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DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

Vol. 21. TORONTO, SEPTEMBER 18, 1891. No. 6.

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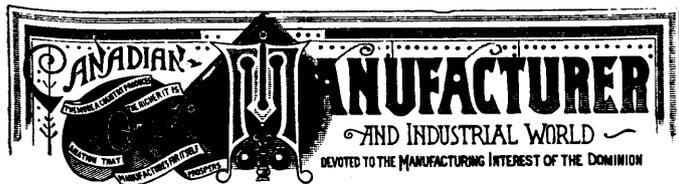
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THE SUGAR DUTIES.

THERE was an interesting debate in the House of Commons last week, when Finance Minister Foster moved for the third reading of the bill respecting duties and customs. Mr. Paterson, of Brantford, moved an amendment, which provided that all sugars not above No. 16 Dutch Standard be admitted free, and that the duty on all sugars above that standard be one-half cent per pound. Our readers will remember that Mr. Foster's bill imposed a duty of eight-tenths cent per pound on all sugars above No. 14 Dutch Standard. This journal has always opposed the latter proposition, and favored the former, and to repeat all the arguments in the case at this time would be but a needless repetition. That our arguments were pungent and to the point is evidenced in the fact that Mr. Paterson and those who favored the amendment read copious extracts from the CANADIAN MANUFACTURER on the subject; that our arguments were unanswerable is evidenced in the fact that, notwithstanding Mr. Foster and his supporters made lengthy speeches against the amendment, they did not attempt to controvert what we had said. In the report of the debate Mr. Stairs, of Halifax, who is said to be financially interested in the sugar refinery industry, is reported as saying that the CANADIAN MANUFACTURER could not know the facts regarding which it spoke—that "a great deal of what that paper said was utterly fallacious." Mr. Stairs, however, quite fully corroborates what we have always contended when

he showed that the proposition of Mr. Paterson would admit large quantities of yellow sugars between Nos. 14 and 16 Dutch Standard; that if these yellow sugars were admitted to competition with Canadian low grade sugars, the price of the latter would be reduced. And so it would, and this is just why No. 16 sugars should be admitted free. The people of Canada were deceived by the promise of free sugar; for the sugar which Mr. Foster and sugar refiner Stairs desires to make free is of a quality which is only suitable for refining purposes and which is totally unfit for domestic purposes; and when Mr. Paterson asked that the standard be raised so that raw sugars suitable for domestic consumption would be admitted free, the reply of sugar refiner Stairs was that in doing so the price of Canadian low grade sugars would be reduced. And that is precisely what this journal is contending for—cheap sugar.

Mr. Stairs tells us that the "Canadian refiners can manufacture sugar as cheaply as the American refiners, but they need more protection because they have not as large a market." This is raising a dust to obscure the question. Mr. Stairs knows that even with the high duties heretofore prevailing, the capacity for production of Canadian refineries was in excess of the requirement of the country, and that some of the refineries were frequently shut down or operated on short time. This restriction of production was either to prevent over-production or to maintain prices; and that unnecessarily high prices were maintained is evidenced in the fact that although, as Mr. Stairs says, the Canadian refiners can manufacture as cheaply as in the United States, their prices are uniformly higher than American prices. As we have before shown, American refined sugars have been sold this year in the British market in very large quantities at much lower prices than in New York; and if American refiners can sell their surplus abroad, why not Mr. Stairs and the other Canadian refiners? Since sugars up to No. 16 standard are admitted free into the United States, the consumption of those suitable for domestic purposes—No. 16 sugars—has increased so largely that it is estimated that that quality constitutes about 25 per cent. of all that is consumed there. In other words, one-fourth of the sugar consumed in American families now costs only about three cents per pound, against five cents per pound for the balance, which is refined. This is a very favorable condition for American consumers, and it is against this very condition in favor of Canadian consumers that Mr. Foster, Mr. Stairs and every member of the Conservative party voted in the Commons last week. This does not look as though the party in power was very anxious to give free sugar to the Canadian breakfast table. The voting down of Mr. Paterson's amendment means just two things:—it means \$720,000 a year more in the pockets of Canadian refiners than goes into the pockets of American refiners for a similar service; and it means that the people of Canada shall use Canadian refined sugar, whether they wish it or not, at a higher cost than necessary. This is not according to the ethics of the National Policy. It is more like extortion.

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THE ETHICS OF PARTY POLITICS.

In another article allusion is made to the vote in the House of Commons last week on the motion of Mr. Paterson to reduce the sugar duties. The Government resisted the motion and were sustained by a strict party majority of twenty-four votes. Regarding this episode the *Toronto Empire* says:

The majority of the Government in Parliament yesterday upon the Opposition amendment on the sugar duty was twenty-four, a substantial and satisfactory proof of the continued strength of the Ministry and its absolute impregnability on the trade question. Nearly every phase of that question has been made the subject of an Opposition amendment, and on each occasion the Conservatives have shown an unbroken fealty to the principles they were elected to support. If a few Conservatives happen to be out of the House on necessary business, and a division is taken in their absence, the more stupid of the Grit organs raise a cry that the Government is "tottering to its fall." Yesterday's division shows how idle and absurd these short-lived triumphs are. The Government's position on the sugar question is as strong as on the rest of its commercial policy; and having lifted three and a half millions of taxation from the people by making sugar free, the carping criticism of the Opposition, and their feeble attempt to belittle the boon of a free breakfast table, may safely be left to work out their own futility. The Opposition are hopelessly astray on the trade question, and the majority of twenty four against them in the House means a much bigger proportion in the country in favor of a policy which protects our industries while cheapening all the necessaries of life.

This "victory" for the Government may be an expensive and dearly bought one, but we suppose the rejoicing of the *Empire* over it is strictly in accord with the ethics of party politics. It is certainly no victory for the National Policy, and to those who consider that the maintenance of that policy and the prosperity of the manufacturing industries of Canada are indissolubly connected, it is a painful event.

Finance Minister Foster, in his budget speech, delivered June 23, in proclaiming with a flourish that the duty was to be taken off of sugar, speaking of the compensating duties which would have to be levied in other directions, said:

It has been urged that we should put a duty on tea and coffee, and if we follow the example of honorable gentlemen opposite, an example which in the main is bad, and which in this instance I do not propose to follow, we would clap a duty of two and three cents a pound on coffee, and five and six cents a pound upon tea, and thereby invade the poor man's breakfast table afresh. Instead of doing that, we propose to make the breakfast table a freedom in reality—to keep the coffee free, to keep the tea free, and to give the sugar free as well.

Mr. Foster had but a few moments before stated that he was not one of those who believed that there should be a cast-iron tariff for a stated number of years; that conditions change, and with them we must change the conditions of our fiscal policy. This was good sound common sense from the standpoint of a man who had been elevated to his high position as an adherent of the National Policy; and because of his high position, and because of his being a representative supporter of the National Policy, the country had good reason to believe that in stating his intention regarding the abrogation of the sugar duties he meant precisely what he said. All charitable allowances should be made for Mr. Foster in that in fixing the standard below which all sugars would be free, and in fixing the rate of duty upon dutiable sugars, he might not have shown that precision of judgment so essential in the

matter; and it was a fair presumption that if it could be shown that these particular features had not been accurately and properly adjusted, a bare suggestion would have sufficed to cause the adjustment. Such procedure is common, and we have seen exhibitions of it in Parliament even during the present session. Mr. Foster has unmistakably erred in fixing the standard for free sugar, and the rate of duty upon dutiable sugar; and it is to be regretted that he should persist in dragging the National Policy from the high estimation in which it is held by its supporters by an unreasonable clinging to his mistake. In his speech he had twitted the Opposition with having, while in power, enslaved the coffee and tea of the poor man's breakfast table, while he proposed making it free in reality by making sugar free as well as tea and coffee; and he had pointed with pride to the benefits Canada was enjoying as a result of the National Policy, one of which was the "free sugar" he was then promising. If it had not then dawned upon him that his scheme could not possibly realize his promise, he had learned it since; and if the poor man fails to find free sugar on his breakfast table he will certainly ask Mr. Foster to explain why the promise was made and why it was not fulfilled.

While this question as affecting Mr. Foster is very painful, it is equally painful, but not at all surprising that the *Empire* should find occasion for rejoicing in the cause of the disappointment which all friends of the National Policy feel at Mr. Foster's course. But it is mistaken if it supposes that the recent vote is "a satisfactory proof of the continued strength of the Ministry, and of its absolute impregnability on the sugar question." There is not a workingman in Canada who remembers Mr. Foster's trumpet-tongued proclamation regarding free sugar on his breakfast table; who reads in the *Empire* the assertion of Mr. Stairs, the sugar refiner of Halifax, that Canadian refiners can manufacture sugar as cheaply as in the United States, and that if the duty upon No. 16 sugar were removed and yellow sugar admitted to competition with Canadian low grade sugars, the price of the latter would be reduced, and who then goes to his grocer to buy sugar for his family and finds that no sugar that his family can possibly use is free, but that it is considerably higher in price than similar sugars in the United States, but will feel that he has been deceived. Does the *Empire* imagine that "strength" to the Ministry, and the "impregnability" of the National Policy are founded upon deception? Yet that is just what it teaches. This may be in accord with the ethics of party politics, but not of protection. As representing the views and sentiments of Canadian manufacturers, and upholders of the National Policy generally, we emphatically protest against the assertion of the *Empire* that the Conservatives in Parliament "who have shown an unbroken fealty" to Mr. Foster in voting down Mr. Paterson's amendment, voted to sustain the principles they were elected to support. They were elected to support no such idea, although their voting as they did may be in accord with the ethics of party politics. It is a great mistake for the *Empire* to suppose that the Government's position on the sugar question is as strong as on the rest of its commercial policy—if it is, then that policy is in a bad way. That paper also tells us "The Opposition are hopelessly astray on the trade question." This journal does not aspire to fraternity with the opponents of the Government, particularly

on the trade question, but it is entirely independent of political parties, sustaining the Government when it holds steadily to the aims and profession of the National Policy—rebuking it when it does not. This is a position approved and endorsed by Canadian manufacturers generally; and the *Empire* should remember that the votes and influence of these manufacturers were important factors in electing these Conservative members of Parliament and in putting the present Government in power.

THE BEET SUGAR BOUNTY.

UPON the second reading in the Senate of the bill "to encourage the production of beet sugar," Hon. Mr. Abbott said:

Honorable gentlemen will remember that up to a late period of this session we had a duty on the importation of sugar. That duty has served as a protection to the production of beet root sugar to the extent to which it goes, and it was represented to the Government, on the introduction of the measure which dispensed altogether with the duty on raw sugar, that those people who had been preparing for the manufacture of beet-root sugar in two or three places in Lower Canada, and in one place, I think in Upper Canada, would be taken by surprise; that they had made contracts for the delivery of beets and had made preparations for the manufacture of beet-root sugar during the present year, in reasonable anticipation that they would have the same protection for their beet-root sugar that was afforded by the duty on the ordinary importation of raw sugar, that is to say, about 2 cents per pound. On this representation, and with a desire to see the experiment fairly tried, whether in reality we can produce beet-root sugar in this country, the Government were disposed, in a moderate degree, to assist this experiment, by leaving to the proposed manufacturers of beet-root sugar the same protection which they would have enjoyed had the duty on sugar not been repealed. And this bill is for the purpose precisely, of granting to those persons who are making the experiment, making beet-root sugar, for two years, the same protection which they would have enjoyed if the sugar duties had remained. There is no pledge or promise that the duty should be continued. The claim on which this is granted is of a mixed character. It is, in the first place, that people have *bona fide* expended large sums of money in preparing for this manufacture, with a reasonable anticipation that they would have this measure of protection. Another reason is, that in reality the Government would be pleased to see the experiment fairly tried, whether we can profitably produce beet-root sugar in this country or not. For these two reasons they have consented to lay before the House this bill. This industry, if it should be established in the country, would be of enormous benefit to agriculture and also to the industry of cattle-feeding, of which we are proud, and which we desire to see fostered in every possible way. The manufacture of beet-root sugar has reached enormous proportions in France and Germany, where it was commenced under a high protective duty—much higher than we are granting. I hope the House will be satisfied that the Government are acting prudently in allotting this short measure of protection for this experiment, and that they will allow the bill now to be read the second time.

It is passing strange that so astute a man as Premier Abbott does not fully comprehend the importance of this question. Our quotation of his remarks are from Hansard, and it is there shown that the precise purpose of the bill is to grant to the manufacturers who have already invested large capital in plants and machinery, and have made contracts with the farmers for their supplies of beets, the same protection which they

would have enjoyed if the sugar duties had not been removed, and this for only two years. Closely following the declaration of Mr. Foster, Mr. Abbott asservates with much emphasis that there is no pledge or promise on the part of the Government that the proposed bonus shall be continued beyond two years. He shows that the claim on which this proposition for bonus is granted is that the manufacturers have, *bona fide*, expended large sums of money in erecting their plants, placing their machinery, and made their full arrangements for carrying on the industry, in the reasonable anticipation that they would have the protection guaranteed to them by the National Policy; and that the Government would really be pleased to see the experiment of sugar production in Canada fairly tried.

These are remarkable statements, coming as they do from the most prominent statesman in the land. The first proposition is almost flippant in its airy lightness. The fact that the manufacturers have expended large sums of money in preparing for this business does not seem to impress the Premier as being of any greater importance than the preparation of a two acre lot by a farmer for planting turnips; and the diversion or destruction of the beet sugar industry does not impress him as being more disastrous in its effects than the substitution of cabbages for turnips, or of allowing the farmer's field to lie idle a season. The second proposition is of very similar character; and it ill comports with the usual generosity of the Government, particularly in some directions, in leaving it to a few enterprising manufacturers to demonstrate at their own proper cost and expense whether we can profitably produce beet sugar in Canada or not, with the promise that the Government would really be pleased to see the experiment fairly tried. These debonaire utterances of the Premier of Canada do not indicate any great and comprehensive grasp of the subject, or any concentration of thought upon it calculated to result in head-ache or insomnia. The Dominion Government maintains a large experimental farm near Ottawa, well equipped with every contrivance and appliance that can be used in testing the value of certain varieties of cabbage, carrots and turnips, and of certain breeds of pigs, lambs and calves, and the staff of officers employed thereon include all the professors and experts necessary; and there is also a chemical laboratory there wherein all sorts of experiments may be tried; and yet we see the Government, with all these splendid facilities in their possession, standing idle as far as the beet sugar industry is concerned, while a few public spirited manufacturers are struggling along as best they can, endeavoring to demonstrate what can be done in that direction. These manufacturers have invested their capital in good faith, expecting and believing that the spirit of the National Policy would extend to them and benefit and protect them as much as it benefits and protects the Montreal and other sugar refineries in their industry; and when the Government threatens to destroy the beet sugar industry, graciously allowing a reprieve of two years in which to die, the very spirit of the National Policy is violated. If the Government would be really pleased to see the beet sugar experiment fairly tried, why is it that the director of the Government Experimental Farm is not instructed to make the experiment? No doubt the Government would be pleased to see the experiment made, and the fact demonstrated that the industry could be made a success; but this pleasure

would arise from the fact that the farmers of Canada would have another crop upon which to depend, and that in the cultivation of sugar beets they would have an avenue of wealth open to them which had never before been opened up. Mr. Abbott should understand that the manufacture of sugar from beet roots long since ceased to be an experiment, the result of the business being quite as well assured as the production of iron from the ore. Therefore when he stands waiting for the Canadian manufacturers to demonstrate any fact to him, it is that the production of sugar-beet roots in Canada can be made a success. Why should he ask a manufacturer to demonstrate a purely agricultural problem? These manufacturers know that they can make sugar at a profit from beet roots, and their faith is shown by the works they have already erected for that purpose. Let tests be made at the Experimental Farm as to whether the beets can be grown to advantage in Canada, and that they possess the saccarine quality necessary—that is, if such tests are really necessary—but it should be remembered that such tests have already been made in the Ontario Experimental Farm at Guelph, and on hundreds of private farms in Ontario and Quebec; and all that now remains to be done to make the production of sugar in Canada a grand success is for the Government to adopt such a policy as that recently gone into effect in the United States, where a bounty of two cents per pound upon the production of domestic sugar is guaranteed for fifteen years, and where, until July of next year, such sugar-making machinery as is not already made there is admitted free of duty. Mr. Abbott should bear in mind that under such an arrangement, if no sugar is made no duty will be paid; and that if sugar is made the bounty paid would be a profitable investment for the country.

NO UNRESTRICTED RECIPROCITY FOR CANADA.

OUR esteemed contemporary, *St. Louis Farm Machinery*, calls our attention to the following, taken from the *New York Tribune*, and asks if Mr. John Charlton, one of the Liberal leaders of Ontario, does not voice the sentiment of Canadians when he says that the Liberal platform is "free trade with the United States." The *Tribune* says:

This is an appropriate opportunity for some plain speaking to our Canadian friends. They know, or ought to know, that the American people, without party distinctions, earnestly desire to be on the friendliest terms with them. Their character as a highly moral, intelligent, industrious, law-respecting, progressive and enterprising people is perfectly well known to us and by us much esteemed. We gave them from 1865 to 1873 the best proof we could give that we entertained no designs upon their territory. But a trade treaty is as pure a matter of business as a contract to buy and sell between individuals, and it is to be looked at practically. The first impressive fact in the situation is that for natural and climatic reasons Canada can supply us with nothing that we do not ourselves possess. She sends us no product of much importance of which we do not have a native surplus to export, and absolutely not a single product in such quantities as to make the market price here, so that the Canadian exporter obtains what terms we give him and pays the duty out of his own pocket. On the other hand, of Canadian importations we already supply the greater part. In 1890 we supplied forty-three per cent., England only thirty-six, and our export trade steadily increases while England's as steadily declines. What induce-

ment, then, have we to make any radical change in the present situation?

For the information of our American contemporary we would say that we believe Mr. Charlton voices the sentiments of the Liberal party, when he announces the platform of that party to be free trade with the United States; but we most emphatically deny that sentiment voices the views of Canadians generally. As an evidence of this we cite the fact that but a few days ago, in the Dominion Parliament, Sir Richard Cartwright introduced a resolution condemning the policy of the Government in maintaining a protective tariff against the United States, and asking that free trade with that country might be inaugurated. This gave rise to a lengthy and exhaustive discussion regarding unrestricted reciprocity, in which Mr. Charlton took an active part, arguing in favor of the resolution, but when it was put to vote before the House, it was defeated by a large and unequivocal majority. This clearly indicated the views of the party in power on this question; and we take pleasure in stating that, although a great many "want of confidence" motions have been made and debated in the Canadian House of Commons this session, each and every one of them have been defeated by large majorities. As to whether the party in power truly represent the people of Canada on this question, we cite the other fact that there was a general election only as late as last March, in which the Government were returned to power and sustained by the popular vote, the question before the people being clearly and distinctly as to whether they were for or against unrestricted reciprocity.

As to the sentiments expressed by the *New York Tribune*. Actions speak louder than words. That paper tells us that the American people without distinction of party, earnestly desire to be on the most friendly and neighborly terms with us, as a proof of which reference is made to the conditions of trade which existed between the two countries from 1865 to 1873. It should be remembered that the reciprocity treaty which prevailed at the time indicated by the *Tribune*, went into effect in 1855, and it may be interesting to know that although all trade restrictions were removed from between the two countries, trade developed very slowly during the first nine years the treaty was in force. The figures of that trade show, however, that during that short period the United States sold to Canada nearly \$86,000,000 worth more of merchandise than was purchased from us, besides enjoying the free use of our fisheries, the value of which was determined some years later by the Halifax Commission. In the tenth year of that treaty Canada sold to the United States more than she purchased, and this was the first occasion where the balance of trade was in our favor. In that year, however (1864), the United States purchased \$29,608,000 of Canada, against \$17,190,000 the year before, and in 1865 the purchases amounted to \$33,264,000, increased to \$48,500,000 in 1866; but with this treaty had very little to do, for the war of the rebellion was then raging, which disorganized trade in all directions. During this war the United States was more of a consumer than a producer, and the large increase of purchases of merchandise from Canada was in horses and army supplies, without which the conduct of the war would have been very much more difficult. This, then, was a cause of the balance of trade being almost constantly in favor of Canada from 1865 to 1872. But the bare fact that the balance of trade was against them, with-

out regarding the cause of it, the American people — those whom the *Tribune* describes as being earnestly desirous of being on the most friendly terms with us—clamored for the abrogation of the treaty, and the American Government hastened to give the necessary notice for its termination, which occurred in 1873.

If, however, the American people or Government expected that the abrogation of the treaty would diminish their imports from Canada, they were disappointed. During the twelve years included in the term of the treaty, the United States purchased from Canada to the extent of \$286,982,174, an annual average of \$23,915,181; and during the next succeeding twelve years the purchases aggregated \$364,685,594, an annual average of \$30,390,449; and during the next succeeding eleven years the purchases amounted to \$430,826,021, an annual average of \$39,161,088; showing that although American customs dues were collected on all these imports, the importations steadily increased. In the seventeen years—1872 to 1889—Canada bought from the United States to the value of \$885,764,449, and sold to that country \$609,751,941, leaving a balance against us of \$276,006,508, being an annual average of \$16,235,677. This is an important matter to Canada.

The *Tribune* impresses the fact that for natural and climatic reasons Canada can supply the United States with nothing that is not produced there. We send no product there of which there is not a native surplus to export, and absolutely not a single product in such quantities as to make a price in the American market. This is true to a certain extent; but we are told that with our Yankee friends "business is business," and that unless they can obtain all the profits growing out of the business done between the two countries, they will not encourage it. We are reminded of the fact that as trade now is, the United States supplies us with forty-three per cent. of all our imports, and that this trade is steadily increasing, while our trade with Britain is declining. This latter assertion is not borne out by the facts, but it is not to the point. The argument of the *Tribune* is to show that the free entry of Canadian products into the American market would be no boon to American consumers, and that American manufacturers already occupy the Canadian market to the extent of forty-three per cent. of all our imports. Therefore, if any reciprocity whatever is had between the two countries, it must of necessity be of the unrestricted sort, which would give American manufacturers the entire control of our market, to the exclusion of all trade with Britain. Of course such an arrangement would be but a stepping-stone to annexation, and the step could not but be a short and quick one. If the sentiment of Canada lay in that direction—if Canada did not have higher aspirations, looking to her own autonomy and nationality—if she did not desire to maintain as friendly relations with Britain as now exists—then the views of the *Tribune* might be accepted. But in the language of that paper, "a trade treaty is as pure a matter of business as a contract to buy and sell between individuals, and is to be looked at practically." That is just the way Canada views it. Usually in all buying and selling between individuals both parties expect to be benefitted by the transactions, and no individual desires to sell or to buy unless he derives some benefit from the bargain. But if all the benefit is to be on one side only—if the United States will have no reciprocal

trade with Canada unless she derives all the benefit of it, leaving Canada in the condition of a squeezed lemon, we would rather be excused.

The *Tribune* itself and the McKinley tariff suggest the remedy Canada should have recourse to against this unfair proposition. If reciprocity in natural products alone is not to be considered, and if the sacrifice of our manufacturing industries is to be the price of closer trade relations—in other words if the McKinley tariff is to be used to force Canada into annexation, then Canada can adopt and apply the McKinley tariff to all importations from the United States, but retaining our present tariff as against the rest of the world. We trade with the United States because it is convenient to do so, but that country can supply us with nothing that we cannot ourselves produce or that can be produced in Britain, so that in that respect we are not absolutely dependent upon our conceited neighbors. As the *Tribune* shows, even in the face of our tariff the United States supplies us with a large portion of our requirement for manufactured articles; and if this is so good and desirable a market for American manufactures, our tariff might be McKinleyized, and Mr. Blaine's foreign policy of squeezing other nations might be applied with good effect to a people who characterize their loving kindness towards us by levying a duty of five cents a dozen upon our eggs, and thirty cents per bushel upon our barley. If the United States can find no inducement to make any radical change in the present situation, Canada will be forced to make a radical change in her own defence. But it will not be in the direction of sacrificing her manufacturing industries by unrestricted reciprocity.

THE TORONTO INDUSTRIAL EXHIBITION.

THE thirteenth annual fair of the Toronto Industrial Exhibition Association closes to-day. That the event would be a success was a correct conclusion to arrive at; and as a money making venture, giving great satisfaction to thousands of people because of the amusements provided for them, the managers may well felicitate themselves. Under the auspices of the present association their first fair was held in the present grounds in 1879, when the receipts amounted to \$26,960, and since then, including that year, the receipts have aggregated over a half million of dollars.

It is to be regretted that the area of land occupied by the Association for exhibition purposes is so small. There is not sufficient space upon which to erect all the buildings that should be there for the accommodation of exhibitors, nor to give good elbow-room to the hundreds of thousands of visitors who find their way there every year. In fact, if there was double the space it could be all occupied to advantage. There is plenty of room for this much-to-be-desired accommodation in the Garrison Common adjoining, which is now used but semi-occasionally as a rifle range by the military, and which could well be appropriated to more useful and popular purposes, as an enlargement of the Fair Grounds; and it is to be hoped that the comfort and convenience of all the people of Toronto, and the thousands who visit here every year at fair time will be considered as of more importance than the convenience of a few military companies who use the grounds but a few days in each year, and from which the public are excluded. The arts of war might

well be cultivated in some secluded dell or ravine, away from almost the heart of such a large and populous city as Toronto is, to the end that the arts of peace, in which the manufactures and other important industries of the country might be displayed and encouraged. The rifle butts should go and the ground occupied by them turned over to the Exhibition Association.

A year ago, in speaking of the Industrial Exhibition, we called attention to the fact that the Annex, which had been erected to accommodate the overflow of exhibits from the main building, had become congested, and suggested the erection of another building for that purpose, or a considerable enlargement of the Annex. This has not been done, and the demand for it is more emphatic than ever. Other buildings have been overcrowded, and were again this year, a part of the overflow gravitating into the Annex, where they certainly do not belong, to the great inconvenience of exhibitors whose displays properly belong there. This fact is very noticeable as regards the stove building. There has been an imperative demand for very much more space than is afforded in this building; and it is safe to say that if the accommodations were provided, the displays of stoves, heaters, furnaces and similar apparatus would occupy, at least, three times the space now devoted to them. If ground space cannot be had for an enlargement of the stove building it might be carried up another story, thereby doubling the space. The enlargement of Floral Hall was much needed, and the new addition is commodious and pleasant; and numerous other changes and alterations about the grounds afford increased comfort and accommodation. If the Association could obtain possession of a part of the Garrison Common, it is likely the race track and horse ring would be made to occupy it, thereby affording much relief in that direction. The present accommodations are entirely too contracted; and should the change be made it is to be hoped that the Association will provide more comfortable seats for spectators, and greatly enlarge the seating capacity. More room within the horse ring would afford the crowds opportunity to witness the inflation of the balloons and their ascension, instead of sending them up as is now done from an obscure and inaccessible space behind the stables and byres. Agricultural Hall seems to be sufficiently capacious for the purpose for which it was intended. It is always filled with machinery which compares favorably with any manufactured anywhere else in the world, and which certifies that Canadian manufacturers of agricultural machinery and farm implements know their business. The Carriage Department, however, is entirely too small to accommodate all the exhibits that manufacturers would like to display.

We regret to have it to state that Machinery Hall has presented a rather forlorn appearance. Many of the exhibits of fine and expensive machinery that in former years made this department one of the most interesting and instructive on the grounds were conspicuously absent, and those which were there were spread over much more space than necessary for their proper display. In fact, this feature of the exhibition was a failure. This journal has for years called the attention of the managers of the Association to the fact that the Machinery Hall was entirely too small and ill adapted to the purpose for which it was intended, and that, while other features of the fair were given very much prominence, the manufacturers of

iron and wood working machinery and kindred lines were left to shift for themselves, with but meagre encouragement for putting themselves to a great deal of labor, expense and time each year, in their endeavor to make Toronto's great fair the success it certainly should be. It is true, the management caused a very small addition to be made on the south side of the building in which to present a cat show, but we protest against the idea of such a snide entertainment being produced in connection with the products of the best artisans and mechanics of Canada, or in an annex to the building appropriated for their displays. Exhibitors of fine and valuable machinery do not consider that cat concerts are desirable advertisements in their business, or that those whom they would like to inspect their displays are likely to be attracted to them by such meretricious means. We hope the cat concert will not hereafter be a prominent feature at Machinery Hall. We have said that this building was too small to contain the exhibits of machines and machinery that should be displayed there, and this would be a pronounced fact if proper and sufficient attention were paid to this class of exhibitors. If a change, and a very pronounced one, is not to be made in this direction, there need be no additions and improvements made in Machinery Hall, for it will be but a matter of very short time when manufacturers of such articles will cease to be exhibitors there, and the building could be surrendered to cat shows and fakirs; but if the suggested change is made, and proper encouragement is offered to induce manufacturers to exhibit their products, it would be found that a building very much larger and very much better arranged would be required for the purpose. Will this plan be adopted? We hope so.

The membership of the Toronto Industrial Exhibition Association is composed of gentlemen representing several of the more important industries of Toronto and the Province of Ontario, with large representations from the City Council and the Toronto Electoral District Society, though just what this society is or the objects of its existence the general public do not comprehend. It is true that the Canadian Manufacturers' Association is represented in the list of members; and it is also true that members of the Association are also directors on the Industrial Exhibition Board, but not because of their connection with the Manufacturers' Association. In fact, this Association has no representation on the Industrial Exhibition Board, and has no voice whatever in shaping the policy of the Board, else Machinery Hall would not present the appearance it has during the fair closing this week. The management of the Exhibition Association seem to be desirous, to a certain extent, of encouraging such manufacturers as are included in the membership of the Canadian Manufacturers' Association, or some of them, to exhibit their products at the Toronto Fair, but the intensity of this desire may be gauged by the conditions surrounding Machinery Hall; and we suggest that the fair managers should either mend matters in the direction here indicated or announce distinctly that such exhibits would not be made a prominent feature in future exhibitions. In the absence of a pronounced declaration in this matter by the fair managers the conclusion will certainly be drawn that no efforts are to be made to encourage such exhibits.

FAIRS.

THERE are very few organizations on the American continent for the purpose of holding annual fairs similar to that which closes this week by the Toronto Industrial Exhibition Association. In fact, it is claimed that there is but one such concern—at St. Louis, Mo.—which embraces the scope and variety of the Toronto fair. The St. Louis fair is older than ours, but it does not present the variety of attractions to be seen in Toronto, and its exhibition season is only for a week, instead of two weeks as with us. Up to about eight years ago the St. Louis fair included displays of iron and wood-working machinery, and machines and machinery in which the processes of manufacture were shown; but those interested in these classes of exhibits found that it was not to their advantage to display them there, and this led to the establishment of the St. Louis Exposition, embodying a very large exhibition building in the very heart of the city, covering two large blocks of land. In the interior of this building is a music hall capable of seating about four thousand persons, and this is used for large public meetings, operas, concerts, etc.; and there is a Fine Arts gallery for the displays of paintings, statuary, etc. The ground floor of this building is appropriated to the display of heavy machinery in operation, and the engines for producing the power for driving it, for electric dynamos, etc. There is usually fine displays of lighter moving machinery, some of it showing the processes of manufacture of various articles, and other appropriate displays on the main floor; and the galleries contain refreshment booths and still other displays and exhibits. This exposition is open every day and evening (except Sundays) for a season of forty days; and free concerts two or three times a day in the large Music Hall by such performers as Gilmore's band, always afford great amusement. When this exposition was opened the management of the Fair abandoned the features that had accommodated themselves to other quarters, giving all the more attention to those interests which continued with it; and there does not seem to be any clash or rivalry between these two great moral instructors. The most salient features of the Fair are the speeding track, where many of the finest horses in the country may be seen racing at their best; the live stock displays, where prize animals show what farmers are doing in that direction; the agricultural exhibits, where big pumpkins may be seen, and the displays of agricultural implements and farm machinery, which may truthfully be described as the most extensive and comprehensive on the American continent. None of these exhibits, in their individuality, are any better in any respect than those shown every year at the Toronto Fair; and the most noticeable difference between the two is that the grounds upon which the St. Louis fair is held is two or three times as large as those in Toronto. Another desirable feature in connection with the St. Louis fair is that a half-dozen or more street railways reach the grounds, rendering travel to and fro quick and easy, while in Toronto but one line of street cars, and that only for the first time this year, reach the fair grounds. On our Queen street route the cars are all labelled "To the Exhibition," but this is a mean deception, particularly to strangers and tired people, for the nearest point they reach to the grounds is nearly a half-mile from them. It used to be that the ferry steamers landed pas-

sengers immediately on the Fair Grounds wharf, passing from which they found themselves just where they wanted to be, but now the landing is in another place, involving quite a long walk to reach an entrance gate. No doubt these annoyances will be rectified in the course of time.

Toronto's Industrial Exhibition, although yet in its childhood, has a history worth recalling here. The main building was erected to accommodate the Provincial Exhibition of 1878, and, as a tablet upon the wall beside the entrance still shows, was built in the short space of ninety days. The men who, in the face of a great deal of opposition, had induced the citizens of Toronto to build such a magnificent palace of industry, desired to see it utilized, and accordingly the Provincial Exhibition authorities were asked to fix on Toronto as a permanent place for holding their fair. The appeal was in vain, and when the vote was taken at the Agricultural and Arts Association meeting, and Toronto's claim ignored, Mr. J. J. Withrow, the now president, intimated that Toronto would henceforth run her own show—and she did.

In November, 1878, a conference was held between the Exhibition Committee of the City Council and the Toronto Electoral Society, when the following resolution was adopted:

That this meeting, composed of members of the Exhibition Association, of the City Council and of the Board of Directors of the Toronto Electoral District Society, fully concur in the proposition to establish and maintain a permanent exhibition in the City of Toronto, under joint management, for the encouragement of agriculture, horticulture, arts and manufactures, and that the first of such exhibitions be held during the first three weeks of September, 1879.

The project became an accomplished fact. The Ontario Legislature granted a charter, and in September following the first Toronto Exhibition was held on the Garrison Common in the building erected by the city for the Provincial Exhibition of the previous year.

A sketch of the history of fairs at this time may be interesting. According to Dr. Henry, the British historian, fairs were supposed to have been borrowed by the Anglo-Saxons from the Romans, who had established such marts in all their Provinces. The very Latin word the name "fair" is derived from—*feria*—literally translated, means a day of rest, or holiday, which proves that they were originally particular times set aside to commemorate some religious rite or ceremony. This, in all probability, was the Festival of the Dedication of the Church, religiously observed by the old Romans. They were rites originally held in the church-yards or even in the churches themselves, and soon became places of barter and sale. No doubt, when Christ drove the crowds out of the Temple they were there for that purpose, as is indubitably shown by his words on that occasion. In the year 1230 history tells us a Royal mandate forbade the keeping of Northampton fair in the church or churchyard of All Saints in that town; and the Bishop of Lincoln, pursuant to the king's example, extended a similar prohibition throughout his diocese. Spelman has pointed to two passages which show the great antiquity of these meetings. The first is from the historian, Zosimus, who states that even in the time of Constantine, Jews, Gentiles and Christians annually flocked together in great numbers to perform their separate religious rites. The other is from St. Basil, who, toward the end of the sixth century, complained much of a like custom, as it affected his

own church, and compares it to the profanation from which the Jewish temple was purged by the Saviour. Under the Fatimite Caliphs in the eleventh century, an annual fair was held at Mount Calvary, much to the benefit of the surrounding country, and the merchants of Amalphi were very favorably regarded by the infidels for the commerce which this was the means of introducing. But no matter when or what the origin of fairs might have been, it is plain to see that they arose naturally. Wherever men assemble together there is certain to be more or less traffic, and thus, while the fair may have grown out of an accident, it would have come sooner or later, nevertheless.

But notwithstanding the great antiquity of fairs, their charters are comparatively modern—the oldest of which there is any complete record being that of St. Denys', Paris, which Dagobert, king of the Franks, granted in the year 642 A.D., to the monks of the place "for the glory of God and the honour of St. Denys at his festival." The first recorded grant in England appears to be that of William the Conqueror to the Bishop of Winchester for leave to hold an annual "free fair" at St. Giles Hill. The monk who had been the king's jester received his charter of Bartholomew fair, Smithfield, in the year 1133. Sometimes fairs were granted to towns for enabling them to recover from the effects of war and disasters. Thus Edward III. granted a "free fair" to the town of Burnley in Rutland, just as in subsequent times Charles VII. favored Bordeaux, after the English wars, and Louis XIV. gave fair charters to the towns of Dieppe and Toulon. The importance attached to those old fairs may be understood from the inducements which, in the fourteenth century, Charles IV. held out to traders visiting the great fair at Frankfort-on-the-Maine. The charter declared that both during the continuance and for eighteen days before and after the fair merchants would be exempt from imperial taxation, from arrest for debt, or civil process of any sort; except such as might arise from the transactions of the market itself and within its precincts. In those days a fair had its staff of notaries for the attestation of bargains, its court of justice, its police officers, its sergeants for the execution of the decrees of the market judges, and its inspectors, whose duty it was to reject all articles unfit for sale or use. These fairs, as was but natural, gave way in time to more important exhibitions until the sale of food products was confined entirely to markets, and the fairs became specific meeting places for the introduction of specialties.

The fairs of England have always been and are now mainly devoted to the exhibition and sale of stock. There are cattle shows, horse fairs, sheep and swine exhibits, but nothing approaching in diversity of displays the exhibits of this country. In fact, outside of mechanical expositions, there are no fairs—as we term fairs in America—in England. Up to 1798 no attempt had been made anywhere to have a grand exhibit of machinery on a specified occasion. In that year the first industrial exhibition of consequence was held in Paris, and even then the French manufacturers did not display their products, the exhibits being specimens of French manufactures borrowed from the owners. The first industrial exposition of Great Britain was held in London in 1828 under royal patronage but was not successful. It stimulated enterprise in this direction, however, and local exhibitions of manufacturers were

held at Manchester in 1837, Leeds in 1839, and Birmingham in 1849.

Fairs, as now conducted in Canada and the United States, or perhaps we should have said in Toronto and St. Louis, are a distinctive enterprise far ahead of anything of the kind in any other parts of the civilized world, but they had a humble origin. A hundred years ago the people of the United States did not take kindly to what they termed "the peddling ideas of Great Britain," and no systematic effort was made to hold fairs. In 1810 a merchant of Albany, N.Y., named Watson, conceived the idea that a cattle and farm produce show, or more properly speaking, an agricultural fair, would be profitable. With the assistance of a few of his neighbors the idea was carried into execution at or near Pittsfield, Mass., and it was an unbounded success. Encouraged by this, Mr. Watson sought larger fields and asked the co-operation of the citizens of Boston to inaugurate a similar fair in that city. Not only did they emphatically decline, but his proposition called forth a letter of severe rebuke from ex-President John Adams. In nowise disheartened, however, Mr. Watson returned to Albany and in 1812 commenced organizing fairs in adjoining counties with measurable success. By 1819 the people had so far overcome their prejudices against such exhibitions and had so well learned their value that in that year the New York Legislature passed an act appropriating \$10,000 annually for six years for the promotion of exhibitions of agricultural products and domestic manufactures, to be divided among the agricultural societies of the state in proportion to the population represented by each, provided each society raised a sum equal to its allotment. From this time on the fairs of New York, stimulated by these appropriations, grew into such proportions that other States were attracted by them, and before 1858 many of the States had fallen into line. The display of agricultural implements and machinery and vehicles did not become the leading feature of American fairs until after the World's Fair at New York in 1853, although they had held a prominent place in many of the exhibits for a long time before. This World's Fair Company was organized in 1851, the city giving it free rental of Reservoir Square for five years on condition that the building should be of glass and iron and the admission fee not over fifty cents. The company also received some aid from Congress. The fair was opened on July 14th by President Pierce and continued 119 days. Although more than half of the 4,800 exhibitors were from foreign countries the chiefest display and the one that attracted the most attention was the exhibit of farm implements.

Canada, particularly Ontario, was quick to catch on to the practice of holding fairs, and these rapidly multiplied and grew in importance. As in the United States, some of these became permanent, while others had but brief life. The most important of those which have become permanent and have reached the importance and proportions of national exhibitions, noted the world over for the beauty and extent of their grounds, the magnificence and diversity of their displays and for the hundreds of thousands of visitors who annually attend them are those at Toronto and St. Louis.

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EDITORIAL NOTES.

CANADA wants free sugar on the poor man's breakfast table. Give it to him.

It is not according to the ethics of protection to enable any manufacturer to become a millionaire through the favoritism of the tariff.

MR. FREDERIC NICHOLLS, manager of the Toronto Construction and Electrical Supply Company, has been elected to the Executive Committee of the National Electric Light Association.

MR. STAIRS, M.P., of Halifax, thinks that the CANADIAN MANUFACTURER don't understand the ins and outs of the sugar tariff question. Perhaps not; but it knows this much about the application of the ethics of the National Policy to the sugar refining industry, that it never was intended to afford any manufacturer the opportunity to become suddenly and unduly rich through protection.

SENATOR DRUMMOND, who is at the head of one of the largest sugar refining industries in Canada, is unqualifiedly in favor of free raw sugars. His position is that of a manufacturer of refined sugar. His preference is to have free raw sugar, his honest belief being that if this were possible, he could supply the trade with sugar as cheaply as in England. Why not give Mr. Drummond the chance? Why not give the people of Canada cheap sugar?

MR. STAIRS, M.P., said in his speech on the sugar duties question, the other day, that he did not have the pleasure of knowing the gentleman who conducts the CANADIAN MANUFACTURER, and that he hardly ever read it. Mr. Paterson, M.P., might have said the same as to his non-acquaintance with the editor, but it is certain that he does read the paper, else he would not have been able to so lucidly explain the situation. Mr. Stairs might well devote a portion of his time to studying the pages of this journal, thereby the better fitting himself to discuss important questions. His non-acquaintance with the editor is a matter of no importance whatever.

If the report that the people of Kingston, irrespective of party leanings, are thinking of tendering a nomination to Edward Blake for the House of Commons is correct, the news should be welcome to every honest man in the House and in the country, whether Conservative or Liberal. As an independent force in Parliament, Mr. Blake could render inestimable service at this time in the needed work of raising Canadian politics to a higher plane.—*London Advertiser*.

Where was the Honorable Peter Mitchell, and what was the matter with him as an "independent force" in Parliament which was supposed to be able to render inestimable service as a Third Party? If Mr. Blake would be of such great service to the country as a member of Parliament, and if the *Advertiser* and the Grit Party really desire to have him there, if Sir Richard Cartwright will resign his seat in Mr. Blake's favor, we will encourage the change. But it is not at all probable that Mr. Blake would consent to wear Mr. Mitchell's old shoes. He gave up the leadership of the Opposition in the

Commons because he could not afford to associate politically with such men as Mr. Cartwright, and he will probably never consent to return and acknowledge the leadership of such a man.

THE Department of Customs has given directions to collectors that in the case of exhibitions under the management of agricultural, mechanical or art associations, who have regularly established grounds and buildings set apart for such purposes, collectors may recognize such grounds and premises as bonding warehouses, to be used as such during the continuance of the exhibition only, and not at other times. In case of foreign articles imported as intended exhibits, collectors can accept a for-warehouse entry from the importer under the guarantee of some principal officer of the exhibition association, or from such officer himself, if duly authorized for that purpose, and may also thereafter accept a removal or export entry under the same conditions; but in case of the entry being for removal to another Canadian port, the articles must be consigned in bond to some principal officer of the exhibition association as above, and be then re-entered for warehouse under the foregoing conditions, and may be again removed or exported therefrom under proper entry and in bond, as in the case of the original or first importation. In any case no delivery of such goods from the exhibition premises is to be permitted unless under the foregoing conditions or after entry for duty and immediate payment of the duty legally accruing thereon.

A recently issued Blue Book shows that the total number of vessels remaining on the register books of the Dominion on Dec. 31, 1890, including old and new vessels, sailing vessels, steamers and barges was 6,991, measuring 1,024,974 tons register tonnage, being a decrease of 162 vessels, and a decrease of 15,507 tons register as compared with 1889. The number of steamers on the registry books on the same date was 1,364 with a gross tonnage of 206,855 tons. Assuming the average value to be \$30 per ton, the value of the registered tonnage on Dec. 31, last would be \$30,749,220. The number of new vessels built and registered in Canada during the last year was 285, measuring 52,378 tons register tonnage. Estimating the value of the new tonnage at \$45 per ton, it gives a total value of \$2,357,010 for new vessels. In 1873 Canada had 6,783 vessels of 1,073,718 tons, and in all the years since that time the vessel property owned in the country has not at any time varied 300,000 tons. The tonnage of the Dominion is divided among the different provinces as follows:

PROVINCES :	Number of vessels.	Number of steamers.	Gross tonnage steamers.	Total tonnage.
Nova Scotia	2,793	104	10,371	464,194
New Brunswick	981	93	9,450	209,460
Prince Edward Island.	231	18	3,678	26,080
Quebec.....	1,399	270	71,962	164,003
Ontario.....	1,312	709	88,032	138,738
Manitoba.....	79	50	5,365	6,475
British Columbia	196	120	17,997	16,024
Total.....	6,991	1,364	206,855	1,024,974

J. W. Howry & Son are sending a crew of men to Georgian Bay, where they are operating extensively, cutting about 20,000,000 feet annually. Another season it is likely that C. K. Eddy and Son will commence operations in Canada, where they own 400,000,000 feet of timber. William Peter, of Bay City, has a force of men looking up land in the Georgian

Bay country, and it is understood will invest heavily, the timber being intended to stock the Bay City mill.—St Mary, Mich., *Democrat*.

And thus it is that hundreds of millions of feet of the best timber in Canada is being hauled away to enable American saw-mills to be kept in operation, and to give employment to labor in a foreign land. In the meantime, as we have repeatedly shown, most of the Canadian saw-mills in the Georgian Bay district are shut down, and the Canadians who found employment in them are thrown into idleness. It is the policy that permits such things that is driving Canadians out of the country, well knowing beforehand that before they can obtain employment in the United States they will have to become citizens of that country. It was not thus when our Government imposed an export duty upon saw-logs; but they were bullied out of that patriotic position, and now while Canadian saw-mills are shut down, we find Canadian saw-logs hauled away in immense quantities to keep American saw-mills in operation, the employees of which are mostly Americanized Canadians. But then we have the stumps to show where the trees once grew, and that is all. It is this suicidal policy that is helping to depopulate Canada. Impose the duty upon saw-logs.

SENATOR REESOR, while discussing the beet-sugar bounty question a few days ago, declared himself as opposed to the whole system of giving bounties for anything, but at the same time he gave an excellent reason why such a bounty should be given. Alluding to some failures that had been made in Quebec some years ago, he said:—

I think it a pity that a small bounty should be offered now for one or two years, because it will simply tend to lead people into the investment of large sums of money in an industry which is not likely to succeed. But we are told that the beet-root sugar industry has been made profitable in France and Germany. Look at the different circumstances. In Germany the lands are mostly held by pretty large proprietors, and the mass of the people have to work exceedingly hard and get very little pay. They live with a degree of economy that the people would not put up with in this country or in the United States, where they have been in the habit of living with considerable comfort and working moderately. You cannot expect our people to put up with fewer comforts, and work still harder than they do now, in order that they may produce beet root sugar that can be sold for 3c. a pound, or even 4c. a pound. They certainly could not produce the article at the low price that they do in Europe, unless they worked in the same way. It has been noted by people who have visited Germany and taken some pains to look into the matter that the German families go out at four o'clock in the morning, and sometimes earlier, and work in the beet fields—the men, women and children—and remain there nearly the whole day until sundown. The work is something excessive and something beyond what our people can be expected to undertake.

The answer to Senator Reesor is this: In Canada the lands are not held by large proprietors, and if the farmers have to work hard, whatever pay they get is their own, for they are their own landlords. The farmers of the United States live with considerable comfort and work moderately, and yet they compete successfully with the farmers of France and Germany in the cultivation of sugar, under the impetus of a bounty of two cents per pound. It is according to the ethics of protection to exclude the cheap products of other countries in favor of

the products of Canadian labor. Raw sugar is made an exception to this rule in both Canada and the United States, and to offset this exception a bounty is guaranteed for fifteen years in the United States, and should be in Canada.

In 1880 the State of Pennsylvania contained about as many people as the whole Dominion contained in 1881, the exact figures being 4,282,000 for Pennsylvania and 4,325,000 for the Dominion. In 1891 the population of the Dominion is 4,830,000 while in 1890 that of Pennsylvania was 5,258,000. In the case of Canada the numerical increase was 505,000, in that of Pennsylvania 975,000; or to put it differently the decennial rate of increase with us was 11.66 whilst in Pennsylvania it was 22.77. Pennsylvania, moreover, is a pretty ancient community as age goes on this continent. There are sixty-seven counties in the State of which twelve show a decline of population since 1880. We put it to any sensible Tory if he really believes that Pennsylvania would have done as well as she has done had she been divorced by a double set of tariff barriers from the other States of the Union, and compelled to consume her own wealth of coal, iron, petroleum and agricultural products within her own borders.—*Toronto Globe*.

Then there is really a decline of population in a dozen counties in Pennsylvania since 1880, although the aggregate increase of population in the State amounts to 975,000. This decline in counties is where agricultural industries prevail to the almost exclusion of manufacturing industries, and the increase of population is distributed in manufacturing centres. This shows that absolute free trade between the States is destroying agricultural industries in Pennsylvania, because other States can produce such goods cheaper; and that free trade between the States enables Pennsylvania to supply the wants of many of them cheaper than they can supply themselves; but at the same time Pennsylvania is only an integral part of a great whole, to-wit, the American nation, even as the county of York is an integral part of Ontario, or Ontario an integral part of Canada. It would be exceedingly silly to speak of tariff barriers separating Toronto from the balance of York county, or Ontario from Canada; and so it is exceedingly silly for the *Globe* to make a suggestion of that character as regards Pennsylvania. The object of the *Globe* in doing this is to favor the annexation of Canada to the United States, so that, as parts of the American Union, we might share the prosperity of the States as integers of that Union. The *Globe* knows that nothing short of political union would place Canada on such a footing; and the question is as to whether Canada, for the sake of these supposed advantages, would be willing to sink her autonomy, or to take the chances as we are.

The importance of the wide and rapidly spreading uses of electricity in Canada was strongly emphasized in the fact that the National Electric Light Association held their last regular semi-annual Convention this time in Montreal, that event having occurred there last week. This Association was organized in the United States a few years ago, and its Canadian membership is increasing in a ratio commensurate with the growth of the science of electricity and its adaptation to commercial purposes in this country; and it was because of the strength and importance of this Canadian element that the association was influenced to choose Montreal as the place of meeting. For several years Montreal was ahead of Toronto in the establishment of certain electrical industries, and has

always maintained an enviable position as regards the extent and importance of them ; but Toronto is now no laggard in the race, and is pushing hard to acquire first place, if, indeed, she has not already achieved it. Electricians here point with pride to the fact that Toronto was the first, and is thus far the only city in Canada to inaugurate an underground system of wires for transmission of electrical energy for driving machinery and for commercial incandescent lighting. It was a graceful act on the part of the National Electric Light Association to select a Canadian city as a place for their meeting ; and it was particularly so for it to select one of its board of managers from Toronto, as it did in the person of Mr. Frederic Nicholls, who is an enthusiastic electrician, who for several years past has taken a very active part in the meetings of the association, and in electrical matters generally. We are pleased to learn that Edison Electrical Companies—those companies doing business under the Edison patents—will hold their next year's convention in Toronto. The credit for securing this proposed honor to this city is due to Mr. Nicholls. This gentleman was exceedingly successful in organizing the Toronto Incandescent Electric Light Company, of which he is general manager, and of installing what is generally admitted to be one of the very best and most effective lighting plants on the continent. The *New York Electrical World*, in recording the transactions of the Montreal convention, in presenting the portraits of some of the Canadian gentlemen who assisted so largely in making it a success, gives that of Mr. Nicholls a very prominent place in its galaxy.

SPECIAL ADVERTISEMENTS.

Advertisements will be accepted for this location at the rate of two cents a word for the first insertion, and one cent for each subsequent insertion. Subscription \$1.

"TRIUMPH OF THE AGE." Attention is called to the advertisement of The Eno Steam Generator Company, Limited, on page 198 of this issue. This Generator is being adopted by the leading manufacturers in Canada and the United States. Every steam user should investigate its merits.

J. L. O. VIDAL & SON, City of Quebec, are agents to sell and handle on commission all sorts of new and second-hand machinery, engines, boilers, pumps, agricultural implements belting, hose, safes, saws, files, bolts, machines and tools for shoe factories, etc. Consignments solicited. Best references given.

THE HEESON IMPROVED SHAKING FURNACE GRATE has no equal for all kinds of furnaces, round or square, boilers heating furnaces, ovens and stoves. It is the only grate that will clean fires without opening fire doors. It is the strongest bar known, having the most air space, thus securing better combustion. These bars are saving more fuel and generating more steam and will last longer than any other bars on the market. Ten per cent. saving in fuel guaranteed or no sale. References on application. HEESON GRATE BAR Co., 38 King St. East, Toronto.

FOR SALE, A VALUABLE CANADIAN PATENT.—The Trenchholm Improved Perpetual Hay Press, patented 1882, has been

manufactured in New Brunswick for nine years, and stands without a rival in the Maritime Provinces. As it has not been introduced in the Upper Provinces, the purchaser can, if he manufactures there, get practically a complete control of the business in Canada, as this machine is cheaper, stronger, easier running and more durable than any other Press of its class, and is well protected by patent. Full investigation invited. Terms easy. Write for particulars to A. J. TRENHOLM, Sussex, N.B.

PALMER COX has signed a contract with *The Ladies' Home Journal* whereby his amusing little "Brownies," which he has made so marvelously successful in *St. Nicholas* and in his books, will hereafter belong exclusively to the *Journal*. Mr. Cox's contract begins with the October number, for which he has drawn the first of an entirely new series of adventures of his "funniest little men in the world."

ONE of the most ancient military organizations in the United States is the Newport Artillery Company, which is about to celebrate its one hundred and fiftieth birthday on the anniversary of Commodore Oliver Hazen Perry's victory on Lake Erie, an account of which is given in *The Illustrated American* for the week ending September 12. The company has many interesting memories connected with the early history of the United States, and among its treasures is an autograph letter from Washington. The same number contains a number of other timely and interesting articles, such as a short *resume* of the civil war in Chili, with a portrait of ex-President Balmaceda ; views of the railroad up Pike's Peak, the highest road of the kind in the world ; and scenes from the Park Place disaster in New York City.

ONE of the most interesting illustrated magazines coming to this office is *The Illustrated World's Fair*, published by the World's Fair Publishing Company, Chicago, of which Mr. J. N. Halligan is president and manager. It is devoted to the interests of the forthcoming great world's fair, and it contains accurate illustrations of the buildings, grounds, surroundings, etc., as they will appear when completed, and portraits of the officers, managers, promoters and others interested in that immense undertaking. These pictures are given in successive issues of the magazine, and by them most excellent ideas may be had of the things, places and persons to whom they allude. Of course we are all interested in the Chicago Fair, and the information which may be obtained regarding it from this publication will be valuable to those who may visit it next year, and none the less so to those who may not do so. It may be had at the book and news stands, or by application as above.

A FINE page group in a late issue of the *Dominion Illustrated* shows the portraits of the officers and executive of the Canadian Press Association, and on the adjoining page is a brief biographical sketch of each. No finer series of landscape views are presented by any journal in America than those reproduced from week to week by the *Dominion Illustrated*. The last issue is especially noteworthy in this respect. It is a genuine art number. The views at Metis, Ste. Rose and Gaspé are simply charming. The old house which was the residence of the author of "Sam Slick" is also shown in this number, as well as the castle of San Angelo, Rome, the French warship *Bisson* views at the recent Lachine Regatta, humorous cartoons, etc. The number is one of the best that has appeared this season. The Christmas Number of the *Dominion Illustrated* for 1891 will combine these elements to produce the most artistic and beautiful Christmas Souvenir ever issued in this country. It will surpass even the magnificent one issued by this house last year. Published by the Sabiston Lithographing and Publishing Company, Montreal.

A HANDSOME portrait of J. Sloat Fassett, the Republican candidate for Governor of New York, and for a brief period Collector of the Port, is contained in *The Illustrated American* for the week ending September 19, and will be regarded with interest by those who have followed his striking career within the last few weeks. "Famous Yachts of 1891" is an account of the remarkable boats developed during the present yachting season, among the illustrations being a picture of Mr. Norman L. Munroe's launch *Norwood*, which is said by her admirers to be the fastest vessel afloat. The predecessors of New York City, in the way of buried and forgotten Indian settlements on Manhattan Island are discussed under the title of "Some Indian Relics." One of the most interesting suggestions is the possibility that there may have existed on the upper portion of the island a populous settlement which was destroyed by the Indians found there by Hudson. The first of a series of articles

on "Beauties of By-gone Days" is published, and relates how two Irish girls, the Misses Gunning, captured fashionable London by their loveliness of face and figure in the last century. A portrait of Miss Rosina Vokes is added to the gallery of players, and a sketch of Rose Coghlin by Arthur Jule Goodwin forms a colored supplement to the number.

HON CARROLL D. WRIGHT will begin in the October *Popular Science Monthly* a series of papers under the title "Lessons from the Census." In the first of these he sketches the changes in scope and methods which the United States census has undergone in the past hundred years, and shows that its immense growth has made it a somewhat clumsy machine. The series of articles on American Industries will be continued with a fully illustrated account of the manufacture of steel, by William F. Durfee, giving the history of the industry from colonial times to the introduction of the Bessemer process. Prof. A. E. Dolbear will contribute an essay on "Metamorphoses in Education." It is a thoughtful paper, and shows that, since education is a process of fitting men for their environment, a change in its character was necessitated by the change in the conditions of human life that has taken place in modern times. The "Rivalry of the Higher Senses," is the title of a paper by Prof. G. T. W. Patrick. It points out how greatly we differ from the ancients in receiving most of our information through the eye while they took in theirs more largely through the ear. Some of the consequences of this change are also noted. The second of Prof. Frederick Starr's articles on dress and adornment, in *The Popular Science Monthly*, will be published in the October number. The author maintains that dress arose from a desire for ornament rather than from a sense of shame. He describes a number of beautiful garments that are made by savages, and illustrates his descriptions with a large number of pictures.

PROGRESS AND PROTECTION.

No stronger or more convincing argument in favor of the American policy of protection can be brought forward than that which is afforded by a comparison of the present condition of the working classes in our great manufacturing centres with that which existed fifty years ago. A recent article in the *Boston Commercial Bulletin* brings out this point with great clearness, and shows that although many causes may have operated to bring about the improvement in the condition of the working people, the protective policy which has been consistently and vigorously pursued by the government for the past thirty years in the face of every obstacle that has been opposed to it has been beyond a doubt the most important factor in bringing about the changes referred to.

According to the authority of an old cotton mill superintendent, whose statements are quoted by our contemporary, the hours of labor in the leading New England mills half a century ago were from 5 a.m. to 7 or 7.30 p.m., with thirty minutes for breakfast and forty-five minutes for dinner. Women were employed to a greater extent than now, and children of tender years were numerous in the mills. The pay of the ordinary day laborer was 75 cents, and spinners on hand mules rarely averaged \$1 for fourteen hours of toil. The work of the weavers was exacting and tiresome in the extreme, and 66 $\frac{2}{3}$ cents a day was above the average. As compared with these figures the writer shows that the compensation of the wage worker has been largely increased. The women in the weave room now average \$8 per week of sixty hours and the men \$10 a week while mule spinners average from \$11 to \$12. In other branches of industry the wages of the laborer have nearly doubled, while the hours of work have been materially diminished.

This, however, is not all. The actual enjoyments of the wage-earner have been increased in much larger proportion than his pecuniary reward. He lives better and more comfortably, and can easily afford to give himself and his family luxuries which in the earlier days would have been impossible, even though he were disposed to be extravagant. Half a century ago, says the authority already quoted, the mode of living in the family of the mill operative was practically the barest subsistence: "The meat brought on the table of the wage-worker of that day was pork. Coffee, tea, milk and sugar were used sparingly, and molasses was almost invariably used for sweetening. Sateen for winter wear and nankeen for summer use were the garments of men and boys alike. Cowhide covered the feet of the boys in winter. During the other months they went barefoot. Their winter garments included neither undershirts nor overcoats, but the woollen comforters served instead. Calico was the ordinary dress for women, and but few varied therefrom even on Sunday. In the tenements stoves were unknown, carpets were beyond the occupants' means, and the walls were unadorned with paper or pictures. Chairs were of wood only. The

feather bed was usually for the comfort of the parents, and the younger members slept on straw. One room served for their sitting room, dining room and kitchen, and the garret was rarely separated by a partition. The rug before each bed was of braided woollen rags. These operatives, it must be remembered, were native American men and women who came from country towns."

In contrast to this is described the operative's house of the present day with its modern conveniences, unknown even to those of means in the early half of the century, and in a high degree productive of health and comfort. Though rentals may be higher, they consume no greater proportion of the laborers' wages than before, while the cost of living in other respects has been largely diminished. He can clothe his family better with a less cost, and furnish his house in a tasteful and comfortable manner at a comparatively small expense. In a word, the luxuries of the past have become the necessities of the present day. How much of this improvement in material welfare is due to the effect of an economic policy which has fostered and built up the industries which now give lucrative employment to so many thousands of workers, is a question that may confidently be left to the judgement of the honest and intelligent wage earners of the country.—*Manufacturers Review*.

AN EXTRAORDINARY STATUTE.

It seems hardly possible that the Eight-hour law enacted at the last session of the Nebraska Legislature can successfully pass the scrutiny of the courts. To begin with, it exempts from its provisions all persons engaged in farm or domestic labor, a provision of doubtful constitutionality, as it deprives these large classes of wage earners of the privileges conferred upon all others without reserve. Aside from these two classes, the law covers all mechanics and laborers, and requires that eight hours shall constitute a legal day's work for them. It provides that any corporation or employer working employes overtime "shall pay as extra compensation double the amount per hour as paid per previous hour;" and it directs that any person who violates these provisions by exacting more hours of labor for the compensation agreed to be paid per day than is fixed in the bill shall be held guilty of misdemeanor, and shall be fined from \$100 to \$1,000.

It will be noticed that the provisions as to compensation for extra time establishes a rate fixed by geometrical ratio. If the regular rate of payment is 20 cents per hour, for the ninth hour the laborer will be entitled to 40 cents, for the tenth hour to 80 cents, for the eleventh hour to \$1.60, for the twelfth hour to \$3.20, for the thirteenth hour to \$6.40, for the fourteenth hour to \$12.80, for the fifteenth hour to \$25.60, and for the sixteenth hour to \$51.20. No exception is made in the bill for any exigency. It might happen for instance, that to clear away a railway wreck and re-open communication it might be necessary to work gangs of men for a long stretch continuously, but the literal application of the rate fixed in this law would roll up an expenditure which would be grotesquely enormous. The canny farmers who put through this bill showed their prudence in exempting from its provisions those forms of labor with whose compensation they have to do; but it is not probable that the law will be allowed to stand, as it perpetrates gross injustice and would be prejudicial to the interests of the state.—*Boston Journal*.

NEW DOMINION LINE STEAMER.

A NEW steamer, named the *Labrador*, from the building yard of Messrs. Harland and Wolff, Limited, Belfast, has just been added to the Dominion line for that Company's service from Liverpool to Montreal. The trial trip on the run across the Channel was most successful, their being an entire absence of heating, the speed throughout being 15 knots, which was in excess of the expectations of the owners. The vessel is constructed throughout of steel of extra strength necessary for the North Atlantic trade. She has eight watertight bulkheads, and her dimensions are:—Length 400, breadth 47, and depth 32 feet; tonnage, 4,700 gross, and 2,998 net register; deadweight capacity, 5,700 tons. She has a double bottom throughout containing water ballast, and also fresh water supply for cattle. Her rig is four pole masts, square-rigged on foremast only. The steering gear is Messrs. Wilson and Pirrie's patent, geared direct to the rudder head, dispensing altogether with chains. The engines are triple expansion, indicating 3,800-horse power, pressure 170 lbs. A special feature of the *Labrador* is that the saloon and staterooms for first class passengers are contained in a house erected on the bridge deck, being thus entirely isolated from other departments of the ship, and securing perfect ventilation in

all weathers. It is only necessary to say that the saloon, smoking room, ladies' boudoir, and staterooms are finished in Messrs. Harland and Wolff's well known style. The second cabin is on the main deck underneath. The comfort of this class of passengers has been catered for beyond what is customary. The steerage passenger decks are very lofty. Their beds of white canvas, in framework of wood, can be folded and put up under the beams, so as to be out of the way during the daytime. In the cattle decks every provision is made in accordance with the new regulations of the British Board of Agriculture and the Canadian Government for the safe carriage and comfort of the animals. Water is delivered from the fresh water tanks by pipes carried overhead the entire length of the ship and on both sides, with taps and short lengths of hose attached at frequent intervals, thus reducing the labor of the attendants to a minimum, and securing proper watering for the animals. The ventilation of the 'tween decks is provided by cowls, by Utley's automatic ventilating ports, which can be kept open in all weathers, as the exclude water while admitting air, by two trunks extending fore and aft, fixed overhead, with apertures at frequent intervals, through which air, drawn from the deck above, is forced by two large fans, each driven by a separate engine. Electric light is fitted throughout the vessel, with two complete sets of generating plant, supplied by Allen, of London. Protection against fire is provided steam pipes connecting with each separate compartment, by which steam can be turned into any part for extinguishing fire, the valves for same being placed together on deck, where they are easily accessible. The refrigerating machinery is Haslam's cold dry-air system, with chambers capable of conveying a large quantity of dressed beef. The *Labrador* will be classed on the Admiralty List as a transport, being admirably adapted for troops and cavalry. The ship is finished throughout in the style for which Messrs. Harland and Wolff's building-yard is so justly famed, and has been constructed under the supervision of Mr. William Glover, consulting engineer to the Company.—*Liverpool Journal of Commerce*

The ordinary wire nail machine bids fair to be superseded if the success of the Pittsburg Iron and Nail Company in fitting a wire nail attachment to its steel plate nail mill shall prove of general adaptation. In carrying out this plan, the self feeder of a nail plate machine is removed, its place being substituted with an ordinary wire nail machine feed, operating from the left side; the bed plate, gripping and heading dies remain as in the old machine, but from the clamp at the back is attached an arrangement for cutting and pointing the wire similar to the manner in which this process is carried on in regular nail wire machines. It is said that the adapted machine turns out perfectly formed nails at the rate of 250 a minute, and that the heading die performs its work better than characterizes the ordinary apparatus; the heading arrangement of the latter works from above, and fashions the head with a quick blow, while the heading die of the transformed nail plate machine works from the right hand side and works the head with a more gradual motion. The nails by this method are represented as thoroughly well made, well pointed and with large head, and without any indication of splitting. By changing the space block, four, six, eight and ten-penny sizes can be made, and the capacity of the device for wire nails is said to be from forty to fifty per cent. greater than the common wire nail machine.—*Iron Trade Review*.

SOME continued experiments and a recent final test have proven that steam is to have another competitor in the generation of power. The new process is by the aid of ammonia, and the test was made on a tug-boat, this being the first application of the process ever made to a marine engine. The system lies in the use of a generator, an article somewhat resembling a boiler, and which can be attached to any ordinary engine. The aqua-ammonia is placed inside the generator and heated by steam. The ammonia, becoming heated, expels a gas which leaves a weak solution of ammonia in the bottom of the generator. The temperature of the ammonia is raised to a certain degree and sufficient power is generated. The gas is let into the cylinder by means of the throttle-valve, and propels the piston-rod as in the case of steam. It is here exhausted the same as steam, but at this point the gas is cooled and conducted back to the generator. Before it reaches the latter vessel it is carried by a "spray coil" to a point where the gas comes in contact with the ammonia solution which had been rejected from the generator, and here the solution is recharged by absorption and by the natural affinity existing between water and ammonia. It will be seen by this method the same ammonia is used and reused. The same is true of the water used. A great saving of fuel is obtained. Indeed, the engine by this system can be run at just one-half the steam expense as far as coal is concerned.

Manufacturing.

This department of the "Canadian Manufacturer" is considered of special value to our readers because of the information contained therein. With a view to sustaining its interesting features, friends are invited to contribute any items of information coming to their knowledge regarding any Canadian manufacturing enterprises. Be concise and explicit. State facts clearly, giving correct name and address of person or firm alluded to, and nature of business. Subscription \$1.

THE Beauce Asbestos Company has been organized at St. Francois de la Beauce, Que., with a capital of \$10,000.

MR. F. W. SCHWENDIMAN'S planing mill at Drayton, Ont., was destroyed by fire September 2nd. Loss about \$5,000.

THE James Smart Manufacturing Company, Brockville, Ont., have recently shipped several hundred stoves to the Pacific coast.

THE John Doty Engine Company, Toronto, built the 300 h.p. boilers and machinery for the new steamer, now nearly completed, at Vancouver, B.C.

THE syndicate, represented by Mr. John C. Riteen, of Chatham, N.B., are erecting three mills in that vicinity for the manufacture of spools and bobbins.

THE Canada Chemical Manufacturing Company, London, Ont., has been organized with a capital stock of \$80,000, to manufacture chemicals, dye stuffs, etc.

THE Buckingham Manufacturing Company, with headquarters at Montreal, has been incorporated with a capital stock of \$80,000 for the manufacture of wood pulp, etc.

LA COMPANIE D'AMIANTE DE LA BEAUCE (The Beauce Asbestos Company) is being incorporated at St. Francis, Que., with a capital stock of \$10,000 to manufacture asbestos goods.

THE Merritton Cotton Company has been formed to take over and work the mills of the suspended Merritton Cotton Mills Company, of Merritton, Ont. The capital stock is \$200,000.

THE North America Mill Building Company, with headquarters at Stratford, Ont., has been incorporated with a capital stock of \$70,000 for the manufacture of mill machinery, etc.

MR. W. WORMWORTH'S piano factory, at Kingston, Ont., was destroyed by fire September 3rd. Loss about \$5,000, including thirty-six unfinished pianos, which were in course of construction.

MESSRS. J. M. WILLIAMS & Co., of Hamilton, Ont., have leased the stove foundry of Mr. Mowat, at Dundas, Ont., and are starting it up with a force of fifty hands, for the manufacture of stoves, furnaces, etc.

THE Toronto Junction Manufacturing Company, West Toronto Junction, near this city, is being incorporated with a capital stock of \$50,000, to manufacture an improved lantern and other hardware specialties.

THE heavy vault doors for the new Bank of British Columbia, building at Vancouver, B.C., recently placed in position, were manufactured by Messrs. J. & J. Taylor, the celebrated safe makers of Toronto.

MESSRS. JOHN McDUGALL & Co., proprietors of the Caledonian Iron Works, Montreal, manufactured the two steam boilers recently placed in the power house of the Electric Light and Railway Company at Vancouver, B.C.

MESSRS. BROWN BROS., Teeswater, Ont., have established a flax mill at that place which will give employment all winter to quite a large number of people. They have put in a quantity of fine machinery and are turning out a first-class product.

THE Northey Manufacturing Company, Toronto, has been incorporated with a capital stock of \$100,000 for the manufacture of steam pumps, machinery, engines, etc. This is an expansion of the business of the well-known firm of Northey & Co.

THE E. Broad and Sons Company, St. Stephens, N.B., has been incorporated with a capital stock of \$40,000 for the manufacture of edge tools, etc. This is merely a change for convenience in the name of one of the oldest and most reputable manufacturing concerns in Canada.

THE Rathbun company have placed in their elevator at Picton, Ont., a 25-horse power steam engine which will furnish motive power for elevating, instead of horses as heretofore. It has also erected a chopping and cracking mill to be run by steam and to do its work at the rate of 100 bushels per hour.

THE Worth Plumbago Company, who controls a large tract of mineral land near Donaldson's Lake, Quebec, have put up a large four-storey factory for the treatment of graphite. The ore will be prepared for the making of crucibles, and for lubricating purposes, and lead pencils and stove polish will be numbered among its products.

THE Main Company, Fredericton, N.B., will erect a large wood pulp mill equipped with the best machinery, near Zealand station, on the Canadian Pacific Railway in that province. They will also erect a saw mill at Cardigan station, on the same road, for the manufacture of all kinds of small hardwood goods, such as fruit boxes, brushes, handles, shoe lasts, etc.

THE Messrs. Reid & Currie, Iron Founders, New Westminster, B.C., have just completed the formation of a Joint Stock Co., with limited liabilities and \$100,000 in capital, composed of themselves and a few other of the soundest men, financially, in Westminster. It is the object of this firm to extend their works, so that they will be able to meet the increasing demands of their trade.

MR. JOHN WHITE, ex-M.P., representing Toronto capital, has entered into an agreement with the Sydney Land and Improvement Company, to erect a thoroughly modern saw-mill, with a capacity of 75,000 feet a day, at the new town in North Saanich. Ground will be cleared immediately, and the contract specifies that the mill shall be in operation within one year. — Victoria, B.C., *Colonist*.

THE Seattle *Telegraph* remarks that the sugar refinery located at Vancouver is doing a rushing business, and although two sets of hands are employed and the refinery kept running night and day, orders for months ahead are constantly accumulating. There is some talk of increasing the facilities of the plant. It has become a source of supply in the line of sugars to an immense territory, and the owners are more than pleased with the success of the enterprise.

SINCE the Swiss adopted the American method of manufacturing watches in factories their production and sale have greatly increased. In the last six years the number of watches exported from Switzerland has increased from 2,734,234 in 1885 to 4,431,301 last year, these figures not including the works and cases exported separately. Altogether, the value of the exports last year is calculated at \$20,000,000. There is now a number of schools for teaching watch-making.

Two Chinese capitalists named Chu Lai and Ung Sun, who arrived from Hong Kong on the *Empress of Japan*, have decided to erect a large salmon cannery on the Fraser river. The cannery will be erected in time to begin packing next year. The Chinese Rice Mill syndicate, mentioned a few days ago, have purchased a site below the Royal City planing mills, and the erection of the mill will soon be proceeded with. There are four chinamen interested. — Westminster, B.C., *Columbian*.

THE Heeson Grate Bar Company, Toronto, publish the following letter, which explains itself, signed by the chief officers of the steamer alluded to:—"Gentlemen,—We send you this reference in respect to the set of shaking grates you put into the steamer *Alma Muuro* last spring. They are just as good now as they were when first put in. We find they are a great saving in fuel. We make steam easier and can keep it more regular, because we don't have to open the furnace doors to clean fires, consequently the boat makes better time. They are all you claimed them to be."

THE Otterville Manufacturing Company, Otterville, Ont., have sent us their illustrated catalogue and price list having reference to the piano and organ stools manufactured by them. These stools are made in all the popular varieties and of the best materials and workmanship. In alluding to the construction of these stools, speaking of the importance of good screws and nuts, we are assured that the steel for the screws is first turned to a gauge, then a square thread cut which fits a four-inch nut, the thread being at the bottom, and the top acts as a washer to prevent wobbling and the seat from tumbling off when turned up too high.

THE Vancouver Steamship Company has let a contract for a two hundred and eighty ton vessel, to be built on False creek, and completed within six months from date. The dimensions of this vessel are to be: depth of hold, nine feet; beam, twenty-six feet; keel, one hundred and ten feet. She will be fitted up for the freight and passenger trade, and will be fitted up with sufficiently powerful engines for towing purposes. Cabin accommodation will be provided on deck for thirty passengers, and a large amount of deck room will be furnished, so as to make the boat convenient for large excursion parties. — Vancouver, B.C., *Commerce*.

THE Goldie & McCullough Company, Galt, Ont., inform us that they are meeting with unprecedented success with the Wheelock

steam engine manufactured by them. One of these beautiful engines, of 80 h.p., was stationed in Machinery Hall at the Toronto Exhibition and attracted a great deal of attention because of its noiselessness while in motion, and the elegance of its finish. This engine, or a counterpart of it has been sold to go into the new works of the Listowel Furniture Company at Listowel, Ont. We recently gave a list of persons in Canada using these engines, and further information concerning them will be furnished on application.

THE New York *Electrical World*, in its edition of September 12th, contains a number of illustrations of electric lighting stations in Canada, among which are the electrical gallery and the engine and dynamo room of the Toronto Incandescent Electric Light Company. The first equipment of this plant included three horizontal tubular boilers and two Straight Line engines, each of the latter being of 165 h.p., and two pairs of Edison No. 20 dynamos. From this beginning the plant has grown until the present equipment consists of seven 60-inch boilers, sixteen feet long, two Straight Line engines and three Armington & Sims' engines, having an aggregate capacity of 1,000 h.p., and six No. 20 and four No. 32 Edison dynamos.

THE *Daily Alert* of Jameston, Dakota, says:—"A farmer says that he worked the smudge on his wheat last Saturday night and it was a complete success. He even saved his millet. He had a lot of straw piles laid all along the north side of his wheat and also along the west side. When the wind was in the north he burned the north side, but later in the night the wind changed to the west and he then fired the straw on the west side and he says he saved his wheat completely. He worked at it all night long. An adjoining neighbor of his who had a lot of smudges on the north line, but who had none on his west line, had his grain badly damaged by the wind changing. His millet was completely killed. This neighbor's millet is now dry and crisp, while Northrup's millet, though slightly nipped on the tops, is green and practically uninjured.

THE Lloyd Manufacturing Co., Kentville, are carrying on a flourishing business and at present have a large number of orders ahead. They have just shipped to Miss Stirling, proprietress of the Orphans' Home at Aylesford, two carloads of machinery, among which was a rotary mill, fitted with all the latest improvements, having all Lane's patent Green Mountain Dogs, and a Lane Shingle Mill. They have also, recently shipped to Clyde River a Lane Shingle Mill manufactured by them, which gives evidence of strength and durability, and has an advantage over other similar machines in its simplicity. This machine will cut from good stock from twenty-five to thirty thousand shingles per ten hours. We learn that this firm purpose placing on exhibition at Halifax, in charge of Messrs. Austen Bros., a number of machines of their manufacture. Customers will thus be able to see machinery in operation and judge for themselves of the many good points it contains. — Halifax, N.S., *Critic*.

MESSRS. J. A. HUMPHREY & SONS' woolen mill now gives employment to fifty-seven hands, as compared with about thirty-five or forty last year. The lower flat of the new brick building, thirty-five by one hundred and five, has been partly filled with new machinery and is now actively in operation. New looms, spinning machines, etc., have been added, enabling the firm to turn out a finer class of goods than ever before. Humphrey's woolen yarns are now a standard article, the daily output being upwards of 100 pounds. The output of the mill, principally woolens and tweeds, is fully sold and new machinery will be added as the market enlarges, the firm having in view a threefold increase of their present capacity. There is a great change since the adoption of the National Policy, the mill previous to that time doing only rough fulling and carding, giving employment to one or two persons a part of the year. Quite a large village has sprung up in the vicinity and more houses will be needed next spring to accommodate the people. — Moncton, N.B., *Times*.

CAPT. ROGERS' new steamer is ready to wed the water. This is the first vessel of so great dimensions built here, and her successful completion reflects credit on the builders. The vessel is a combination in design, and is, in a way, a realization of Capt. Rogers' own experience and observation. She will have complete passenger accommodation without in any way having her cargo capacity curtailed. She is built on speed lines with a due regard to the kind of weather she will have to encounter in her gulf coast service. She will have twin screws with two independent sets of compounding engines, fourteen and twenty-six by eighteen. These will be surface condensing. The two cylindrical boilers will be eight feet in diameter by eleven feet in length. The engines will be 275 I.H.P. The machinery is from Doty Bros., Toronto, and was ordered through Mr. O. P. St. John, their agent here. All the work on the

hull was done at Leamy & Kyle's yards here, but the machinery will be put in at New Westminster.—Vancouver, B.C., *Telegram*.

THERE is nothing handsome about a separator, nor is it the quietest travelling machines in the world, and when followed or preceded by a traction engine, both are about as ugly customers to meet with a skittish horse as is desirable. Yet, quietly and almost unobserved, these machines have been improved until they do most wonderfully rapid work, and with the excellent crop of this year, the record is such as is not often heard of. We have had occasion to note the rapidity with which other threshers have turned out their hundred bushels, and now find the Laur Bros., of Puslinch, coming to the front with some very quick work, they having threshed for Mr. Donald Stewart, of the 1st Concession of that Township, 400 bushels of wheat and 75 bushels of oats in four hours. The yield of wheat was slightly over thirty-five bushels to the acre. They then moved one mile to Mr. McPherson's, where they threshed 390 bushels of wheat and 60 bushels of oats, completing their work by 6.30 o'clock, thus showing 915 bushels threshed besides the time lost in moving the machines, in a little over ten hours.—*Galt Reporter*.

THE Bell Telephone Company, of Canada, is a large manufacturer of telephone and other electric apparatus, having in Montreal a most complete and modern factory for the purpose, employing some 400 hands. Besides telephones, transmitters, batteries, insulated wire, etc., they make to order various sizes of electro-mechanical gongs, tappers, bells and tower strikers for fire alarms. The company manufacture fire alarm telegraph apparatus of all descriptions, and is prepared to furnish estimates to cities, towns and villages for the construction of fire alarm systems. Its fire alarm apparatus is in successful operation in Montreal, Lachine, Cornwall, Gananoque, Napanee, Stratford, and other places in Canada. The company have at the Toronto Fair a very interesting display of the ingenious electrical machinery employed for giving fire alarms. The Magneto system is a modification of the ordinary method, and by this outlying districts of a town can have fire alarms rung by telephone, a fact deserving the consideration of municipalities. A further feature meriting attention is the warehouse telephones produced by this company. By means of these, the different flats of a warehouse, parts of a factory, rooms of a bank, can be connected from the central room or office.

MR. H. W. PETRIE, machinist and general machine dealer, 145 Front Street West, Toronto, has sent us his list No. 16, having reference to the new and second-hand machinery which he has on sale. This list is a substantial unbound book of some sixty-six pages, in which are descriptions of the many articles he has in his warehouse. Included in these are machine tools, chucks, boring machines, drill presses, drills, milling machines, power hammers, punch and shearing machines, bending rolls, tops and dies, screw plates, bolt cutters, jack screws, machinists' stocks and dies, forges, anvils, vises, saw gummets, engines and boilers, feed pumps, injectors, tube brushes, governors, pressure gauges, steam pumps, steam fire engines, wood-working machinery, sand papering machinery, circular saws, belting, hose, lace leather, belt fasteners, water and steam gristmill machinery, brick-making machinery, cotton and woolen machinery, agricultural machinery, etc. We have heretofore given a description of Mr. Petrie's new establishment at the above location. It is one of the largest and most complete of the kind in Canada, and Mr. Petrie possesses unsurpassed facilities for handling the lines of goods which he offers. Those who may be interested in this matter can obtain a catalogue and all information by addressing Mr. Petrie as above.

SPEAKING of the manufacturing industries of St. Stephen, N.B., a correspondent says: "There are probably many considerable manufacturing establishments in the town. But only two of them were visited by our party—Ganong's Confectionery and the St. Croix Soap Factory. The Confectionery was started in a small way sixteen years ago. It has grown rapidly, and is now an establishment of large proportions. It has 138 employees. Its sales last year amounted to \$238,000; this year they are expected to reach \$250,000. Its business has doubled in the last five years. The Soap Co. was incorporated in 1884, but was running six years before that by Ganong Bros., who started the business. A son of the founder of the business is the manager. Only laundry soaps are made, and it is claimed that it is the largest soap factory in Canada. The much advertised "Surprise" is their leader. This year the output will amount to \$130,000. The chief market for their soaps is in the Maritime Provinces and in and about Montreal. But they are pushing their business all through Ontario. A large cake, weighing over 1,000 lbs., for the Toronto exhibition, has just been completed. Another like it is being made for Montreal. The business is increasing steadily, this year showing a gain of twenty-five per cent.

MR. ALEX. MCGAW, manager of the Lake of the Woods Milling Company, states that his company had recently purchased the entire property of the Portage Milling Company at Portage la Prairie, as already announced, but he said that the statement in a contemporary that the company intended remodelling the old mill and doubling its capacity was entirely erroneous. There was no intention of increasing the present mill, but the company had decided to erect a new mill at the Portage, which is to be one of the finest mills on the continent. It will have a capacity of about 600 barrels. The Company is now contracting with the leading milling machinery firms of Canada and the United States with the intention of procuring the very latest and best machinery for the new mill. When completed this will be the most modern and one of the best mills in the Dominion of Canada. The Lake of the Woods Milling Company has built already during this season five elevators of 30,000 bushels capacity each. These elevators are located at Douglas, Elkhorn, Melita, Methven and McDonald. The company has also erected a number of warehouses at various points. This company has now the largest total storage capacity of any milling institution in the Dominion, including its Keewatin elevators. It is pursuing a vigorous and progressive policy.

SOME months ago reference was made in the columns of the *Herald* to a wonderful automatic knitting machine in operation in the woolen manufactory of Feodor Boas & Co., St. Hyacinthe. The machine was the product of the inventive genius of Mr. Moritz Boas, of St. Hyacinthe, and Mr. George W. King, of this city, late of Georgetown, Ont., and is pronounced by those who have examined it to be one of the most wonderful inventions ever patented. Its operation is entirely automatic, it requires little or no attention and does its work perfectly. Canadians generally will be interested to learn that Mr. Boas has sold the patent right of the machine for the United States to a syndicate of American capitalists for \$300,000 besides retaining a large interest in the enterprise. The experts whom they brought with them to examine the machine pronounced it the most wonderful invention of its kind they had ever seen. This transaction would seem to warrant the belief that the inventive genius displayed by the gentlemen mentioned, in the construction of the automatic knitting machine is not only highly creditable to themselves, but also a source of satisfaction to the people of Canada, who, in this matter at least, have proved themselves quite able not only to hold their own but also to lead the Americans. The Messrs. Boas and King are entitled to hearty congratulations.—*Montreal Herald*.

THE manufacture of artificial coffee beans, has it seems, reached a stage of such importance in the United States as to compel the attention of the revenue officers. This is no new movement, indeed. It is now more than thirty years since the late Dr. Lindley, the botanist, presented to the director of Kew Gardens, London, a selection of carefully moulded artificial beans, intended for mixing with the genuine article. They were made of finely powdered chicory, and were an excellent imitation. The ordinary American artificial bean is, however, composed of rye flour, glucose and water, and is prepared to resemble in size and color a fairly good sample of roasted coffee beans. When mixed with the genuine beans, these imitations acquire the aroma of coffee. It has been computed that twenty per cent. of the beans sold in the United States are artificial. The spurious beans can be made at a cost of \$30 per 1,000 pounds, which, mixed with fifty pounds of pure coffee, finds a ready sale. Coffee substitutes are also sold openly like butter substitutes—one firm making 10,000 pounds a week. The wholesale vendor thus escapes the penalty of violating the adulteration laws, but the retailers who buy the substitute know what to do with it. In Germany an Imperial decree has forbidden the sale of the machines for making the false berry. Until the prohibition, they were largely advertised. Some time ago surprise was caused by the extent (as revealed by analysts) to which coffee was adulterated in Canada, but the artificial bean is, we believe, virtually unknown in the Dominion.

THE Dominion Government have contracted with the Polson Iron Works Company, of Toronto, for the construction of a fisheries protection cruiser for service on the upper lakes. She will probably be built at the Polsons' shipyard at Owen Sound, Ont. The dimensions of the new vessel will be as follows: Extreme length, 125 ft.; length on water line, 114½ ft.; beam, 19½ ft.; draft (aft) 9½ ft. The frames of the hull will be of steel, with steel top sides, and rock elm planking 4 to 5 inches thick below the water line, flush decked, with all accommodation below the main deck. She will have a turtle deck forward, built of steel, for shedding water, etc. On the main deck will be the wheel house, chart room and galley only. The cruiser will have two pole masts, and her canvas will be an outfit of mutton leg sails. The hull will be divided into four bulk-

heads, and her coal bunkers, with a capacity of 60 tons, will afford protection to the machinery from shot. Her boilers will be of the Scotch type, 11 feet in length by 10½ feet in diameter. Her engines will be compound 18 and 36 inches, with a 24-inch stroke driving an 8-foot-4-inch wheel with a 13.3 pitch. She will be fitted with steam capstan and windlass on the turtle deck, with an engine on the main deck, her speed being 18 knots an hour. The contract price was \$37,900. Four Canadian firms tendered for construction, and so close was the competition that the Polsons only proved the lowest by \$100.

The Metallic Roofing Company, Toronto, who are manufacturers of Eastlake and other fireproof steel shingles, etc., made a very unique and attractive display of their shingles at the Toronto Exhibition, and advertised them in a most effective manner. A great number of the buildings on the Exhibition Grounds—we believe all—are covered with these shingles, and placed prominently upon every building upon which these shingles are were conspicuous signs announcing the fact. That these shingles are in large demand throughout Canada is shown in a catalogue, recently published by this company, in which the names of more than 200 persons are given who have them in use; and we are told that there are hundreds of others whose names were omitted from the list for lack of space. The uses to which these shingles are put are for covering roofs and sides of workshops, foundries, mills, railway stations, elevators, warehouses, churches, schools, theatres, exhibition buildings, etc. Mr. J. O. Thorn, the manager of the company, has recently invented and patented an improved broad rib steel roofing, and his company have put machinery into their factory for manufacturing the article. We are told that this roofing can be laid as cheaply as a shingle roof, and that it is specially designed for large buildings. It does away with the necessity of using draw tools, mallets and paint for greasing the joints, tonguing up edges, double seaming, coping of ribs, riveting ribs, and exposed fastenings, and in laying it the locks do not have to be malleted over. This roofing is made from imported Siemen's sheet steel, which is hard rolled, tough, durable and thoroughly coated on both sides with the best magnetic oxide of iron and linseed oil paint. It is also furnished in copper, painted or unpainted tinned steel, or galvanized iron of the finest quality.

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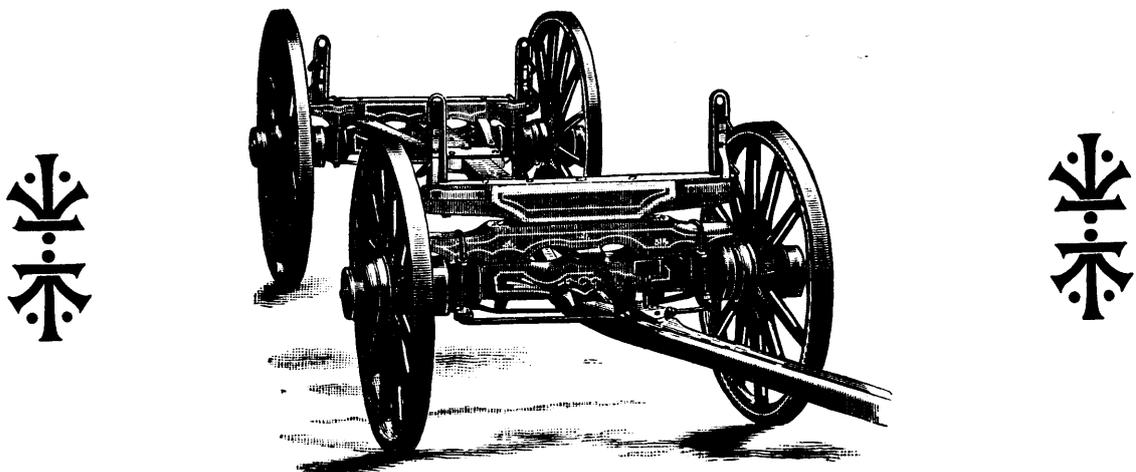
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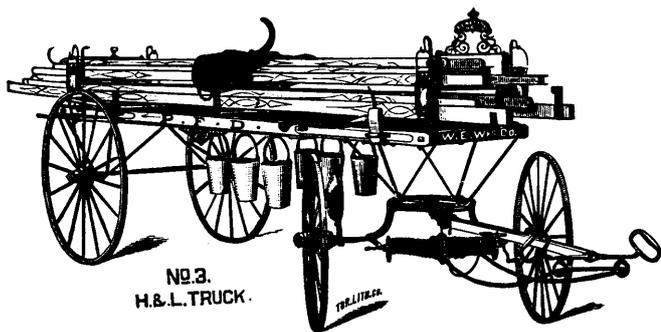
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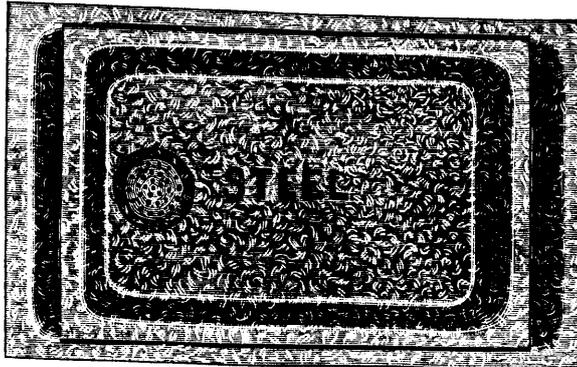
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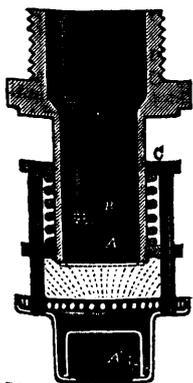
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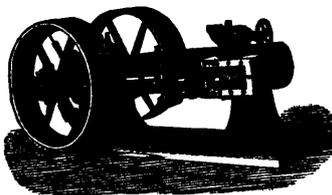
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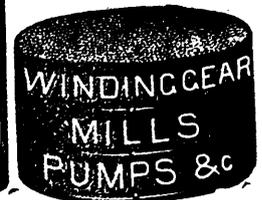
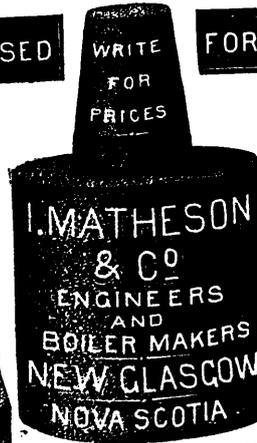
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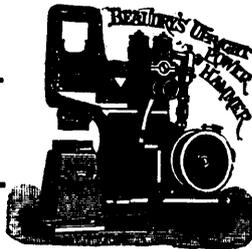
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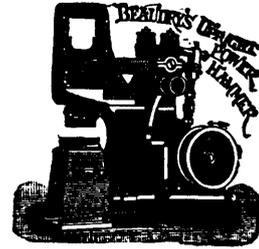
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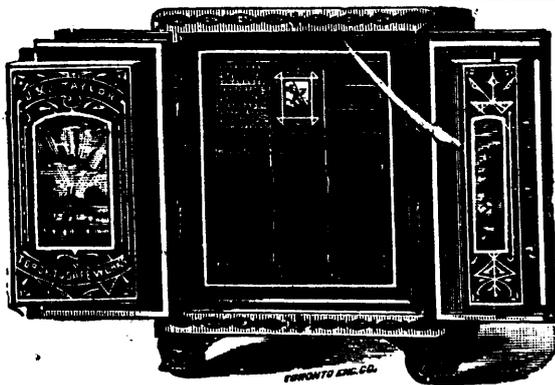


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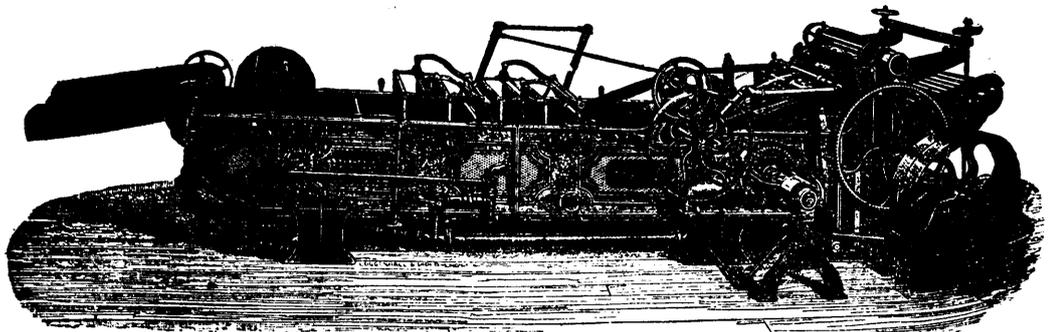
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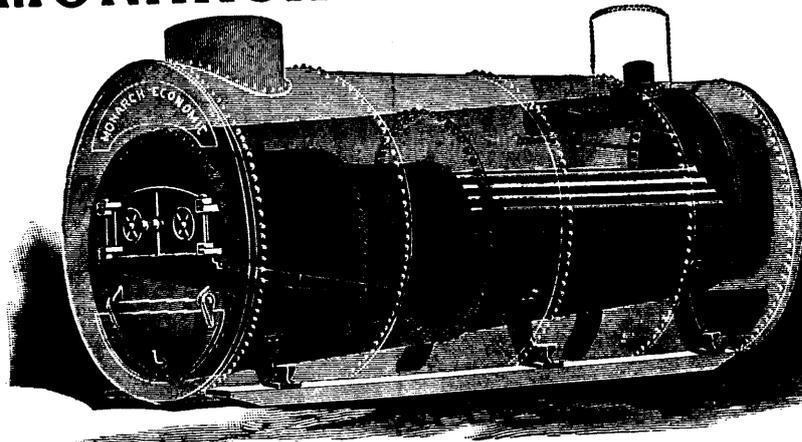
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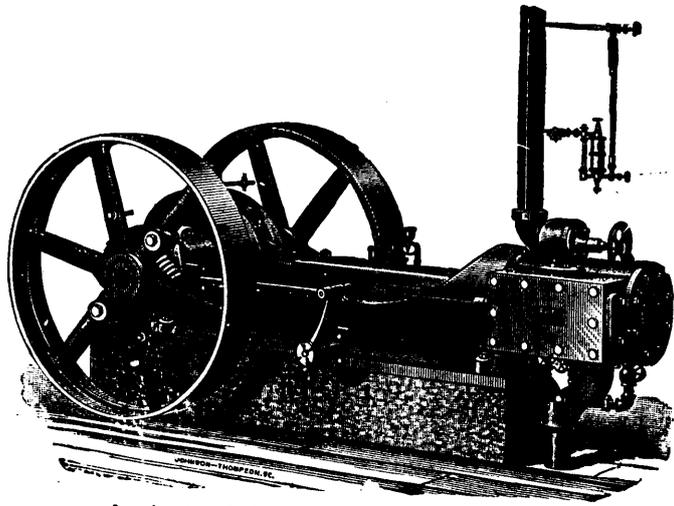
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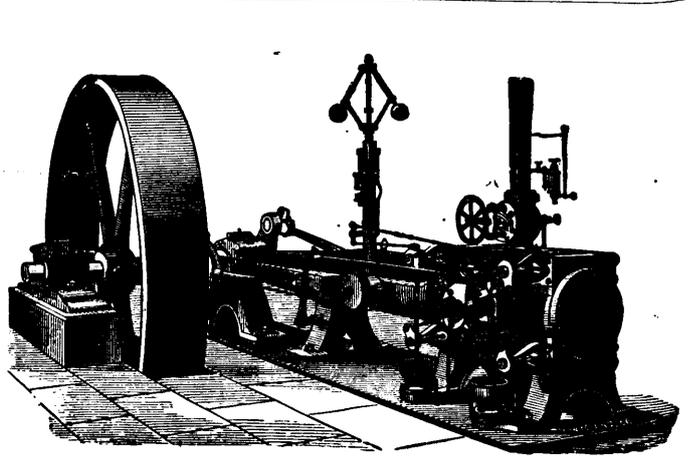
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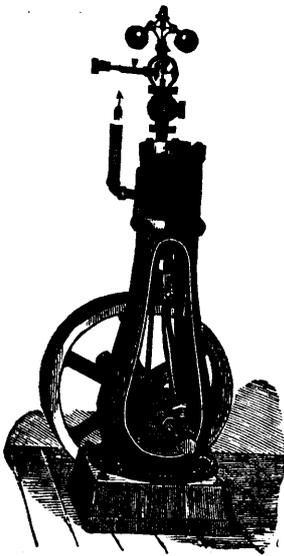
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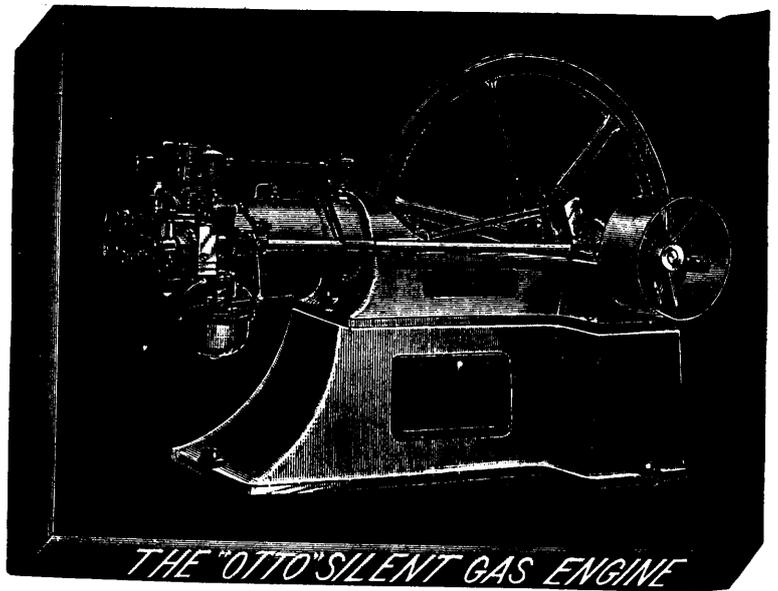
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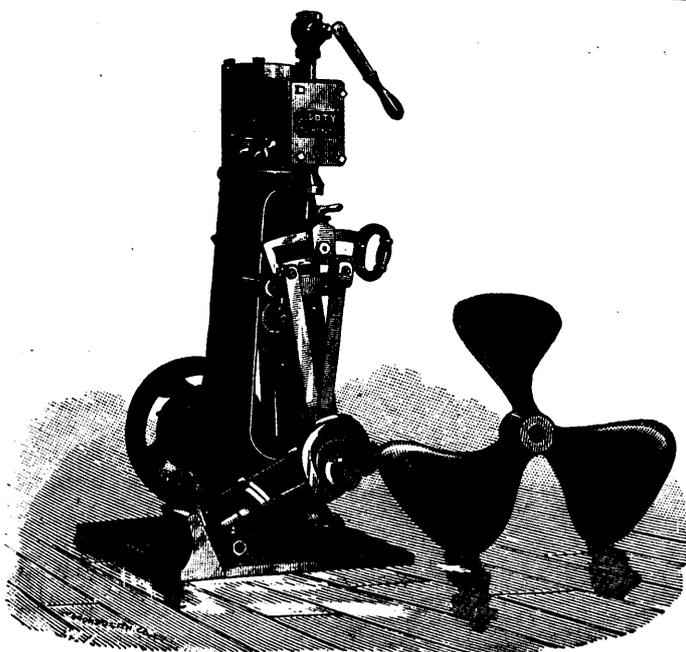
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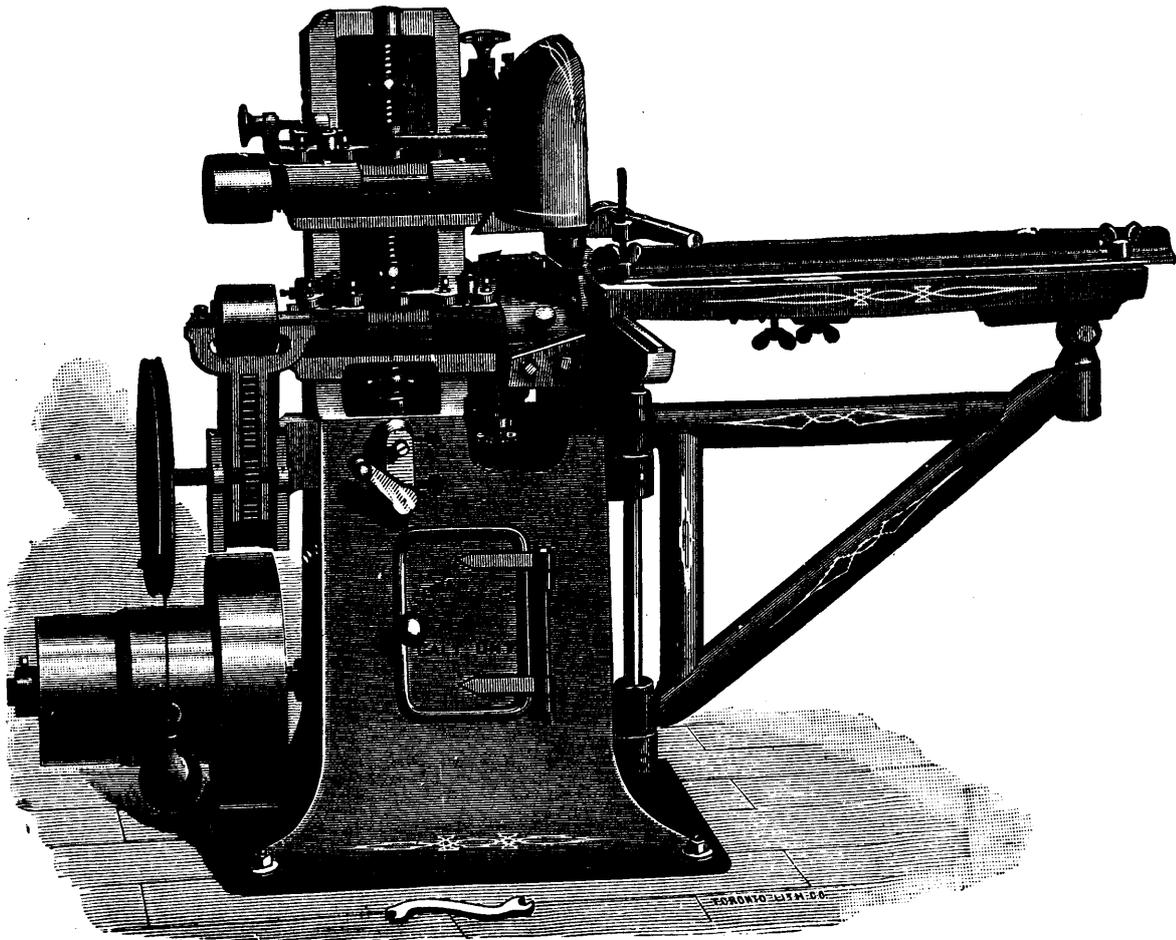
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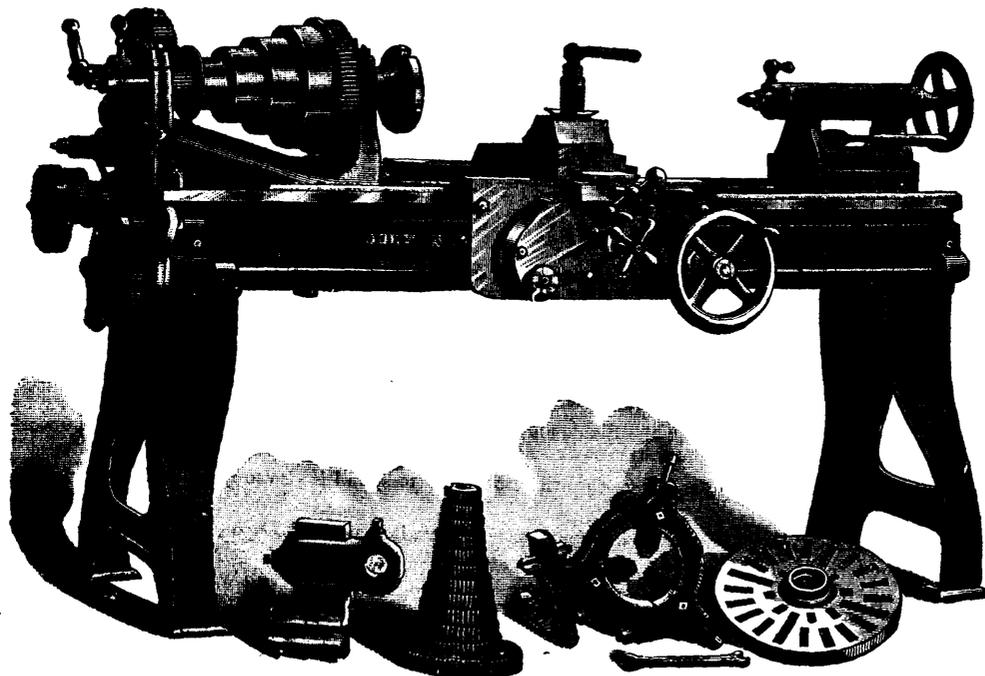
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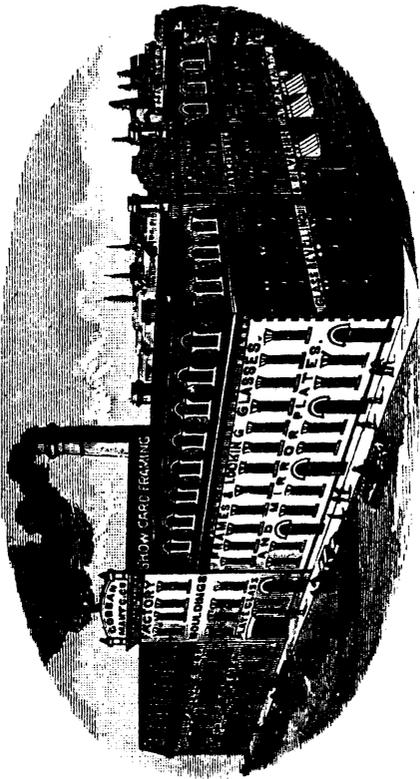
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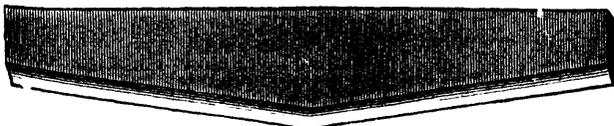
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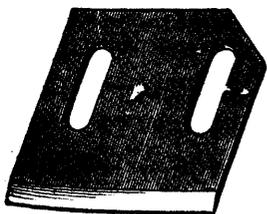


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