprived of protection wages must be reduced.

The question of the tariff with the workman in factories in manufacturing centres, and on farms and in agricultural pursuits, is then lifted above the fogs and clouds of mugwumpery and free tradeism, and viewed from a practical, common sense standpoint. The workman understands that the necessaries of life would possibly be cheapened, and also that his capacity to purchase would also be reduced. Of what

benefit would it be to him if these necessaries could be purchased for less money than now if he has but little or no money with which to buy? If the factory worker under the operation of a tariff for revenue only is not willing to continue at his work in the factory, he would have the privilege of seeking employment on the farm, thereby increasing the supply of farm labor. If the farm laborer, finding his best market failing him, desires to change his condition what will he do? The laboring man under free trade would have these ways open before him: He would either have to accept just such wages as are paid in other free trade countries, engage in raising agricultural products for foreign markets, or migrate to some other country.

#### A DISASTROUS EFFECT OF TARIFF INCONGRUITIES.

We are informed that Messrs. J. & C. Hodgson, Montreal, manufacturers of wrought iron tubing, have closed down their works indefinitely. These we understand, are the only works of the kind in Canada, and the abandonment of them marks the extinguishment of a most important iron industry, because of tariff incongruities. According to items 414 of the tariff, the duty upon lap-welded iron tubing, from one and a quarter to two inches in diameter, such as was made by Messrs. Hodgson, for use exclusively in artesian wells, petroleum pipe lines and petroleum refineries, is 20 per cent. ad valorem. Item 415 provides that tubes not welded, not more than one and a half inches in diameter, of rolled steel, shall pay a duty of 15 per cent.; and item 416 provides that wrought iron tubings, threaded and coupled or not, over two inches in diameter, shall pay 15 per cent. duty. Tubing such as here described, is made of the best refined iron, and, owing to an incongruity of the tariff, such iron is not made in Canada. If such iron were made here, Messrs. Hodgson would have used it in their business, in the manufacture of tubing; but they have had to rely upon foreign iron makers for their raw material, upon which they had to pay duty at the rate of \$13 per ton. When they established their industry some years ago, the value of such iron as they required was about \$50 per ton; and the price of tubing was correspondingly high. Their business then was a profitable one, for the duty on their iron was only \$13 per ton, while imported tubing paid an ad valorem duty of from fifteen to twenty per cent. upon a much higher valuation than now prevails. But now the cost of their iron is reduced to about \$31 per ton, and the price of tubing is correspondingly reduced; and while they have to pay \$13 duty on their iron, the low ad valorem duty admits foreign tubing at prices at which they find it impossible to successfully contend, hence the shut down. The average value of the bar iron imported into Canada last year was \$31 per ton, and the duty of \$13 per ton thereon was equivalent to an ad valorem duty of 42 per cent. Messrs. Hodgson, then, had to pay 42 per cent. duty upon their raw material, while the protection afforded by the tariff to their finished product was only some 15 to 20 per cent. Little wonder then that they found it impossible to battle with these adverse circumstances, and had to retire from the contest.

There are two incongruities in the tariff which worked the ruin of this important industry. According to the ethics of protection and of the tariff, the more labor there is bestowed



in the manufacture of an article, the greater the tariff protection should be. In this industry, a very fine quality of iron is required, as the raw material, upon which a great deal of highly skilled labor is required, to produce the finished goods. Consequently the duty on the finished product should be higher than upon the raw material. We do not hold that the duty on bar iron is too high, but that the duty upon tubing is too low. The rates as they now stand constitute an incongruity that ought to be corrected.

Another incongruity, and perhaps the most unfortunate one to be found in the tariff, is in the imposition of only \$2 per ton upon wrought scrap. If a prohibitory duty had been imposed upon this article, when the National Policy was adopted, and faithfully adhered to, we would long ago have had a blast furnace and pig iron industry, and a puddled iron industry, and just such refined iron as Messrs. Hodgson required would have been made in Canada. If we had had a pig iron and puddled iron industry established a dozen years ago, it would have expanded and developed to such an extent by this time that refined iron would have been quite as cheap in Canada as it is in the United States, whence comes our imports of tubing. Under such circumstances Messrs. Hodgson's enterprise would have been in a most flourishing condition, and Canadian consumers would have been supplied with Canadian-made tubing, made from Canadian-made refined iron, made from Canadian-made pig iron, made in Canadian blast furnaces, from Canadian ores.

Truly the tariff needs revision, in these respects at least.

#### ASSOCIATION OF STATIONARY ENGINEERS.

THERE is no body of workmen in Canada of which we have any knowledge, more worthy of countenance and encouragement, than that which constitutes the Canadian Association of Stationary Engineers. There are but few if any factories in the country but what use steam as a motive power: and most of those which are operated by water power, have steam plants as an auxiliary thereto. But the use of steam is not restricted to factories, for in all large towns and cities it is used in connection with hoists, elevators, and for similar purposes. The passers-by in our most populous streets and thoroughfares are not usually aware that even immediately beneath the sidewalk over which they step, may be steam boilers and machinery equal in power in many instances to what is required to drive a steambot, or propel the machinery of a machine shop. It can readily be comprehended then the importance of these steam plants being under the management and control of men who are possessed of the very highest qualifications required for such positions. Ignorance, inattention, carelessness, or intemperance on the part of an engineer in such a position, might be the cause of great destruction of property and lamentable loss of life: and this applies to all places where steam is used for any purpose. All steam users know or ought to know, that there can be no economy in putting a steam plant in the charge of an incompetent engineer, or in employing such a man merely because his services may be had for less money than would secure a thoroughly competent and reliable man. In the matter of fuel alone a competent man will probably save his employer much more than the difference in wages: and there are many other ways by which his greater value may be demonstrated—this is from a financial standpoint:

but when it is remembered that in most instances—we would be safe in saying all instances, the safety of human life depends, in greater or less degree, upon the competency and faithfulness of the engineer who has charge of steam boilers and machinery.

These facts being evident, it is equally evident that any and all efforts that may be made to raise the standard of efficiency among engineers, should be encouraged. Where the engineers themselves are banded together to effect this object, they should be encouraged and assisted by every manufacturer and every steam user in the community. This brings us back to the consideration of the association of engineers to which we here allude, and the constitution and by-laws of it, afford most gratifying intelligence of its aims and objects and of the rules which prevail in its government. The preamble of the constitution declares that the association shall at no time be used for the furtherance of strikes, or in any way interfere between the members and their employers in regard to wages, recognizing the identity of interests between employer and employee, not countenancing any project or enterprise that will interfere with perfect harmony between them. It is also declared that the association shall not be used in any manner for religious or political purposes. The objects of the association are declared to be the elevation and maintenance of the rights of stationary engineers, and the recognition of all other business matters in which they may be interested or involved; but no association shall fix a standard of wages for its members. The qualifications for membership are, that the member must be a practical stationary engineer, who is a resident of Canada, of good, moral character, have a personal knowledge of engineering, to be determined by examination, and of not less than three year's experience. Intoxication is considered sufficient cause for expulsion.

These rules and laws are of a character to meet the hearty approbation of all employers. The association is very pronounced in its declaration of independence from all entangling alliances with any body of men, or any labor organizations which seek to control the action of either employer or employee. Its object is to promote harmony and to ensure the greatest efficiency; and it affords us much pleasure in bringing this association to the attention of our manufacturers. It has branches in all the principal towns and cities; and it is presumptive evidence that any stationary engineer, who is a member in good standing in this association, and has its recommendation, is the right sort of a man to put in charge of a steam plant.

#### HOW FOOLS RUSH IN WHERE ANGELS DARE NOT TREAD.

MR. F. W. WATKINS is a wholesale dry goods merchant doing business in Hamilton, and he has written a letter. It is not a business letter, for he is a free trader, and his letter is written on behalf of free trade. It is an open letter, and is addressed to Hon. George E. Foster, Minister of Finance, and to Hon. Mackenzie Bowell, Minister of Trade and Commerce. It is not specially intended for the perusal of the Ministers, but as a political document, and to show to an admiring public what a profound statesman Mr. F. W. Watkins is. In fact it is intended to send the name and fame of Mr. Watkins resounding adown the aisles of time, with a

clatter and reverberation very similar to the noise made by a boy's tramping on a tin roof. For fear Mr. Watkins' letter may become lost or mislaid we do him the kindness to embody a few of his ideas contained therein. In his advice to the Ministers that there be a complete change in the policy of the Government as regards tariff legislation, he tells them that it is folly for Canada even to think that she can become great or prosperous by adhering to a protective policy; that Great Britain attained her present supremacy not by a narrow protective policy, but by the advocacy of free trade. This sounds very pretty indeed, but Mr. Watkins and facts are very far apart. He ought to look over his five-cent counter on bargain day for some child's History of England, in which he could discover that Britain's supremacy was attained under a system of protection much more exclusive than ever prevailed in any other country. He tells us that British workmen can afford to work cheaply because they can buy the necessaries of life at very low rates. At this point we again refer Mr. Watkins to his cheap book department and read General Booth's description of the submerged tenth of the population of London. No doubt as far as money value goes the necessaries of life can be had in that country by those who happen to have the money; but that thousands and thousands of the laboring classes there cannot obtain work, therefore have no money with which to buy the necessaries of life, is clearly and forcibly shown by General Booth. No doubt the librarian of the Hamilton Public Library could supply Mr. Watkins with the official statistics of the United States Government, showing the exodus from Britain into that country, of hundreds of thousands—perhaps millions of working people, since the free trade fad influenced the fiscal policy of Britain. In another part of his letter Mr. Watkins exclaims: "I say, therefore, let our taxes, or in other words our duties, be as light as possible, and then we shall not only draw to us tens of thousands from the teeming millions of Europe, but when we get them here let us keep them here, by showing them that they can live more comfortably on the same amount of money here, than they can any where else in the world." Which means that by abandoning protection those Canadian men and women—who now find employment in workshops and factories, must either be thrown out of employment, or work for just such compensation and under just such distressing conditions as prevail in Europe, and which Mr. Watkins thinks would draw to us so many of the teeming millions there. What would our own working people do for a living if they were thrown out of employment, as would most assuredly be the

case if Mr. Watkins had his way? And what would the tens of thousands of people drawn hither from the teeming millions of Europe do when they got here? Mr. Watkins and the free traders are telling the farmers that protection is injuring them, and still they want to make it harder than ever for the farmer by reducing the demand for farm products and increasing the number employed in producing them. Truly this would be a country cursed by cheapness.

No doubt Mr. Watkins imagines that his little fling at the manufacturers is an argument which will cause the Ministers to adopt free trade instantler. He says: "Protection to manufacturers prevents free competition, and, as is well known, where there is absence of competition there is apt to be lacking that incentive to enterprise, energy, self-reliance and invention which should characterize the business of every manufacturer." This is decidedly rough on Canadian manufacturers who do business in Hamilton. Perhaps Mr. Watkins imagines that the blacksmith who shoes his horses, and the cobbler who mends his harness are representative manufacturers; and these are the men he evidently holds in his mind's eye when writing such stuff. We do not know what class of people Mr. Watkins associates with, nor who he is brought into contact with in his business life, but we have knowledge of a very large number of Hamilton gentlemen who are engaged in manufacturing industries to whom his remarks are not applicable. We are also of the opinion that a very large number of those who buy the goods which Mr. Watkins sells are the manufacturers of whom he speaks so slightly, or the workmen employed by them. Hamilton is a manufacturing centre, and the prosperity that attends the

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place is the result of the money invested in manufacturing enterprises there, and of the presence of the army of workmen employed in them. Yet this free trader, whose prosperity is due to such large extent to the N. P., spits in the face of his best patrons, and taunts them with lacking that enterprise, energy and self-reliance that should characterize them. Hamilton manufacturers will be lacking in self-respect if they spend many of their dollars in Mr. Watkins' shop.

Mr. Watkins shows his excessive ignorance of the subject he discusses so glibly in saying: "I would like to see our manufacturers prosper. In order that they may prosper I would suggest that the Government allow, if possible, every single article that our manufacturers use in manufacturing to be admitted free of duty." Will Mr. Watkins please say what he considers "raw materials," for this is what he wants our manufacturers to have. Does he consider wool a raw material? It may be to the manufacturer who makes cloth, but it is the finished product of the farmer who raises sheep. Is iron ore a raw material? It is to the furnace man who makes it into pig iron, but it is not to the miner who digs it from the earth. Is pig iron a raw material? It is to the foundryman who makes it into stoves and engines and machinery, but it is the finished product of the furnaceman. If pig iron is made free to the foundryman, it shuts out the possibility of the big blast furnace that Hamilton is now so anxious to have established there. Is bar iron a raw material? It may be to the bridge builder and machinist, but not to the Hamilton Rolling Mills Company who manufacture bar iron. If bar iron is put on the free list the only rolling mill concern doing business in Ontario would be forced out of

business, and the employees thrown into enforced idleness. And so on through every industry in the country. It is lamentable that a man who ought to know better should make himself as ridiculous as Mr. Watkins does in undertaking to air his nonsensical views in an open letter on a subject regarding which he is an undoubted ignoramus.

EDITORIAL NOTES.

The Montreal Star has gathered the views of a number of the importers of that city regarding the relative merits and demerits of specific and ad valorem duties, and it tells us that hostility to specific duties was found to be almost universal. Its reason of this dislike to specific duties, is, it says, that it is an unfair discrimination against the poorer class of customers. That in most lines of textile goods, the poorer and coarser materials are heavy, and a tax on the weight falls unduly heavy on the very lines which the poorer customers have to buy. One importer objected to specific duties because they were deceptive and misleading—that he never knew how he stood with them—while if ad valorem duties were substituted, it would be easy for him to tell how to act so as to get a fair profit on his goods. A jewelry importer disclaimed being a free-trader, but believed that protection had been pushed too far—that the many failures that had occurred during the past year were due to over-protection; and an importer of hemp bags for children's use in carrying school books, declared that whereas formerly such goods were in good demand, they could not now be sold at all, as the duty had been made 20 per cent. and 10 cents specific; that as such bags were formerly retailed

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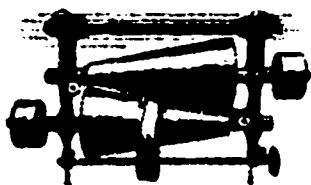
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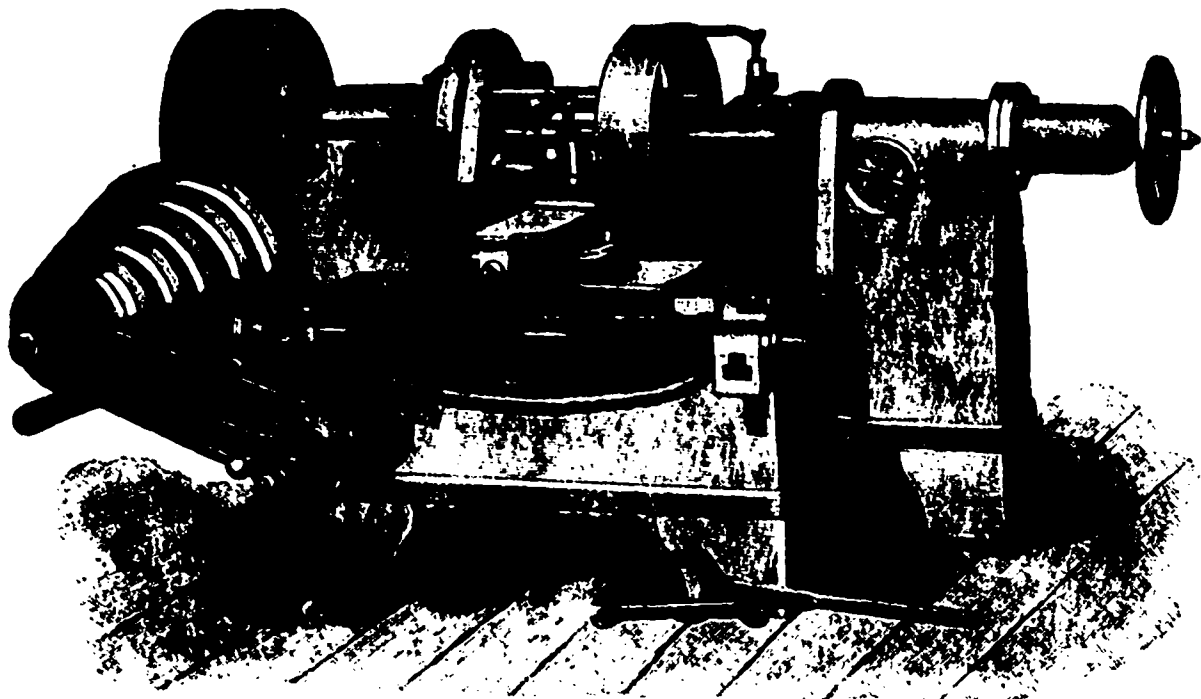
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at 10 cents, they could not now be sold at less than 10 cents. All this is the veriest clap trap which might be made to do some duty on the stump before people who did not analyze the meaning of what was said; but for a respectable newspaper to parade it as the opinions of intelligent business men is very ridiculous. The fact is, under the N. P., the manufacture of just such fabrics as are worn by the poorer classes has so increased in Canada, and at the same time the production has become so cheapened, as to make the importation of the foreign article both unnecessary and unprofitable. The importer, therefore, does not handle this line of goods, hence his complaint. What is there deceptive or misleading to the importer when he knows specifically how much duty he has to pay? If the duty were ad valorem, he could easily make it deceptive and misleading to the customs officer, and would be very provocative of a system of under-valuation well calculated to enrich the importer at the expense of the Government, and the destruction of the home industry. And the idea that the protection which had led to over-production and failures on the part of home manufacturers was to the detriment of the consuming public is very, very funny. The school-bag business is also very amusing. If the bag duty free was worth ten cents, an ad valorem duty of 20 per cent. would increase the value two cents, and a specific duty of ten cents would still further increase the value to that extent; therefore at the most, the cost would be enhanced by the duty, only 12 cents, making the value 22 cents. But such are the arguments of the advocates of an entirely ad valorem tariff.

The Petrolia Advertiser, speaking of the exhibit at the Columbian Exhibition at Chicago made by the Imperial Oil Company, of Petrolia, says:

The Imperial Oil Company are to be congratulated upon the taste displayed in submitting to the eyes of the world one of Canada's most important minerals. One thing about petroleum has been demonstrated only too forcibly at our last meeting of Parliament and every time the subject has been touched upon in public discussion, and that is the prevailing ignorance regarding this particular natural mineral, its arts and the uses it can be put to in various manufactures, and we most earnestly advise anyone anticipating a visit to the World's Fair to be sure and look up this Canadian petroleum display. Although the business of producing and manufacturing are confined at the present time principally to the township of Emiskillen, it is one of the most important industries in the Dominion. The first batch of distillate was refined in New York, and looking back, it is very amusing to remember the prices paid for the refined article, and the different costly methods for rectifying the illuminant and methods employed as compared with prices to-day. The first oil was sent to New York in February, 1858. The price contracted for was 60c. per gallon subject to a discount of 2½ per cent, for cash in thirty days--thus making the net cost of the first distillate of petroleum 58½ cents, and with freight and some other charges added, about 65 cents per gallon delivered there. From this price, which equalled the value of a barrel of the oil soon after, in less than two years it advanced to two dollars per gallon, as refined, and again in the short space of two years more was sold on Oil Creek for ten cents per barrel, crude, or was given away to those who would be at the labor of placing it in barrels. The old method of treating or purifying the oil was kept a close secret both by the coal oil refiners and the sole petroleum refiner, and was in the early days disposed of for very considerable sums of money. The quantity and percentage of acid and alkali used would seem fabulous now if stated, and results were problematical, no uniformity in the quality of the refined oil produced being evident.

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THE first annual conference of the officers in Canada of the different divisions of The Legal and Commercial Exchange, the headquarters of which is in Toronto, was held in this city a few days ago. The object of the meeting was to compare notes and discuss matters affecting the workings of the Exchange, with a view to improving and enlarging its facilities for obtaining special information speedily and correctly regarding the financial standing of business men, firms and companies throughout Canada. It is necessary in these days of sudden changes not merely to do newspaper work in recording failures, but to be in a position to know beforehand of impending troubles. This is the most important province of a mercantile agency, and this is the work which this Exchange has done in the past and now sets itself to do even more efficiently in the future. The increase of the reporting staff in the cities and for the country, and for the appointment of special correspondents in the chief business centres, was resolved upon the better to carry out this object. The Reference Book will be materially improved and the daily notification sheet will be enlarged. Additional collectors will be appointed to look after city collections. Special arrangements have been made with the telegraph companies for the rapid transmission of information between the different offices regarding financial difficulties. Hitherto the Toronto office has controlled the whole Dominion, except the province of Quebec, but hereafter Toronto will control Ontario west from Kingston, including the Hamilton office and the proposed offices at Winnipeg and Vancouver. Montreal will control that portion of Ontario east of Kingston, also Quebec and the lower provinces, with an office at St. John, N.B., or Halifax, N.S. It affords us much

pleasure in stating that the Legal and Commercial Exchange is distinctly a Canadian institution, operated with Canadian capital, and managed by active and experienced Canadian business men. Without flourish of trumpets it came into existence only a year ago, but the system upon which it is operated, and the exact and painstaking character of the work done and services rendered has placed it most gratifyingly high in the estimation of the mercantile community.

Speaking of the industries at the Central Prison, Mr. Gibson cited, among others, that of woollen manufactures. He might have gone further in this line and been within the truth. For instance, he might have said that a prime reason why the proprietors of the burned woollen mill at Strathroy would not rebuild was because of Central Prison competition. Were it otherwise, the mill would now be in operation, and the exceptional legislation asked for on behalf of the town this session would never have been thought of.—The Empire.

The fact is there was no woollen mill at Strathroy to be burned, and therefore the fact that the Ontario Government were operating a woollen mill at Central Prison could not effect that town, nor has there been any effort to build a woollen mill there. A knitting mill in that place was destroyed by fire some months ago, but the owners of it have since then established another mill at St. Catherines. If the Government is manufacturing woollens at the Central Prison entirely for the use of prisoners it might be well thus to employ prison labor. But it is an unwise policy to manufacture binder twine or any other commodity by prison labor to be sold in the open market in competition with free labor.

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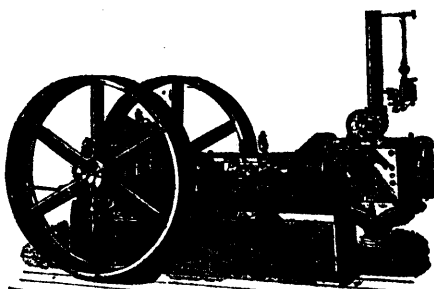
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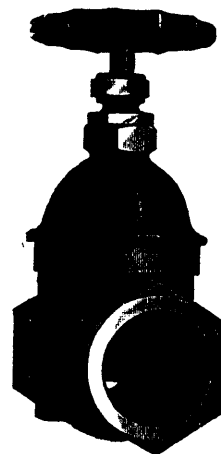
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The Toronto Carpet Manufacturing Company, of which Mr. James P. Murray is President, have brought to Toronto from Philadelphia, and are giving steady employment to, a first-class practical carpet designer, their desire being to give only original designs to their customers. This company are also building in their own machine shops a number of looms for the manufacture of Axminster carpet. This is the first effort made in Canada, we understand, to manufacture this class of machinery.

The promoters of the proposed iron smelting works in Hamilton, are asking the city council of that city to petition the Dominion Government to allow such machinery as they require, such as blowing engines, water jackets, bell and hopper, and all other plant which cannot be manufactured in Canada, to be admitted free of duty, and that coke, for fuel, be also admitted free. It is safe to say that when such request is made it will be promptly granted. It certainly ought to be.

It has been suggested that if the Government decide to recast that portion of the tariff having reference to drugs and roots, herbs, barks, flowers, etc., used in the manufacture of drugs and medicines, the system observed in the United States tariff should be observed, the advantage being that if the same terms are used, all the decisions of the highly paid board of expert American appraisers would be available to our authorities much in the same way as the judgments and decisions of English jurists are cited in our courts, and in those also in the United States. Digests of American cases

affecting the customs are, we believe, published from time to time, and these would prove valuable guides to our Collectors of Customs and to our merchants also whenever an interpretation of the law might be in question. The general fairness of the American decisions, affecting such articles as paints, oils, dyes, drugs, chemicals, glassware, brushes, perfumery, etc., goes unchallenged.

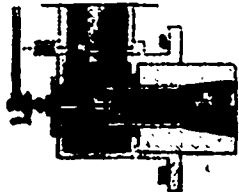
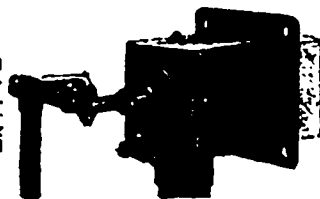
PEASANT proprietorship is not always as pleasant as it is supposed to be. Ownership brings responsibility, and the latter makes some measure of ability or common sense desirable. In Norway, where this system flourishes, the value of land owned by peasants is \$210,000,000, but the mortgages resting upon it amount to \$180,000,000.—The Empire.

This being interpreted means that because the peasants of Norway have mortgaged their land to almost its full value, they are possessed of neither ability or common sense. The Empire does not tell under what circumstances these peasants came into possession of their land, nor for what the mortgages upon it were given. Perhaps the mortgages represent the difference between the real value and the amount of cash paid. Only a few days ago the Empire published a statement showing that fifteen Peers of the British Kingdom owned over three million acres of land in that country, the rents from which, and from other investments, amounted to nearly forty million dollars per year. Probably not one of these aristocrats ever earned a dollar by their own toil in their lives, and yet these men require neither ability or common sense to soak up like a sponge the hard earnings of the peasants who exist upon their estates. Truly the good things of this life are very unequally and unjustly distributed.

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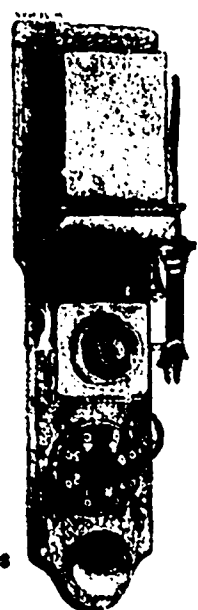
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In the last issue of this journal we commented upon the fact that no notice had been taken by any manufacturer of our previous enquiry for the names and addresses of parties in Canada engaged in evaporating apples for export. The information was asked for in compliance with the request of a large concern doing business in this line in Holland. We are pleased to report that the day after our last issue we received the desired information from the publisher of the forthcoming Shipping Manufacturers' List, who sent us the names of a number of parties who are engaged in evaporating apples for export. This illustrates the importance of the information that will be contained in the book in question, the aim of it being to give the names and addresses of all Canadian manufacturers who make goods for export, and to give a brief description of such goods. The accomplishment of this work has been a great undertaking, of much more importance than many might suppose, and the labor of it greatly increased because of the indifference many manufacturers have evinced in supplying information which cannot but be of great value to them, and which would have cost them nothing but the trouble of giving it. No doubt the book will be fully appreciated by business men when it comes into their hands.

The promise now is that an effort will be made at once to organize into a great national association the American manufacturers of hosiery and knit goods. The movement to that end has begun with certain leading men in the industry who are members of the Manufacturers' Club of Philadelphia. The purpose is to form a strong organization, which will be able to act with force and influence in behalf of the business during the next session of Congress. No plan of action has been formulated; but there is, of course, a clear certainty that the protective duties now placed upon knit fabrics will be vigorously assailed by the free traders, and the association will arrange to make the best defence of the duties that may be possible. Just how much can be saved from the hands of the enemy is beyond conjecture. There will be an attempt on the part of the free traders to force the rates far below the protective point. But the chance of averting gross injustice must be considerably improved if the manufacturers shall present their case in an impressive manner, and if influence can be brought to bear upon individual Congressmen representing various communities. If there ever was a time when manufacturers should get together and stand together and arrange to make a sturdy fight for their rights, it is the present time. Little or nothing can be done without union and cooperation. With them the possibilities are at least worthy of strong effort. The splendid development of the knitting industry in the last two years, combined with the fact that prices to consumers have not increased under the high duties, will enable the proposed association to make out a very strong case against large reduction of duties. - Textile Record.

American manufacturers are quite alive to the necessity of organizing and preparing for what must be a life and death struggle for them at the ensuing session of Congress. There is this to be said regarding the situation there: If the tariff is reduced to a strictly revenue basis--if a close approach is to be made to free trade--the manufacturer must either go out of business or reduce the cost of production to the standard established by competing foreign nations. The manufacturer who has his capital invested in a factory will not sacrifice it if he can help it; and the only way he can help it is by reducing the wages of labor to the standard of competing foreign nations. It will be a bitter pill for American workmen to swallow, but it will have to go down.

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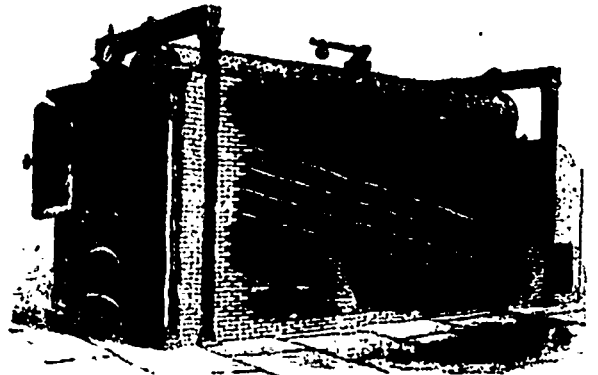
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A BILL establishing eight hours as a legal day's work for miners was passed to a second reading in the British House of Commons recently by a large majority. Mr. Gladstone, in commenting upon the probable effect of the measure, said that he did not believe that a diminution of the output would bring about an increase of wages. All were agreed, he said, that it was not a party question, and the government could not be identified with it. He was personally unwilling to interfere with the freedom of adult labor, but the present case seemed to justify an exception to the general principle, since the majority of the miners were in favor of the proposed restriction. He would therefore support the bill under reservations, and would not consent to the extension of its provisions to Northumberland and Durham, where there was a strong opposition to the proposed limitation. Since the action of the House of Commons above referred to, the annual demonstrations in favor of an eight-hour day have been held in the principal cities throughout the United Kingdom. At all the meetings held resolutions in favor of the eight hour day were passed, and the success of the eight-hour bill for miners was hailed as an earnest of further progress.

YOUNG MAN'S MAGAZINE for June opens with the second article in the series on "Men's Occupations," which is to be a feature of the coming months, including among its contributors W. D. Howells, W. Clark Russell, Julian Ralph, and John Drew. The article in the present issue is "Life in a Logging Camp," by Arthur Hill, President of one of the great Michigan lumber companies. Ernest E. Thompson's contribution entitled "The Birds that We See," is noteworthy. Mr. Thompson is a skillful artist as well as an ornithologist, and his text is fully illustrated from his own drawings. Among the elaborately illustrated articles is Robert Blum's third and concluding paper giving his impressions of Japan, with a very rich selection from his sketches of Japanese life. The fiction in this issue is abundant and unusually attractive. The number includes poems by H. C. Bunner, Edith M. Thomas, E. S. Martin, and others.

The latest arrival in the arena of trade journalism is The Canadian Engineer, published in Toronto and Montreal, and devoted to the mechanical, mining, marine, locomotive, sanitary and other branches of the engineering trades. The new paper is very practical, and besides many technical and illustrated articles, contains a budget relating to the mechanical, mining and general manufacturing trades of Canada. The subscription price is \$1 a year. The address is: The Canadian Engineer, Co., 62 Church street, Toronto, or, the Fraser Building, St. Sacramento street, Montreal.

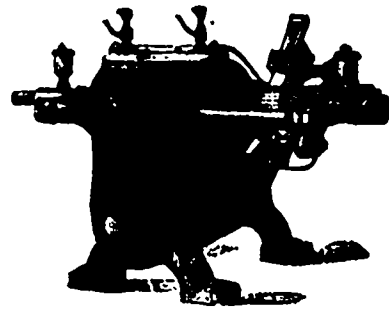
GOOD HOUSEKEEPING for June gives especial attention to the preparation and serving of food, while not neglecting those other matters of household interest to which its columns are ever open. Among the special articles may be mentioned Miss Parloa's "Household Market Basket," "An Experiment in Bread Making," "A Flower Banquet," "Strawberries," together with the usual variety of recipes, all put in concise and instructive form. Good Housekeeping is not alone invaluable to the young housekeeper, but in every home it will be found helpful and inspiring, on account of its high aims and faithfulness of purpose. Clark W. Bryan Company, publishers, Springfield, Mass.

The whisper of perfumed breezes and the song of foamy waters are imprisoned in the wholesome pages of Outing for June. The contents are as follows: "Black Bass Fishing," "Shore Birds and Shore Bird Shooting," "After Kangaroo," "All for a Life," "The Sailing Yacht of To-day," "An Apache Dance," "Kings of the Trotting Track," "Canoe-polling on the Cascapehla," "Athletic Records," "Past and Present," "Leopold's World Tour A-wheel," "Canadian Militia in Action," and the usual editorials, poems, records, etc.

GODEY'S LADIES' MAGAZINE for June is as breezy and delightful as ever. There are two elegant water color portraits, one of Miss Winnie Davis, daughter of the late Mr. Jefferson Davis, of Confederate States fame, and the other of Miss Estelle Doramus, daughter of the celebrated Professor R. Ogden Doremus, of New York. The illustrated fashion plates will no doubt attract the attention of those for whom they were intended—the ladies. The literary matter is, as it always is in Godey's, first-class in every respect.

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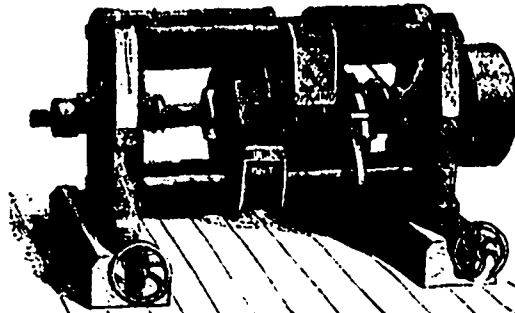
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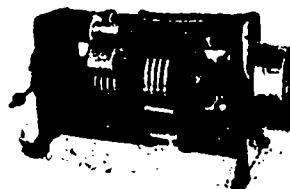
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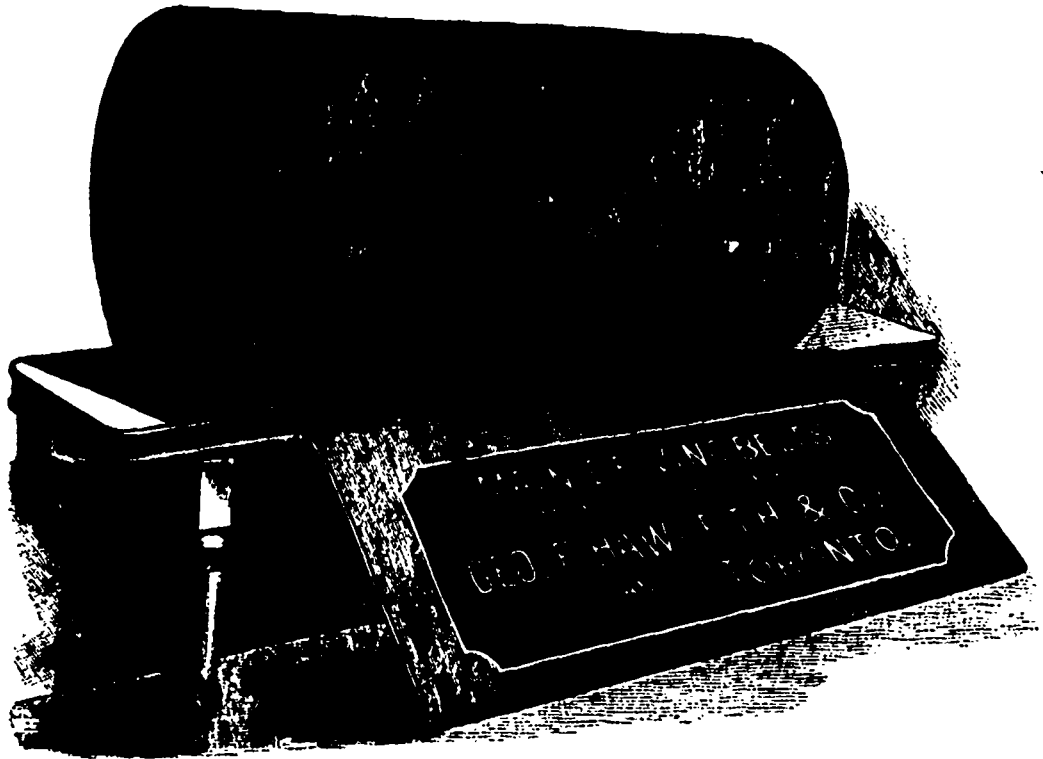
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# Inventions.

## CANADIAN PATENTS.

The following patents have been issued from the Canadian Patent Offices from May 1 to May 18, 1893, inclusive.

Information in regard to any of these patents may be had free on application to THE CANADIAN MANUFACTURER, or copies of American patents corresponding to these, where the American patent has been previously granted, can be procured through us for the sum of twenty-five cents.

### MECHANICAL.

- 42,785 Weather strip for doors, E. P. Koontz, May 1st.
- 42,786 Machine for moulding cement pipes, Emanuel Oehle, May 1st.
- 42,788 Car coupler, W. F. Richards, May 1st.
- 42,789 Cultivator, Andrew Johnson, May 1st.
- 42,790 Wheel box and axle, Levi Harris, May 1st.
- 42,791 Driving mechanism for rotary hooks of sewing machines, Harry Moore, May 1st.
- 42,792 Cigarette machine, S. H. Thompson and E. M. Cooke, May 1st.
- 42,793 Car seat lock, John Dowling, May 2nd.
- 42,795 Signal transmitting apparatus, Henry A. Chase, May 2nd.
- 42,796 Apparatus for handling and preserving food, Albert Baker and F. D. Bittinger, May 2nd.
- 42,797 Package, Albert Baker and F. D. Bittinger, May 2nd.
- 42,798 Towing machine, R. J. Victor, C. L. Davis and H. H. DeVos, N.Y. May 2nd.
- 42,799 Stump extractor, Levi Kring and Josiah Baughman, May 2nd.
- 42,800 Churn, Francis Culham, May 2nd.
- 42,801 Burglar alarm, J. L. Silverberg, Moses Reichman and Gustavus Troxler, May 2nd.
- 42,802 Musical instrument, J. S. T. Pizzuti, May 2nd.
- 42,803 Car coupler, C. C. Haub and J. F. Dasha, May 2nd.
- 42,804 Radiating furnace, W. J. Copp, May 2nd.
- 42,807 Seed drill, Elmer Bareby, May 3rd.

- 42,808 Heel nailing machine, J. H. Pope, May 3rd.
- 42,810 Signal for railways, G. L. Thomas, May 3rd.
- 42,811 Jar cover and clamp, F. H. Palmer, May 3rd.
- 42,813 Sewing machine, H. R. Tracey, May 3rd.
- 42,814 Method of tempering steel discs, J. S. Corbin, May 3rd.
- 42,816 Steam cooker, dish washer and clothes press, combined, H. A. Shepard, May 4th.
- 42,817 Stave cutting machine, C. W. Rich, May 4th.
- 42,818 Stave cutting machine, C. W. Rich, May 4th.
- 42,819 Stave cutting machine, C. W. Rich, May 4th.
- 42,820 Cutting knives for stave machines, C. W. Rich, May 4th.
- 42,821 Stave jointing machine, C. W. Rich, May 4th.
- 42,822 Method of attaching fire arms to cavalry harness and manipulating and firing same, W. T. Piel, May 4th.
- 42,823 Boot and shoe sole, L. S. Pfouts, and L. D. Ball, May 4th.
- 42,825 Sleigh, W. N. Snow, May 4th.
- 42,826 Egg tester, Norman Wemp, May 4th.
- 42,827 Domestic press, G. W. Pelton, May 4th.
- 42,828 Pantograph, Louis Cote, May 4th.
- 42,829 School desk, W. A. Morden and B. J. Gilmour, May 6th.
- 42,830 Sign writing, S. V. Allen, May 6th.
- 42,831 Temporary Binder, N. R. Butcher, May 6th.
- 42,832 Workmen's time recorder, G. W. Heene, May 6th.
- 42,833 Method of marking dry goods etc., rolled on boards, C. C. Dickens, May 6th.
- 42,834 Churn, J. A. Kernodle, May 6th.
- 42,835 Core seat for pipe flasks, Reese Morgan, May 6th.
- 42,836 Tag holder for umbrellas, Josephine Russell, May 6th.
- 42,837 Car coupler, D. L. Richards, May 6th.
- 42,838 Fire escape, Sydney Simmons, May 6th.
- 42,839 Ice breaking and cleaning apparatus, J. A. Krushnick and J. Van Leenwin, May 6th.
- 42,840 Attachment to pianos for changing the tone character of the same, Otto Spaethe, May 6th.
- 42,841 Apparatus for making oil gas, Julius Moeller, May 6th.
- 42,842 Fish net or trap, W. R. Barker, May 6th.
- 42,843 Spring roller and cabinet for ledger index sheets, combined, John D. Nasse, May 6th.
- 42,844 Apparatus for shipping live lobsters, A. McGray, May 6th.
- 42,845 Fingerboard for stringed instruments, H. C. Middlebrooke, May 6th.

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- 42,846 Cork extractor, R. B. Gilchrist, May 6th.
- 42,847 Feed water heater, filter and condenser, and lime and grease extractor, combined, W. J. Austin, May 6th.
- 42,848 Coupling for pipes, J. B. Cook, May 9th.
- 42,849 Tenoning machine, W. A. Bennett, May 9th.
- 42,850 Egg crate, John O. Norman, May 9th.
- 42,851 Folding seat, John S. Kilgore, May 9th.
- 42,852 Machine for robbing bark, Frank H. Stearns and Albie E. Stearns, May 9th.
- 42,853 Fire escape, P. A. Burgess and William Kernaghan, May 9th.
- 42,854 Adjustable speed bicycle, J. L. Morris, May 9th.
- 42,855 Machine for crushing ore, cinders etc., W. W. Sly, May 9th.
- 42,856 Railway signal, G. F. Adams and J. S. Lyman, May 9th.
- 42,857 Log hauling locomotive, H. J. Sullivan, May 9th.
- 42,858 Check Rein attachment, Frank H. Towne, May 9th.
- 42,859 Clothes horse or rack, Thomas Fry, May 9th.
- 42,860 Car coupler, W. T. Richard, May 9th.
- 42,861 Railroad snow plow, J. W. Russell, May 10th.
- 42,862 Sap spout, W. T. B. McDonald, May 10th.
- 42,863 Water power, A. C. Mather, May 10th.

- 42,864 Milk aerator, B. E. Robinson, May 10th.
- 42,865 Drill chuck, C. E. Billings, May 10th.
- 42,866 Method of and means for bottling liquids and sealing bottles, William Painter, May 10th.
- 42,867 Imprinting envelopes, Holyoke Envelope Co., May 10th.
- 42,868 Automatic railroad switch, W. A. Ducker, May 10th.
- 42,869 Reducing ores, A. J. Rossi and J. McNaughton, May 10th.
- 42,870 Car coupler, Eureka automatic car coupler Co., May 10th.
- 42,871 Pump, C. S. Reinhardt, May 10th.
- 42,872 Movable step, F. E. Foister, May 10th.
- 42,874 Hoisting and transfer apparatus, W. D. Sherman et al, May 10th.
- 42,875 Fastening railway rails to metal sleepers, J. Conley, May 12th.
- 42,876 Car coupling, I. A. Gould, May 12th.
- 42,877 Windmill regulator, H. Grotz, May 12th.
- 42,878 Buggy, W. H. Thompson and G. Morris, May 12th.
- 42,879 Sticky fly paper, the Detroit Fly Paper Co., May 12th.
- 42,880 Making coil or spiral springs, F. M. Jeffrey et al, May 12th.
- 42,881 Letter box, Postal Improvement Co., May 12th.

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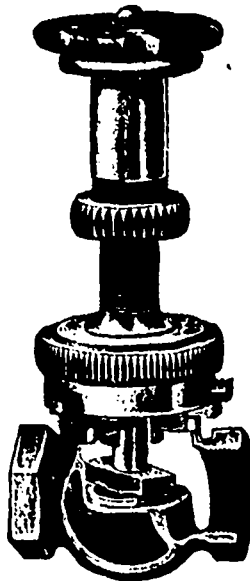
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FINE BANK, OFFICE, COURT HOUSE & DRUG STORE FITTINGS  
 OFFICE, SCHOOL, CHURCH & LODGE FURNITURE  
 SEND FOR CATALOGUE.

- 42,882 Car coupling, American Safety Car Coupling Co., May 12th.
- 42,884 Engine valve, H. R. Fay et al, May 12th.
- 42,885 Car coupling, H. Schaeffer et al, May 12th.
- 42,886 Lock nut, T. Gare et al, May 12th.
- 42,887 Frame for traction engine, Sawyer & Massey Co., (ltd.) May 12th.
- 42,888 Dental appliance, W. P. Horton, Jr., and A. B. Jones, May 12th.
- 42,889 Combination wrench, H. A. Post & T. W. Wright, May 12th.
- 42,890 Waggon dump and elevator, J. S. Kidd, May 13th.
- 42,891 Sash holder, J. H. Johnston & J. W. Deshon, May 13th.
- 42,893 Elevated carrier, A. T. Kelliher, May 13th.
- 42,894 Mechanical movement, R. D. Layton, May 13th.
- 42,895 Stock watering trough, H. Carroll, May 13th.
- 42,896 Combined writing desk, bureau, book and dressing case, N. P. Shulin, May 13th.
- 42,897 Grinding mower knives, R. Dutton, May 15th.
- 42,898 Wire spring mattresses, R. G. Vincent, May 15th.
- 42,899 Milking machine, J. Nielson, May 15th.
- 42,900 Lock, L. A. Locellier, May 15th.
- 42,902 Rocking cradle, F. Whitburn, May 15th.
- 42,903 Triturating machine, M. Suironet, May 15th.
- 42,904 Shaft support for vehicle, G. M. Weaver et al, May 15th.
- 42,905 Raisin seeding device, W. S. Seales, May 15th.
- 42,906 Hame, W. H. Hannigan, May 15.
- 42,907 Coal dumping car, W. G. Lane, May 15.
- 42,908 Farm gate, A. M. Murray, May 15th.
- 42,909 Injector, A. G. Brooke, May 15th.
- 42,910 Drawbar, G. D. Wadley, May 15th.
- 42,911 Drawbar, G. D. Wadley, May 15th.
- 42,912 Nippers for oil cup feeder lifters, S. R. Lewis, May 16th.
- 42,913 Ball bearing, G. F. Simonds, May 16th.
- 42,914 Double flush tank for water closet, J. C. Beckman, May 16th.
- 42,915 Distributing apparatus for beer, J. Harlin, May 16th.
- 42,916 Barrel washing machine, M. Gottfried, May 16.
- 42,917 Heating and ventilating of buildings, E. B. Jarvis, May 16th.
- 42,918 Snatch block, H. Loud, May 16th.
- 42,919 Treshing machine, W. C. Adams, May 16th
- 42,920 Water closet bowl, H. A. Jakes, May 16th.
- 42,921 Shaking machine, O. Schmelle, May 16th.
- 42,922 Wire snow guard, L. T. Houghton, A. A. Barker, May 16th.
- 42,923 Flax and hemp brake, J. T. Smith, May 16th.
- 42,924 Detachable heating down for stones, Southern Stone Works Co., May 17th.
- 42,925 Piston lubricator, E. Glover and R. L. Matthew, May 17th.
- 42,926 Extracting apparatus, Merz Universal Extractor & Construction Co., May 17th.
- 42,927 Paper fastener, C. Sulzner, et al, May 17th.
- 42,928 Vehicle, J. H. Johnson, et al, May 17th.
- 42,929 Eavetrough hanger, G. W. Heatley, May 17th.
- 42,930 Three wheeled vehicle, G. Rony, May 17th

- 42,931 Steam engine, A. Kundsén, May 17th.
- 42,932 Floor-cloth, W. G. White and N. E. Harry, May 17th.
- 42,933 Spout for jugs, cans &c, H. Stiles, May 17th.
- 42,934 Excelsior cutting machine, C. G. Smith, May 17th.
- 42,935 Safety buffer for street car, J. Hughes, May 17th.
- 42,936 Parturition shear, W. L. and J. C. Drinkwater, May 17th.
- 42,937 Land roller, P. Flock, May 18th.
- 42,938 Box nailing machine, W. S. Doig, May 18th.
- 42,939 Pencil sharpner, G. Diez, May 18th.
- 42,940 Separating beans, E. Knapp, May 18th.
- 42,941 Feed mechanism for screw cutting lathes, W. P. Norton, May 18th.
- 42,942 Steam engine governor, W. O. Webber, May 18th.
- 42,943 Trace hooks in vehicles, F. Giles, May 18th.
- 42,944 Land roller, E. Alpaugh, May 18th.
- 42,945 Blanket roll support, C. Dodge, jr., May 18th.
- 42,946 Guide for stamp mills, E. Major, May 18th.
- 42,947 Carriage axle, J. Label, May 18th.
- 42,948 Pipe union, J. T. Bibb, May 18th.
- 42,949 Sash lock, J. H. Thomas, May 18th.
- 42,950 Water escape valve or drain cock, F. A. Russell, May 18th.
- 42,951 Pneumatic wheel for cycles, &c., J. C. Hall.

ELECTRIC.

- 42,787 Electric switch and case for containing and protecting the same, Augustus Wright, May 1st.
- 42,805 Fire Telegraphy, S. J. Sandford, May 3rd.
- 42,815 Electrolytic treatment of cupreous liquors, ores, etc., Carl Hoepfner, May 4th.
- 42,824 Burglar alarm, J. F. Stinsky, May 4th.
- 42,873 Electrical appliance for canes and analogous articles, S. D. Smith et al, May 10th.
- 42,883 Electric welding, T. C. Lemp and L. M. Schmidt, May 12th.
- 42,893 Electrical propulsion of vehicles, E. H. Johnson, May 13th.
- 42,901 Power transmitting device for electric railways, E. H. Johnson, May 15th.

SCIENTIFIC PROCESS.

- 42,806 Process and apparatus for preserving milk, Joseph Oakhill and R. H. Leaker, May 3rd.
- 42,809 Process of separating cream from milk, J. J. Berrigan, May 3rd.
- 42,812 Process and apparatus for deodorizing oil, R. H. Laird, May 3rd.

WRITE TO THE

**PATON MANUFACTURING CO.**

SHERBROOKE, QUE.

FOR

**WORSTED KNITTING**

AND

**FINGERING YARN**



# ELEVATORS

FENSOM ELEVATOR  
WORKS  
52-54-56 DUKE ST  
TORONTO.

ELECTRIC HYDRAULIC  
STEAM & HAND-POWER  
PASSENGER & GOODS  
ELEVATORS. DUMBWAITERS

## Captains of Industry.

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

THE R. J. DOYLE MFG. CO., Owen Sound, Ont., have an attractive card in another page in which they call attention to the fire proof paint manufactured by them, and which they say is the only fire proof paint made in Canada. This company is a most reliable concern, and they not only testify to the merits of their paint, but they refer to the testimony of a cloud of witnesses who have made personal tests. They invite correspondence.

THE firm of Messrs. Simpson & Co., furniture manufacturers, Berlin, Ont., has been merged into a joint stock company, under the corporate name of Simpson & Co., with a capital stock of \$100,000.

THE stove and hoop factory of Mr. J. B. Coates, at Blenheim, Ont., was destroyed by fire May 21st, loss about \$5,000. It will be rebuilt immediately.

THE town of Prince Albert, Saskatchewan, N. W. T., has passed a by-law granting a bonus of \$3,000 for the erection of a flour mill there.

MESSRS. WALKER & CARSON, will erect a flour and oatmeal mill at Carmen, Manitoba, with a capacity to turn out 200 barrels flour and 75 barrels oatmeal per day.

THE Paton Manufacturing Company, Sherbrooke, Que., have placed four large boilers in their mills in place of four smaller ones, and have also put in a new system of water works hydrants around their buildings for fire protection.

THE capital stock of the Gurney Foundry Company of Toronto, has been increased from \$40,000 to \$350,000.

THE Paterson Manufacturing Company, with chief place of business at Toronto, is being incorporated with a capital stock of \$50,000, to manufacture building paper, roofing material, etc.

THE British American Dye Works Company, Verdun, Que., will equip their establishment with an incandescence electric light plant.

THE woodworking establishment of the Burlington Manufacturing Company, at Burlington, Ont., was destroyed by fire May 29th, loss about \$20,000.

THE Toronto Furnace and Crematory Company, Toronto, is being incorporated with a capital stock of \$40,000 to manufacture furnaces, heating apparatus, crematories and fire closets, and to take over the business of The Toronto Furnace Company. Messrs. James J. McKittrick and Giles S. Ranson are the chief promoters.

THE firm of Messrs. McColl Bros. & Co., Toronto, manufacturers of lubricating, illuminating, burning and other oils, varnishes, varnish oils, paint oils, engine packing, greases, etc., are being incorporated as a joint stock company by the name of The McColl Oil Company of Toronto.

THE necessary legislation authorizing the city of Hamilton, Ont., to grant bonuses to smelting works having been passed, there is nothing to prevent the agreement between that city and the Morehouse syndicate being carried out, and the work of erecting iron blast furnaces there to begin without delay.

MESSRS. JAMES A. CASTLE & Co., manufacturers' agents, have removed their Montreal office to 200 St. James Street, south side of Victoria Square. Their Toronto office is at 20 Wellington Street west.

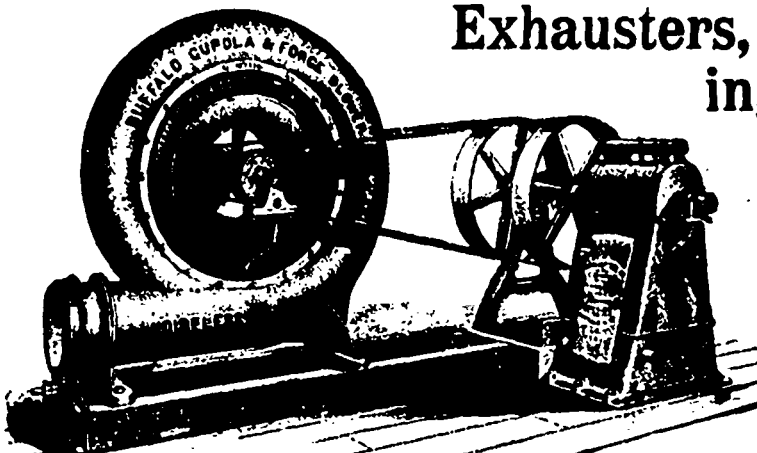
THE Dodge Wood Split Pulley is now carried in stock, and for sale in more than sixty prominent centres of Europe.

MR. JOHN PATTERSON, projector of the Hamilton, Ont., radial electric railway, says that Messrs. Siemens & Halske have been granted the contract for supplying the wire and electric machinery and plant necessary to convey power to that city from Niagara Falls. Work will be commenced at once, and by October the company expect to be prepared to supply power. It will cost \$200,000 to bring the power to Hamilton, but the total cost of the machinery plant, etc., is estimated at \$1,200,000. The company expects to supply power to the Hamilton Electric Light Company and the street railway. Mr. Patterson has advertised for 1,000 poles to be used in stringing the wires between Hamilton and the Falls.

RICHARD SMITH, of Sherbrooke, Que., will build two factories, one at Beebe Plains and one at North Derby, Que., in which he will manufacture paper mill and pulp mill machinery, etc. Both factories will be built this summer.

THE Dominion Cotton Mills Company are placing a Mather's patent bleaching plant in their mills at Valleyfield, Que.

THE Dodge Wood Split Pulley Co., of Toronto, have added another name to their list of agencies, that of Messrs. Coy Bros., of St. Catharines, well-known throughout the peninsular district of Ontario as live hardware and mill supply men. They now carry a complete assortment of all sizes of "Dodge" patent pulleys, and can fill all orders given them, promptly from stock, and at manufacturer's prices.

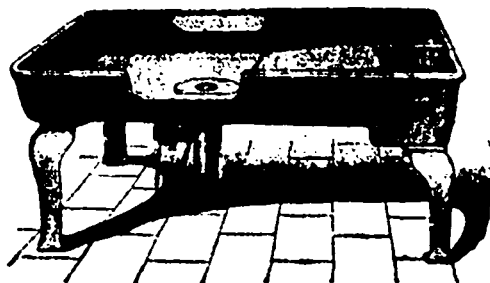


For Foundry Copulas, Forge Fires and all duties requiring high pressures of air. Blower on adjustable bed, combined with double upright enclosed engine.

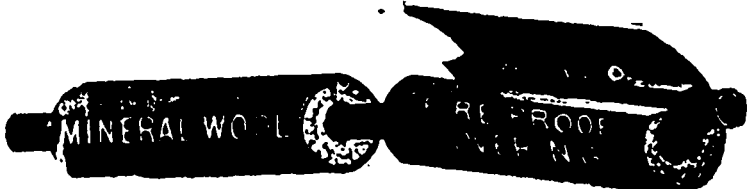
## Exhausters, Fans, Heating, Ventilating and Drying Apparatus

**BUFFALO FORCE CO., Buffalo, N.Y.**

The Largest and Heaviest Forge in the World.



LAMKIN'S PATENT



## A GREAT LOSS!

If you have any Pipes or Boilers uncovered you are losing on same at the rate of 30 cents every year on each square foot of surface exposed. By having them covered with our Mineral Wool Sectional Covering you will save 85 per cent. of this loss. The saving thus effected in fuel will in one year more than pay the cost of covering, which we guarantee to last as long as the pipes.

Our covering is the best fuel saver on the market.

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

The Penberthy Injector Company, Detroit, Mich., reports that they again have their machinery in motion, after a delay occasioned by a fire at their factory on May 30th, at which time their entire third floor and roof was burned, and the stock and machinery on the first two floors badly damaged by water. An army of carpenters, masons, plumbers, roofers and steamfitters, put in shape in seven days what looked to be a month's work after the fire. They are prepared to fill orders as usual.

The Merchants' Manufacturing Company, Montreal, are erecting an extensive addition to their main building, which will give them 50 per cent. increased capacity. The new building will be four stories high above basement, covering an area 200x100 feet, with an L 50 feet. The company have given a contract to John Laurie & Bro., Montreal, for a 750 h. p. compound condensing Corliss engine for the new building, and will add 300 more h.p.

The Protestant Hospital for the Insane at Verdun, near Montreal, has been completely equipped with automatic electric fire alarms, the work being done by the Montreal Electric Company.

The saw mill of Mr. James Stark, at Paisley, Ont., was destroyed by fire May 20th, loss about \$3,000. It will be rebuilt immediately.

The Dominion Leather Covered Pulley Company is being incorporated in Chatham, Ont., with a capital stock of \$12,000, to manufacture leather-covered pulleys according to a recently granted Canadian patent. Mr. F. B. Gates, of Owasso, Mich., is one of the incorporators.

The name of the Toronto Rubber Company of Canada, whose headquarters are at Toronto and factory at Port Dalhousie, has been changed to that of the Toronto Rubber Shoe Manufacturing Company.

The Montreal Street Railway Company will have an electrical power house of their own. The building will be of stone and brick, and comprise an engine and dynamo room 160x85 feet, and a boiler room 100x80 feet. The power will be furnished by six engines, operating twelve generators, which are now being constructed by Messrs. J. Laurie & Bro., of that city. The cost of these engines will be \$75,000. They will be steam jacketed, cross compound condensing, of the Corliss type, each capable of developing 600 h. p. The high pressure cylinders will be 24 ins. in diameter by 48 ins. stroke; the low pressure cylinders 48 in. diameter by 48 in. stroke. The shafts will be of steel, 15 ins. diameter in the centre and with 13 in. journals. The fly wheels are to be 22 ft. in diameter, 44 in. face and will weigh about 40 tons each. The total weight of the six engines will be over 500 tons.

The Jenckes Machine Co., Sherbrooke, Que., have recently furnished boilers and machinery as follows: Two 50 h.p. steel tubular boilers, for the new mills of the Dominion Blanket Co., at Beaulieu, Que.; one 75 h.p. tubular boiler for the extensions being made at the works of the Nicholls Chemical Co., at Capelton, Que.; two 60 h.p. steel tubular boilers for the Gowrie mines of the Dominion Coal Co., Cape Breton, N.S.; four 100 h.p. steel tubular boilers for the improvements being carried out in the mills of the Paton Manufacturing Co., Sherbrooke, Que.; one 75 h.p. steel tubular boiler for Adam Lomas & Son, Sherbrooke, Que.; one 50 h.p. steel tubular boiler, with disinfecting chamber, for the disinfecting station at Quebec City, Que.; one vertical engine with boiler attached, for the bakery of J. M. Aird, Montreal; two 60 h.p. steel tubular boilers, one 75 h.p. engine, with complete saw mill outfit, for T. Bolduc, St. Agathe, Que., who is now building a mill to work up his St. Jerome limits. One large type special Blake & Marsden ore crusher, for the gold mill now being erected by the Antigonish Gold Mining Co., Antigonish, N.S.; one horizontal steel tubular boiler, with 6 h.p. engine for the Dominion Straw Co., Montreal; one special underground double cylinder tail rope engine, for the colliery of the Dominion Coal Co., at Bridgeport, N.S.; one stone crusher of special type for the improvement of roads in the town of Windsor, N.S.; one special Myer cut-off engine 25 h.p., for extension to the premises of A. Dubois & Co., Montreal; One improved double edge for the saw mill of J. O. Gilbert & Co., Bishop's Crossing, Que.; one special Prescott gun shot feed for the saw mill of the Cookshire Mills Co., Sawyerville, Que.; one 9x12 double cylinder, double drum, special tail rope engine, for the colliery of the Dominion Coal Co., at Glace Bay, N.S.; two 6x8 special double cylinder winding engines, for extension in the mines of the Nicholls Chemical Co., at Capelton, Que.; four horizontal steel tubular boilers for Annie Lord, Montreal, for cheese factory; two horizontal steel tubular boilers for Drapeau, Savanay & Co., Montreal; two special vertical engines for Garth & Co., Montreal. Contract for the entire shafting and pulleys for the extension to the mills of the Dominion Cotton Mills Co., at Magog, Que., has also been placed with the Jenckes Machine Co.

**TO DRAUGHTSMEN, Etc.**

We are the Only Firm in Canada preparing our own

**Blue Print Paper**

Supplying a First Class Article at a Low Figure, using a very Superior Quality of Paper.

Also, a very Superior Article in **Prepared Blue Print Linen**

And would direct attention to a new **Prepared Black Print Paper**

(Black Lines on a White Ground), for which we are Sole Agents. This is as simple as the Blue Process, only a single water bath, and no chemical developer required. Our usual large assortment of **DRAWING PAPERS, TRACING CLOTH, Etc.** Send for Samples and Price List.

R. SHARPLEY & SONS, 225 St. James St., Montreal.

**FOR REPAIRING MACHINERY**

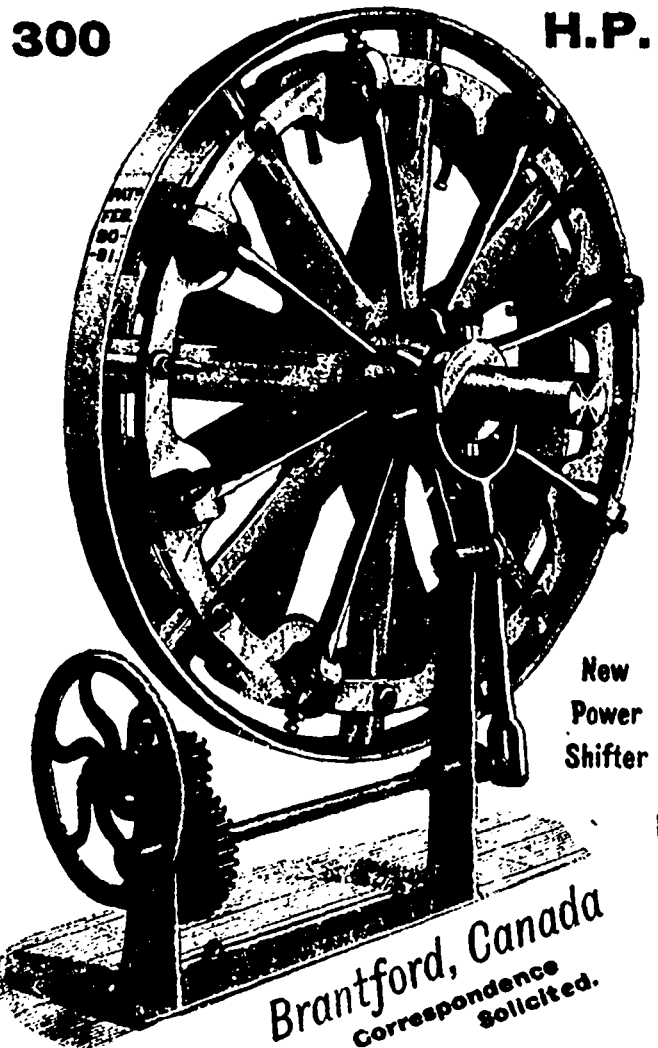


Our portable drilling machine can be applied to the frame of a machine, or anywhere a hole is required. It bores at any angle. Nothing like it for repairs.

EVERY MANUFACTURER NEEDS ONE

WRITE FOR PRICES.

A. B. JARDINE & CO., - HESPELER, ONT.



The Ball Electric Light Company, Toronto, informs us that the following is a partial list of parties using their Ball Automatic Electric Motors :-

Canadian Machinery Supply Co.....	Brantford.
Anderson & Goddard.....	Ottawa.
Beardmore & Co., leather merchants and manufacturers.....	Toronto.
A. Dick & Son, custom shoe mfrs.	"
A. Doig & Son, machinists.....	"
Dun, Wiman & Company.....	"
R. Dennis, machinist.....	London.
Essex Brass & Iron Co.....	"
E. S. Edmonson, bakery.....	Oshawa.
Fairburn & Co., machinists.....	London.
Gutta Percha & Rubber Mfrg. Co. ele- vator, (direct geared).....	Toronto.
Hawkesbury Lumber Company.....	Hawkesbury Mills.
Holmes Bros., printers.....	Toronto.
Hess & Son, window shade mfrs...	"
Hood & Co., hosiery manufacturers..	"
Inric & Graham, printers.....	"
Land Security Co's. Buildings passen- ger elevator.....	"
McMicking, R. B.....	Victoria, B. C.
Marshall, John & Co., furrier.....	London.
Nasmith & Co., lunch room.....	Toronto.
A. W. Oliver & Co.....	London.
Potter & Co., furniture warehouse..	Toronto.
Preston Lithograph Co.....	"
Rice Lewis & Co., elevator and pump- ing.....	"
Gorman, Eckert & Co., spice mills..	London.
Oriental Steam Laundry.....	Toronto.
Todhunter & Mitchell, Spice Mills...	"
George White & Sons, Foundry.....	London.
Western Printing Co.....	Toronto.
D. H. Wolf.....	"
Hume & Co's. elevator.....	Port Hope.
E. L. Shelburne & Co.....	Shelburne, Ont.
Electric Light Company.....	Valleyfield Que.
T. W. Ness.....	Montreal Que.

McConkey & Co., ventilating fan.... Toronto.  
Geo. McFarlane, ladder mfrs..... "  
Smith Bros., carriage mfrs..... "

The Murray Ship Lining Company, with headquarters at Montreal, has been incorporated with a capital stock of \$300,000 for carrying on business as general contractors for fitting and lining ships, steamships, and vessels for grain and livestock business; spaul making, building and repair of ships and vessels, etc.

The saw mill of Mr. P. Williams, at Port Elgin, was destroyed by fire May 25th, loss about \$3,000.

The Georgian Bay Lumber Company, with headquarters at Wauhaushene, Ont., has been incorporated, with a capital stock of \$200,000 to take over the saw mills and other property of the Georgian Bay Consolidated Lumber Company.

FIBRE CULTURE.

PROF. S. WATERHOUSE, of Washington University, St. Louis, contributed the following interesting article on fibre culture to a late number of the National College Journal, of New York:

"Political economy inculcates no truth of greater practical importance than the familiar precept that the wealth of nations depends upon a diversification of industries. A large part of the prosperity of the United States is due to the ingenuity which has so greatly multiplied the mechanical employments of our countrymen.

"But the success of American agriculture has not been promoted by an equally intelligent enterprise. The unwise practice of cultivating only a few staples restricts the profits of domestic husbandry. Through its life-long adherence to this false system of agriculture, the South has lost hundreds of millions of dollars. The Meads touch of enterprise is now enriching the Southern States. The products of the furnace, the anvil, and the loom are largely increasing their resources. But the energy that is multiplying the factories is neglecting the fields of the South. The plants of the farmer ought to be as various as those of the manufacturer. The culture of new fibres is an easy and profitable method of diversifying Southern staples. It has long been known that jute, ramie,

ROBIN & SADLER

MANUFACTURERS OF

LEATHER BELTING

SPECIALTIES:

**Dynamo Belts**

**Waterproof Belting**

2518 and 2520 NOTRE DAME ST., MONTREAL

126 BAY STREET - TORONTO

FOR SALE

- 1 Stiles & Parker 400 lbs. Friction Drop Press
- 1 " " No. 2 Power Press, new
- 1 " " " " " "
- 1 Turbine 14 inch Base Water Wheel.
- 1 Steel Shaft 10 feet long 10 1/2 inches diameter.

Apply to

The D. F. JONES Mfg. Co., Ltd.

GANANOQUE, ONTARIO

IN PRESS

THE SHIPPING MANUFACTURERS' LIST

INDEX TO leading Manufacturers of Canada and articles manufactured by them.

The INFORMATION which this work contains is of value to all classes of BUSINESS men, and may be considered a good COMMERCIAL RATING on any one that appears in this list of Manufacturers. The value of this work will be appreciated when it is known that the INFORMATION it contains has been obtained by a thorough Personal Canvas of Manufacturers THROUGHOUT THE DOMINION. Nearly eighteen months have been consumed in getting the information this work contains of the Manufacturing Industries of CANADA.

The work contains 500 pages handsomely bound in cloth, and represents over forty departments of trade. Section 1 contains over twenty thousand entries of articles. Section 2 contains over twenty thousand addresses of Manufacturers. Section 3 contains over four hundred advertisements of Manufacturers, making this the most thoroughly representative work published on this Continent.

No foreign addresses or advertisements appear in this work.

THE PUBLISHER

The Shipping Manufacturers' List

34 Confederation Life Building, Toronto

okra, and banana will grow luxuriantly in the Southern States, and it is highly probable that some of the textile plants of the West Indies, Mexico, and South America would find in our semi-tropic latitudes conditions of climate and soil favorable to their naturalization. If inventive skill has devised a cheap and rapid method of preparing fibre, then nothing but the enterprise of Southern planters is needed for the development of this new source of national wealth.

Heretofore American farmers have raised flax chiefly for the seed, and have burned the straw. But recently a powerful company has been organized in the Northwest for the purpose of utilizing the fibre and saving the textile values which thus far a spendthrift husbandry has squandered. The success of this experiment will lead to the establishment of profitable linen industries in the United States, and the enrichment of Western farmers by the saving of a part at least of the fibrous wealth contained in half a million tons of flax straw. The Western farmer has wasted a valuable portion of his crops, the Southern planter has neglected rare opportunities for increasing his profits. The vigorous effort which the former is making to rectify his mistake is an example which the latter ought to follow.

The present and prospective importance of the fibre industries in the United States demands the support of papers specially devoted to their interests. Therefore the announcement that its managers have established a 'Fibre Culture Department' in the Cordage Trade Journal will afford gratification to every friend of textile progress. Such a department will effectively serve the cause which it advocates. It will recommend improved process of preparing the fibres, suggest the mechanical wants of manufacturers, and stimulate inventors to win the prize of fame and fortune which success will secure. It will make known the conditions of soil and moisture that are best adapted to the growth of each textile, explain the best methods of cultivation and manufacture, and record the extent of crops, current prices, and the best markets.

Indeed the columns of such a journal would be a technical exchange in which the inventor, planter, manufacturer and merchant could obtain practical information for business guidance.

"In this field of work, only organized efforts can achieve success. It is my earnest hope that such endeavors will promote the domestic production of such foreign textiles as are susceptible of American naturalization, keep at home the gold which is now exported for the fibres of other lands, and enrich the United States with a textile wealth which ought, in the near future, to amount to \$100,000,000 a year."

Among the new electric heating apparatus now on the market is an electric stove, which has somewhat the appearance of a round steam radiator, but of peculiar construction. It is suitable for heating offices, stores and residences. It is three feet in height and rests on a nickel-plated base, with a nickel-plated top. The radiating surface is broken up into numerous small projections, with the result, it is claimed, of making it a rapid heater, and an economical consumer of current. The connections are made underneath the stove, and the heater is provided with a switch, by which the degree of heat may be regulated. The stove itself is a hollow cylinder, and, as the castings are of thin metal, it takes but a short time for heat to generate.

Borings for water have lately been made at a point about 150 miles west of Yuma, Arizona, with such success that the flow from a depth of 483 feet is said to be 9,000 gallons of pure water per hour. The locality is what is known as the Colorado desert, through which the river of that name takes its course toward the Gulf of California. This region, which is now a scorching desert of vast extent, has nevertheless a soil which needs only water to render it extremely fertile; and, if additional borings result as favorably as those already made, millions of acres which are now worthless may become richly productive.

## PAPER PULLEYS : :

We carry in stock all weights of Mill Boards for making Paper Pulleys, and for packing purposes, also thin boards for covering pulley faces.

Special attention to letter orders.

CANADA PAPER CO., (Ltd.), 15 Front St. West, Toronto  
578 CRAIG STREET, MONTREAL

## FOUNDRY FACINGS

Core Compound, Ceylon Plumbago, Foundry Supplies and Moulding Sand

Canadian Agents for

Root's Positive Tower  
Colliau Cupola Furnace

HAMILTON FACING MILL CO., Hamilton, Ont.

M. & L. SAMUEL, BENJAMIN & CO.

## HARDWARE,

## METALS

Chemicals and Manufacturers' Supplies

No. 30 Front St. West - Toronto

ENGLISH HOUSE:

Samuel Sons & Benjamin  
1 Rumbold Place, LIVERPOOL

General Agents  
for Dominion  
A. R. WILLIAMS,  
Toronto, Ont.

## The London Machine Tool Co.

LONDON, ONT., CAN.

Manufacturers of

Machine Shop Equipments, Lathes, Planers, Drills, Column, Radial and Suspension Shapers, Slotters, Bolt Cutters, Milling Machines, Turret Lathes,

•••••

Automatic Gear Cutters and Cutting-Off Machines, Boring and Turning Mills, up to 20 Feet Swing, Driving Wheel Lathes, Tire Boring and Turning Mills, Cylinder Boring Machines, Frame Slotters, Slab Millers

## BOILER EQUIPMENTS

Punches and Shears, Binding Rolls, Straightening Rolls, Plate Planers, Multiple Drills,

## BRASS FINISHERS' EQUIPMENTS

Fox Monitor Lathes, Plain Turret Lathes, Valve Millers, Vertical Milling Machines, Valve Chuck, Box Chucks, etc., for Cutting and Stamping and Drawing Tin and Metal Tools up to the Heaviest Work Required.

## TO LET! FACTORY FLATS

With power to suit

From two to fifty horse power. Apply

F. W. BARRETT, 88 Esplanade West, TORONTO, ONTARIO



A CHIMNEY of considerable height has recently been put up at the works of the Darwen & Mostyn Iron Co., at Darwen, England. The masonry foundation is 15 ft. high, and on this rests the wrought iron tower, 260 ft. in height. The lower section is a cone 28 ft. high, tapering 10 1-2 ft. in diameter; above this is the main shaft, 232 ft. high with a total taper of 6 ft. The iron shell is lined with firebrick, and its total weight is 1,100 tons.

ELECTRICITY seems to be coming prominently to the front for use in purification processes. It has been successfully introduced in France and England for purifying sewage, and if worked with a refuse destructor, in which the heat can be used for generating the current, it is thought it will be found not only more satisfactory but more economical than existing methods. In Germany an electrolytic process for purifying mercury for use in very accurate work is coming into general use. A new method of bleaching starch by electricity is also reported, by which, it is said, second and lower qualities of the product can be treated electrolytically, so that they compare favorably with the first quality. Methods of manufacturing ozone by electrical action are also well known. In fact, it seems as if the electric current was destined to play a very important part in the sanitary engineering of the future.

PURE tin is not affected at ordinary temperatures, but as soon as a portion of the tin is removed by injury so as to expose even a tiny speck of iron surface, corrosion at once sets in and proceeds very rapidly. The reason of this is an electrical nature, that is, iron and tin together form what is called a "galvanic couple," which will decompose the water charged with carbonic acid deposited upon them from the air; oxygen and hydrogen gases are liberated, and the iron, having the greater affinity for the oxygen, is the metal attacked; in particular, such corrosion is very rapid when the exposed iron surface comes in contact with water highly charged with carbonic acid, as in a mineral water factory.

HERE is an argument in favor of wetting coal before firing that has the merit of plausibility; we do not know its origin: "At a large electric light plant I asked the chief why they wet the slack. He said it burnt better and made a clearer fire. So it does, but that is not all. Unwet coal expands in cooking, but wet coal expands more, and that in proportion to the amount of hydrogen. By the expansion, pores and cells are formed, which

admit the adjacent air freely, drawing it in and using it in the production of carbonic acid. The more uniform and the more porous the coal, the more accessible it is to oxygen, and the more complete will be the combustion, by which the smoke is reduced to a minimum."

THE intimate relation existing between power and electricity is evidenced by the amount of interest manifested in, and of attention given to the former subject at the St. Louis meeting of the National Electric Light Association. The central station man is interested in power from two standpoints. He uses power for the generation of electricity, and its safe and economical production is essential to the success of his station. He sells power perhaps in current supplied to motors, and is interested in its electrical transmission. The possibilities of a safe and economical system of long distance power transmission are almost inconceivable. It is not to be wondered at, then, that four out of the eleven papers presented bore directly upon the generation and transmission of power, and that these papers should have occasioned more discussion and interest than those dealing with more purely electrical subjects.—Power.

A METALLURGICAL establishment in Australia delivered to a railroad company railbed-plates which in a short time were found to show an excessively heavy rust formation. For the purpose of obtaining an explanation of this rapid oxidation the rust on the bed-plates was submitted to chemical analysis, with the result that the rust formation was attributed to a high percentage of silicic acid and sulphur in the original iron. The original plate was thereupon tested, the analysis indicating that the iron had extraordinarily high sulphur contents, and the rapid formation of rust was therefore believed to be due to this circumstance.

A SOUTH American railroad company obtained prices from American and British steel bridge building firms, the bridge to have 197 feet span, and the following are the prices each firm agreed to build it for as given by Engineering of London:

	Price.	Weight.	Price.
	£ s. d.	Tons.	£ s. d.
American Company .....	1,697 13 0	117½	14 5 0
British Company.....	2,025 3 0	138	14 13 6

It will be noticed that the British company assumed a greater weight—that is, in accordance with practice—and that the price

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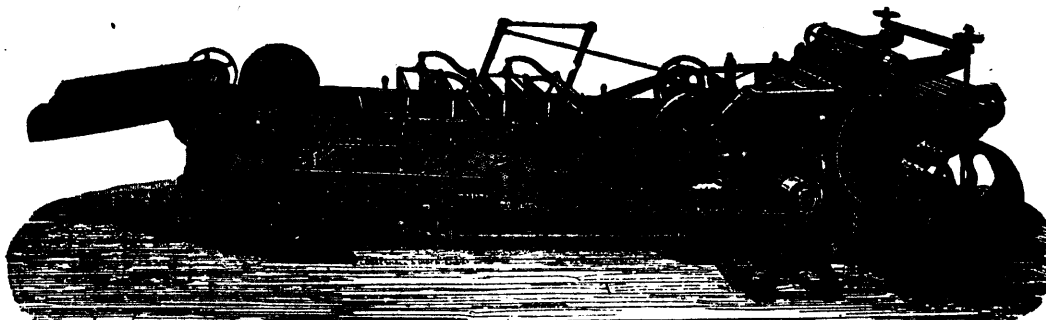
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per ton was greater, notwithstanding that material and wages are said to be dearer in the States. Will some free trader explain why the Britisher charged so much more, notwithstanding the higher wages and other expenses in the United States.

CANADIANS are constantly told of the glorious advantages of the "sixty million market," and of the milk and honey which flows so freely in this alleged land of promise, but facts and figures do not always bear out the vision from Pisgah's Height. In the Arena is an article by Mr. B. O. Flower, in which he asks, "Are we a prosperous people?" and the answer constitutes a sad knock-down blow for the sixty-million-market theorists. Speaking of the cities first, he shows that while in the whole of Ireland distress evictions during 1890 totalled a little more than 5,000, in New York alone the record stood at 28,800, or, in proportion to population, more than fourteen times as many as there were in the Emerald Isle. Making large allowances for the different classes of eviction, Mr. Flower reaches the conclusion that the destitute families turned out on the streets represented 100,000 souls, and he pictures them in one hundred battalions of one thousand each—"marching with mournful tread past the lordly palaces of Fifth avenue and gazing wistfully through the windows at the dazzling splendor of homes whose owners represent hundreds of millions of acquired wealth." The same sort of thing is related of other cities, and although the pendulum of wealth swings very high in some of them it also swings just as far on the other side.

CAST iron did not come into commercial use before the year 1700, when Abraham Darby, an intelligent mechanic, who had taken some Dutch workmen to establish a brass foundry in Bristol, England, conceived the idea that iron might be substituted for brass. This his workmen did not succeed in doing, being probably too much prejudiced in favor of the metal with which they were best acquainted. A Welsh shepherd boy, John Thomas, had some time previous to that been received by Andrew Darby into his workshop on the recommendation of a distant relative. While looking on during the experiments of the Dutch workmen, he said to Darby that he thought he "saw where they had missed it." He begged to be allowed to try, and he and Darby remained alone in the workshop all night, struggling with the refractory metal and imperfect molds. The hours passed on and daylight appeared, but neither would leave his task. Just as the morning dawned, they

succeeded in casting an iron pot complete. The boy entered into an agreement with Darby to serve him and keep the secret. Although enticed by offers of higher wages to leave his master, he continued faithful, and from 1709 to 1828, the family of Thomas were the confidential and valued agents of the descendants of Abraham Darby. For more than a 100 years after that night, in which Thomas and his master succeeded in making an iron casting in a mold of fine sand contained in frames and with air holes, the same process was practiced and kept secret at Colebrook Dale with plugged keyholes and barred doors.

WHEN putting up a steam pipe between boiler and engine, it should be made to slope slightly toward the engine, so that all the water and condensed steam will be carried forward, as it can not be made to run back against the flow of the steam; for water once in the pipe must move forward, and if no outlet is provided it must travel through the cylinder of the engine. The water can be kept from the engine by putting a separator or water catcher in the horizontal pipe near the last end before it reaches the engine. A small pipe will lead from this back to the boiler, trapping the water before it reaches the cylinder. By the use of this simple arrangement, the steam supplied to the cylinder will be much drier and give better results in doing the work; it will also remove the danger of injury to the engine on account of entrained water. The pipe leading back to the boiler need not be larger than  $\frac{3}{4}$  or 1 inch in diameter for engines of 100 horse power or less. If a waterglass forms a portion of the return pipe, it will show that a surprising amount of water is returned from the steam pipe to the boiler. This water would otherwise have gone through the cylinder requiring a greater amount of lubrication, assisting or causing leaks, and presenting a possibility of great danger to the engine. In boiler tests, the steam which is condensed in the pipe and the water carried off by priming, is often credited to the coal, when a large portion of it is due to priming effects. The condensation of steam in the steam pipe is much greater than is generally supposed, and is always so much that greater economy in fuel would be obtained if the pipes were covered with some good nonconducting substance. The different forms of separators employed in steam pipes, serve an excellent purpose in providing dry steam only to the engine, but if steam pipes were well covered the work required of the separator would be reduced, in many cases, much more than one half.

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- TWO 6 H.P. FIRE BOX BOILERS for cheese factories.
- ONE 12 x 16 SLIDE-VALVE ENGINE, Beckett's make.
- ONE 10 $\frac{1}{2}$  x 15 HORIZONTAL ENGINE, Whitelaw make, in first class order.
- TWO 9 x 12 HORIZONTAL ENGINES, Waterous make, "Clipper."
- ONE 9 x 12 HORIZONTAL ENGINE, Morrison maker, Hamilton.
- TWO 5 $\frac{1}{2}$  x 9 SLIDE-VALVE ENGINES, Beckett's make.
- ONE 14 H.P. ENGINE, Leonard make, nearly new.
- ONE 12-IN. H.P. TRACTION PORTABLE ENGINE and boiler, Oshawa make.
- ONE "THOMPSON" ENGINE INDICATOR, in walnut case.

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- TWO 24-INCH CANT, GOURLAY & CO., make, light surface planers, in good order.
- ONE 20 INCH PONY PLANER WITH COUNTERSHAFT, Cowan & Co. make.
- ONE HEAVY IRON FRAME SHAPER, Cowan & Co. makers.

ONE ALMOST NEW IRON TOP JIG SAW, Cowan & Co., makers.

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ONE 16 INCH "LITTLE GIANT" WATER WHEEL.

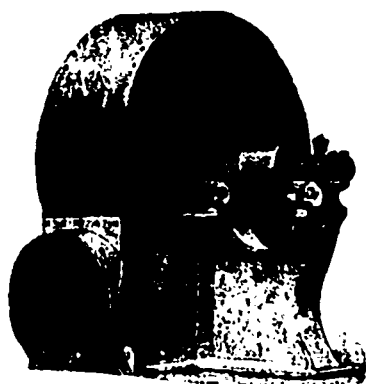
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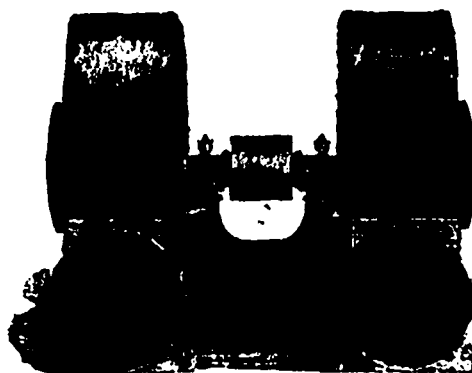
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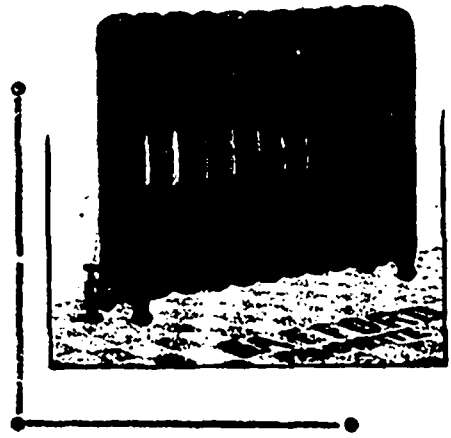
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
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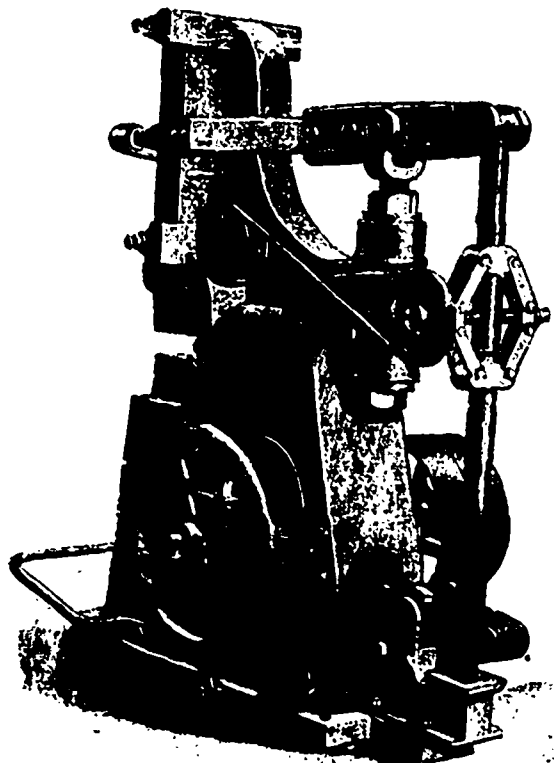
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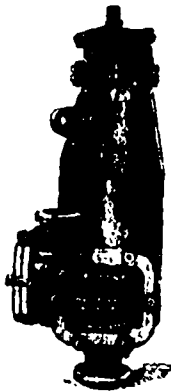
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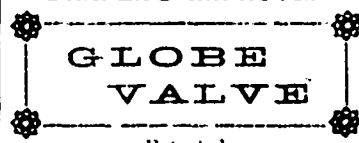
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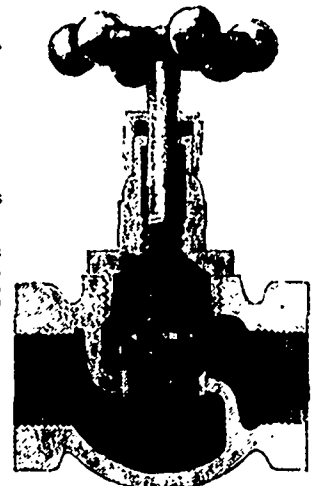
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Thorold was the Only Canadian Natural Cement used in this Work.	Test with 1 per cent salt in water for tensile strain.	30 days	177.10	189.90	104.10	2,000 Barrels Thorold Cement used in Kingston Graving Dock.
		60 days	270.40	216.10	187.	
		90 days	297.50	218.50	193.10	
Test with 8 per cent salt in water for tensile strain.	30 days	189.60	172.10	116.80		
	60 days	201.60	187.10	115.70		
	90 days	243.60	221.10	139.00		
Test with 2 per cent salt in water for tensile strain.	30 days	396.90	169.20	129.80		
	60 days	203.60	183.70	138.		
	90 days	217.10	230.80	132.10		
Test with 12 per cent salt in water for tensile strain.	30 days	323.10	161.10	197.60		
	60 days	331.70	175.80	207.20		
	90 days	344.30	189.30	218.30		

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Tests of Cements made by the Government during progress of work at Kingston Graving Dock, 1892, by Louis Coste, Acting Chief Engineer, Ottawa.

	TIME IN WATER	C.B. Wright & Sons, Portland	English Portland Anchor Brand	German Portland Lion Brand	Synapse Portland	Montreal Superior Portland	Queenston Cement	Thorold Cement	Quebec Cement	Napanee Cement
Average tensile strength of 25 to 50 briquettes each, 1 in. square, made of neat cement consistency of mortar.	7 days	371.01	319.01	192.96	337.12	361.52	93.12	61.20	69.60	53.52
	30 "	525.70	445.96	242.32	521.41	417.00	190.80	180.25	111.72	53.52
	60 "	519.12	512.20	350.84	551.81	448.20	349.58	257.88	211.00	134.24
Average tensile strength of 25 to 50 briquettes of each Cement, 1 in. sq., neat Cement rammed in mould.	7 days	376.12	467.70	391.80	434.72	313.32	196.18	206.92	172.02	61.92
	30 "	421.22	512.30	355.10	532.10	428.88	271.08	131.02	161.16	69.77
	60 "	437.91	541.30	426.00	688.20	510.24	417.58	311.76	233.92	153.06
Average tensile strength of 25 to 50 briquettes of each Cement, 1 in. sq., neat Cement rammed in mould.	7 days	614.74	621.10	427.00	636.81	512.88	472.78	333.26	100.32	236.52
	30 "	637.24	601.12	408.20	618.52	516.02	434.84	359.08	359.32	261.00
	60 "	643.24	628.40	416.12	600.56	536.12	508.80	156.32	390.00	278.00

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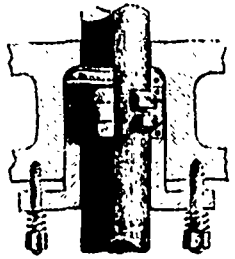
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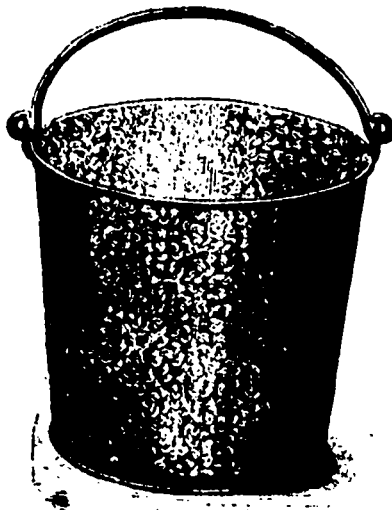
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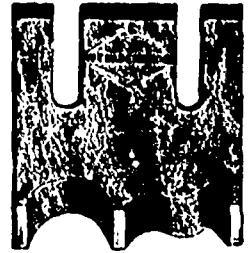
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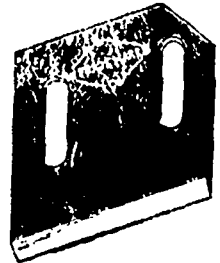
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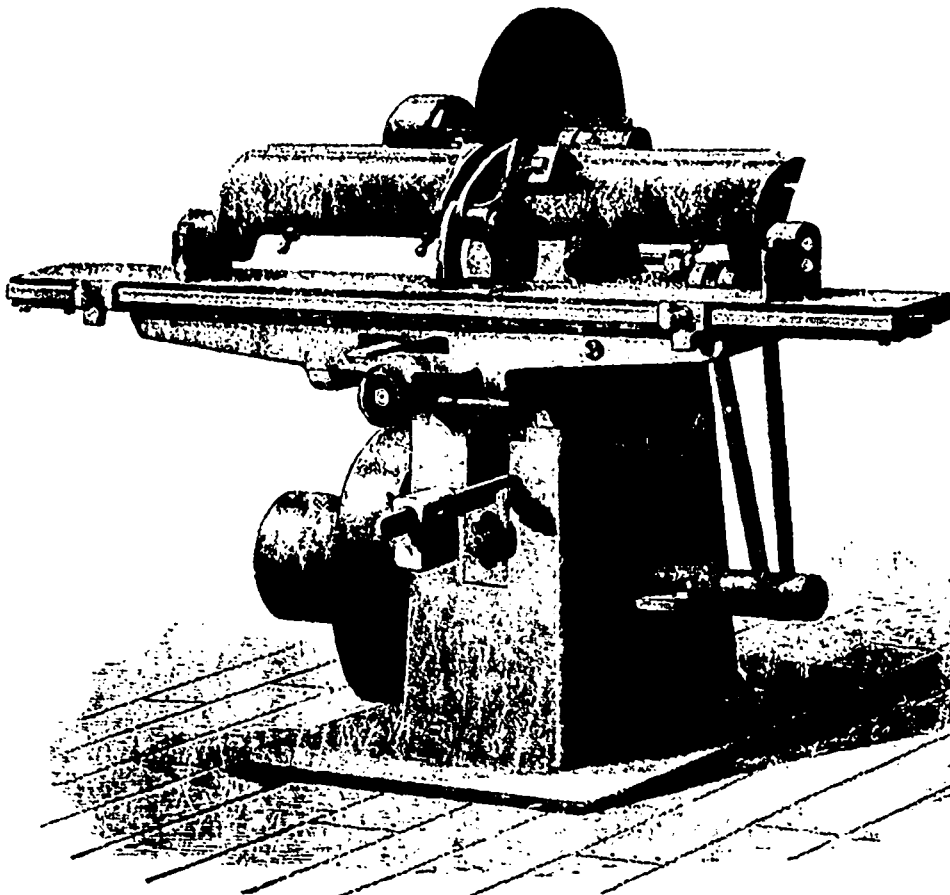
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**THE OBJECTS OF THIS ASSOCIATION ARE:**

- To secure by all legitimate means the aid of both Public Opinion and Governmental Policy in favor of the development of home industry and the promotion of Canadian manufacturing enterprises.
  - To enable those in all branches of manufacturing enterprises to act in concert as a united body whenever action in behalf of any particular industry, or of the whole body, is necessary.
  - To maintain Canada for Canadians.
  - Any person directly interested in any Canadian manufacturing industry is eligible for membership.
  - Manufacturers desiring to hold meetings for the promotion of their business are invited to avail themselves of the Board Room of the Association for the purpose, which is offered to them free of charge.
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The report was adopted and the retiring Directors, unanimously re-elected. The Board of Directors are now constituted as follows: James Goldie, Guelph, pres.; W. H. Howland, Toronto, vice-pres.; H. N. Baird, Toronto; Wm. Bell, Guelph; Hugh McCulloch, Galt; S. Neelon, St. Catharines; George Pattison, Preston; W. H. Story, Arton; J. L. Spink, Toronto; A. Watts, Brantford; W. Wilson, Toronto.

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Increase in Assets in 1892, \$111,000.00  
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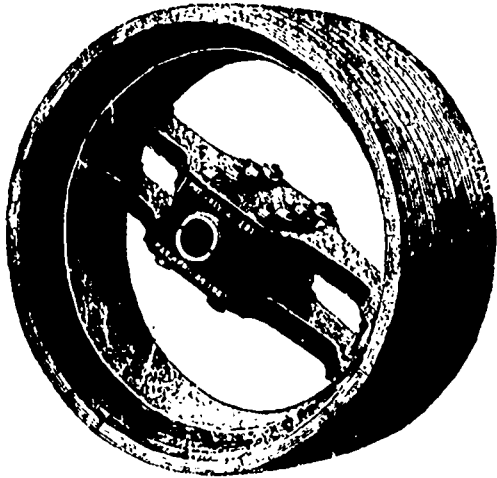
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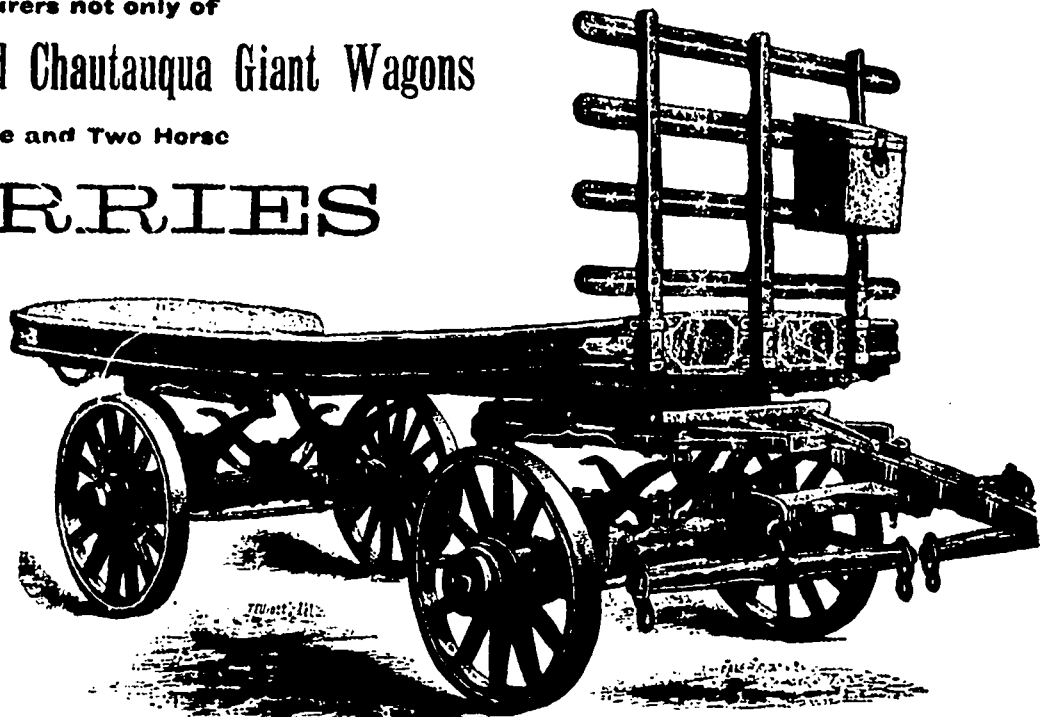
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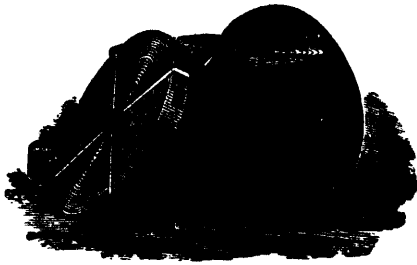
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1 inch arms, 4 x 1/2 inch thro; capacity four tons. The best and easiest-running Lorry made in Canada

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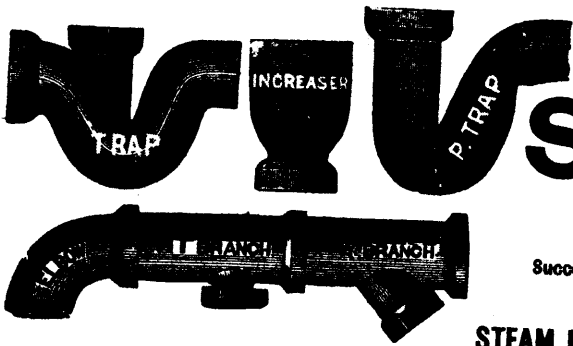
Manufacturers of First Quality Rubber Boots and Shoes, Superior Quality Rubber Beltings, including The Forsyth (Boston Belting Co.) Seamless Rubber Belting, for which we are Sole Agents and Manufacturers in Canada.  
Hard and Soft Rubber Goods for Electrical Purposes, including Rod, Sheet, Tube, Telephone Receivers, Battery Cells, Etc. All Sorts of Rubber Tapes for Insulating Purposes.  
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Successors to The Campbell Sewer Pipe Co. and the Hamilton Sewer Pipe Co.

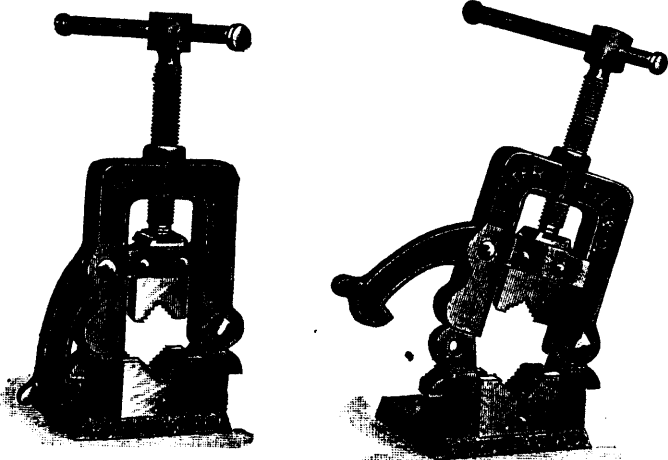
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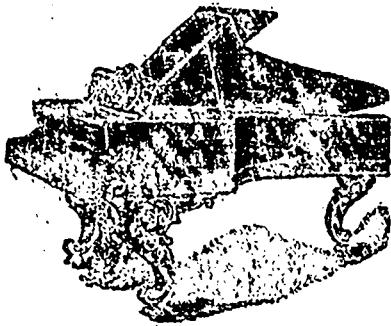
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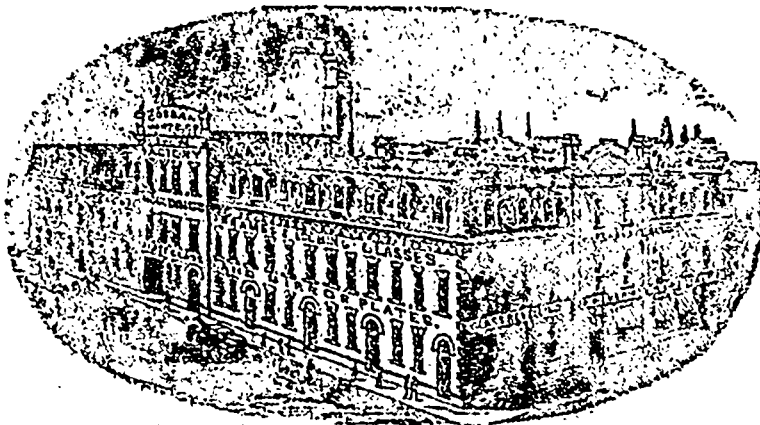
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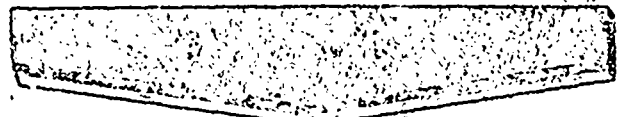
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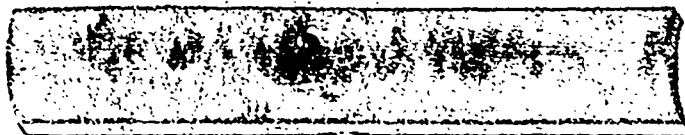
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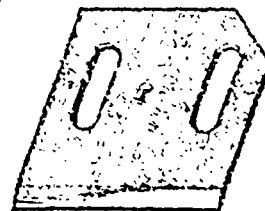
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