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July-Dec 1890

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Vol. 19. TORONTO, JULY 4, 1890. No. 1.

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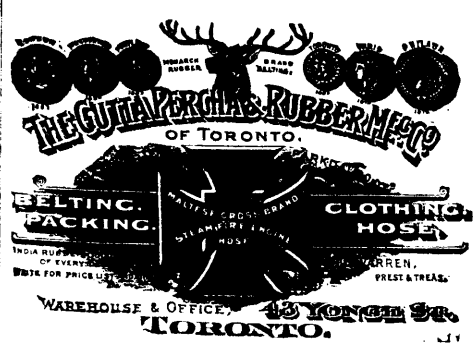
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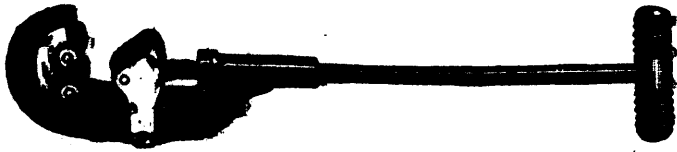
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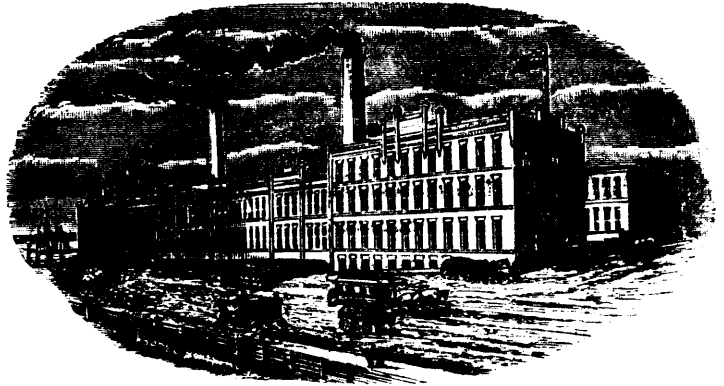
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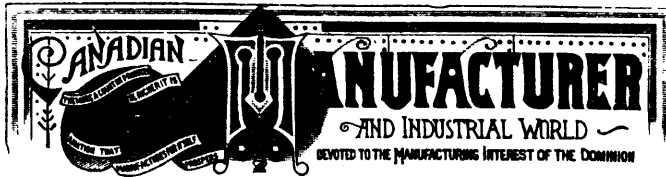
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THE IRON ORE QUESTION.

THE Commission appointed by the Ontario Government to report upon the mineral resources of the Province and measures for their development, in submitting their report to the Lieutenant-Governor, in showing the relative production of minerals of Canada and the United States, say:—"The value of the metallic and non-metallic mineral products of Canada for 1887 was \$11,896,793, whereas the value of the same class of products in the United States in that year was \$542,284,225, being nearly four times greater in the latter than in the former country per head of population." They also say:—"The United States is the principal customer of Canada for products of the mine, the value of our exports to that country for the seven fiscal years, 1881 to 1887, being \$18,567,710, while to all the rest of the world it was only \$4,828,313. The value of the mineral exports of Ontario alone to the United States for the twenty fiscal years, 1869 to 1888, was \$14,329,330, and to all the rest of the world it was \$3,342,894. These figures present in a striking light the natural commercial affinity which exists between the two great Anglo Saxon divisions of the continent, and open a field of speculative enquiry as to what might have been the volume of the business if trade restrictions had not clogged its movement. The great store of ores and structural materials possessed by Canada, and the transportation facilities by land and water for placing them upon the markets of the United States could not fail to have built up a trade of immense extent in mine and quarry products, but for the duties which have served in a more or less perfect degree the purpose of preventing commercial intercourse."

Speaking of the desire entertained by some of those interested in mining operations to see the American markets opened

to the admission of Canadian minerals free of duty, the Report tells us "The amount of iron ore exported from Canada for the fiscal year 1888 was 13,544 tons valued at \$39,595, all but ten tons of which was mined in Ontario and exported to the United States. For the calendar year 1888 the shipment of iron ore from the Lake Superior mines of Michigan, Wisconsin and Minnesota to Lake Erie ports, amounted to 5,023,279 long tons, or 375 times as much as the entire export from Canada. This ore was worth \$15,000,000 at the ports of shipment. For the calendar year 1889 the total output of the Lake Superior mines was 7,292,754 tons, showing an increase in ten years of 5,917,063 tons, or 430 per cent Ontario undoubtedly possesses large quantities of iron ore that might be delivered at the furnaces of Ohio, Pennsylvania and New York as cheaply, except for the duty, as the ores of Lake Superior, but her mines are almost absolutely idle."

Canada's insignificant share in the world's mineral and metallurgical production is thus alluded to:—"The increase in the world's production of iron from 1800 to 1888 has been nearly thirty fold, it having grown from 825,000 tons in the former to 23,194,500 in the latter year. Of the product of 1888 Great Britain furnished thirty-four per cent. and the United States twenty-eight per cent. The world's product of steel for the same year was 9,630,477 tons, and of this amount Great Britain furnished thirty-five and a half per cent., and the United States thirty per cent. Yet in the vast movement of industrial forces connected with the manufacture of iron and steel, over three-fifths of which centres in Great Britain and the United States, Canada has relatively an insignificant part, its total amount of wrought and puddled iron in the calendar year 1887 being only 31,501 tons, and of steel 7,326 tons, while its make of pig iron in the fiscal year 1888-9 was only 24,822 tons. * * * It is unquestionably in a country's interest not only to smelt its own ores, but to refine and manufacture the metals, providing always that the various operations can be carried on economically and without taxing other interests indefinitely for their maintenance."

The character of the gentlemen constituting the commission is a guarantee that the facts set forth in their report are correct and reliable, and these we accept as most valuable. The conclusions and guesses advanced by them showing that the remedy for the depression in the Canadian iron industry lies in Reciprocity, Commercial Union or Annexation with the United States we challenge.

The 13,544 tons of iron ore exported to the United States from Canada in 1888 was worth at the mines \$39,595, or over \$2.92 per ton. The 5,023,279 tons of Lake Superior ore raised the same year was worth just about the same value; and the only difference in the value of the two ores in the American market was the duty of seventy five cents per ton. We have frequently shown in these pages the market value of these ores in the Cleveland, Ohio, market—last year they were worth from \$6.50 to \$7 per ton. We have also frequently shown that, according to owners of some of the best Canadian mines, Canadian ores could be laid down in Cleveland, duty paid, for \$3.90 per ton. According to Hon. George H. Ely, President of the Western Iron Ore Association, the average cost of ore mined at the Lake Superior mines is \$2.32 per ton. It should cost no more to mine Lake Superior ores on the

Canadian side of the lake than on the American side; and the transportation to Cleveland should cost no more from one side than from the other. The freight costs less than \$1 per ton. We see, then, that American ore costs, laid down in Cleveland, about \$3.32 per ton, and Canadian ore laid down at that city, duty paid, \$3.90, the difference being less than the duty of seventy five cents. At the Cleveland market price of \$6.50 per ton the profit on American ore is \$3.18 per ton, and on Canadian ore, duty paid, \$2.60. We submit then that the Commissioners are wrong in asserting that the American duty is the barrier that prevents the development of Canadian iron mines. As the Report states these Canadian mines are owned chiefly by Americans; and it is ridiculous to suppose that these proverbially astute men would entirely abstain from the prosecution of an enterprise by which they could certainly make a hundred per cent. profit, merely because in doing so they would have to include the duty in their expense account. The gentlemen will have to find some other reason for the situation, and to explain why "the great stores of ores possessed by Canada, and the transportation facilities by land and water for placing them upon the markets of the United States" have failed to "build up a trade of immense extent" in iron ore.

CANADA'S INSIGNIFICANT SHARE.

In another article we have quoted from the Report upon the mineral resources of Ontario which shows that, as regards the world's production of metallurgical products, Canada has relatively an insignificant part. The Report says:—"The increase in the world's production of iron from 1800 to 1888 has been nearly thirty-fold, it having grown from 825,000 tons in the former to 23,194,500 in the latter year. Of the product of 1888 Great Britain furnished thirty-four per cent., and the United States twenty-eight per cent. The world's product of steel for the same year was 9,630,477 tons, and of this amount Great Britain furnished thirty-five per cent. and the United States thirty per cent. Yet in the vast movement of industrial forces connected with the manufacture of iron and steel, over three-fifths of which centres in Great Britain and the United States. Canada has relatively an insignificant part. its total amount of wrought and puddled iron in the calendar year 1887 being only 31,501 tons, and of steel 7,326 tons, while its make of pig-iron in the fiscal year 1888-9 was only 24,822 tons."

The object in stating these facts is not as much with a view to encouraging the production of iron in Canada as to preventing it: by which we mean the offering of a plausible argument in favor of Reciprocity with or Annexation to the United States.

It is unfair to draw comparisons between Canada and Great Britain and the United States, simply because there is no grounds on which comparisons can be established. Britain, with her more than thousand years of civilization and established industries, and her peculiar geographical, naval, military and industrial surroundings, presents phases that can never obtain with regard of Canada; and, although the same conditions do not apply as regards the United States, yet those applicable to that country are none the less important

and influential, and inapplicable to Canada. Britain attained her commercial greatness not under Free Trade, but under systems of Protection more exacting and exclusive than ever prevailed in any other country; and it was not until she believed that all the rest of the world lay prostrate at her commercial feet did she change her policy with a view to giving her an even stronger and more tenacious grip upon the commerce of the world. Yet in spite of her present policy Britain is losing her grasp, and now stands face to face with the fact that all of the other more enlightened and progressive nations have adopted policies of Protection that are fostering and building up home manufacturing industries to the detriment of British commerce.

It is unfair to draw comparisons between Canada and the United States. Until 1776 the thirteen colonies, now included as States in that country, suffered under commercial restrictions imposed upon them by the Mother Country that resulted in rebellion, war and independence. Among the most galling of these restrictions were those obstructing the manufacture of iron in the colonies, the importation of manufacturing machinery, and the importation of foreign merchandise in any than British ships. Political independence of Great Britain did not entirely emancipate the United States from British commercial influences; and he who observes the current events of this day may perceive that that influence is still actively at work in the United States. But the history of that country shows that Washington and many of his co-peers favored a financial system that would protect their domestic industries against foreign competition, and build up at home institutions without which their newly-fledged nation could never be prosperous nor commercially independent. And ever since the inception of the Government of that country the voices of its greatest and wisest statesmen have ever been raised in advocacy of Protection. Whenever the tariffs of the United States favored Protection, then the country was prosperous; and whenever the protective policy was abandoned in favor of a tariff for revenue only, then financial distress confronted and baffled it. British gold has always been an important factor in American politics. We know that previous to the Civil War, when the United States had a very low tariff, although peace brooded over the land and there was no reason why the dream of the Free Trader should not have been realized, if such a thing were possible, the American Government were compelled to borrow money with which to pay current expenses, but which they could only do upon the payment of twelve per cent. interest. At that time American manufacturing industries were in a deplorable condition, and, as far as the production of iron and steel were concerned, the outlook was exceedingly discouraging. In 1861 the total production of pig-iron in the United States amounted to but 731,544 tons, and in 1863 the production of all kinds of steel in that country was but 9,044 tons, Bessemer steel not having been made there until 1864, and open hearth steel until 1868. But the adoption of a protective policy changed all this; and the production of pig-iron under it has grown to 8,516,079 tons in 1889, rolled iron to 2,586,385 tons; kegs of cut nails and spikes of 100 pounds each to 5,810,758 kegs; Bessemer steel rails (in 1887) to 2,354,132 tons, and steel of all kinds to 3,792,020 tons.

It is true that during a part of the time that Protection has prevailed in the United States it has also prevailed in Canada; but it is equally true that the Canadian tariff has never been as high as the American tariff, particularly as affects manufactures of iron; and this discrepancy is, in our opinion, the great reason why the industry has never been as prosperous and remunerative in this country as in that. Steel rails have always been admitted into Canada free of duty, and no steel rails have ever been manufactured in Canada. The manufacture of steel rails was begun in the United States in 1867, in which year the production was 2,277 tons, and the value \$166 per ton. The duty was only forty-five per cent. *ad valorem*; but in 1872, when the duty had been raised to \$28 per ton, the production increased to 84,000 tons and the price fell to \$112 per ton. Since then the industry had progressed wonderfully, the production last year being 1,510,057 tons, and the average price \$29.25. The latest available statistics show that in November, 1887, there were thirty-five standard Bessemer steel works in the United States, with seventy-four converters, several new plants then being in course of construction. The products of these works are used for many other purposes than the manufacture of steel rails; and the number of works engaged in the production of this article was, we believe, about twenty. These twenty mills, then, produced last year an average of rather more than 75,000 tons of steel rails each, supplying the requirements of over 150,000 miles of railroads now in operation in that country. This production is at an average demand from the railroads of ten tons per mile per annum, the supply from each of these twenty mills being to meet the demand of each 7,500 miles of roads. There are more than 15,000 miles of railroads in operation in Canada, which, at the same rate of requirement, and at the same rate of mill production of rails, would give constant employment to at least two mills, producing 150,000 tons of rails.

Now, according to the theory advanced by the Commission, and by all other Free Traders, seeing there is absolute free trade in steel rails between Canada and the United States and Great Britain, and seeing that there is a Canadian demand for at least 150,000 tons of steel rails a year, the manufacture of steel rails should long ago have been an established industry here. At the inception of the Canadian Pacific Railway project, seeing that many hundreds of thousands of tons of steel rails would be required in the construction of the road, for the purpose of facilitating that construction, the Dominion Government thought best to allow the rails to be imported duty free. It is evident that the Government made a grievous mistake in doing this; for had it been required that all the rails entering into the construction of Canadian railroads—of the Canadian Pacific particularly—should be manufactured in Canada, or have been subjected to the payment of a protective duty, instead of having to note at this late day that there is no steel rail plant whatever in the country, we would have been enabled to point with pride to at least two such establishments. The fact cited by the Commission that in 1888 the United States supplied thirty per cent. of the world's product of steel is offered in proof of our argument.

THE Maple Leaf flourishes luxuriously under the shadow of the Union Jack.

CANADA'S FALSE ECONOMIC POSITION.

SPEAKING of the economic conditions that environ both Canada and the United States, the Commission appointed to inquire concerning the mineral resources of Ontario in their report say:—

It is not the fault of our political institutions that our economic condition is not more favorable; for our laws are good, and the structure of our government an admirable one that requires only honest and prudent administration to demonstrate its excellence. That Canada does not exhibit as high a ratio of increase in population and wealth for the last two decades or more as the United States have done, and that our economic condition is as unsatisfactory as it is, may be clearly traced in a large degree to commercial belligerency between this country and the United States, mutually discouraging and repelling the convenient, extensive and profitable exchange of productions natural to our immediate neighbors and geographical affinity. We are prevented from proving to the world our splendid capabilities.

The duty that impels a man to give his first and most assiduous care in providing for his own household, being just to himself before he can afford to be generous to others; and that impels the citizens of this city to be more thoughtful of its interests than that of the interests of any other city, is only enlarged when the government of a country legislates and rules in the interests of that country, the interests of all other countries being of secondary importance. It is not particularly strange that some Canadians should differ from some other Canadians in their views regarding the economic conditions that prevail in Canada: but it is more than strange that some Canadians should hold the Canadian Government responsible for what the Government of the United States are pleased to do regarding the economic conditions of that country. It requires more than one to make a bargain. The Commission point to the experience of Canada under the Reciprocity Treaty of 1854-66 with the United States, and tell us how much we were benefited thereby; but they conceal the fact that that Treaty was abrogated by the United States, and that that country has never since evinced any desire to enter into another Treaty with Canada on any terms that would be advantageous to us: and they also conceal the fact that although an offer yet good was made by Canada years ago to remove all tariff restrictions on trade in natural products between the two countries, the United States has not yet accepted our proposition. The fact is Canada has always been and is now favorable to a free interchange in natural products, while the United States is not thus favorable, except under further conditions that would undoubtedly prove disastrous to Canada. What can the Dominion Government do more than they have already done? They have no inclination to attempt to force the United States to agree to a free interchange of natural products, and should that country come to desire to thus interchange, no additional Canadian legislation would be found necessary. This is as far as Canada desires to go in the way of Reciprocity.

The Commission do not declare it, nor do their political friends declare that the only way by which Canada can obtain all of the advantages of trade enjoyed by the several States of the American Union is for Canada to become an integral part of that Union—by Annexation. But this is the only way, and unless Canada is ready to be annexed to the United States it is folly and a waste of time to discuss any closer trade relations

than what we now have, or have offered. If the political sentiments of these men are of that description they should be bold enough and candid enough to so declare them. But these are not the sentiments of Canadians. Canada aims at a higher destiny than annexation to the United States. At present Canada is satisfied with her existing relations with the Mother Country: and whenever these relations are severed it will be to enroll Canada on the list of independent nations.

That Canada does not exhibit as high a ratio of increase in population and wealth for the last two decades as the United States has done, is not chargeable in any degree to commercial belligerency between the two countries, as the Commission suggest, but to a failure on the part of Canada to adopt methods similar to those that have raised the United States to the high and proud eminence she now occupies. There is no exception to the rule, that to whatever industry that country has applied sufficient Protection the establishment of that industry has been assured. In many instances the requirements were for high duties, but when these duties had effected the establishment of the industries, placing them on secure foundations, the duties were lowered, as in the cases of pig iron and steel rails. Do any suppose that, with all the wonderful advantages of the United States, but in the face of the opposition of Great Britain, without protection of the most pronounced character, the production of pig iron and steel rails could have reached its present position? Assuredly not. Are these industries essential to the prosperity of that country? Assuredly they are. The Commission direct attention to the similarity of natural advantages of the United States and Canada. They are similar, and there are many other very striking similarities: but there is a painful lack of similarity in the economic systems of the two countries. With some exceptions the tariff of Canada is for revenue only, or nearly so, as in the case of pig iron where the duty is not high enough to induce the erection of any furnaces whatever: and where it is necessary to supplement the duty by bonuses to induce even the small production of pig iron that we blushing confess. As far as all classes of Canadians are concerned, the duty of four dollars a ton on pig iron is a failure, and if it were not that the revenue is required for the support of the Government, if it is not intended to promote the industry to a pronounced success, it would be better to remove it, and to increase the bonus to Canadian iron makers four dollars or more a ton. This duty upon pig iron is an illustration of where "Protection" (?) does not protect. Canada, however, would soon have many iron furnaces in successful blast if the duty were raised to seven dollars or eight dollars a ton.

So, too, regarding steel rails. The nation that manufactures for itself prospers; and if Canada hopes to prosper and hopes to enjoy such success as now characterizes the United States, she must establish and maintain steel rail works. As we have shown, the United States could never have established such works without Protection. Who doubts the importance of such works to that country? Its railroad system could never have been as successfully extended and ramified throughout the length and breadth of the land as it has been if all the rails required in it had been manufactured in England. Until the industry was established England supplied the United States with steel rails, but when it was established, England was

forced to resign that traffic in favour of her Yankee competitors.

Could not the steel rail industry have been built up in Canada? We think it could. There is now in actual use in Canadian roads from a million and a half to two million tons of rails, not one ton of which was rolled in Canada: and it is estimated that within the past twenty years an equal quantity has served its purpose and been displaced for new. Why could not this three millions or four millions of tons of rails have been made here? The answer is—because there was no protection offered as an inducement to establish the industry. As to steel rails Canada has always tried the Free Trade policy, and now, with a mileage of railroads aggregating one-tenth that of the United States, where the annual production is over fifteen hundred thousand tons; we have no blast furnaces for converting the ore into iron, no converters for changing the iron into steel, and no mills for rolling the steel into bars. It is about time for Canada to change her policy in this respect.

Another false economic position in which Canada finds herself is that regarding tin plates. There are no tin plate works in Canada, of course, for Canada has never thought it worth while to even think about establishing the industry,—certainly no effort has ever been made in the way of offering any inducement for that purpose. We have always been satisfied to allow all our supplies of tin plates to be imported from Great Britain, even as we have always been satisfied to depend upon that country for our steel rails. Any wishy-washy attempt at protection in this direction would prove as futile in Canada as it has in the United States. The American demand for tin plates consumes about three-fourths of the British production, and the Canadian demand is proportionally large. Yet the inadequate tariff of the United States, nor the Free Trade of Canada, have yet induced the establishment of the industry on this side of the Atlantic. The United States has determined, however, to establish tin plate works there, and this it proposes doing by increasing the duty upon tin plates from one cent a pound to two and a fifth cents; and if Canada desires to build up a similar industry it will have to be by the imposition of a similar tariff duty.

The Commission tell us that Canada is "prevented from proving to the world our splendid capabilities" because we have not got Unrestricted Reciprocity with the United States. Unrestricted Reciprocity will never enable us to produce this proof, but it would be forthcoming very soon, and be manifest to the world if we reject the old and unsatisfactory low tariff and Free Trade theories that have always afflicted us, and make our tariff one of adequate Protection.

THE BUILDING TRADES INTEREST IN THE TARIFF.

ALLUDING to the recent strike in the building trades of Toronto, the *Globe*, trying to foment discord between employers and employes, attempts to show that although it is true there has been a general increase in the rate of wages, it is equally true there is an increased cost of living; and that, notwithstanding strikes and arbitrations and concessions by employers, the mass of workers is not materially improved. It says that the organized oppression of the tariff was never more thoroughly controlled and dominated, and that the tariff is the

cause of all the ills which the working man suffers. It insults the intelligence and patriotism of working men in saying: "Too many of the workers who strike for an increase of wages hurrah and vote for increase in the cost of living, and bow themselves in cheerful obedience to the slavery of the tariff."

If there is one class of workers in the community more specially "protected" in their business than any other class, it is those employed in the building trades. It is true that the tariff laws do not levy any duties on buildings of any description, but this is simply because buildings cannot be erected in other countries and imported intact into Canada. But the duty upon the constituent parts of buildings intervenes in favour of Canadian mechanics, preventing in a measure the importation of cut stones, brick, tiles, dressed lumber, furnishings, etc., and thereby giving the labor bestowed in the manufacture of these materials to home workers. Canadian mechanics understand that were it not for the tariff a very great proportion of the work now done by them in the construction of buildings would be done abroad, and nothing be left for them to do but to assemble the parts together. From turret to foundation stone the labor employed in Canada in the building trades is protected; and without this protection the labor of Canadian mechanics would be brought into keen competition with kindred labor in other countries. Under Protection Canadian quarries give employment to Canadian stone-masons and stone cutters; Canadian bricklayers are kept busy; Canadian lime kilns are kept busy; Canadian forests resound to the axe of the Canadian lumberman; Canadian saw mills are kept active converting logs into lumber; Canadian planing and moulding mills produce all the wood materials required in the trade; Canadian paint and color works give employment to large numbers of hands; Canadian iron and metal works supply architectural castings, nails, screws, hinges, sash weights, locks, trimmings and all necessary iron, brass and bronze goods. We say Protection insures the labor employed in all these allied industries to Canadian workmen,—certainly to the extent of the duties imposed upon them. But from the very nature of the case the workmen employed in the construction of buildings receives even more protection than those employed in the manufacture of the constituent parts of the buildings constructed; for if it were a fact that a building could be erected in a foreign country at a total cost of one-tenth of what a similar building would cost in Canada, it is plain that the foreign builder would be handicapped by the impossibility of transporting his building from that country to this; and in this impossibility lies the protection of the building trades in Canada.

Why is it that the workers in the building trades hurrah and vote for the tariff? It is a question whether the tariff really increases the cost of building materials; but if it does the increased cost grows out of the higher wages paid to Canadian workmen. The more workmen there are the greater the number of houses required; and the greater the number of houses to be built the greater the demand for workmen. The masons, bricklayers, carpenters, plumbers and painters, out of whose pockets the cost of the buildings they construct does not come, are not antagonists of the tariff, the operations of which give employment to so many other workmen. They understand that the interests of the men employed in brickyards and

planing mills are identical with the interests of the men employed in building brickwalls and laying floors in houses, and so they stand shoulder to shoulder in fighting for protection and upholding the National Policy; and the fact that the *Globe* insults them by denouncing them as "slaves" who bow in "cheerful obedience" to the cause of Protection to Canadian industries will be considered by them all the greater reason why the teachings of the *Globe* should be regarded with suspicion and distrust.

A SYMPOSIUM OF PESSIMISM.

IN the Report of the Royal Commission on the Mineral Resources of Ontario is a section in which extracts are given of the evidence acquired by the Commission bearing upon the question of the probable influence upon mineral development in Ontario of free commercial relations between Canada and the United States. Of course it is understood that the gentlemen composing the Commission were all pronounced opponents of the Dominion policy of Protection to Canadian industrial pursuits, and it is observable in every page of their report that no opportunity was neglected to denounce that policy and to preach up Commercial Union, Unrestricted Reciprocity and Annexation to the United States as the only salvation of the country, and the only means by which its mineral resources might be developed. In pursuance of this scheme the Commission interviewed a large number of persons who are supposed to be more or less interested in Ontario mines, and their views are paraded at considerable length. This article makes reference to the expressions of some of these persons. Some of them are known to some extent in Canada, but the most of them are strangers, whose names, as far as we have knowledge, have never before appeared in print. The Commission, we suppose, used the best timber they could find with which to strengthen their pessimistic fabric. We quote as follows:

THOMAS FROOD—"The commercial barriers between Canada and the United States have tended largely to prevent the development of the mining industry by hindering the employment of American capital in mining operations, and also by depriving us of the American market. If we had free access to the markets of the United States there would be a great increase in the amount of work at the mines in Canada. Most of the capital invested in mining in this district is American."

P. C. CAMPBELL—"The removal of the duties by the American Government would tend very much to the development of the mining industry. Free Trade would be the best thing for our mineral development. Unrestricted Reciprocity is the one thing needed."

Æ. McCHARLES—"The removal of the duty on iron ore would have the effect of inducing Americans to invest in iron mines on this side. Our iron is as good as any the Americans have."

THOMAS HOOPER—"The removal of the duty would be necessary to render it possible to mine iron ore in Canada."

PETER MCKELLAR—"If the American duty were taken off iron we would have a market at once in the United States."

JAMES CONNOR—"The iron locations on our side are not being developed because of the American tariff."

WILLIAM MARGACH—"Iron lands in Hunter's Island district will not be worth anything till the duty is removed. The Americans are purchasing, hoping that the duty will be taken off."

D. F. BURKE—"The mineral whose development would do

the country the most good is iron. If we had Reciprocity we could put out at least \$8,000,000 worth of ore a year. The Attikokan location would have been purchased by Americans if they had not thought there would have been trouble between the two Governments. If Reciprocity were adopted I have no doubt that inside of three years we would ship out at least a million tons of ore per annum."

JOSEPH BAWDEN—"We should find a market for our iron ores at Chicago and Pittsburgh. We can send ore to Chicago from Kingston for less than it can be brought from the Lake Superior mines to Chicago. The tariff is the only interference with successful mining in this region."

B. W. FOLGER—"Most of our ore goes to Cleveland. The freight from here (Kingston) to Cleveland is seventy-five cents, or less than half what it is from Lake Superior."

WM. CALDWELL—"There has not been a good market for our own iron ore for the last few years, while there has been a very large development in the United States. If the American duties were removed we could compete with the American mines successfully."

R. C. CLUTE—"It is impossible to develop our mines unless we have Free Trade with the United States. It would be possible to smelt iron here under a high tariff, just as it would be to raise oranges."

W. H. WALLBRIDGE—"The American is the natural market of this country, and it is necessary to the development of our mines."

WILLIAM KELLEY—"What is wanted to develop the mines of the country is Unrestricted Reciprocity or Commercial Union."

GEORGE HOPE—"I do not think mining will ever amount to anything in this country till we have Commercial Union. Our ores can be laid down cheaper at (American) lake ports than Lake Superior ores."

THOMAS D. LEDYARD—"The only thing that can be done with our ore at present is to send it to the United States. The freight to Buffalo from the mines would be \$1.50, where there is a charge of twenty-five cents a ton for shunting; freight from Buffalo to Pittsburg, \$1.25. The duty is a serious drawback to the trade. If the duty were removed our mines could be developed as well as the Michigan mines. The cost of mining would be from \$1 to \$1.50, and we would have an advantage of from \$1 to \$1.50 a ton in freight over the Lake Superior ores. The price at Cleveland of Bessemer ore is \$5.75. The duty is the great obstacle. If the Belmont mine was being worked at the rate of 400 tons a day, that would mean duty to the extent of \$300 a day. It is estimated that 4,500,000 tons were shipped from Lake Superior this season; and, in addition to all this, in 1887 1,100,000 tons were imported into the States from Europe. As far as the Canadian market is concerned, six good iron mines would supply the whole of Canada, even if we used all our own iron. That is estimating the consumption at 600,000 tons of ore."

C. J. PUSEY—"All the ores we have so far taken out of our iron mine in Haliburton has been shipped to the United States. It is our only market. The duty is the only thing that prevents us supplying the American market. If the duty were removed by the American Government I can see no reason why our mines should not be developed as fully as those of Michigan. Taking the ores through that range in Haliburton and eastwards, and comparing their analyses with those of the ores on Lake Superior, or any other point of the United States, or even the Spanish ores, I claim that there is a greater proportion of Bessemer iron in the Canadian ores than in the others mentioned."

We willingly admit all the facts elicited in this symposium. In fact, we heartily join in with the Commission in declaring and emphasizing the fact that the mineral resources of Ontario are of the most valuable character. We presume that the gentle-

men whose testimony is given are experts regarding the extent, richness and availability of Canadian mines; but because they are such their views and opinions regarding Unrestricted Reciprocity with the United States cannot be accepted as sufficient. They surely ought to know that Canada has a standing offer to the United States to place all the natural products of the two countries upon the non-dutiable list, including iron ore; and that whenever the United States Government may be pleased to accept Canada's offer, the arrangement may go into effect immediately. What more can Canada do? The Commission who parade this symposium of anti-tariff views before the public are aware that this offer has been standing for years and years, that it is still good, and that it has not been accepted. The mineral deposits of Canada are rich, and they should be developed; but there are other interests in Canada that should not be sacrificed to this end. As some of the witnesses testify, the United States is also possessed of vast and valuable mineral deposits. We know that the policy of that country is to foster and protect her important interests, and it is simply absurd to suppose that she will remove the protection afforded her iron mining interest merely to please Canadian iron miners unless she is well paid for doing so. How can these pessimists compass Reciprocity by whining as they do? Who hears them? Who is affected by their whines? The United States is not, further than to feel strengthened in a determination to squeeze Canada until she consents to Annexation. Canada is not affected further than to experience a feeling of disgust that any who call themselves Canadians should, for the furtherance of their personal interests, prefer to see our individuality and independence sunk into and absorbed by the United States.

Several of the witnesses inform us that much of the capital invested in Canadian mines belongs to Americans. Of course we are pleased to have Americans invest their money in Canada, but we are not pleased to observe them railing against Canada because the United States will not remove the protection she places about the investments of other Americans in a similar industry at home. If they have bought Canadian iron mines they should not therefore seek to change the policy of the Canadian Government. There are a great many other Americans who have made large investments in other Canadian industries who do not desire such a change, and who would be greatly injured by it. These Americans have merged their nationality into that of Canadians; and, together with other investors in Canadian industries from many other parts of the world, hope to see Canada made as prosperous and self-sustaining as the United States. Mr. Burke tells us that with Reciprocity his mine could be made to produce \$8,000,000 worth of ore a year, but that his company fear trouble between the two countries. Mr. Bawden tells us that he can lay his ores down in American cities for less than American miners can do it for; Mr. Folger says he can lay his ores down in Cleveland at a saving of over seventy-five cents a ton over Lake Superior ores; Mr. Hope says the same, and Mr. Ledyard fixes the difference at \$1.50 a ton—or a saving of twice the duty. Why don't he do it?

Canada will not accept Annexation at the request of American investors in her iron mines.

CANADA FOREVER.

THE HOME MARKET.

IN a recent issue of this journal, speaking of the advantages of the home market to the Canadian farmer, we said:—

"It is evident that if our farmer's products are of a perishable character, liable to rapid deterioration and destruction, he must dispose of them as quickly as possible. This may be done if there is a near-by home market for them; but if there is no such market, then they will have to be taken to a more distant one if the articles will bear the transportation; and if they will not bear it, then the products are valueless and the farmer's labors are in vain."

This, our esteemed contemporary the *Toronto Globe* thinks, is putting the argument for the home market upon firm ground; and in discussing the question it says:—

"The home market is the nearest, the most convenient market, irrespective of international boundary lines. Toronto is the home market for the farmer of the County of York. Buffalo is the home market for the farmer of the Niagara peninsula; Detroit is the home market for the farmer of Kent or Essex. The argument in favor of near markets and against distant ones does not tell against the American market; it tells in favor of the American market against those distant fields to which the restrictionists are always inviting the farmer to look. It tells sometimes in favor of the American market against the markets of our own country. If, as THE MANUFACTURER says, it is more profitable for the farmer to send his products to a near market than to a remote one, surely it is more profitable for the Canadian farmer to send his products to his neighbor across the line than to have them dragged thousands of miles through Canadian territory.

"The contention that the policy of Protection has built up a great home market in Canada is probably made more as the result of long habit and adherence to Tory tradition than with the view of convincing anybody of its truth. It is quite true that Montreal, Toronto and some other cities and towns have grown in the last eleven years. But a very small share of their growth can be ascribed to Protection. A large part of their population is made up of the professional and mercantile classes, for whom there is not even a pretence of protection. The importers are not merely unprotected—they are persecuted by the Government. There is not a pretence of protection for a large part of the industrial population—bricklayers, stone-masons, carpenters, and other artisans engaged in the building trades; bakers and others whose business is purely local, and who have nothing to fear from foreign competition. Some of our manufacturers are positively injured by the heavy duties placed upon the materials they use. With others the duties on the materials they use are barely offset by the duties on the finished product. In some highly protected industries, especially in Montreal, the wages paid to the workmen are so low that they are not very profitable "consumers" of the farmers' products. As all these things are considered the benefit of the home market to the Canadian market gradually disappears."

It is remarkable how readily those who wish to sink Canadian autonomy fall into the way of ignoring international boundary lines, attaching no more importance to them than if they were fences dividing adjoining farms or town lots. It is true Toronto is the home market for York county farmers, because Toronto is a Canadian city, and York county is Canadian territory. But Buffalo is not, nor can it be, the home market for Niagara peninsula farmers, because Buffalo is an American city, and the Niagara peninsula is not American territory, but a part of Canada. Nor is Detroit the home market for farmers living in Kent and Essex counties for the same reasons. American farmers living near Buffalo and Detroit find these cities their home market, because they are American cities. If the Niagara peninsula and Kent

and Essex counties were American territory, the American cities named would be the home markets for the farmers living there, but not otherwise. If all Canada were American territory Buffalo would be quite as much of a home market for York county farmers as it would be for those of the peninsula; and as it is, the farmers of the peninsula now find Toronto their best market—better even than Buffalo if they had unrestricted access to it. The *Globe* ignores the difference of nationality of the two countries.

But this difference is esteemed of great value to the people of the respective countries. Saint Paul instructs us that the man who provideth not for his own household rejecteth the faith, and is worse than an infidel. Acting on this teaching, both Canada and the United States have, in the protection of their respective households, thrown around those who comprise their households certain restrictions which give all the benefits attainable to their own, allowing outsiders—those of other households—to participation in such benefits only upon the payment of a certain stipulated price. This protection secures the home market to the home producer to the exclusion of the foreign producer; and if the foreign producer desires to participate he must be prepared to pay the stipulated price.

The question, then, for the foreign producer to consider is whether he can afford to pay the stipulated price. What is the price the Canadian producer must pay for admission to the American market? A very large and influential majority of producing Canadians are willing to conform to the restrictions the Americans impose upon foreigners as the price of admission to their market; and whenever they want to trade there they are willing to pay the price for the privilege. But there are some Canadians who want this trading privilege but who are not willing to pay the price out of their own pockets. They want Canada to do the paying; and they do not seem to care what sacrifices Canada may have to make to afford them the privilege so long as the privilege is gained for them.

There are some things that an individual or a nation may acquire by making sacrifices. A man may be willing to sacrifice five cents for a palm leaf fan this hot weather and not begrudge the money. Another man may desire something, but find that his object cannot be attained except at the sacrifice of principle and honor. If he places a light value upon his principle and honor he will not hesitate to pay the price; but if he is an honorable man he would rather die than make the sacrifice. The man's sense of honor must govern his actions. So it is with nations.

It was not the value of the tax the British imposed upon the tea, but the outraging of the sense of honor and independence of the Americans that caused the event in Boston harbor that led to American nationality. Are Canadians of 1890 less patriotic than Americans were in 1776? What is the price the *Globe* and those who think with it are willing to pay for free access to the American market? The price is known by different names, but the odor of it remains unchanged. All roads lead to Rome. With some the price is labelled Unrestricted Reciprocity; with others Commercial Union; with others Continental Free Trade, but these all mean Annexation to the United States. All other names are but the sugar-coated flavoring of a nauseous pill that Canadians can never be made to swallow.

The *Globe* says "it is more profitable for the Canadian farmer to send his products to his neighbor across the line than to have them dragged thousands of miles through Canadian territory." Of course the *Globe* uses this expression hyperbolically. The Canadian farmer living on the Niagara peninsula is not required to drag his products "thousands of miles" through Canadian territory to reach Toronto, for he is quite as near to that home market as he is to the foreign city of Buffalo.

We are told that although Toronto, Montreal and other Canadian cities and towns have grown in the last eleven years, but a very small share of this growth can be ascribed to Protection. We are also told that a large part of the population of these cities and towns is made up of professional and mercantile classes for whom there is not even a pretence of protection; that the importers are persecuted by the Government; that a certain part of our industrial population are unprotected, and that "as all these things are considered, the benefit of the home market to the Canadian farmer gradually disappears." This is not even hyperbolic, but diabolical, as all the facts attest. The *Globe* argues that the Canadian farmer has no use for the Canadian market, and that his only hope is in obtaining access to the American market. It wants all Canadian manufacturing industries suppressed in favor of their Yankee competitors. It wants our Canadian cities and towns to suppress their mechanics and working men, and to shut up their factories and workshops so that the professional and mercantile classes may remain in the undisturbed enjoyment of their Annexation anticipations.

EDITORIAL NOTES.

1867—July 1—1890. Canada.

1776—July 4—1890. United States.

TWENTY-THREE years ago Canada abandoned the swadling clothes of provincialism and assumed the distinguished garb of the Dominion.

DURING the present week Toronto has taxed her utmost capacity in entertaining the thousands of visitors who have crowded themselves within her gates. The latch-string has hung on the outside of the door.

TORONTO glorified herself on Dominion Day. Abandoning all restraints, the people clothed themselves in glorious holiday raiment, and, with their sisters, their cousins and their aunts, made glad the anniversary of the day that saw the Dominion ushered into national life.

THE thousands of Americans who have swooped down upon Toronto this week to witness her carnival have been impressed with the manufacturing and commercial greatness of the largest and most important city in this glorious Dominion. Our kind friends will always receive cordial welcome to our beautiful city.

THE British workman is a Sisyphus, who is from year to year engaged in rolling a stone up hill. This stone is a tariff tax upon his tea, coffee, tobacco and dried apples upon which is marked in big figures "£14,252,403." The Pluto of Free Trade, however, invariably causes the stone to rebound and carry the workman again to the bottom of the hill.

THERE are forty-seven public school buildings in the city of Toronto, with a capacity to seat 24,086 pupils. The cash value of these buildings is \$1,214,080, the sites upon which they are erected are worth \$453,230 and the furniture contained in them is worth \$41,375. All these buildings are solid brick except one frame, for summer use, located upon the Island.

Out of the £19,971,191 collected by Great Britain last year as import duties on foreign merchandise, the British working man paid no less than £14,252,403 upon only four articles—tea, coffee, tobacco and dried fruit—while the British aristocrat paid but £5,718,788 upon everything else dutiable, including expensive spirits, wines, etc. This is a wonderful exhibit of the British tariff system.

WE have knowledge of a most worthy young Canadian who some years ago went to Europe where he perfected himself in the technical knowledge of dyeing all classes of fabrics, thereby fitting himself to assume the management of any such industry. He is connected with some of the best business men of Toronto, who are his endorsers, and if any manufacturer should desire his services we will take pleasure in opening the way to a correspondence.

LAST week a shipment of 53,000 tons of steel rails passed through Owen Sound, Ont., to be used in re-laying the track of the Canadian Pacific Railway between Port Arthur and Winnipeg. Not one of these rails was made in Canada. A strange feature of the Canadian Tariff is that steel rails are admitted free—the article never was charged with a duty, and therefore, although there are millions of tons of rails in use in Canada, we have no plant for making them. The nation that manufactures for itself, prospers; but Canada can never arrive at the acme of prosperity until she has steel rail plants.

TARIFF or no tariff, and in spite of the efforts of Governments to prevent continental free trade, there must come a day when the American cities must take their timber from Canadian sources. From an American journal is taken the following statement of the depletion of the forests of the Northern States:—"The census of 1880 gave the yearly cut of white pine at 11,000,000,000 feet. It was then said that, at that rate, our entire supply of white pine would be exhausted in ten years. The census of 1860 estimated the total measurement of white pine standing in the States of Michigan, Wisconsin and Minnesota as amounting to 84,170,000,000 feet. The amount taken and marketed during the last decade has been 74,463,000,000 feet, leaving something less than 10,000,000,000 feet of white pine standing in those States to-day. What is true in the North West is true in all the pine-producing sections of the country."—*London Advertiser*.

THE *Toronto Globe* tells us that "the most powerful journals of the United States are preaching the old doctrines of Free Trade with power, patience and persistence"; that in Canada the days of the existing system of tariff protection "are numbered," and that "the protective system in free America is doomed." This is startling news, especially so as the Republican Congress of the United States, through "power and persistence" has entrenched the old doctrines of Protection more securely than ever behind the McKinley Bill. It is also strange news to learn from the *Globe* that the days of the system in Canada "are numbered" and "doomed," when the *Mail* has just come out as the oracle of Sir Sisyphus Cartwright and declared that Canada cannot and must not abandon Protection, Sir Sisyphus announcing that he is in favour of "Moderate Protection" what ever that may be. This looks like a house divided against itself. There is theory in the madness, however. The *Globe* shrieks for Free Trade, and the *Mail* for Moderate Protection. Their idea is, "anything to defeat the Government."

THERE are in the United States 108,252 Sunday schools, with 1,143,190 teachers and 8,643,255 scholars. That is, about one-seventh of the population are either teaching or being taught in Sunday schools. Pennsylvania, though not the most populous State in the Union, heads the list with 8,729 schools and 964,600 scholars. Canada has 6,636 schools and 467,292 scholars.—*Toronto Globe*.

As far as Sunday schools and their teachers and scholars are concerned as an evidence of progress and enlightenment, the United States leads the world; Pennsylvania leading all other States of that country; Canada coming a good second. The United States also leads the world in progress and enlightenment, effected through Protection to American manufacturing industries; Pennsylvania leading all the other States in the production of pig iron and manufactures thereof, including steel. Canada, as a country swayed by Protection, also comes a close second among nations in progress and enlightenment. She would be, however, much farther ahead than she now is if she had more protection—say enough more to secure the establishment of enough iron and steel works to supply her home market.

THERE is sound sense in this paragraph, from the CANADIAN MANUFACTURER: "The *Montreal Herald* quotes a long list of iron products on which the Canadian duty averages about thirty-five per cent., and argues that this duty enhances the cost of the Canadian-made articles. Now, the American duty on such products is much higher than the Canadian duty while England imposes no such duty, having Free Trade. Yet American pig iron made under a protective tariff of \$6.72 a ton, can be imported into Canada and manufactured into these products, and the products themselves, manufactured under a duty much higher than ours, can be imported into Canada and sold for less money than either pig iron or iron products imported from England. Is it a fact then, as the *Herald* claims, that the duty is added to the cost? We think not. Certainly not in the case of pig iron and manufactures of iron and steel." That is an argument that kills two birds with one stone: the parrot that is forever shrieking, "The tariff is a tax," and the vulture that delights in the spectacle

of decaying industries if only his pet theory may be carried out.—*Cleveland Iron Trade Review*.

A FEW figures suggest the remarkable progress that Canada has made in the establishment of means of rapid communication and all the branches of enterprise that such means imply during little more than half a century. In the year 1837 Canada could boast of just sixteen miles of railway. Five years later the mileage remained the same; the passengers numbered 27,041, the freight carried amounted to 7,716 tons; the earnings were computed to be \$13,650, and the working expenses, \$10,744. In 1859 the railway mileage had lengthened out to 2,087, with 1,922,227 passengers, and \$6,839,409 earnings. Ten years later (1869) Canada had 2,467 miles of railway, and the earnings were set down at \$12,798,303. Another decade had increased the mileage to 6,484; the earnings to \$19,925,066. In that year the number of passengers was 6,523,816; the freight, 8,348,810 tons, and the working expenses amounted to \$16,188,282. In ten years more the mileage was nearly doubled—12,628; the passengers also nearly doubled—12,151,105; the freight had grown to 17,928,626 tons; the earnings to \$42,149,615, and the working expenses reached a total of \$31,038,045. The capital paid (including Government bonuses, loans and subscriptions to shares and municipal aid) had attained the enormous sum of \$760,576,446 and the amount promised to railways completed or under construction, in the shape of government and municipal loans, bonuses, etc., is stated to be \$184,802,087.52.—*Montreal Gazette*.

THE labor unions take good care that the "rights" of labor unionists are looked after and protected. No one denies the "right" of a workman to refuse to work for less wages than he thinks he ought to receive; and no one claims that he is wrong in striking when he thinks he does not receive a *quid pro quo* for his services. But when he attempts to prevent others from working when he elects to remain idle he is not acting according to his own preaching, and is denying to others that which he claims as a right to himself. This fact is emphasized in the cotton weavers strike in Hamilton where the strikers assaulted and insulted a woman because she, in her necessity, returned to work when the opportunity offered, but against the wishes of the strikers. The extreme weakness of a bad cause is shown when able bodied men and women, who themselves refuse to work, waylay a weak and defenseless woman who would work, and assault her with the tooting of fish horns, the hurling of vulgar and indecent epithets, a showering of mud and brick bats, and blows from fists that sent her sprawling in the gutter. Out with such ruffianism. The claim that this was the work of hoodlums will not be accepted, unless with the understanding that these hoodlums were members of labor organizations that countenance such doings as correct methods of enforcing the "rights" of organized labor.

WE Americans need to free ourselves to a greater extent from our slavery to certain British ideas. Because foreign commerce is absolutely essential to the commercial success of that little group of islands, there is no reason why it should be regarded as necessary for us. Traffic upon the seas is only one kind of traffic and not certainly the most profitable kind. When you live on a seven-by-nine island it may be the only possible kind; but we happen to live on a continent three thousand miles wide. Under ordinary conditions near by trading is the most desirable; and that is the kind we have. The energies of our people have been expended upon perfect-

ing transportation systems which would multiply and cheapen exchanges among ourselves, and for the reason that the gain from such internal transportation is greater than that from carriage over-seas. The population of the British Islands increases very slowly, and so the home market becomes more and more insufficient for satisfaction of swift and eager commercial enterprise. But here the population grows with unprecedented rapidity, so that we probably add to it every decade about one-fourth as many people as Great Britain contains. Thus our own land offers us continually, what England is scouring the earth to find, new markets. The capacity of the British Islands for the production of raw material is narrow. They can, for example, grow no cotton, and but a fraction of the wool they require. But there are few raw materials demanded by industry which cannot be grown in our country, and those that are produced may be had, under wise management, in quantities far in excess of our wants. Further, England produces no silver, and she has done her best to discredit silver; but we are the greatest of all the silver-producing nations of the world. And yet there are multitudes of Americans who have persuaded themselves that this great and growing and productive country will certainly put itself upon the short road to perdition unless it shapes its silver policy exactly upon British precedent.—*The Manufacturer.*

A COMPANY of Boston capitalists have been developing the foundations of a seaport at the east end of the straits of Canso, N.S., and if expectations are realized it will have a most important bearing upon future communications between Europe and America. Five miles east of Port Mulgrave, the present terminus of the Intercolonial railway on the straits, the company have acquired a large area with some miles of water front, while on Cape Breton island on the opposite side of the straits, they have over 1,500 acres of land and extensive coal deposits, which will be opened up for coal shipments to New England. The Company's engineers are now surveying a route for the five miles of railway between Port Mulgrave and Terminal City, as the new port is to be named. Terminal City is situated on one of the finest harbors on the Atlantic coast, having sufficient depth of water for the largest vessel afloat, being completely land-locked, absolutely free from ice, comparatively free from fog, and open to navigation at all times. Vessels can enter the harbor without the aid of pilots, for the entrance is twelve miles wide, without a rock, bar or shoal. A straight line on the map from Chicago to Liverpool passes, it is claimed, through this point, and the distance between them is over 400 miles shorter than by Portland, Boston or New York. It will take four days from Terminal City to Liverpool by the new steamers proposed to be put on the route. When the railroad is completed and wharves are built, passengers and mails from Europe will be delivered in New York or Montreal one day sooner than by any other route. It is the most easterly Canadian port open all the year round, and appears to be a natural shipping port for the products of the Dominion to Europe.

THE Cleveland Ohio *Iron Trade Review* has been looking over the recently issued "Report of the Royal Commission on the Mineral Resources of Ontario," and after making some other remarks about it says:—

It comes out flat-footed for reciprocity with the United States, as the one economic measure essential to the establishment of an iron mining industry in the Queen's dominions. It shows that the cost of transportation of Canadian ore to Cleve-

land, Ashtabula or Pittsburgh is not greater, and in some cases is slightly less than from the mines of northern Wisconsin and Michigan to the same points. It adduces the testimony of numerous owners of mineral lands to demonstrate that, with the removal of the American duty on iron ore and the Canadian duty on mining machinery, the development of an iron mining industry in the Dominion would be as good as accomplished. We shall have occasion to quote from some parts of the report hereafter; in the meantime, we are inclined to think that the Commission entirely misjudges the situation on this side of the border, when it counts upon the removal of the iron ore duty as a possibility of the near future. In fact, no section of the McKinley Bill is more likely to remain as it is than that which continues the duty at seventy-five cents per ton. And there is good reason for this in the very argument which the Commission bring forward, viz., that, with the duty removed, Canadian ore could be laid down at Lake Erie ports and Chicago in direct competition with Lake Superior mines. We have a very friendly interest in Canada, but it is too much to ask us to surrender the interest of American capital, labor and shipping just to help out our Northern next door neighbor.

It is the strangest thing in the world that this report should harp on the idea that the United States can be induced to put iron ore on the free list, or that any reciprocity between that country and this could be brought about that would accomplish that desire. According to this report Canadian ore can be laid down in American markets cheaper than American ores; and as the duty is only seventy-five cents a ton, and as the profit on the ore is several dollars a ton, nothing but stupidity and greed can possibly be the cause of refraining from the business.

MAJOR EDWARD DOUD, manager of the blast furnaces at Sheffield, Alabama, recently prepared some figures for the *Enterprise* of that city, to demonstrate what it requires to supply five blast furnaces. He says: "The output of Sheffield's five furnaces will be 700 tons of pig iron per day, or 225,000 tons per year. To produce this enormous amount of pig iron will require, of raw material daily 1,575 tons of ore, 1,050 tons of coke, 390 tons of limestone, at a total of 3,115 tons per day, and of 1,136,975 tons per year. Calculating ten tons to the carload, this means that it will require 311½ carloads of material daily to fill, as Major Doud expresses it, "the insatiable maws of these five monsters." Adding to the amount of material required to make the output, the output itself, and we have a total tonnage to be handled on account of the business of the furnaces alone of 3,815 tons daily, or yearly of 1,392,475 tons, and this amount loaded on cars would form a single solid freight train, 976 miles long, and would require to haul 4,640 locomotives of the size and capacity of the ten-wheel Baldwin consolidators, lately received by the Sheffield & Birmingham Co., and would make the very respectable addition of fifty miles to the length of the train giving us a total length of 1,025 miles. To provide the 1,576 tons of ore, the 1,050 tons of coke and the 390 tons of limestone required for consumption every day during the 365 days, it will be necessary, in order to provide for all contingencies, that during the working days of the week, when the weather will permit, the raw material mined per day should equal 2,600 tons of ore, 1,500 tons of coke, 240 tons of coal and eighty tons of limestone. To mine this material and put it on the cars ready for shipment to Sheffield, will take the labor

daily of 800 men for the ore, 1,600 men for the coke, 100 men for the limestone, a grand total of 2,500 men who will be employed in the section of country adjacent to Sheffield, in mining and quarrying for the Sheffield furnaces. Two thousand five hundred men will be paid by Sheffield and Sheffield institutions, a sum which, at the low estimate of \$1 25 per day for each man will aggregate the very considerable amount of \$18,750 each week. Think of it. As large as Major Doud's figures are they indicate a production of iron actually less than the quantity consumed in Canada each year, and yet the entire annual production of pig iron in Canada, (24,822 tons in 1889) would not equal six weeks' production of these five furnaces.

WE find in a recent number of *Harper's Weekly* the following observations on the subject of Protection:

"Protection is a form paternalism, and therefore it is not agreeable to what we may call Americanism. Its chief principle is foreign to the American doctrine of liberty, because, as its name implies, it is paternalism. Protection is paternalism applied to trade or commercial intercourse, as the various degrees of despotic administration in other countries are paternalism in the sphere of politics. The public authority which regulates individual freedom in travel, in residence, in public meeting and debate, in speaking, in writing and in voting, is akin to that which restricts the same freedom in buying and selling."

Paternalism may be defined to be the performance of the functions of a father in caring for, sheltering, encouraging, possibly coddling, persons or interests. The government of the United States is, in principle and in fact, government of the people by themselves. They direct, control and regulate its operations. The peril in which we stand, therefore, of suffering from paternalism from our Government, is just about the same peril that an individual is liable to of being put into the attitude of a father to himself. When our Government cares for, shelters, encourages or coddles us, the caring for, the sheltering, the encouraging and the coddling are done by ourselves to ourselves. It has been well said that the American people are orphans. They have no royal or imperial father, and no paternal government. They go it alone, they hoe their own row, they paddle their own canoe, they fry with their own skillet. In levying taxes they consider it well for their own interests to put upon certain articles of foreign manufacture duties that will forbid unfair competition in this market with similar articles of domestic manufacture. They have had the power, and they have it now, at anytime to change this policy by the simple process of electing Congressmen who would adopt the required legislation; but for one hundred years they have refused to do this, excepting in one or two isolated instances. The last time they voted upon the question they repeated their refusal. Their motive, undoubtedly, is self-interest. Manifestly they believe that to lay taxes in that particular manner is to their pecuniary or other advantage. Thus they are "paternal" to themselves in the same sense that a man is who builds a fence around his garden, or puts a lock on his front door, or who in any other way looks out for his own interest. They may act unwisely or indiscreetly in pursuing such a policy, but it is their own choice, their own act, and it is in every respect different from the act of an individual despot. It is closely akin to the policy, for example, which restricts freedom by enactment of

laws against libel or laws for regulating the sale of liquor. In these cases the people abridge their own liberties for the general advantage. "Paternalism" is a free-trade bugaboo that frightens nobody but fools.—*The Manufacturer*.

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.

TISDALE'S BRANTFORD IRON STABLE FITTINGS.—We lose no job we can figure upon. Catalogue sent free. The B. G. Tisdale Co., Brantford, Canada.

A DYER—Blue vats and fancy colors in wool and piece. Fast carriage green cloths, tricots, flannels, etc., etc. Am at present engaged in the States, but desirous of coming to Canada. Address, GUBELINUS, this paper.

FOR SALE.—In town east of Toronto, Two Set Woolen Mill, fully equipped and in good running order; never-failing water-power, main building stone, 50x150 feet, three stories; picker house, brick, 24x30, two stories; railway and water convenient for shipping, will sell with or without machinery. For further particulars, address this office.

FACTORY TO LET.—Ten years lease; containing about 11,000 feet of floor space, fitted up complete with engine, boilers, shafting, steam heating, gas light and water service fixtures throughout; adjoining building can be had if desired; five floors, each 30x110, with hoist. Apply to Samuel May & Co., 111 Adelaide Street west, Toronto.

FOR SALE in Kent County, Michigan, the Buchanan Mill property consisting of a first class lumbering mill the extensive water power in connection with it including the entire power furnished by the river with real estate on both sides of sixteen acres, situate one mile from Main Street of Lowell, a rich farming country surrounding an excellent location for paper mill, furniture factory, woolen mill and the many uses that require power. Also a splendid home and farm of 87½ acres with buildings, fruit, evergreens etc. For further information all at the premises of JAS. R. BUCHANAN, Lowell, Michigan.

TO MANUFACTURERS—The Town of Thorold, Welland County, Ontario, is a splendid site for manufactures of all kinds, and reasonable encouragement will always be given for the settlement of bona fide industries. It is situated on the boundary between the Counties of Lincoln and Welland; population, 3,000; lighted by electricity (public and private circuits); electric street railway connection with the City of St. Catharines, four miles distant; nine miles from Niagara Falls; the New and Old Welland Canals, also the Welland (G.T.R.) and Niagara Central Railways, all run through the town; water power from the canal; bonded debt small; situation, on the brow of the mountain, overlooking Lake Ontario, most picturesque; public health not excelled; five churches; first-class High school, also two Public and one Separate school. Any information desired will be cheerfully given by application to JAMES LAWSON, Mayor.

Good Housekeeping is a magazine admirably adapted to the wants of the household, containing as it does something for every member. The issue for June 21st has a very interesting paper on "Dressing the Hair," which will interest older readers as much as the young ladies, and the sterner sex as deeply as the weaker. The pages are sprinkled with exceptionally pleasing bits of verse, some of which possess a high degree of merit; while in the line of household economy and convenience there is a large variety, in addition to the usual departments. Clark W. Bryan & Co., Publishers, Springfield, Mass.

LAWN TENNIS has hitherto been the only leading sport not represented by a publication devoted exclusively to its interests. But at a recent meeting of the United States National Lawn Tennis Association, the publishers of *Outing*—the illustrated magazine of outdoor sport and recreation—were authorized to publish a weekly supplement devoted exclusively to lawn tennis, and to officially represent the Association. The initial number is at hand. It is called *Outing Weekly Tennis Record*, and is a handsome affair typographically, its sixteen pages being patterned after the shape and size of *Outing*, to which it may be bound with perfect ease.

"CANADA'S GREAT FAIR."—The receipt of a copy of the Prize List for this year's Toronto Industrial Exhibition, which is to be held from the 8th to the 20th of September next, reminds us that the fair season is again fast approaching. The Prize List shows the addition of many new classes and a large increase in the amount offered as premiums. Toronto offers many attractions to visitors during the season, but the greatest of all is its annual Exhibition, which this year promises to be greater and better than ever. A copy of the Prize List can be obtained by any of our readers who may desire one by dropping a post card to Mr. H. J. Hill, the secretary, at Toronto.

MR. B. T. A. BELL, editor *Canadian Mining Review*, Ottawa, is preparing and will soon publish the *Canadian Mining Manual*, for the use and guidance of all those connected or associated with the registered and incorporated mining companies of the Dominion. The work, besides containing the fullest possible information, acquired from every official source, respecting the organization, management, capital, mines operated and other prominent features of these important enterprises will furnish to manufacturers of mining machinery and supplies a most complete alphabetical directory of the various officials at Canadian mines and quarries, engineers, metallurgists, chemists and others prominently identified with our mineral interests. Price, bound in cloth, \$2.00.

THE July number of the *National Magazine*, of Chicago, opens with an article entitled "Harvard University and Reform," by Chancellor Harkins of the National University of Chicago, in which the wisdom of President Eliot's recommendations is forcibly maintained. Other timely articles are:—"Plan Proposed for a Polytechnic Institute," "Biblical Literature," "College Courses for Non-Residents," "Union College Examinations" and "Honorary degrees." Young men will be interested in the article on the "Chicago Trade Schools." Particulars of the recent gift of twenty-five acres of land near Chicago, to the National University and of its proposed new building thereon are also given. Published at No. 147 Throop Street, Chicago, Ill. Sample copy, 10 cents.

THE last issue of the *Dominion Illustrated* is worthy of special attention, being almost wholly devoted to the elucidation of the history, resources, industries and prospects of Victoria, B.C. Evidently no pains have been spared to make it all that it purports to be, and other Canadian cities, seeing how successfully this plan of local illustration can be made to work, would doubtless consult their own interest as well as gratify the public by following Victoria's example. Altogether this issue is a credit to the Dominion. We understand that Calgary will be the next to have a special issue of the *Dominion Illustrated*. It will embrace the main physical and scenic features of Alberta, as well as what relates more particularly to its principal town. Address: *The Dominion Illustrated*, 73 St. James Street, Montreal.

THE midsummer number of *Outing*, that most excellent of sport-dream magazines, presents a bill of fare that will just suit those who dream of green fields and sparkling waters this hot weather. Included in its contents are:—"A Visit to Carthage and Tunis," with engravings by Burnham and Hoskin. "Yellowstone Park," with numerous illustrations. "A Summer Abroad a-Wheel." A cyclist's trip through Belgium and Holland. Illustrated by Bardwell and from photographs. "Henley and its Regatta." The social life on the Thames in summer. "Tennis on the Pacific Coast." "Fair Skippers at the Helm." An account of America's yachtswomen. "Fly Trolling for Rock Bass at Night." Illus-

trated. "America's Place in Athletic History." "The Manhattan Athletic Club," with illustrations. "Vermont's National Guard." Illustrated. "An Outing on the Soo," with numerous illustrations. "Northwestern Fields of Sport." Profusely illustrated, and "Wrecked on Carr's Reef," a story of adventure on Lake Superior, illustrated. (New York: 239 Fifth Ave. \$3.00 a year. 25c. a copy.)

THE title "Jordan" begins, and the title "Legacy" ends Volume twenty-one of *Allen's Manifold Cyclopaedia*, and between these titles will be found a wonderful amount of interesting and valuable information. The editorial skill in selecting the subjects treated, the amount of space given to each of the various topics, and the clearness and conciseness of treatment, are most commendable, and stamp this cyclopaedia as, above all others, the cyclopaedia for the people. A feature of very great importance not found in any other cyclopaedia is the pronunciation of all titles, the names of persons, countries, etc., as well as of the ordinary words found in a dictionary. Among the great number of interesting subjects treated in this volume we notice: Jurisprudence, Jury, Jute, the State of Kansas and Kentucky, very full and brought close down to date, Knights of Labor, Latin Language and Literature; also biographical sketches of such noted and interesting characters as Josephus, Junius, Kent and Kant, Clara Louise Kellogg, Mrs. Kemble, George Kennan, Louis Kossuth, Lafayette, Gen. Robert E. Lee. The *Manifold Cyclopaedia* cannot be too highly commended for the use of families and schools, and especially for all young people who are attempting to educate themselves. The low price, also, quite beyond comparison with any other cyclopaedia of similar character and magnitude, is a gratifying feature. Specimen pages and terms will be sent on application by the Publishers, Garretson, Cox & Co., New York, Chicago and Atlanta.

THE July *Wide Awake* gives the young people the fun and the sentiment of the month; base-ball and independence celebrations and patriotic reminiscences abound from beginning to end. The frontispiece illustrates "The Little Fifer," a true story of a lad of '76, who was missing from his home in Shirley, Mass., and turned up in Washington's camp, where his father found him at last. Mrs. Clara Doty Bates has a true story of "Grandfather's Musket," relating the escapades of two enterprising boys who built an Independence Day cannon out of a precious Revolutionary relic of Valley Forge and Lundy's Lane. "What's in a name?" chronicles the trials of a little school girl whose name was "Independence Day." "The Freedmen's Fourth at the Capitol," describes the first Fourth at Washington after the emancipation. "An Old Flag" is the famous "starry flag" of Paul Jones and his war-ship, the *Bon Homme Richard*. "Indian Base-ball Players" is by one of the Indians graduating from Hampton. It gives an account of several Indian ball-clubs, with photographs of the "Hampton Indian Nine," and "Ten Little Indians" of Hampton; "Craps" is a New Orleans story by James B. Cable, the brother of the novelist, George W. Cable. "Two Wills," by Mrs. Jessie Benton Frémont, will command attention. "How Rebecca Harding Went to School," shows that all "schooling" is not got in the school-room. The extravaganza of "The Quest of the Whipping-Boy," continues to be amusing; The Acadian Folk-Lore series is kept up with spirit. Mrs. White's article in her series, "Business Openings for Young Women," relates to a comparatively new "opening" that of "guides," an excellent and entirely practicable occupation. But perhaps nothing in the number will be read with more interest than the July section of Mr. Ward's serial, "The New Senior at Andover;" it concerns the practice of "hazing," and is strongly written. *Wide Awake* is \$2.40 a year. D. Lothrop Company, Publishers, Boston, Mass.

THE salt works of Mr. P. McEwan, near Goderich, Ont., were destroyed by fire June 29th; loss about \$8,000.

AN important meeting of the Provincial Natural Gas and Fuel Company of Ontario took place in Toronto a few days ago, at which all the stock of the company was represented. The general manager reported that a new well of a capacity of 3,000,000 cubic feet per day had been added very recently to the already long list of successful wells of the company, the total production of these wells being now about 12,000,000 cubic feet per day more than what will be required to supply St. Catharines, Thorold, Merritton, Welland and adjacent places. It was decided to at once proceed to pipe these towns, as well as to run a pipe line to Buffalo to dispose of the surplus of gas. Offers from the best and largest pipe firms in the United States were submitted in person by their representatives to the directors, who have these various tenders under consideration. No doubt now that the first natural gas pipe line in this country will be an accomplished fact within the next few months.

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.

MESSEES. ALEXANDER & SHAW, Huntsville, Ont., will erect a tannery at that place.

MR. H. W. HANSELL'S flouring mills at Regina, N.W.T., were destroyed by fire June 15th, loss about \$20,000.

PROFESSOR HAND, of Hamilton, Ont., manufactured and supplied the fire works used in the Toronto carnival this week.

THE Lloyd Manufacturing and Foundry Company, Kentville, N.S., lost a part of their works by fire June 19th; loss about \$5,000.

FOUR new elevators will be built this summer by Messrs. Martin, Mitchell & Co., along the line of the Northern Pacific and Manitoba Railway.

THE Lake of the Woods Milling Company, the Ogilvie Milling Company and the Farmers' Union Elevator Company will each build elevators at Boissevain, Man.

THE moulding shop and pattern shop of the William Hamilton Manufacturing Company, at Peterboro', Ont., were destroyed by fire June 27th; loss about \$40,000.

THE Eagle Sulky Harrow Company is being organized at Brantford, Ont., with a capital stock of \$100,000, for the purpose of manufacturing agricultural implements.

MESSEES. BELL & Co., proprietors of the Tilsonburg Tannery, Tilsonburg, Ont., are making extensive additions to their works, included in which is a two-story building 40x30 feet.

MESSEES. ROBINSON & Co. are erecting a new planing mill at Selkirk, B.C. It is being built with the latest improvements and will be roofed and probably sided with steel shingles.

THE Ottawa Canning Company, Ottawa, has been organized with a capital stock of \$20,000, for the purpose of carrying on the business of canning of fruits, vegetables, roots, grain, meats, fish, syrup, sugar and the like.

THE Toronto Canoe and Boat Company, Toronto, has been organized with a capital stock of \$50,000 and have taken over the boat building and boat house business of Mr. W. H. Clendinning. The company will engage extensively in the building of skiffs, canoes, etc.

MR. J. C. NATIVEL, who has recently established pottery works at Victoria, B.C., says that the potter's clay found near that city is of the very best quality. The products of Mr. Nativel's work include flower pots, drain tile, roofing tile, chimney pots and a large variety of terra cotta goods.

MESSEES. AARON J. PALMER, of Amherst, and J. A. Crossman and John A. Laws of the Enterprise Foundry, Sackville, have organized themselves under the name and firm of Cumberland Foundry and Machine Works, at Amherst. They intend carrying on a general foundry and machine business, repairing, etc.

MESSEES. TURPEL & BENNETT, Victoria, B.C., have successfully launched a new steamer built by them called the *Standard*. She is 78 feet long, 14 feet beam and 6½ feet deep. She is being equipped with triple expansion engines which will make 200 revolutions per minute. When completed her cost will be about \$15,000.

THE Dominion Organ and Piano Company of Bowmanville, Ont., and the Clough and Warren Piano and Organ Company of Detroit, will, it is said, consolidate their interests under the name of the first named company, and erect very extensive piano and organ works at Mimico, the new manufacturing town in the western suburbs of Toronto.

MESSEES. BEATTY & SONS, Welland, Ont., will build the engines and all machinery for the new dredge about being built at Victoria, B.C., by Messrs. Turpel & Bennets. It will be ninety feet long and have capacity to remove 1,000 cubic yards of earth a day, working to a depth of thirty feet of water. It is claimed that this will be the most powerful dredge on the Pacific coast.

MESSEES. KERR BROS., Walkerville, Ont., have just received a contract to supply Messrs. Hiram Walker & Sons of that place with

a 350 horse-power compound engine, to drive their mill and part of the distillery. This is to replace an engine put in by Messrs. Kerr Bros. some ten years ago, and which has given great satisfaction, but is found now to be too small for the work to be done. Beside this contract Messrs. Kerr Bros. are filled with general work.—Walkerville, Ont., *Mercury*.

It is now reported from Lake Superior that American capital is being invested very heavily in Canadian pine, on the North Shore in the vicinity of Port Arthur and Winnipeg. One of the largest deals spoken of is a purchase by Gen. Alger, of Detroit, and Congressman Bliss, of Saginaw, a tract which is estimated to cut 1,000,000,000 feet. They paid but \$425,000 for it, although \$1,000,000 was at first asked. Bay City, Oscoda and Alpena lumber men have also made large purchases in the same district of late.—Cleveland, O. *Marine Review*.

THE Tacoma Mill Company cut a stick of timber of somewhat extraordinary length, for the keel of a schooner now being built at the St. Paul and Tacoma mill, and is one of the finest keels ever put in a vessel. It has been found to be 134 feet long, twenty-four inches wide and eighteen inches thick, and was practically clear. Two feet were cut from the stick, as it was too long, and it was then 132 feet long, and contained 4,750 feet, board measure. This was charged at \$100 per thousand, so that the stick cost the schooner builders \$475.—*Mississippi Valley Lumberman*.

FRIDAY night the quality of the electric light carbons made by the Brooks Manufacturing Company was exhibited in a building on Brock Street. The company makes three grades of carbons, suitable for currents of different strength. The carbon used in this exhibition was for a strong current, ten amperes, and was placed in an arc lamp connected with the street current of the electric light service. The light it gave was strong, clear and steady, and there was a pleasant absence of shadows and hissing. A large number who passed along the street to the band concert in the park viewed the test, which was satisfactory to all who saw it and showed the excellent quality of the carbons made by this company.—Peterboro', Ont., *Review*.

SOME 3,000 people were present at the launch at Windsor the other day of the big ship *Kings County* built by the Messrs. Chester. Her dimensions are: Length of keel, 240 feet; length over all, 275 feet; breadth, 45.6 feet; depth of hold, 26 feet. She is classed fourteen years in the American Shipowners' Association and thirteen years in French Veritas. She will have four masts and will spread 7,800 yards canvas. The lower masts are of hard pine and eighty-three feet long, and the mainmast is thirty-two inches in diameter at the deck; her fore and main yards are ninety feet each. She will be commanded by Capt. Milledge Munro, of Bridgetown, and will go to St. John to load deals for Liverpool.

PREPARATIONS are being made to take out a section of one of the large redwood trees of California for exhibition at the World's Fair at Chicago in 1892. The section of a tree which will be sent will be the largest ever taken from the State and will be nine feet in height and sixty in circumference. The tree itself, which is one of the mammoth forest in Tulare county, measures ninety-nine feet in circumference. The work of felling the tree and preparing the section has already begun and will employ ten men at least two months. Three flat cars will be required for transportation of the exhibit, which is expected to weigh about 65,000 pounds. Several suggestions have been made to the State Board of Trade for setting up the entire tree at the World's Fair but no plan to that end has been matured.

THE annual output of the British Columbia coal mines, according to the Government Inspector's report, is as follows: Nanaimo, 223,870 tons; Wellington, 273,383; East Wellington, 51,372; and Union, 31,204 tons; the total production for 1889 being thus 579,830 tons. The amount exported by these collieries was 443,675 tons, of which 417,904 tons were shipped to California; and there were used for local consumption 124,574.25 tons, there being 11,581.35 more tons on hand Jan. 1, 1890, than on Jan. 1, 1889. The production for 1889 shows an increase of 90,530 tons over 1888. The total value of the colliery property is \$210,000, being distributed as follows: Nanaimo plant, \$35,000; Wellington, \$150,000; Union, \$25,000.

EVERYWHERE vessel property is in good demand, and since the best authorities contend that wooden sailing ships will always have a prominent position in the maritime world, there ought to be no reason why, with the development of Pacific coast and ocean trade, an impetus should not be given to ship building at Victoria, when there have been turned out of late years a number of craft that have given the best of satisfaction to their owners, and have been, indeed, a credit to those who constructed them. There appears to be something of a boom in this branch of industry in the Maritime Pro-

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vines, whence not a few craft have been sent here. Besides, however, being just as cheaply built here, ships might be put together at this point in quite as short a time as it takes to bring them round the Horn.—Victoria, B.C., *Colonist*.

THE double-ender steel steam ferry steamer *Primrose* was successfully launched from the ship yard in this city of the builders, the John Doty Engine Company, on June 28th. The *Primrose* is a sister ship to the *Mayflower*, launched from the same yards on May 24th, an account of which was given in these columns at the time. These vessels cost \$33,000 each, and form the nucleus of a fleet of first-class modern steel ferry steamers which the Toronto Ferry Company are having built for service between the city and the Island. They are built of Siemens Martin mild steel, and are of exceptional strength and fitted with four water-tight compartments so as to render them unsinkable. Their dimensions are 140 feet long by 28 foot beam and 45 feet extreme width, and they are each fitted with two direct acting diagonal engines of 300 horse-power.

THE steamer *Mystery*, built by Mr. N. J. Stephens, Victoria, B.C., for Messrs. Spencer & Earle, of the Alert Bay, B.C., cannery, has been put in commission and has proved herself acceptable in all respects. She is 84 feet long, 16 feet beam and 8 feet 3 inches deep. Her engines and boilers were built by the Albion Iron Works, Victoria. Her hull is strengthened with hanging knees of fir placed at intervals all round her frame work, and in every respect she is extra strongly built. Her marine boilers, of which she has two, are 7 feet 6 inches long. Her working apparatus are of steel throughout, and her boilers carry 120 pounds to the square inch working pressure. Her high pressure engines have 12 inches diameter, and those of low pressure 24 inches. She has air, feed and bilge pumps connected with her main engine; also one Worthington independent circulating pump, her engines being calculated to develop 200 indicated horse-power. Her motor is a propeller, and as completed she will cost from \$18,000 to \$20,000.

FOLLOWING up his investigations in connection with the proposed establishment of the iron industry in British Columbia, Mr. Alexander Begg visited the iron works at Irondale yesterday, which are situated six miles south of Port Townsend, the "Key City" of Washington Territory. He states that the blast furnace closed a few weeks ago, after a continuous run of over fifteen months, with

a stock of pig iron on hand of about 4,000 tons. The works are in prime working order under the superintendence of Mr. George Froescher, who has been the active manager for some years past. The furnace is classed at thirty tons per day. It is fifty feet high and eleven feet inside diameter at the largest part. The hot blast is furnished with sixty pipes. The blowing engine is supplied with two sets of boilers. The hoisting apparatus is wrought by a separate engine. A plentiful supply of water is brought a distance of three miles. There are also twenty kilns for converting wood into charcoal for smelting purposes. When in full blast the works give employment to about forty men. The iron ore used is from the Texada iron mines, to which is added a very small proportion of the bog ore found in the vicinity of Irondale, but which is nearly exhausted. The pig iron is worth \$35 per ton at present in San Francisco. There is an extensive wharf connected with the works, where ocean steamers can load with safety in all weathers.—Victoria, B.C. *Colonist*.

THE new steamer, *Monarch*, belonging to the North-West Transportation Company, was successfully launched from the ship-yards of Mr. John Dyble, near Sarnia, Ont., June 26th. She is a screw propeller, and will cost \$150,000 when completed. Her dimensions are as follows:—Length, 259 feet; breadth, 34 feet 8 inches; depth 14 feet 8 inches. The frames and plank are of the best white oak. There is a steel arch 3 feet 6 inches broad by 71'6 of an inch on the in and out side of frame, bolted through each other. The ends are commenced as low down in the hull as practicable, extending nearly the entire length of the boat and running up above the promenade deck rail. There is likewise an arch running from stern to engine bed, bolted to the keelsons and running up the main deck beams. The motive power will be furnished by a triple expansion engine. The high pressure cylinder is 21 inches in diameter, intermediate cylinder, 33 inches; low pressure cylinder, 42 inches; stroke, 42 inches. This engine has been built expressly for the company by Kerr Bros., of Walkerville. The boat will be propelled by a sectional propeller 12 feet 4 inches in diameter and 16 feet pitch. The Engine will make 100 revolutions per minute and is expected to develop 2,000 horse-power. Steam will be generated by Scotch boilers, 12 feet long and 13 feet 4 inches in diameter. The boilers are manufactured by the Lake Erie Boiler Works, Buffalo.

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SHORT SIGHTED POLICY.

The machinery made by British firms has for a long time held a high reputation for its quality, but statements which have recently appeared seem to point to deterioration in this respect. Consuls have complained from time to time that manufacturers at home refuse to pay attention to the special requirements in markets beyond the sea, and this is said to be the case in mining machinery destined for South Africa. The news comes from Berlin that much of the mining machinery sent out from England to the Transvaal gold fields has failed to give satisfaction to the purchasers, and that the opportunity is being utilized by German makers to obtain a footing for their goods. Confirmatory evidence comes from an English engineer in the same district, who asserts that English engineering firms are quite indifferent to the quality of the plant sent out. For instance, the hoisting machinery exported is said to be nearly always obsolete in pattern, and apparently portions of old stock. Pumps are sent out as parts of plant without any reference to the use to which they are to be put. Boilers have fire-boxes too small for the local fuel. Stamp-mills are from a bad mould, and result in the production of the "clumsiest and most inefficient stamp-mill in the world," while "the self-feeders and some stone-breakers are a disgrace to the intelligence of the nineteenth century." One of the principal points to which objection is made is the fact that the plant is very heavy, and as the cost of transport is likewise exceedingly heavy, it comes hard on buyers to have to pay for the transport of dead weight. This is a matter which can easily be remedied. What is a fault in the eyes of the user in the Transvaal is probably looked upon as a merit by the maker who prides himself upon the solid character of his work. Steel can be substituted for iron in many cases, and the requisite lightness may be thus attained. The other charge that the plant is bad is more serious. If true, it is evident that the makers of the plant have adopted a very short-sighted policy. The only way in which this country can maintain its trade abroad in machinery is to make it good. Makers cannot afford to live purely upon the reputation acquired in the past, but must justify it by the quality of the machinery turned out in the present. Our own experience of English makers is, however, that they turn out machinery properly calculated to do its work, and to suit exceptional circumstances. The complaints appear to be based upon the goods firms of little reputation must have sent out.—*London Eng., Machinery Market.*

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SEALED TENDERS, addressed to the undersigned, and endorsed "Tender for Post Office, &c., Vancouver, B.C.," will be received at this Office until Tuesday, July 15, 1890, for the several works required in the erection of Post Office, &c., Vancouver, B.C.

Specifications can be seen at the Department of Public Works, Ottawa, and at office No. 2, Lefevre Block, Hastings Street, Vancouver, B.C., on and after Tuesday, June 17th, and tenders will not be considered unless made on form supplied and signed with the actual signatures of tenderers.

An accepted bank cheque, payable to the order of the Minister of Public Works, equal to five per cent. of amount of tender, must accompany each tender. This cheque will be forfeited if the party declines the contract, or fails to complete the work contracted for, and will be returned in case of non-acceptance of tender.

The Department does not bind itself to accept the lowest or any tender.

By order, **A. GOBEIL,** Secretary.

Department of Public Works, }
Ottawa, June 8, 1890.



ST. LAWRENCE CANALS.

RAPIDE PLAT DIVISION.

NOTICE TO CONTRACTORS.

SEALED TENDERS addressed to the undersigned, and endorsed "Tender for the St. Lawrence Canals, will be received at this office until the arrival of the Eastern and Western mails on Wednesday, the 23rd day of July next for the construction of a lift dock, weirs, etc., at Morrisburg, and the deepening and enlargement of the Rapide Plat Canal. The work will be divided into three sections, each about a mile in length.

A map of the locality, together with plans and specifications of the respective works, can be seen on and after Wednesday, the 9th day of July next, at this office, and at the Resident Engineer's Office, Morrisburg, where printed forms of tender can be obtained.

In the case of firms there must be attached to the tender the actual signature of the full name, the nature of the occupation and residence of each member of the same, and, further, an accepted cheque on a chartered bank in Canada for the sum of \$3,000, must accompany the tender for Section No. 1, and an accepted cheque on a chartered bank in Canada, for the sum of \$2,000 for each of the other sections.

The respective accepted cheques must be endorsed over to the Minister of Railways and Canals, and will be forfeited if the party tendering declines entering into contract for the works at the rates and on the terms stated in the offer submitted. The cheques thus sent in will be returned to the respective parties whose tenders are not accepted. This Department does not, however, bind itself to accept the lowest or any tender.

By order,

A. P. BRADLEY, Secretary.

Department of Railways and Canals, }
Ottawa, June 13, 1890.



MILITIA.

SEALED TENDERS, marked on the left-hand corner of the envelope, "Tenders for Militia Store Supplies and Necessaries," addressed to the Honorable the Minister of Militia and Defence, will be received up to noon of Monday, the 4th of August, 1890.

Printed forms of tender, containing full particulars, may be obtained from the Department at Ottawa and at the following Militia stores, where also sealed patterns of all articles may be seen, viz.:—The offices of the Superintendent of Stores at London, Toronto, Kingston, Montreal, Quebec, Halifax, N.S., and St. John, N.B.

Every article to be supplied (as well as the material therein) must be of Canadian manufacture.

No tender will be received unless made on a printed form furnished by the Department, nor will a tender be considered if the printed form is altered in any manner whatever.

Each tender must be accompanied by an accepted Canadian bank cheque, for an amount equal to ten per cent. of the total value of the articles tendered for, which will be forfeited if the party making the tender declines to sign a contract when called upon to do so. If the tender be not accepted, the cheque will be returned.

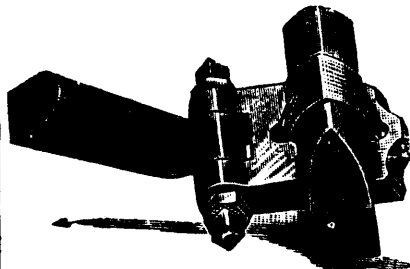
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A. BENOIT, Capt., Secretary.

Department of Militia and Defence.
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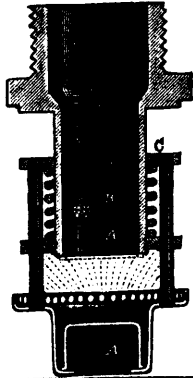
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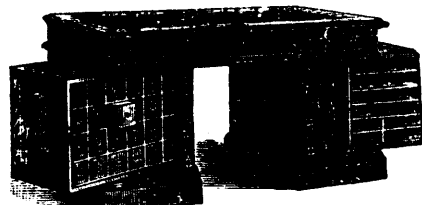
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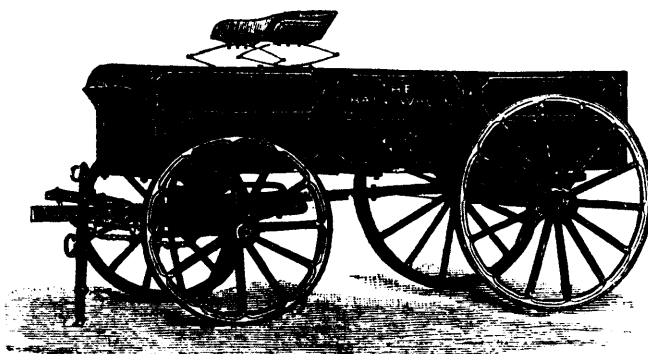
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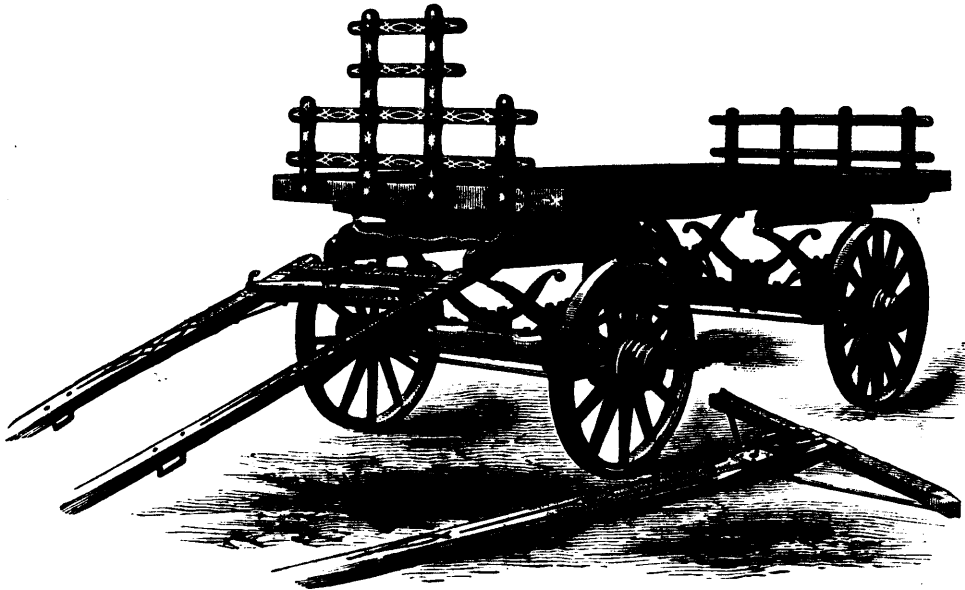
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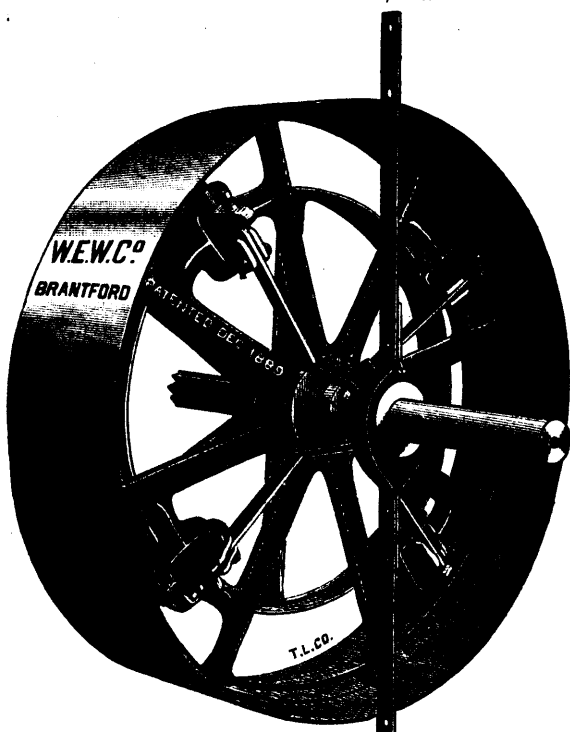
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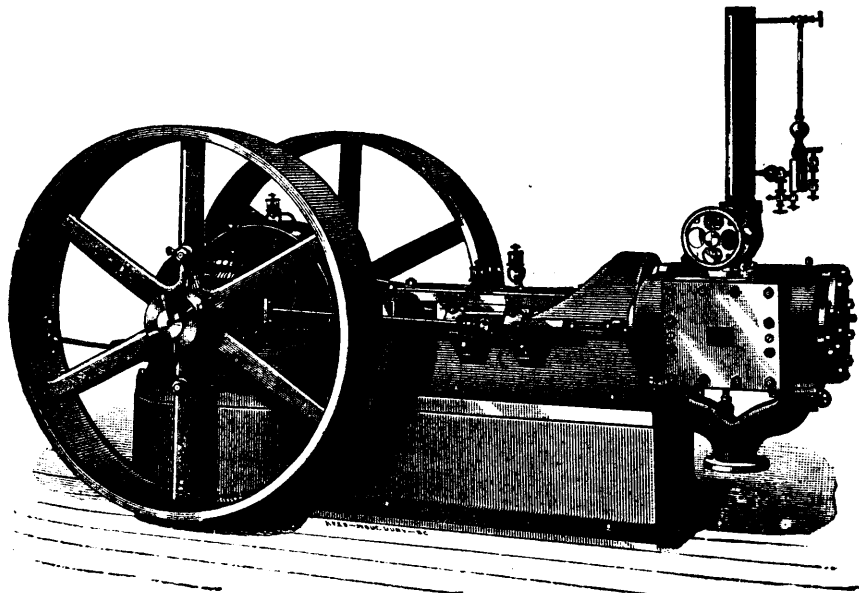
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The Canadian Locomotive & Engine Co., Limited, of Kingston, Ontario, have the Exclusive License for building our Improved Patent High Speed Engine for the Dominion of Canada, and are furnished by us with Drawings of our Latest Improvements.

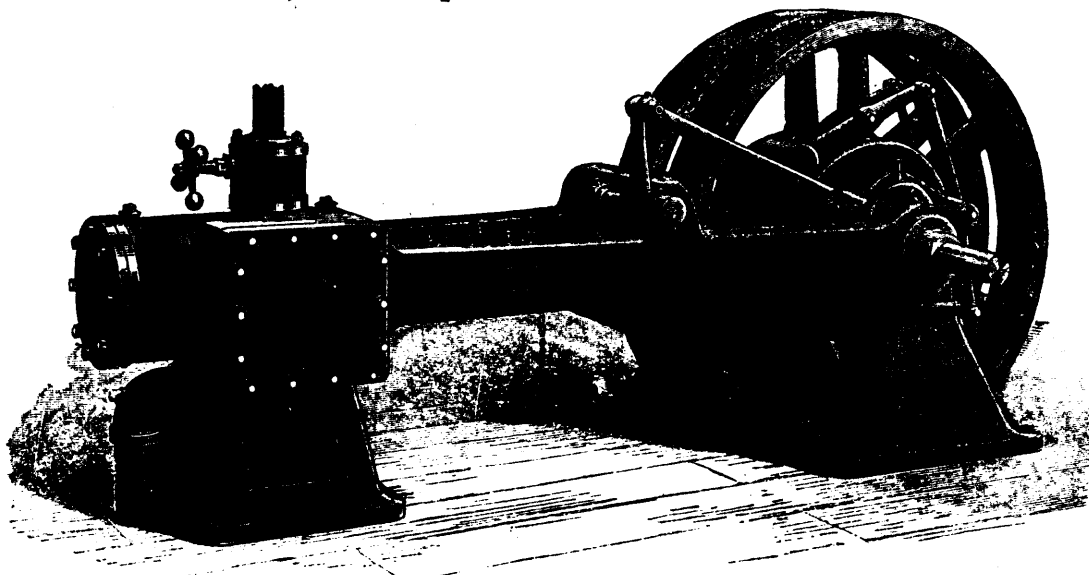
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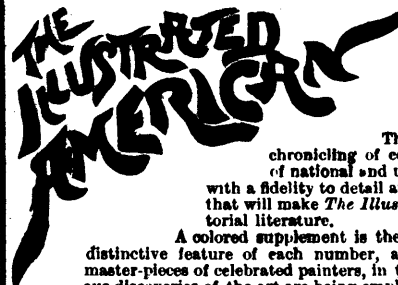
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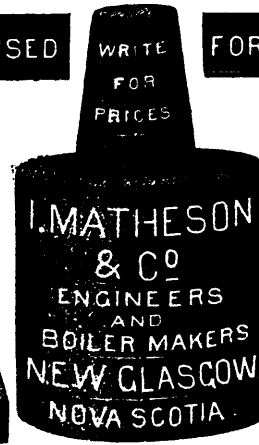
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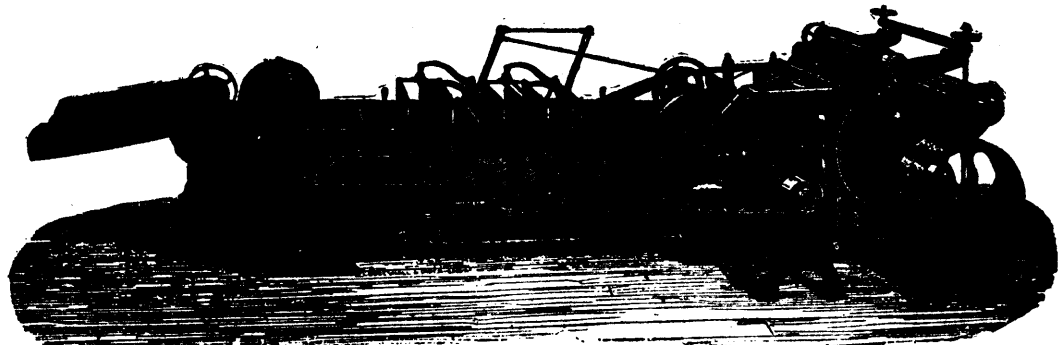


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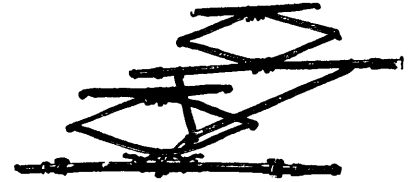
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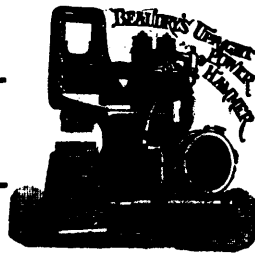
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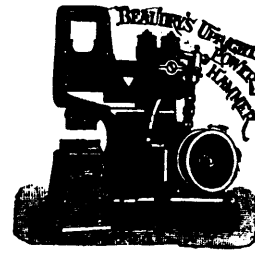
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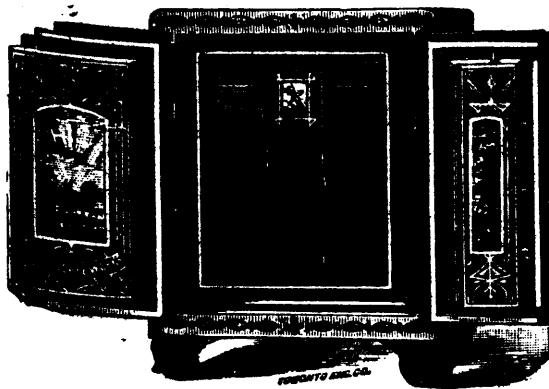


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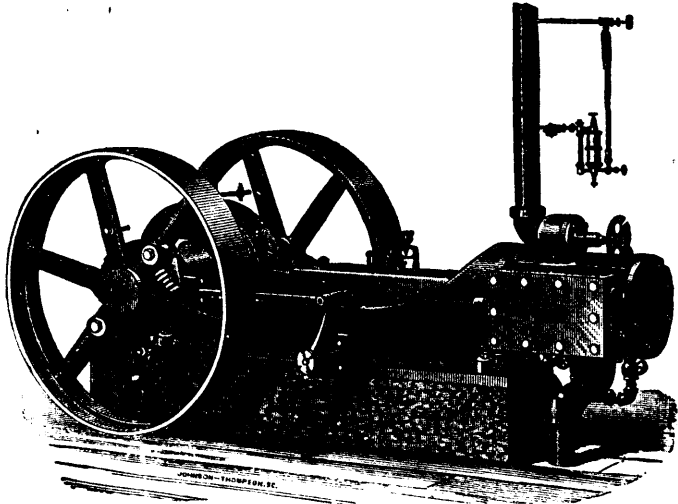
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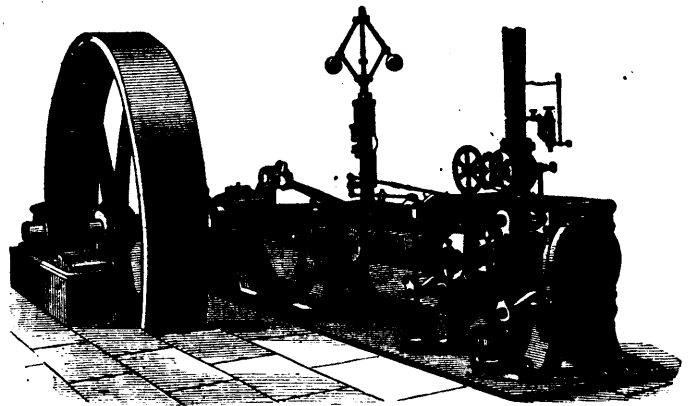
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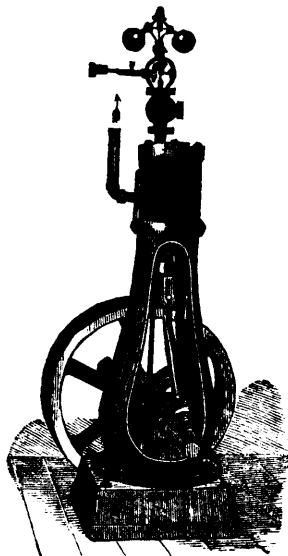
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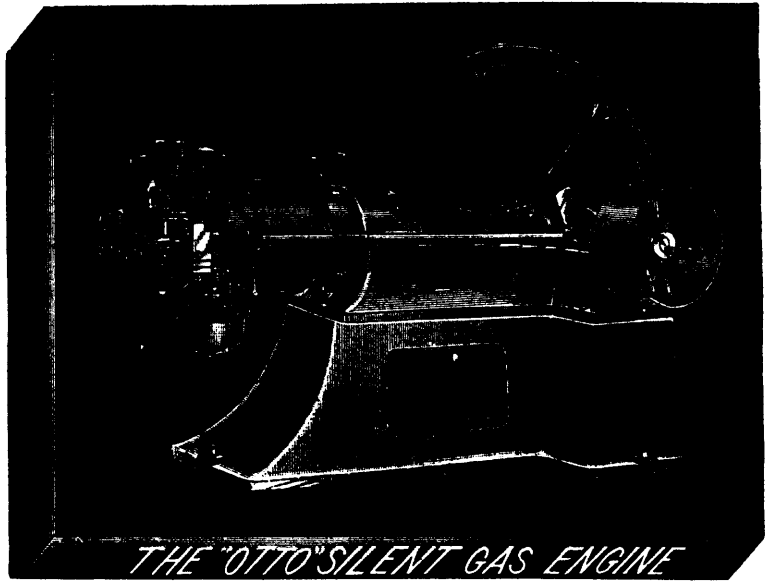
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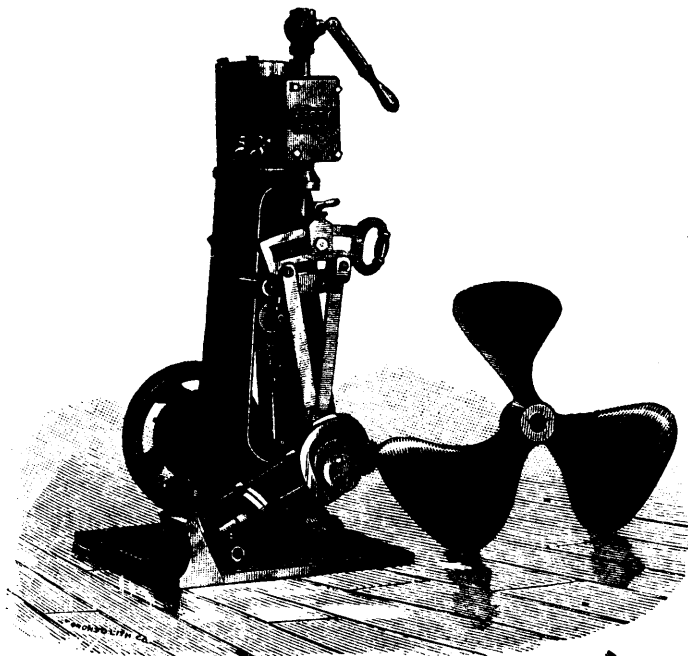
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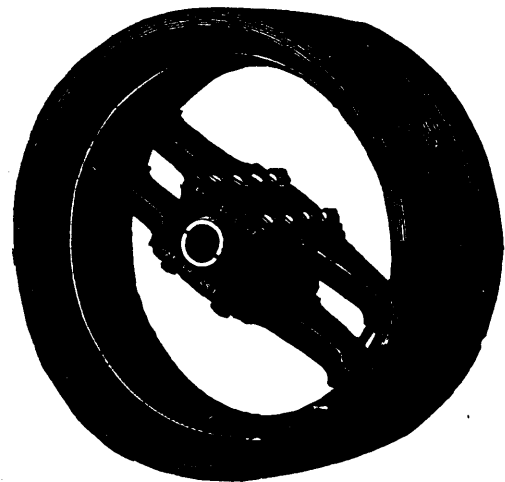
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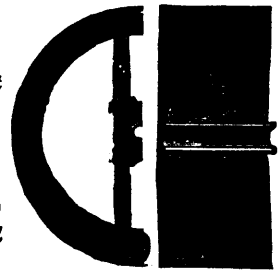
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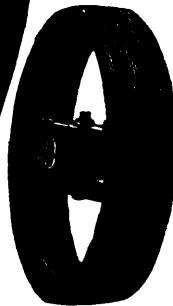
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Yours truly,
S. R. STIMSON, General Manager.

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Dear Sir: Replying to your favor, will say that after using the Dodge Wood Split Pulley for a year or more we are satisfied they are a good thing, if not the best Pulley made, and shall use them hereafter in preference to any other we know of.
Yours truly,
NEWTON WAGON CO.

We have sold these pulleys for one year, and they have been put to every kind of service, and their popularity is wonderful. We refer to the following users for proof of the above statements: Pillsbury & Hulbert Elevator Co., Minneapolis; R. M. Pratt & Co., Elevators; Northern Pacific Elevator Co.; The Pacific Elevator Co.; Minneapolis Harvester Works; Minneapolis School Furniture Co.; M. & St. L. R. R. Co.; Willford & Northway; Washburn, Crosby & Co.; St. Paul Electric Light Co.; St. Paul Roller Mill Co.; Minneapolis Brick Co.; N. W. Mfg. & Car Co., Stillwater, Minn., and very many others.
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W. H. DODGE, PREST.
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Yours very truly,
S. H. GILMAN,
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Waste of Power.

According to the best scientific authority it costs one horse power to keep in motion one ton of metal or weight; thus for every unnecessary 2,000 pounds weight on your line shaft, cost you one horse power. To maintain a horse power costs from \$25 to \$125 per year. Any manufacturer who will take the pains to investigate the unnecessary weight by Heavy Iron Pulleys, too tight belts, etc., will be surprised to find the enormous waste of power consumed in this manner. 50,000 Dodge Patent Wood Split Pulleys now in use. Our capacity being now equal to 100 Pulleys per day, we shall hereafter keep in stock for immediate shipment all sizes.

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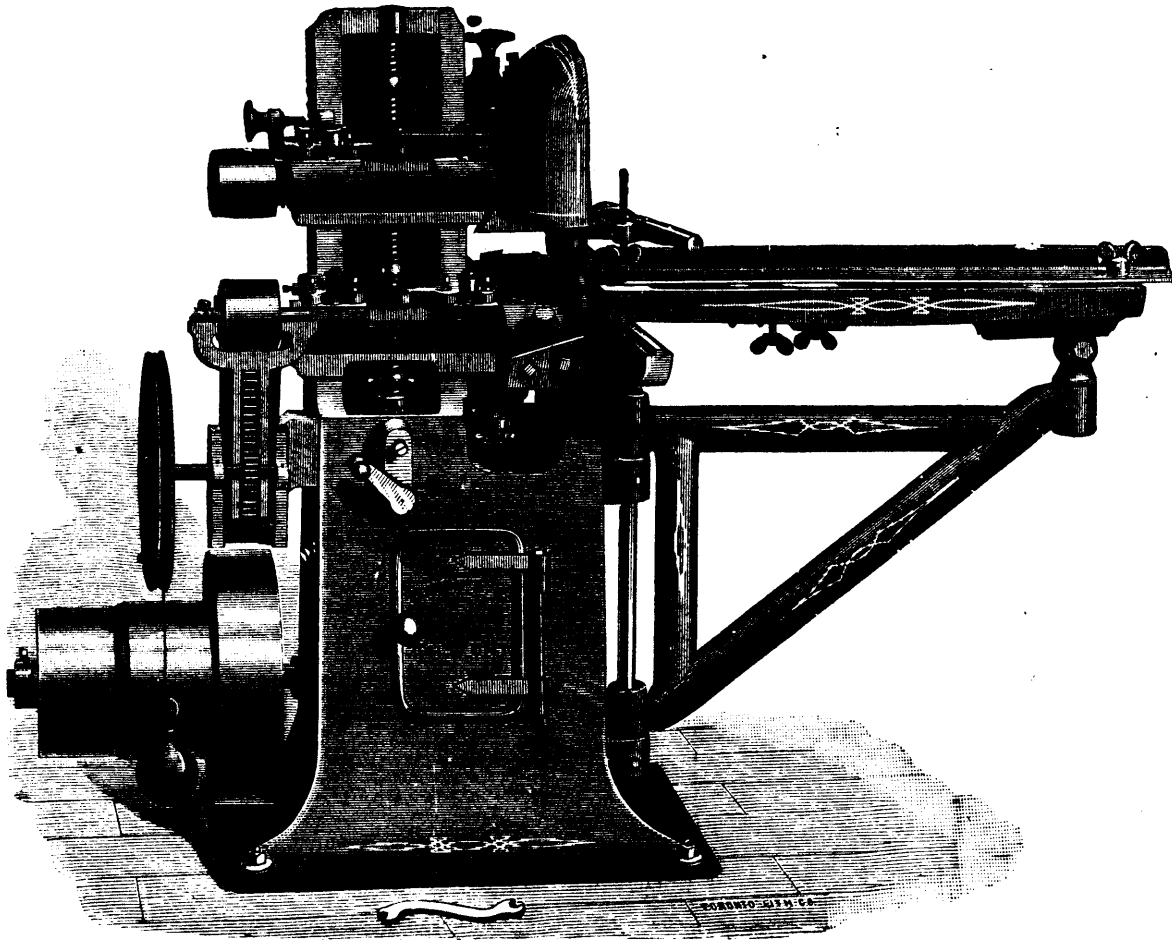
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TAKE NOTICE:—Our List of Prices for the DODGE PATENT WOOD SPLIT-PULLEYS is for ALL SPLIT-PULLEYS.

We beg you will note this fact when comparing our List with others which are for SOLID RIM, and NOT for Pulleys in HALVES.

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NEW AND IMPROVED *Pedestal Tenon Machine.*



This is an entirely new style of Tenon Machine. The frame is cast in one piece, and the working parts stand solidly on a pedestal, avoiding all vibration.

The Cutter and Cope Heads are connected and are moved all together, or separately, as required. The Upper Head and Boxes also adjust horizontally to suit shoulder of tenon, the Cope Knives moving with the Heads to prevent re-adjustment.

A special feature in this machine is the Bed, or Carriage, which is at once light and strong. The outer end works on rollers and is moved very easily.

In cutting the tenon the Bed and Carriage move entirely past the Heads and Cutters, the operator having full control of the work. It has also the advantage of leaving the Heads and Cope Knives clear, and of ready access by the operator.

The Carriage is so arranged that it cannot tip over the Slides nor be thrown into the Cutters, and is also supplied with extension bar for long stuff, as in all Tenoning Machines.

This Machine is supplied with single or double Copes, as ordered, and for furniture work it is without Copes, and with an adjustable cut-off Saw.

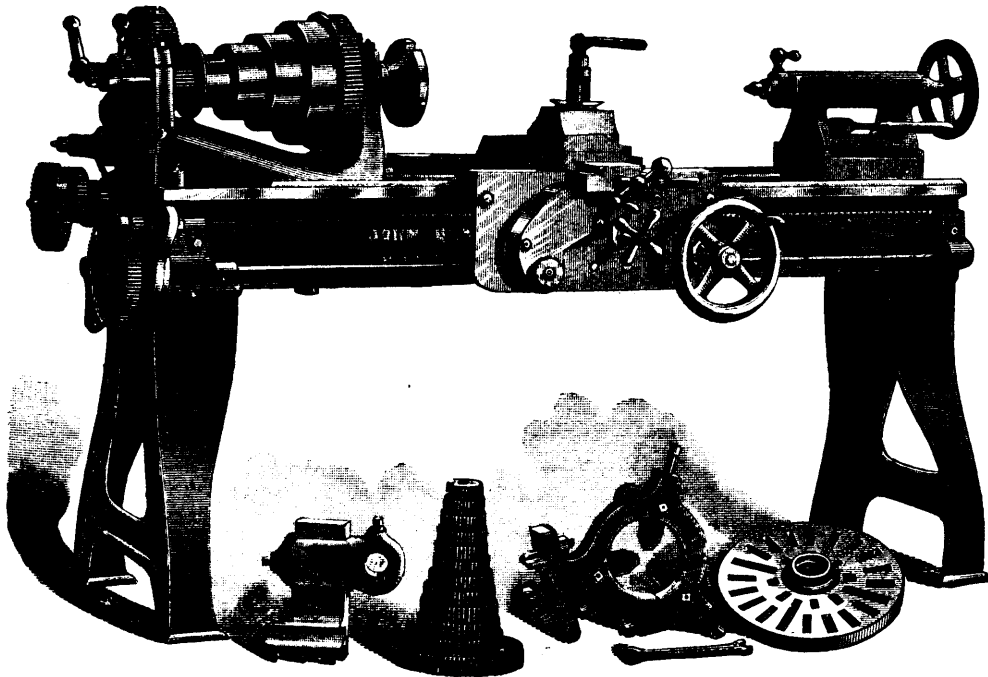
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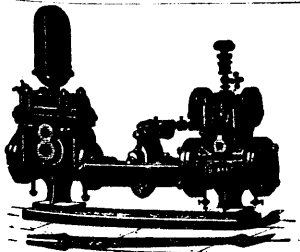
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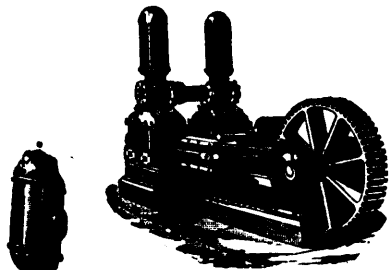
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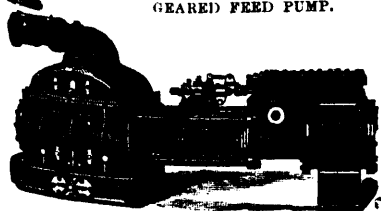
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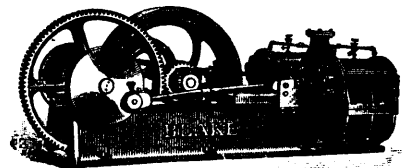
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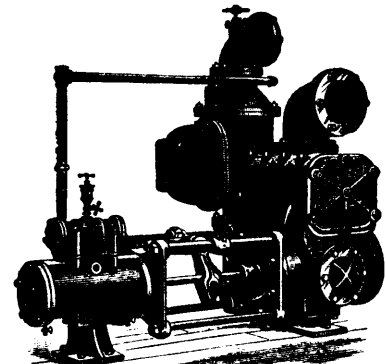


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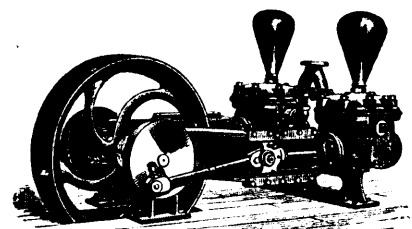
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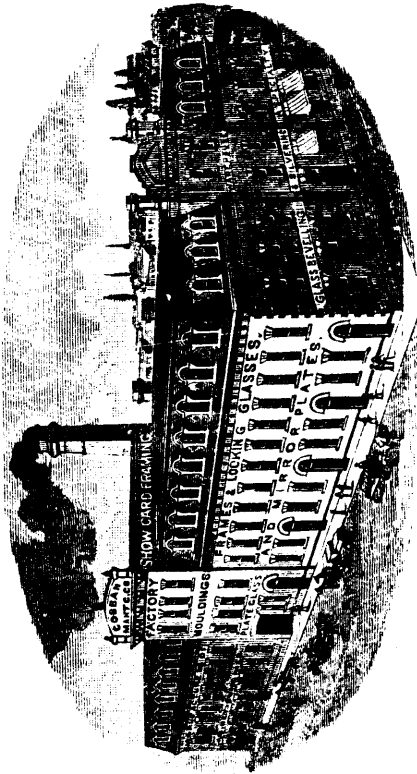
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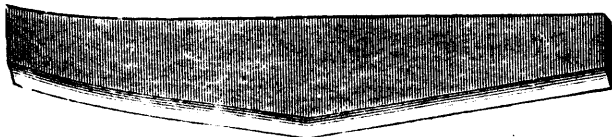
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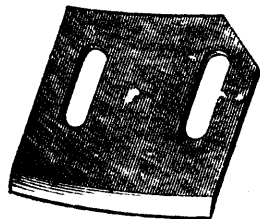


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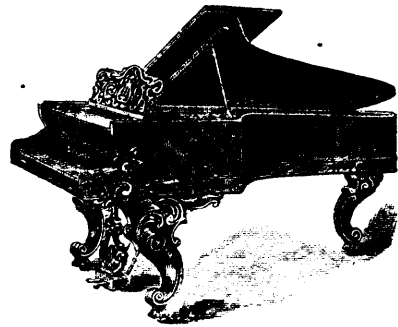
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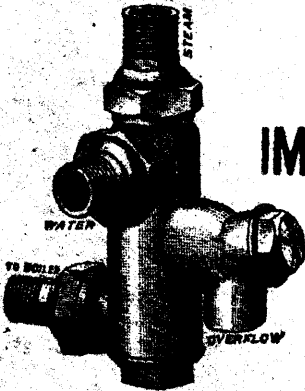
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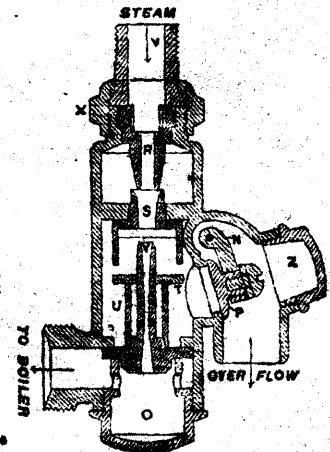
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