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# THE CANADIAN MANUFACTURER

AND INDUSTRIAL WORLD

DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

THE MORE COUNTRY PRODUCES THE RICHER IT IS  
 MANUFACTURES FOR ITSELF PROSPERS

Vol. 19.

TORONTO, AUGUST 1, 1890.

No. 3.

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The Hardware Trade, Shoe and Leather Finding Dealers, and Boot and Shoe Manufacturers, will find the Largest and Best Assortment and Greatest Variety of above Goods always in stock, and can rely on orders being rapidly executed, our facilities for doing so being unequalled.

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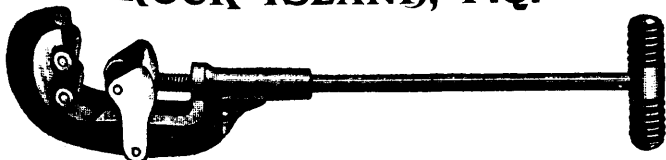
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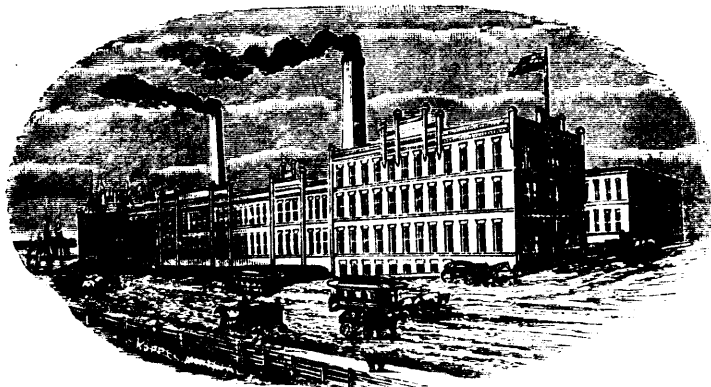
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The advantages of the BATTEN FIRE  
ESCAPE over all others are :

That the balconies are made of the best wrought iron, of any ornamental  
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tural beauty of the building, and can be instantly released when desired.  
No ice or snow will remain on them, neither will the working parts rust ;  
and they will work admirably in any weather.

A Stand Pipe is also connected for high buildings, with valves at each  
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Our Escapes have been fully tested at fires and proved themselves invalu-  
able for saving life and property. Iron guards on windows of Asylums and  
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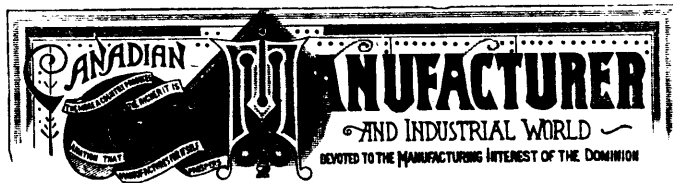
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MR. FREDERIC NICHOLLS is Secretary of  
The Canadian Manufacturers' Association,  
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His Office is at the Publication Office of the  
CANADIAN MANUFACTURER,  
63 Front Street West, Toronto.

### A PROSPECTIVE BEET SUGAR INDUSTRY.

SOME steps have been taken towards the organization of a joint-stock company for the purpose of erecting a beet sugar factory in Ontario.

In response to a letter addressed some time ago to Messrs. Lungen and Hundhausen, Grevenbroich, Rhenish Prussia, extensive and highly reputed manufacturers of sugar house machinery, their chief engineer, Mr. Carl Trostorff, recently visited Toronto and furnished the promoters of the proposed company with plans and details of the buildings and machinery required for different capacities of daily working. Mr. Trostorff made careful enquiries as to probable prices to be paid for beets, coal, lime, coke and other items of expenditure; wages of operatives and office expenses, and by careful estimates of these expenses, and the prices likely to be received for the manufactured sugar, molasses, pulp, etc., reported that raw beet sugar can be produced here at as low a cost as it can be delivered from Europe in any part of the Dominion, free of duty. In other words, the cost of transportation from inland factories, say in Germany, to Antwerp or Hamburg; the shipping charges there; the freight and insurance across the Atlantic, and the landing charges at Montreal or Halifax, taken altogether will fully counterbalance the increased cost of labor here. As the process of manufacturing is mainly a scientific one, principally effected by elaborate machinery, the item for wages forms only a small proportion of the expenses. Mr. Trostorff shows a magnificent profit as likely to be realized from a large factory, if beets can be obtained in sufficient quantity and of satisfactory quality. He visited the Ontario College farm at Guelph, where he inspected an acre of sugar beets now growing there; also several plots in the neighborhood of Toronto, Whitby and Cobourg. From conversation with farmers and others, he learned that no fear

need be entertained as to the success of a factory in any of these localities obtaining an abundant supply of beets. As to quality, he found the appearance very promising indeed, but at present stage of growth it is impossible to judge as to percentage of sugar which will be obtained from the beets at maturity. The great importance of this point may be judged from the fact that a difference of two per cent. in this percentage means a difference of from \$75,000 to \$100,000 in the value of the sugar produced in the season by a large factory. Everywhere that he visited he found a large proportion of the soil quite as well adapted for successful beet culture as in the best sections of Europe. Mr. Trostorff has left for California, where his firm are furnishing the machinery for a factory for Mr. Claus Spreckels, which machinery is the duplicate of a set erected for the same manufacturer three years ago, and which gives unqualified satisfaction. Mr. Trostorff is so satisfied with the prospects in Ontario that he will return here in four or five weeks, by which time the beets now growing will be far enough advanced to indicate their quality as to sugar. He feels confident, from what he has already seen, that the result as to saccharine properties will be of so favorable a character as will not fail to induce capitalists to engage in this enterprise. Mr. Trostorff ascertained, from figures furnished him by a local firm here, that fully forty per cent. of the machinery, such as driving engines, boilers, pipes, elevators and conveyors, vacuum pans, etc., can be manufactured to better advantage in Canada than they can be imported from Germany. This means the Canadian production of about \$50,000 worth of machinery for each large beet sugar factory to be erected in the country.

Parties who may be interested in this matter, and who desire further information concerning it, will, on application to the editor of the CANADIAN MANUFACTURER, be placed in communication with the promoters of the proposed company.

### THE JAMAICA INTERNATIONAL EXHIBITION.

It is our pleasure to call the attention of Canadian manufacturers to the fact that Mr. Adam Brown, member of the Dominion Parliament for the city of Hamilton, has been appointed by the Dominion Government Canadian Commissioner to the forthcoming International Exhibition at Jamaica, W.I. The object of this appointment is to open and prepare the way for such trade as may be worked up between the two countries; and as the energy and business ability of Mr. Brown is well known to our readers, there can be no doubt but that the interests of our manufacturers will be well looked after by him when he visits the Island of Jamaica. To enable him to do this satisfactorily he must have the cordial co-operation and support of those to whose interests he is devoting himself.

Mr. Brown has visited the office of this journal, and from him we learn the plan of action by which he expects to be governed.

"We intend," he said, "to go to work on the principle first of obtaining all the information we can about the trade of Jamaica both foreign and domestic, and then of finding out just what articles produced or manufactured in Canada can find a market there, for this mission is to be, above all else, a trade mission. In order to accomplish this object the Government

is having a very elaborate series of statistics prepared by the Department, showing the imports into the West India islands from all countries, and where this is not clear to endeavor to make it so, in order that we may know exactly what goods they import and buy from other countries that we in Canada, with our direct steam communication, may reasonably expect to supply them with. This done, our people will be in a position to know just what goods to send to the West Indies. When this information is secured, I shall make it my business to visit the principal business centres, and there endeavor, by addressing boards of trade and other commercial bodies, to interest manufacturers in the exhibition.

"One thing to be guarded against," explained Mr. Brown, ' is the sending of goods to Jamaica for which there can be no possible demand. The statistics which are being prepared will show this, and will give Canadian producers and merchants a basis upon which to work to compete for a trade in which they have every reason to expect success. No exhibits will be accepted to be forwarded by the Government unless there is a fair chance of developing trade. In the course of a few days the public will be informed of the manner in which to apply for space in the Canadian section, and, as all the applications will have to be in before the beginning of October, there will not be much time for 'delay.' As Mr. Brown goes through the country, he will inform those interested of all the rules that may be drawn up. In fact, every effort will be made by the Government to obtain just such information as will enable Canadians to form a correct opinion as to what goods, produced or manufactured in Canada, can find a market in the West Indies.

Included among the manufactures which Mr. Brown feels confident would find a brisk demand in Jamaica are, boots and shoes, biscuits, butter, certain kinds of furniture, coal, cornmeal, cotton manufactures, fish of all kinds, flour, thin tweed clothing, lumber, pork, soap, sashes, doors, smoking tobacco and cigarettes, a moderate quantity of cheese, and some kinds of small cultivating machinery and tools. Our cotton manufacturers will, no doubt, find it to their own interest to ascertain before the Exhibition the kind of textures required there, and so open the way to increased trade. A few years ago it was never supposed that Canadian cottons could be sold in China, yet they have been, and with success. For return cargoes such articles as sugar, molasses, bananas, cocoanuts, oranges, rum and ginger could be depended on.

Mr. Brown will visit all the principal cities of Ontario and eastward, including the Exhibition at St. John, N.B., and interest manufacturers and merchants in the enterprise that he is exploiting. The Jamaica Exhibition opens in January, and will continue three months.

### THE TARIFF AND THE FARMER.

The agricultural depression in the Eastern States is one of the most remarkable economic facts before the world to-day. In Vermont, for instance, a commissioner of Immigration has been appointed, who is offering great inducements to thrifty farmers. Hundreds of farms are lying abandoned, and these, buildings, orchards and all, are sold at the rate of from two dollars to five dollars an acre, the State agreeing to loan twenty-five dollars and furnish a cow for a stipulated period to

each family. Western farmers are not doing very well, but at least they are prospering sufficiently to keep up the values of their lands. The condition in New England bears hardly upon the home market theory. Here are these farms, next door to some of the largest cities of the continent, yet the land, for some reason, is worth less than nothing, supposing that the improvements are worth anything. Perhaps the main reason for this state of affairs is that in the United States, as in Canada, the tariff system crushes the farmer, and then it is also argued that the discriminating railway freight rates place the land of Kansas commercially nearer to the seaboard or to the European market than is the land of New England—*Toronto Globe*.

There is no question regarding the fact that the railway facilities of the United States place the New England and New York farmer at a disadvantage as compared with the Western farmer in the sale of farm products in the large centres of that country; seeing that the lands of the Eastern farmer are poor and unproductive as compared with the rich and fertile lands of the West. The picture that the *Globe* draws of the agricultural depression in the Eastern States is a mournful one, and not at all inviting to the Canadian farmer, who the *Globe* so earnestly invites to accept as his own under the operation of the Reciprocity that it desires to establish between the two countries. The *Globe* attributes the situation in New England to the American tariff system which fails to provide a remunerative "home market" to New England farmers, as it says Protectionists promise—that "the tariff system crushes the farmer."

The effort of the *Globe* is to show that the farmer is not benefited by protection. Farmers, like other people, are capable of comprehending facts, and they are also capable of discriminating between correct and specious arguments. We illustrate: The *Globe* enjoys a certain kind of protection in its newspaper business, this protection consisting in its name, its reputation, its talent, its advertising patronage, its circulation, etc. That Protection enables it to print a certain number of papers every day, which fact it ostentatiously parades from time to time. It has an undoubted monopoly of its business, and included in its protection is that which the courts would give it in preventing any other newspaper from exactly imitating it. But while the *Globe* supplies the full demand of the community for daily copies of it, no one supposes that there is any overproduction of copies of the *Globe*, and that untold thousands of them go to the waste pile every day. It would indicate very poor management if it kept its presses constantly at work producing copies for which there was no demand whatever, merely because it had the conveniences for doing so. This illustrates the case of the Canadian and the American farmer who not only produces all the wheat required for consumption at home, but continues to produce wheat to the extent of his ability. Of course this surplus is of necessity sent to Liverpool for sale, where it enters into competition with the wheat produced by the cheap labor of Russia and India; and where the sale of the lowest priced wheat controls the price of all the rest. The farmer who would do this would be on a par with the newspaper publisher who printed more copies than he could find readers for, and had to send his surplus to the waste pile to be sold as junk.

The *Globe* assumes that the farmer is relatively poor because of the tariff; but our opinion is that the depression is more

justly chargeable to overproduction. Canada has produced larger wheat and grain crops than those harvested last year. In the United States the wheat crop approached 500,000,900 bushels, only about 150,000,000 bushels of which was exported. The flour milling plant of the United States is capable of converting that entire 500,000,000 bushels of wheat into flour in nine months' steady work. No wonder flour is cheap there, and that the farmer complains of low prices. An American contemporary points to the fact that years ago when protective duties were higher than they are now, the foreign demand absorbed in a single year more than twice as much American wheat and flour than it did last year, the cost of which to the foreign consumer was at least \$1.25 per bushel. The foreign consumer was obliged to have it at any price. Regarding the making of the price, the journal alluded to says:—"As a matter of fact Liverpool never makes prices for wheat in this country, except when our granaries are loaded down with wheat, caused by overproduction, and we know not what to do with it. Reduce the crops and the supplies to a minimum, and Chicago alone will make every wheat market in the world yield to her dictation as to prices."

It is discovered by the *Globe* that under Protection the price of wheat is depressed, and it promises that if Free Trade is adopted that higher prices will be obtained, or that the farmer will realize more money from his labors. This happy condition is to be obtained by selling where prices are high, and buying where prices are low and unaffected by tariff restrictions. Until a few years ago the United States imposed a duty upon coffee, but in 1872 that duty was repealed, and as far as that country was concerned in the article of coffee there was entire free and unrestricted trade with Brazil. This should have induced a large amount of commercial trading between the two countries according to the Free Trade argument; but the facts are that since 1872 the United States has imported the products of Brazil, chiefly coffee, to the value of \$821,000,000, while Brazil imported from the United States only \$156,000,000 of their products, chiefly flour and breadstuffs. Further, previous to the removal of the American duty Brazil imposed no export duty on coffee, but as soon as the American duty was repealed Brazil imposed an export duty, whereby the price of coffee was never lowered in the American market. The duty was transferred from the American treasury to the Brazilian treasury, and the American people are experiencing to their cost that delusion of the Free Trade theory.

But suppose all tariff restrictions in trade were swept away, what then? Our markets would immediately become flooded with importations of foreign made merchandise, crowding out of existence all home industries, or forcing them to seek markets abroad that were denied them at home. If foreign markets could be found, the ships that carried the products of our factories to them would seek return cargoes. Of what would these cargoes consist? If to India or the Argentine Republic it would be wheat. What! bring cargoes of wheat to Canada? Bless you, no. They would go to England where all the surplus wheat of the world goes, where it has its effect in depressing the price of Canadian wheat. Canadian manufacturing industries would not be able to contend in the foreign markets of the world with the manufacturing industries of

England, France and Germany, and they would be forced into idleness. Being thus forced, the thousands of people employed in them would cease to be consumers of Canadian farm products, and would be forced into becoming producers of them. There would then be no diversification of crops, and all that would be left to the Canadian farmer would be to grow wheat and send it to Liverpool in competition with wheat grown in India by labour that costs less than ten cents a day.

Are Canadian farmers ready to make the change?

### DIVERSIFIED INDUSTRIES.

THE stability of general prosperity is largely dependant on diversified industries. No one industry or series of industries running along a certain line of product can be permanently exempt from the fluctuations of prosperity and depression. The rise and fall of values, and the alternating changes in supply and demand are among the unfavorable conditions of industrial life. This ebb and flow is only simultaneous along particular lines, and where diversified industries are the rule, the depression consequent to the failure of one is largely neutralized by the prosperity of the other. To stake the well being of the community on the manufacture of one particular product, is, to say the least of it, exceedingly risky. Its failure is a catastrophe. The evil is wholesale, and misfortune general. The same law operates in agriculture. A farmer stakes his all in one particular crop, and if it fails he is on his back. Had he been wise and diversified his crops, the success of one or more would relieve him of the distress consequent to the failure of the other. A wide range of products obviates the danger. It is precisely so in industrial enterprises—stability and insurance against general stagnation lies in diversity. In the building up of our manufacturing centres this economic law is sometimes forgotten, and we find the bottom dropping out of numerous booms from just such causes. We believe in variety as being protective and wise, and the more diversified the industries of a city or a nation the less of risk is incurred of trade stagnation and its consequent industrial evils—*American Exchange*.

United States Consul General Way, at St Petersburg, Russia, in a recent report to his Government, states that "with the cheap labor of Russia, and its 450,000 square miles of arable land in Europe, it will always prove a formidable rival in the wheat markets of the world." The point of interest in this statement to both American and Canadian farmers is, that they cannot much longer expect a foreign demand for their surplus grain, as they cannot hope to compete with the cheap labor of both Russia and India. Their dependence must necessarily be on their own home markets.

An American contemporary, in calling the attention of the farmers of that country to the necessity of diversified farming, points to the fact that the value of farming lands in manufacturing States is very much greater than in States that depend almost wholly upon agriculture. South Carolina, for instance, has a rich alluvial soil, and is an old settled State, and yet the average value of her lands, according to the Agricultural Department, is only about five dollars per acre. But in Massachusetts, where the soil is rocky and is much more expensive to cultivate, the average value of farming land is forty-three dollars, in Rhode Island it is fifty dollars, and in Connecticut fifty dollars.

There is the same contrast in wages paid agricultural laborers. In New York, the average, with board, is over



sixteen dollars per month, and in the New England States it is higher, being eighteen dollars in Massachusetts. But in South Carolina it is only eight dollars, in North Carolina nine dollars, and until recently, when Georgia came to the front as a manufacturing State her farm laborers only received eight dollars per month. Wherever manufacturing has increased, the wages of farm laborers have increased proportionately. In Alabama and Tennessee the increase has amounted to fifty per cent. within the past five years.

These facts apply with equal force to Canada, and it is evident that if the prosperity of our farmers is to continue, Canada must be and continue a manufacturing community, and the farmers of Canada must look to the manufacturing centres of Canada as the markets in which they must sell their diversified products rather than to Great Britain where they must of necessity sell their surplus wheat.

In a recent article in *The Forum*, Senator Cullom, of Illinois, discussing the bearing of the protective system of the United States upon the interests of American farmers, and how the tariff, by diversifying industries, had not only reduced the competition with which American farmers had had to contend, but had also given them customers instead of competitors, shows that the home market is the most profitable for them. He showed that the farms of the United States produce annually to the value of \$3,700,000,000, of which only \$370,000,000, or ten per cent., is exported. The balance of ninety per cent. is more than double the total imports of every kind into Great Britain. "If we could take possession of the trade of the world," writes Senator Cullom, "and furnish all the goods imported by every country on the face of the globe, the value of this trade would fall short of our home market by almost a billion of dollars. What suicidal policy it would be for our farmers to favor any measure which would in the least endanger such a market, for the slight chance which they would have of extending their exports, or buying their supplies a little cheaper in other markets."

The opponents of Protection argue that under our National Policy is found the ruin of Canadian agricultural interests. They tell us that a change of that policy, with the advent of Free Trade, or of Unrestricted Reciprocity with the United States, which would be a more disastrous event, would come an era of greater prosperity to Canadian farmers than what they now enjoy. England lies prostrate under the burden of Free Trade. It was but recently that thousands of the farm laborers of that country presented a petition to the landed proprietors, in which the fact was set forth that their weekly wages did not average \$2.50, and that it was impossible for them to maintain their homes upon the pay they were receiving. This is a direct result of Free Trade. English farmers have no protection whatever against the cheaper agricultural labor of Russia, India, China and South America; and the facilities of transportation afforded by British ships make it possible to lay down the agricultural products of these countries in British markets at prices with which British farmers find it impossible to compete. Canadian farmers may think that hard times prevail, but few of them can imagine what the situation really is in Great Britain.

Who hears of "agricultural depression" in any section of this or of any other country where diversified farming is

observed? The sugar planters of Louisiana do not complain; the orange and fruit growers of Florida and California do not complain. The tobacco growers of Connecticut, of Virginia and of North Carolina do not complain. The peach growers of Delaware and New Jersey do not complain, except when meteorological or other influences destroy their crops or cut them short; and the truck farmers of Canada, the United States and other countries who live contiguous to manufacturing centres do not complain. None of these have to compete with the agricultural products of Russia, India, China or South America; and their products are of such varied descriptions that they never find gluts in their home markets. The prosperity of the farmers of Canada lies in the diversification of their products. Kansas farmers last year placed their dependence on their corn crops—the market became glutted with corn—the article was not worth the cost of its transportation to Chicago or New York, and the starving farmers, with their barns bursting with corn, were forced to use their corn for fuel. Nebraska farmers placed their hopes in wheat, and a partial failure of the crops sent them to the verge of starvation.

The opponents of Protection point to the fact that labor is actually cheaper in France and Germany, where Protection prevails, than in Britain under Free Trade. If this is so, it is because, under their fiscal systems, France and Germany have built up not only widely diversified mechanical industries, but widely diversified agricultural industries also. With large manufacturing towns in every direction, the farmers find it desirable to produce everything possible to be grown in their soil and climate that can be consumed by those employed in these manufacturing centres; and they have found out also that they, too, can join hands with the manufacturers and grow crops that yield large profits and at the same time afford in their manipulation additional work for the laboring classes. What France and Germany have done and are doing in the way of the growth of the sugar beet, and the manufacture of beet sugar, Canada may also do, and this is but one of the many avenues open to Canadian farmers to enrich themselves by diversifying their crops.

#### CANADIAN IRON.

MR. T. D. LEDYARD has written a letter to the *New York Iron Age* concerning the iron ores of Ontario. Mr. Ledyard's name also appears in the recently published report on the "Mineral Resources of Ontario," as a witness brought forward to prove that the iron ore industry of Canada can never be prosperous until we have Unrestricted Reciprocity with the United States; and we take it that Mr. Ledyard's views on these questions are valuable—at least Mr. Ledyard and the Royal Commission think so. In his letter to the *Iron Age* Mr. Ledyard says:

"Little can be done, under present circumstances, to manufacture our own iron and steel in Canada. A few blast furnaces well situated might succeed, but the output would be comparatively small, and would not amount to much. Our population is too small and too scattered to warrant the erection of large iron works. High Protection and Government bounties will not create a market nor make customers. But if we had free access to the whole American market there are many places where iron and steel could be profitably manu-



factured. In Ontario, although we have no coal we have rich magnetites and hematites in well-wooded parts of the country where charcoal is cheap. Charcoal furnaces would have as good a chance to succeed in many of these districts as on any part of the continent if the whole continental market were open to them. Rich ores from the northeastern part of Ontario could be delivered at Toronto very cheaply, and Connellsville coke would not cost more than in Chicago if there were no duties."

Mr. Ledyard also gives some facts showing the richness and extent of Ontario iron ore deposits, and supplements this by quoting from the testimony of an American expert published in the Ontario report.

In a previous issue of this journal we reproduced a portion of the testimony of Mr. Ledyard published in the report, by which it was shown that the ores from some of the rich mines to which he alludes can actually be laid down in American cities, duty paid, for from seventy-five cents to \$1.50 a ton less than what similar ores can be laid down for in those cities from the American mines on Lake Superior, leaving to the Canadian shipper a profit of at least \$2.50 a ton.

It is claimed that the manufacture of pig iron in Canada cannot be a successful industry under our present fiscal system. Mr. Ledyard says that a few blast furnaces well situated might succeed but the output would be comparatively small. Our population is too small and too scattered to warrant the erection of iron works. Let us see. The importation of pig iron into Canada last year was 72,000 tons, and this, with the domestic production, amounted to a little over 100,000 tons. This quantity would, of itself, give employment to quite a number of furnaces—at least three times as many as we now have. The value of our importations last year of iron and steel and manufactures thereof which were dutiable aggregated \$9,680,967, and those admitted free of duty \$2,550,746, a grand total of importations valued at \$12,231,713. It is impossible to give the actual weight of all the articles included in this valuation, but there were 1,727,334 cwt. of steel rails, valued at nearly \$2,000,000. It is true that there are articles included in both the free and dutiable lists that are not manufactured in Canada; but there are but few of these that could not be produced here if the mantle of our National Policy was wide enough to afford them sufficient protection. If any considerable portion of these manufactures had been produced in Canada it is clearly to be seen that their production would have required immense quantities of pig iron—the manufacture of the steel rails alone would have called for probably 150,000 tons. Pig iron is the raw material entering into the production of the whole list included in this valuation of more than \$12,000,000 of imports into Canada last year.

The mossbacks who tell us that our population is too small and too scattered to warrant the erection of iron works in Canada certainly have no conception of what it would mean to expend \$12,000,000 a year in Canada in the many branches of the iron industry, in addition to those we already have. It would mean the active working of many of the mines that are now unworked, giving remunerative employment to thousands of miners, and creating vast quantities of freight for railroads and vessels. Blast furnaces would spring up wherever the circumstances were favorable. Steel plants would not only manufacture the steel for making rails, but would also pro-

duce that which is now imported for the manufacture of agricultural implements, farm, sawmill, flourmill and other machinery; and the fact that mills were rolling out steel rails for Canadian railways would mark one of the greatest epochs in Canadian history.

One need seek no further than the report on the Mineral Resources of Ontario for evidence to establish the fact that Canada might even now, under an insufficient tariff, become the manufacturer of all the pig iron she requires. It mentions the names of some of the large consumers of pig iron, many of which use charcoal iron for which they pay from \$27 to \$45 a ton, nearly all being imported from the United States, other sorts of iron costing from \$20 to \$25 a ton, including duty; while at the same time the testimony of expert furnacemen is given in detail, showing that charcoal iron can be made in Canada at a cost ranging from about \$9 to \$17 a ton. Beginning on page 331 of the report, the particulars are given showing the quantities of ore, flux, fuel, labor, etc., required per ton in the production of iron in Canadian furnaces of different sorts and capacities the summing up of which we reproduce as follows:

Marmora furnace.....	\$18 50
Madoc furnace.....	12 00
Mr. W. H. Merritt's estimate.....	18 09
Mr. John Birkenbine's ".....	12 85
Mr. J. B. Witherow's ".....	10 00
Messrs. Taws & Hartman's ".....	13 80
Mr. C. J. Pusey's ".....	9 08
Mr. C. J. Pusey's ".....	11 46
Mr. William J. Rattle's ".....	11 25
Mr. E. C. Garlick's ".....	14 30
Mr. Gerhauser's ".....	16 12

Mr. W. J. Rattle, a mining engineer of Cleveland, O., who gave evidence before the Commission, and whose estimate we have quoted, thought that a margin of \$6 a ton should be ample encouragement in the manufacture of iron, and that, obtaining this profit, Canadian furnaces could well afford to sell their product at \$18 per ton. This estimate was based on the use of Connellsville coke as fuel, producing an iron equal to best Scotch pig. According to the estimate of Mr. Garlick, who figured in the production of charcoal iron to cost \$14.30 per ton, it is shown that as against similar iron imported from the United States at a cost of \$26 a ton, the profit on the Canadian iron would be \$11.70 to \$14 per ton.

The testimony of Mr. Ledyard himself before the Commission proves our contention. He stated that he had received an estimate from Mr. J. B. Witherow, of Pittsburgh, Penn., for the manufacture of charcoal iron at the Belmont mine (near Ottawa) at an actual cost of less than \$10 a ton; and that the estimate further included a Clapp-Griffith steel plant capable of producing steel at \$14 a ton. "We could deliver the ore at Toronto," Mr. Ledyard said, "supposing the company owned the mines, at \$2.25 per ton—\$1.50 to mine it and seventy-five cents for freight. In Chicago good Bessemer ore is \$5.25 to \$5.75 per ton; with the fuel as cheap and the ore at half price, we should stand a good chance if we had the same market." In other words, Mr. Ledyard tells us that charcoal iron can be made in Canada at actually less than \$10 a ton, (the cost of charcoal iron in Canada ranges from \$27 to \$45 a ton), that Clapp-Griffith steel can be made in Canada for \$14 a ton (worth here more than charcoal iron), and that with Bessemer ores in Toronto at half the price of Bessemer ores in

Chicago, Bessemer iron could be made here in competition with American Bessemer iron, "if we had the same market." This is simply nonsense. There is a very large demand here in Toronto for all sorts of iron and steel, and this demand is being met with supplies chiefly from the United States, and for which such prices as we have indicated are paid. In addition to the low prices at which iron can be made in Canada it should be remembered that there is a Dominion bounty of one dollar a ton and a duty of \$4 a ton in favor of it. The manufacturing establishments in Toronto alone would consume all the charcoal and coke iron and mild steel that any one or even several furnaces and converters would likely produce. Mr. Ledyard knows this to be a fact; then why does he so persistently ring the changes on this old tune of a continental market?

#### WHAT CANADA WANTS.

"WHAT Canada wants for her development is population. Now protection to be logical must prohibit labor unless, as so far it has done, it protects only the monopolist and capitalist, while it leaves the mechanic to fight the battle as best he can. The mechanics are beginning to see this, and hence the demand that in future the Government cease to bring population into the country. Could anything be more suicidal than a policy which, when brought to its full conclusion, demands that a heavy tax shall be imposed upon all manufactured articles coming into the country, and that labor shall cease to be invited into Canada?"

This quotation is from a letter of Mr. Stapleton Caldecott, published in the *Toronto Globe*.

He who does not comprehend that Protection benefits labor as well as capital is a poor student of events. One of the chief objects of Protection is to prevent the flooding of the country with the products of other countries where labor is very much cheaper than it is here. It is true that in other countries long years of devotion to certain industrial pursuits have wrought a perfection in machinery and appliances of manufacture, to which in this newer country we have not yet attained. This perfection in these particulars is one of the elements against which home manufacturers have to contend, and against which they cannot successfully contend without the aid of Protection. Sooner or later the difference in this direction between the older manufacturing countries and this will subside, become equalized and disappear; and when that time comes, as far as this feature of manufacturing is concerned, Protection will have done its work and will be no longer necessary.

But this is not the only object of Protection. As we show, in older countries this feature makes it possible to manufacture much cheaper than we can now do; but this is not the only feature, nor the most important one. It is because labor is so incomparably cheaper there than here that enables the manufacturers of those countries to produce goods at prices with which it would not be possible for us to compete were it not for Protection. Without Protection the Canadian workman would be forced to accept the same or even lower remuneration for his services as that paid to his foreign competitor. We all know what that means; and none know it better than the Canadian workman who may perhaps have come from a competing foreign country with the sole view to bettering his condition. He knows that there his life was a protracted and

continuous battle with want and poverty and every conceivable privation, without even the faintest hope or expectation of bettering his condition. He there saw squallor and want surrounding him, and his family strangers to any of the refining and elevating influences which he was unable, because of his poverty, to place within their reach. On the other hand, he knows that such is not his condition in Canada; and Mr. Caldecott has had many opportunities, by personal observation of the difference in the social status of the foreign and the Canadian workman, to discover how infinitely better off the latter is, under Protection, than the former under Free Trade.

These are the chief elements against which the Canadian manufacturer and the Canadian workman have to contend—longer established business, better facilities of doing business, and cheaper labor—and it is against these that they look to Protection for protection.

We are told that "what Canada wants for her development is population"; and we are also told that Canadian mechanics "demand that the Government cease to bring population into the country." This anomaly Mr. Caldecott attributes to the effect of Protection. The position assumed by Canadian labor organizations, as far as the importation of certain classes of foreigners is concerned, is eminently correct and proper; and it is to be hoped that their protests will be heard. We agree with the claim that Canada needs population but it is not that class of immigrants against which the labor organizations protest. Canada has the soil, climate and natural advantages to support a population many, many times larger than what she now has. This population is required in the agricultural sections—not in the cities and towns. The protest of the labor organizations is not against agriculturists, but against the indiscriminate flocking in of foreigners who never entertain the idea of locating elsewhere than in the cities where they expect to find gold dollars laying around loose in the streets which may be theirs for the gathering up. These undesirable incomers are consumers, not producers; and when hunger drives them to seek employment, they attempt to obtain it by elbowing and crowding out those who may be already at work, thus overstocking the labor market, depreciating wages and creating discontent among those already here whose numbers are sufficient for present purposes, and who would otherwise be contented and happy.

#### THE GREAT NATURAL INDUSTRIES.

MR. STAPLETON CALDECOTT, who is not a Canadian manufacturer, but who is an importer and dealer in the manufactures of other countries, undertakes to teach a lesson to Canadians regarding the great natural industries of their country. He does not tell what these industries are further than to explain that "the agricultural interest stands head and shoulders above and beyond all others." He uses the *Globe* as his pulpit or rostrum from which to read his rambling sermon, in which he mixes quotations of the clergy and almost impious references to God with a great deal of vague and wild assertions that cannot be sustained by logical reasoning.

Having told us that "the true national policy of Canada is the development of the great natural industries of the country"; that our present fiscal policy is "miscalled" and that it

"nurses into a sickly and wretched existence exotic manufactures," placing heavy burdens upon the energies of the people, he proffers the additional information that "what Canada wants for her development is population." He then attempts to array the laboring and mechanic classes against the manufacturers; and asks the paradoxical question as to "what could be more suicidal than a policy which demands that a heavy tax shall be imposed upon all manufactured articles coming into the country, and that labor shall cease to be invited into Canada." He tells us that Free Trade "would result in building up the country in a natural and substantial manner, and afford a home for every son and daughter of Adam who is willing to obey the natural law and win it honestly at those occupations which live because the country needs them, and which find better remuneration than the protected factories afford to the operatives they employ." Finally, brethren, says Rev. Caldecott, "God in the order of His Providence, intended this country to produce, and the sooner we undertake our true mission in the world's workshop and drop all protective nostrums, the better for the happiness and the prosperity of the Dominion."

The real meaning of Rev. Caldecott, when evolved from the chaos of his multiplicity of words, is that any industry that is benefited by Protection is not a natural industry, and ought to be discouraged; that the agricultural interest is a "natural industry" (whatever that may mean) and, therefore, does not need Protection; that protected manufactures are exotic, sickly and wretched, and that what Canada needs for her development is population. In sustaining this argument Rev. Caldecott points to the fact that the Bell Organ Company, of Guelph, Ont., had opened an office in London, England, and sells organs in the open markets of the world.

We are averse to mixing sacred matters with politics, and under no circumstances would we like to enter into any controversy with Brother Caldecott in that direction. The contest would remind us of the scenes which were of constant occurrence in the South, preceding and during the war of the rebellion when the system of human slavery, then in existence there, was sustained by quotations from the Bible. We will compromise with Brother Caldecott in this direction so far as to admit that God in His Providence specially intended Canada to be a productive country, though we cannot refer to the Book, chapter, or verse, where this desire is made known; and we challenge our reverend brother to indicate where in the Bible, or by any revelation from God, it is pointed out to us that Canada's "true mission" is to drop "Protection." Brother Caldecott, in offering Free Trade arguments, had better decline quoting an authority that we fear is beyond his comprehension.

Returning to sublunary affairs, we assure Mr. Caldecott that the agricultural industry of Canada, even admitting it to be a "natural industry," needs Protection very much, and receives it, too. Time and again the farmers of Canada have declared in favor of Protection, and it is this Protection that makes wheat worth from ten to fifteen cents a bushel more in Canada than it is worth in the United States. We also assure him that Canadian manufacturing industries are not as exotic, sickly and wretched as he would probably like to see them. As a general thing they are in good, healthy and lusty condition,

and under the beneficent protection they enjoy, are able to withstand the rigors of our vigorous Canadian climate.

The allusion to the Bell Organ Company is disastrous to Mr. Caldecott's argument. This concern was started in 1864—long before the National Policy encouraged the establishment of manufacturing industries in Canada, but the progress of the industry was slow until 1878, when the effects of that Policy began to be felt, and since which time it has passed its stage of infancy and has acquired a robustness that makes it the equal of any similar industry on the American continent. Perhaps the testimony of Mr. William Bell, the head of this concern, is worth as much as the opinion of Mr. Caldecott regarding the value of Protection in establishing the industry that Mr. Caldecott so highly and so justly lauds. Mr. Bell has always been identified with all political movements in Canada looking to the protection of Canadian manufacturing industries by means of a tariff. He was one of those who assembled in the Rossin House in this city, in 1874, out of which meeting grew what is now the Canadian Manufacturer's Association. On the formation of the Association, in 1875, Mr. Bell was made one of the Executive Committee; has always been and is now a member of that Committee; has been a presiding officer of the Association, and is a strong and active supporter of Canada's National Policy. But for this Policy this concern would never have been able to have opened offices not only in London, but in Australasia, in South Africa, and elsewhere, selling their products in the open markets of the world. "The God-given law of competition" that Mr. Caldecott so flippantly mentions in connection with the success of the Bell Organ Company was most effectively protected by the National Policy.

#### UNDESIRABLE IMMIGRANTS.

WE have before us a publication entitled *Night and Day*, edited by Dr. Barnardo, of London, Eng. All Canadians have some knowledge of the work in which this gentleman is engaged. He is, we understand, now in Canada; his business being to make arrangements for the deportation to this country of as many of the thousands of waifs of humanity as possible, whom he is constantly collecting from the slums and purlieus of London and other English cities. In this publication of his is a letter from him in which he alludes to the 3,450 of these waifs left behind, and to those whom he expected to meet in his Canadian refuges, or homes. These "homes" are located in different parts of Canada where these waifs are sent abiding their time to be distributed to whoever will accept them. Some of these wretched specimens of humanity have, no doubt, become valuable members of the community; but it is well known that they are an exceedingly undesirable class of immigrants, from which the brothels, reformatories and jails of the country are largely recruited. "Blood will tell," and it is against the introduction of this class that the labor organizations so justly protest.

Dr. Barnardo's letter in *Night and Day* tells of the recent annual meeting of his Society held in London, over which the Marquis of Lorne presided. In the course of his address this gentleman gave some facts which are of interest to Canadians. He stated that during the previous year 4,642 boys and girls

had been received into the London homes, and that at one time there were 3,259 children in residence in them. The whole number emigrated during the year was 503 boys and girls, neither age, sex, religion, nor nationality, nor physical condition present any obstacle to these waifs being received. In this manner, and acting on these principles, 15,600 have been saved: and of late years emigration to Canada has been undertaken, so that the Society have now placed out in Canada and in the other colonies, in all nearly 4,300 boys and girls. Several gentlemen told Dr. Barnardo five years ago that a good opening was to be had in this way for many of these waifs; and it was Dr. Barnardo's wish that he could send very many times 4,000 children to these far away homes. Lord Lorne, in commending the good work being done by Dr. Barnardo, suggested that whoever might desire to follow the good example could do so by founding in the colonies homes for the reception of whoever they might wish to send to them.

Dr. Barnardo in his address said that during the previous year his Society had dealt with 7,142 fresh cases of needy and destitute children; that in that period 4,642 boys and girls had passed through the homes; that on that day the number of these waifs in these homes was 3,450, and that during the year he had placed out in various ways 821 boys and girls, no fewer than 501 of which had been sent to Canada.

There was a theatrical display of some of the inmates of the homes, brought onto the stage of the hall in which the meeting was held, for the purpose of working on the sympathetic feelings of the audience. A number of the children, crippled in various ways, and nearly all of them on crutches, were paraded on the platform. Some of them were in the arms of nurses, some on surgical supports, some wheeling themselves in go carts, some blind, some deaf and dumb, and some hopelessly crippled. There were many speakers at the meeting, all of whom alluded to the class among whom Dr. Barnardo and his assistants worked; and of course the descriptions of the vice, wretchedness, filth and misery surrounding and environing these pitiful waifs of humanity were painful in the extreme. But these descriptions go to show the character of the exceedingly undesirable people that Dr. Barnardo is engaged in foisting upon Canada.

It is all right for Lord Lorne, Dr. Barnardo and the kind-hearted ladies and gentlemen associated with them to do all they can to ameliorate the condition of the unfortunate poor of London. But it cannot be hoped that any of these waifs can ever become just such citizens as Canada desires to embrace in her population. Let England take care of them herself, we do not want them.

Dr. Barnardo was in Toronto last week, and while here gave some additional information regarding his plans and his work in Canada. He stated that since 1883 he had been conducting this immigration business on an organized and settled plan. He has now three institutions or homes in Canada, one in Peterborough, Ont., for girls, one in Toronto for boys, and one at Russell, Manitoba, where he has a large tract of land, and where he has a school for teaching dairying, preparing the children for the employment he hopes they will find in that Province. He explained that the real cause of his visit to Canada at this time was to organize and extend his system of immigration and colonization in the North-West. He stated

that since 1867 he had placed out in Canada 4,393 boys and girls, about 3,000 of which had been placed since 1882.

Speaking of this undesirable class of immigrants the London *Advertiser* says:—

"Thousands of dollars were paid in the last official year as bonuses to the professional philanthropists who make a living out of collecting the waifs and strays of the old world's big cities for shipment to this country. Who will deny that these products of the slums do not unfairly compete with our workers, especially those of the labouring class, who are least able to look after their own interests? Dr. Roseburgh, an Ontario medical expert, recently went before the Prison Commission and asserted that the inherited tendencies to disease and vice of these children rendered them most undesirable additions to our population; and Mrs. Elizabeth Bradley, of Birmingham, a leader in philanthropic effort and the promotion of purity among the rising generation, informed the Commission that no matter what reforming processes these children might be submitted to, it was most unwise to encourage their immigration. Mrs. Bradley, after due inquiry, has no hesitation in attributing the increased prevalence of immorality in large centres of population in Canada and the United States to the immigration of boys and girls with the seeds of physical and moral disease inborn in them. Those who have studied the laws of heredity indorse this statement. Surely it is time that the people of Canada refused to longer countenance the giving of aid to immigration of so doubtful a character, especially when it has a further effect of unfairly competing with the workers already here."

#### EDITORIAL NOTES.

RIGHT is right, and wrongs no one.

WILL Argenta's loss be Canada's gain?

WHEN Canadians want seals they go for them and take them.

THE Canadian beaver is an industrious animal. It is also persevering.

THE rivalry for fair Columbia's smiles is between McKinley and Blaine—some call him "Jealous Jim."

CANADIANS are not to be deprived of or driven from a legitimate occupation by the brag and bluster of a big bully.

IN the game now going on, in which the United States wants to euvre the rest of the world out of sealing rights in Behring Sea, England, as the representative of Canada, holds what may be called a strong hand—two bowers, ace, king and joker.

THE recently discovered tin mines near San Jacinto, California, which are said to be exceedingly valuable, have been sold to an English syndicate, who have large experience in the treatment of tin ores, and some of whom own tin mines near Swansea, Wales.

OUR American friends should observe that England will not compromise the interests of Canada in the seal fishery business—that before any agreement can be entered into with the United States, Canada must be consulted. This fact may have some bearing at other times when Canada's interests are imperilled.

THE Dominion Interior Department estimates the area of Canada, according to recent surveys and estimates, to be

3,519,000 square miles, of which 3,379,000 square miles are land surface and 140,000 covered by water. It is claimed that this area embraces one-fourteenth part of the habitable earth. It is thirty times as large as the United Kingdom, and 500,000 square miles larger than the area of the United States without Alaska.

FREE Traders ask the farmers to surrender their home market for one thousands of miles distant, to abandon customers at their very doors who pay the highest prices, for those far distant who are already largely supplied at home with farm products and procure whatever additional supplies they require from the cheapest of the world's markets. Twenty years ago there were towns and villages enough in the United States to supply the farmers with all they required to buy, and it is not the growth of the country trade, but the increase of the industrial population that has built up the great cities of the West, and brought to the farmers a great accession of customers.—*Gazette*.

THE *Monetary Times* mentions the fact that the Farmers' Alliance and the United Labor Party of the United States were recently in joint convention in St. Paul, Minn., and that they passed resolutions denouncing the McKinley Bill; for a reduced rate of interest, and free coinage of silver as the means; for Government control of railroads, etc., and pays the following compliment to these political organizations:—"On the whole, it is impossible to recognize the Farmers' Alliance and United Labor party as safe counsellors of the legislature of a nation."

CANADA'S Great Industrial Fair at Toronto will be held September 8th to 20th. This announcement is sufficient to excite renewed interest in an event that always attracts hundreds of thousands of people to this city; and we are informed by the management that the attractions that will be presented this year are greater and more interesting than any that have ever before been shown. Already nearly all of the space allotted to machinery and manufactures has been assigned; and it is requested that if there are other manufacturers who desire accommodations on the grounds, they make application as soon as convenient to Mr. H. J. Hill, the manager.

THERE are five establishments in Canada engaged in the manufacture of railroad car wheels as follows:

St. Thomas Car Wheel Company, St. Thomas, Ont.  
Messrs. John Harris & Co., St. John, N.B.  
Montreal Car Wheel Company, Montreal.  
Messrs. John McDougall & Co., Montreal.  
Canada Iron Furnace Company, successors to Messrs. George McDougall & Co., Three Rivers, Que.

There are also four establishments engaged in the manufacture of malleable iron, as follows:

Oshawa Malleable Iron Company, Oshawa, Ont.  
Smith's Falls Malleable Iron Works, Smith's Falls, Ont.  
Walkerville Malleable Iron Company, Walkerville, Ont.  
Massey Manufacturing Company, Toronto.

THE estate of Eastfield, Forfarshire, was sold the other day for £16,000. Only fifteen years ago this estate was bought for £31,500. That shows a depreciation in value of about fifty per cent. Yet Lord Derby declared the other day that the value of agricultural land had at last reached bottom.—*Monetary Times*.

The *Monetary Times* advocates Free Trade. The fiscal policy prevailing in England, where the estate above alluded

to is located, is that of Free Trade. The *Monetary Times* wants Canada to adopt Free Trade, recommending it specially to Canadian farmers as the panacea for all the ills that afflict humanity. It shows, however, that what was once a valuable farming estate in Great Britain has depreciated fifty per cent. in value in only fifteen years. Canadian Farmers do not want to encounter such depreciation, therefore they will not favor Free Trade.

THE funniest Reciprocity argument we have yet seen is that of the *Montreal Herald*. Hear it:—

"American farmers are worse off than those of Canada in proportion as their tariff is higher than ours. Any extension of commercial relations between the two countries, and consequent reduction of taxation, would give relief to and benefit the farmers of both Canada and the United States, and to that extent give a healthful impetus to trade."

American farmers are worse off than Canadian farmers, therefore Canadian farmers would be better off if they had free access to the American market. The placing of Canadian produce on the American market in addition to their own would benefit American farmers: and Canadian farmers, by having free access to the American market, where the American farmers are suffering from overproduction, would improve the condition of Canadian farmers. How silly!

A PHARASICAL "Practical Christian," writing to the *Mail* complaining of the inadequate compensation of girls working in Toronto factories, says that all the oppressors are not located on a certain street, but that "some are to be found on Front, Wellington, King and Yonge Streets, owning establishments reaching into the clouds, the mortar between the bricks of which was wet and mixed by the sweat of the young working girls of Toronto." This is a sweeping accusation, all the meaner and more venomous because the accuser in the first place hides his contemptible head behind a hypocritical *nom de plume*, and in the second place, to save himself a good kicking, fails to mention the names of the parties the bricks in whose factories were cemented with mortar wet with the sweat of young working girls of Toronto. This inuendo is characteristic of just such "practical Christians" as are too cowardly to tell their names or to name those whom they accuse of grave offenses. The *Mail* should be ashamed to lend its columns to such hypocritical snivelers.

ONE of the largest known bodies of iron ore on this continent is the property of Mr. Caldwell, M.P.P., and is situated in Gun-Flint Lake, near the boundary of Ontario and the State of Minnesota. Yet it is as valueless as though it were lying around the North Pole—partly because it has neither railway nor water communication—but chiefly because there is no market for it. The mines of the Vermillion range in Minnesota, seventy miles away, have an outlet of 500,000 tons of ore yearly.—*London Ont., Advertiser*.

It is exceedingly silly for the *Advertiser* to advance such an argument. The report on the "Mineral Resources of Ontario" shows that the profit in Ontario ores laid down in American markets, duty paid, averages three dollar a ton or more; and we presume Mr. Caldwell could realize a similar profit from his Gun-Flint Lake mines if he wanted to. Why don't he build a railroad for their development? The profit on three years' shipment of his ores, at 500,000 tons a year,

would pay for it. Mr. Caldwell can find all the market for his ores he wants if he wants to find it.

MR. C. W. VINCENT, who recently arrived in Ottawa from England, has had an interview with the Minister of Agriculture relative to the growing of flax in Canada. This is a matter to which Mr. Carling has given considerable attention of late, and he was deeply interested in the scheme laid before him. The plan proposed is that certain working centres shall be established by the English company which Mr. Vincent represents, at which the fibre will be received from the farmers. The latter is to be prepared from the straw during the winter season, and at a time when the farmer's labor is not now profitably employed. The scheme is of public importance in view of the facts which Mr. Carling has recently pointed out. At present Canada sends neither flax seed nor fibre across the Atlantic, although Great Britain annually imports 20,000,000 bushels of one and 180,000,000 pounds of the other. In many parts of Canada flax may be grown profitably, and with so large a market open in Great Britain it would be of general advantage if the Dominion could produce a fair share. In this relation it may be said that experiments with flax are this year being made at all the experimental farms, and useful information is expected therefrom.

We are surprised to observe that the Royal Commission on the Mineral Resources of Canada has, through its secretary, already been driven to defend its report from attack. More surprising still is it that falsehood should be the weapon chosen for this defence. The particular charge against the report is that it advocates Reciprocity with the United States rather than the retention and strengthening of the present system of Protection in that country. To even the casual reader of the report this position was apparent. In our review of the report, at the time of its first appearance, we specially called attention to this surprising and impracticable feature—surprising because at variance with the policy of the present Canadian Government; impracticable because the people of the United States do not want any such arrangement. Some of the Canadian papers took up the charge, and the secretary of the Commission has seen fit to rush into print in sweeping denial. The words of the report itself are a sufficient answer, and the CANADIAN MANUFACTURER does well to quote the exact language capable of such interpretation. We might quote still stronger passages, but the evidence is sufficient. The able secretary of the Commission should read his own report.—*Cleveland, O., Iron Trade Review.*

We recently stated that the authorities of the City of Toronto had requested the Dominion Government to place refined asphalt, used for street paving, upon the free list. The Minister of Customs very properly refused to do this; but he called attention to the fact that the crude article is admitted free; and now it is urged that the refined asphalt spoken of is not refined at all, but a crude article upon which no duty should be levied. This effort to deceive the Government is not honest. The crude asphalt of commerce is found chiefly in the Island of Trinidad, W.I., and it has to undergo considerable preparation—a process of manufacture before it is suitable for street paving purposes. That which is now being

used in Toronto is imported from the United States, where the preparation of it gives employment to large capital and much labor. The industry of paving the streets of Toronto and other Canadian cities with asphalt is now in its infancy, but the excellence of such roads guarantees that the use of the article will become wide spread and general; and there is no reason why the capital and labor necessary in the preparation of it should not be invested and expended in Canada. Those who desire the Dominion Government to place refined asphalt upon the free list are not exhibiting much interest in affording employment for Canadian workmen.

THE advantage of Protection to the growers of coarse wools and to the carpet manufacturing industry is pointed out by an American contemporary, which tells us that thirty years ago, just before the present policy of Protection was adopted, there were but few carpet factories there, although Americans used more carpets than any other people in the world, nearly all of their supplies being imported. The journal alluded to says:—

“Only about 13,000,000 yards were made at home. The business called for only 8,000,000 pounds of wool, and the wages paid were only \$500,000. In 1870 there were 215 factories, consuming 33,000,000 pounds of wool, employing 13,000 hands, paying out \$4,681,000 in wages a year, and turning out 22,000,000 yards of carpet. Since then these figures have increased to 11,500 looms, 43,000 hands, 90,000,000 pounds of wool and 77,000,000 yards of carpet. And while this enormous enlargement of the business has been going on, it has been attended by a reduction in the prices of carpeting. In 1872 body Brussels sold for \$2 a yard; in 1880 it had fallen to \$1.50, and in 1890 it is only 93 cents a yard. In the same time tapestry Brussels carpet has been reduced in price from \$1.46 per yard to 65 cents a yard for the best quality, and ingrain from \$1.20 to 45 cents. The competition between our home manufacturers of carpets has been very sharp, and it has led to inventions and improvements that have done much to assist the cheapening of prices and increase the consumption of carpets, and one result is that hundreds of thousands of humble homes can afford to have their once bare floors covered with these adjuncts of comfort.”

THE McKinley Bill is getting hot shot from unexpected quarters. Here is one from Mr. Barker, Superintendent of the Norristown carpet mills, and hitherto an ardent Republican:—“I think that every man that has the welfare of the country at heart will vote against the Republican party at the forthcoming election on account of the McKinley Tariff or Tax Bill, under the terms of which the rich can go to Europe and buy their clothes, while the poor and middle classes must wear the shoddy made from noils and hair, because the manufacturer will not pay the price for the wool. Our carpets will be made of cotton, noils and hair for the same reasons. Where will it end? Domestic goods will be viewed with contempt, and persons with means will purchase the foreign article. The manufacturing industries of the country are suffering on account of the poor demand for goods; to increase the cost will be fatal to many. I shall do all I can, and shall vote the Democratic ticket.”—*Toronto Globe.*

Mr. Barker, Superintendent of the Norristown Carpet Mills, is a kicker. He is of that class who can't see beyond the end of his nose. Engaged in the manufacture of an article in which only coarse wools, noils, shoddy, etc., are used, he wants these articles placed on the free list. He is a Protectionist for Barker only. He is willing that fine wools be taxed, and the American wool grower be protected in that direction, for Mr. Barker is not a consumer of fine wools. But coarse wools—



never ; he will vote the Democratic ticket first. But if Major McKinley will only place coarse wools on the free list he may be assured that Mr. Barker will vote the straight Republican ticket on all occasions. We have heard of such patriotic consistency before.

## 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.

**FOR SALE.**—Plant for making Washers, consisting of power press, with full set of dies, small shears and tumbling barrel. This is the only washer making machinery in Toronto. Apply to 10 and 12 Pearl Street, Toronto.

**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.

Do you hunt, fish, paddle or sail ? If so, read *Outing*, the most delightful sporting magazine published. The leading features of August *Outing* include "Grouse Shooting on the American Prairies," "The Red Grouse of Scotland," "Cricket and Society at 'Lord's,'" "A Summer in Europe on a Wheel," "Sport Along the North-Western Border," "Cavalry Tilts in the Sunny South," "Along the Upper Batiscau," "Summer Cruising in the English Channel," "Driving for Women," "Bluefish and Lotus," "Horse Races in China," etc. Published by the *Outing* Co., 239 Fifth Avenue, New York City.

MR. IRA CORNWALL, the secretary, has sent us the premium list and programme of Canada's International Exhibition and Industrial and Agricultural Fair, to be held in the city of St. John, N.B., from September 24th to October 4th next. We are informed that efforts greater than ever before are being made to make this event an unbounded success, and judging from the names of the many business men of that city who are interested in making such, it will undoubtedly succeed. A valuable feature of the book before us is an alphabetical list of the names of the business men of St. John, and the special lines in which they are engaged.

No housewife can make a better use of a spare dime than to send it for a copy of *Good Housekeeping*, provided she is not already in fortnightly receipt of this very interesting publication. The number for July 19th has the usual variety of papers touching all departments of the home labor and leisure, and besides a very interesting setting forth of "co-operative dining," as it is carried on at the most successful institutions of the kind in the country. This paper is written by the secretary of the club and hence is "official" and reliable. Clark W. Bryan & Co., Springfield, Mass., are the publishers, and the price is but \$2.50 per year of twenty-six issues.

MESSRS. MORTON, PHILLIPS & Co., publishers, Montreal, have sent us an exceedingly convenient book, "Customs and Excise Tariff," in which is included a list of the warehousing ports in the Dominion, etc. Sufficient space is allotted to extracts from the Custom Act descriptive and explanatory of what might otherwise prove unintelligible, and in which are included a list of articles exempt from duty ; articles prohibited ; export duties ; duties on packages ; excise duties ; wharfage dues in different ports ; sterling money, francs and German six marks reduced to dollars and cents ; value of francs in English money ; table showing Customs value of foreign commerce, etc. This book is in very convenient form for office use, and cannot but be invaluable to business men. Price fifty cents.

The special attention of our readers interested in outdoor games is called to *Outing Weekly Tennis Record*, of which the Midsummer number appears this week, enlarged to twenty-four pages, and containing most excellent accounts from its own special correspondents of all the important tournaments of the week, in this country, Canada and Great Britain, with many excellent illustrations, specially prepared by *Outing* artists. The popularity of lawn tennis is second only to baseball, and as this game enlists both sexes in actual contest, we think it is destined to supersede baseball as an amateur's game. Like the growth of lawn tennis the success of *Outing* weekly tennis record has been almost phenomenal. This week's record embraces the tournaments at Chicago, Ill., Westchester, N.Y., Hastings, N.Y., Manchester-by-the-Sea, Mass., Pittsburg, Pa., etc., etc. The "Local and Club Talk" are exceedingly interesting and cover as wide a field as the game of tennis.

The latest issue of *The Dominion Illustrated* is in variety of subject and in quality of artistic treatment one of the best yet published. The number is rich in portraits. Old Nor'westers will prize the fine likeness of Sir George Simpson, now thirty years in his grave, but once the ruler of a sovereignty almost as large as Europe. In connection with it is given a view of Isle Dorval, his former residence, now that of Mr. W. G. Eadie. An account of the entertainment organized there, under Sir George's supervision, in honor of the Prince of Wales, is of historic interest. The portrait of Madame Pauquet will delight musical circles in which that lady (wife of an ex-Minister of Quebec) holds a prominent place. Grant Allen, though in England, is a Canadian by birth, and has done Canada



credit by his well used gifts in science and letters. With regret his many friends will recognise the portrait of the late Mr. John Page, C.E., whose sudden death gave a shock to the whole community. The rest of the number is largely devoted to yachting in Lake St. Louis, to lumbering, and to the "Monument National" Celebration in Sohmer Park, Montreal—a gay scene, made charming by clusters of beauty. One of Hom's pictures serves as frontispiece. Address: *Dominion Illustrated*, 73 St. James Street, Montreal.

For several years *Wide Awake* has from time to time given some beautiful stories of a highly fanciful nature from the pen of Miss Mary E. Wilkins; one of the best appears in the August number, entitled "The Princess Rosetta and the Pop-Corn Man," with seven illustrations. Another fanciful story, by Susan Coolidge, is called "Three Little Candles." As a contrast come "The Hat of the Postmaster," "Cy Hops's Victory," the story of a Canadian Indian boy at school. Miss McLeod's Acadian tale, "The Story of Bloody Creek." Perhaps one of the best things in the number is a short paper by Louise Stockton, "A Game of the Senses," in which she suggests the development possible to the senses through the using of them. There is a fascinating group of Lily articles: "The American Water Lily," "The Queen Lily," and a poem, "Water Lilies." "The Confessions of an Amateur Photographer" relates to "Dark Deeds," the photograph, "A Lake Party" is very beautiful. A delightful illustrated literary paper is contributed by Mrs. Humphrey, entitled "Early Days of Lady Anne Lindsay," the author of "Auld Robin Gray." Mr. Ward's serial, "The New Senior at Andover," which is attracting so much attention, is well worthy the interest it excites; while the extravaganza, "The Quest of the Whipping Boy," is good "light reading." "Men and Things" as usual gives good original anecdotes and talks, and "Margaret-Patty Letter" is worth the while of young people who are careless of grammar and spelling in conversation and letter-writing. The Prize Anagram, "The Perplexities of a Crymangle," is translated in this number. *Wide Awake* is \$2.40 a year. D. Lothrop Company, Publishers, Boston, Mass.

THE Chancery Court, at London, Eng., a few days ago rendered a trade mark decision that is of great interest to manufacturers. It was in an action brought by Messrs. John Oakey & Sons against Messrs. William Flatau & Sons, to restrain defendants from selling, or offering for sale, goods not made by the plaintiffs, so got up and labelled as to induce the trade and public to believe that such goods were goods of the plaintiffs' manufacture, and from passing off on the trade and public goods not made by the plaintiffs as and for goods of the plaintiff, and from infringing the plaintiffs' registered trade marks. According to the statement of claim the plaintiffs had for fifty years carried on business at Wellington Mills, Westminster Bridge-road, Surrey, as glass paper, emery cloth, emery and black lead manufacturers. Their trade mark was "Wellington." On the 19th of September, 1876, they registered as a label for a knife polish their trade mark, No. 9,048, registering at the same time the name "Wellington," together with a head of Wellington. In January, 1889, the defendant, a drysalter, set up a trade in knife polish, etc., selecting the name "Nelson" for his trade mark, but not using it because it differed in material particulars from the plaintiffs' registered trade mark. The defendant issued a price list, in which he inserted part of the plaintiffs' price list verbatim, and had endeavored by this and other means to pass off on the trade and the public his goods as goods of the plaintiffs'. The defence was an almost point blank denial of the allegations in the statement of claim, fortified by a statement that the trade mark used by the defendant was adopted by an arrangement with the plaintiffs, who, for good consideration, had agreed not to object to the modified use of the trade mark by the defendant. Mr. Justice Kay, without calling upon counsel for the plaintiffs to reply, said this was a case in which the defendant had evidently determined to do everything in his power to get the advantage and the trade of another man by passing off his goods among the class of people who bought this class of goods, as the goods of the plaintiffs. He had gone as nearly as he dare to an exact imitation of the label and get-up generally of the canisters in which the plaintiffs were accustomed to sell their goods; and he wanted to persuade the Court, although his intention to commit a fraud was manifest, that the arm of the Court was not long enough to reach him. True, the defendant had substituted a diamond for the oval, but he (Mr. Justice Kay) had no doubt that his device was intended to deceive and calculated to deceive, that it was, in fact, a continuation of the fraud in which the defendant began. The Court could not help dealing with a case of this kind with considerable disgust and indignation. He should grant the injunction asked for, and order the defendant to pay the costs of the motion.

## Manufacturing.

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

MR. J. A. CHRISTIE, of Brandon, Man., is adding a planer to his saw mill with a capacity of 90 000 feet daily.

THE Hawthorn Woolen Company, Carleton Place, Ont., are adding a 70x32 foot building to their works.

THE carriage factory of Messrs. Sully & Bryson, New Westminster, B.C., was destroyed by fire, July 14th; loss about \$5,000.

MR. T. A. MOSHER, Moncton, N.B., *Times*, shipbuilder, Avondale, N.S., is building a ship of 2,200 tons, and a barquentine of 600 tons.

MR. JOSEPH WILLIAMS has established a factory at Goderich, Ont., for the manufacture of patent barrels, and is turning out 700 of these a day.

THE New York Dyewood Extract and Chemical Company have established a factory at Hamilton, Ont., for the manufacture of catch extract.

THE Diamond Glass Company, Montreal, has been chartered with a capital stock of \$10,000, for the manufacture of window glass, table ware, etc.

SOME farmers in Waterloo County, Ont., have decided to raise their own flax, and intend starting a binder twine factory in Berlin, that county, next year.

THE Chatham Manufacturing Company, Chatham, Ont., are filling an order of the Massey Company, Winnipeg, Man., for four hundred sets of sleigh bobs.

THE Glassford Organ and Piano Company, of Chatham, Ont., has been incorporated with a capital stock of \$20,000 for the manufacture of organs, pianos, etc.

THE St. Thomas Pipe and Foundry Company, St. Thomas, Ont., has been incorporated with a capital stock of \$50,000 for the manufacture of cast iron goods, etc.

THE Premier Oil Company, Petrolia, Ont., will be incorporated with a capital stock of \$150,000, for the manufacture of refined petroleum, oils, oil products, etc.

THE Eno Steam Generator Company, Toronto, with a capital stock of \$100,000, are preparing to manufacture, in this city, the lines of goods indicated by the name.

THE Royal Pulp and Paper Company, East Angus, Que., has been incorporated with a capital stock of \$300,000 for the manufacture of paper pulp, paper lumber, etc.

THE Hemlock City Gristing and Milling Company has been incorporated by the Ontario Government with a capital stock of \$10,000 to conduct a gristing and milling business.

THE Sicily Asphaltum Company, Montreal, has been incorporated with a capital stock of \$30,000, for the purpose of refining asphaltum and preparing it for use for street paving, etc.

THE Lake of the Woods Milling Company are building an elevator at Griswold, Man., with a capacity of 30,000 bushels. They are also building an elevator at Carberry, Man.

MESSRS. HIRAM WALKER & SONS, Walkerville, Ont., will incorporate as a joint stock company with a capital stock of \$5,000,000. This is probably the largest distilling concern in Canada.

THE Canadian Rand Drill Company, Sherbrooke, Que., has been incorporated with a capital stock of \$18,000 for the manufacture of Rand drills, air compressors and general mining machinery.

THE Cumberland Foundry and Machine Works, at Amherst, N.S., is a new concern recently gone into operations with bright prospects of success. The concern is already enjoying a liberal patronage.

THE Waterous Engine Works Company, Brantford, Ont., have received the gold medal and two certificates for excellence for the saw mill machinery exhibited by them at the recent Australian Exhibition.

THE Canadian Interior Conduit Company, Toronto, whose capital stock is \$150,000, are going extensively into the manufacture of conduits and tubes to be used in connection with electric wires in buildings, etc.

MR. T. C. NATIVEL, Victoria, B.C., who recently erected pottery works in that city, has them now in successful operation. His products include chimney pots, hollow tiles, roofing tiles, tiles for flooring, terra cotta work, etc.

THE batting works of Mr. G. B. Towers, at St. Catharines, Ont., which have been closed for some time, will be again put in operation. Mr. Towers is obtaining a lot of new machinery from Scotland, and the works will be set in motion the coming fall.

THE Canada Hair Cloth Company, St. Catharines, Ont., are adding twenty new looms to their factory, increasing their machinery to fifty looms. The company have recently occupied their new factory building. Their specialties are tailors' and upholsterers' hair cloths.

MR. JAMES DYER, whose woolen mill near Port Hope, Ont., was burnt out some time ago, is building a fine new mill at Garden Hill, about twelve miles north of Port Hope. The mill is of brick, three stories high, and will have room for four sets of cards, although two sets will be its present capacity.

MR. KETCHUM, of the Chignecto Ship Railway, has arranged for the building of six one thousand ton steamers to carry produce from the gulf into the Bay of Fundy over his railway. Contracts are to be made at once with Kingston Locomotive works for an engine to draw the ships.—*Halifax Critic*.

THE Walkerville Brewing Company, Walkerville, Ont., expect to begin operating their brewery about August 1st, and a gang of men are now busy putting in the patent ice machine, the only one of the kind in Canada. The brewery is the largest one in the Dominion, six storeys high, and when completed will cost in the vicinity of \$80,000.

SIX new canneries are going up in British Columbia this year. One of these is on the Skeena, one on Gardener's Inlet, one at Bute Inlet, and probably two on the Fraser. The canneries at Gardener's and Bute Inlets are experimental, none having been operated there before. The one on Gardener's Inlet will be situated about eighty miles from the mouth.

THE chicory industry is being pushed forward on a large scale this year, the company received an order this week from a Montreal firm for 2,000 lbs., besides making a shipment almost weekly of 300 to 500 lbs., and by next spring it is their intention of having ready for market over 3,000,000 lbs. Their principal market will be China and Japan.—*Regina, N.W.T., Journal*.

MESSERS. RHODES, CURRY & Co., of Amherst, have the contract for building the engine houses on the ship railway, one on the Fort Lawrence, and the other at the Tidnish Terminus. That on the Bay of Fundy end is well advanced, and some of the machinery is at present being put in position. The engine houses will work hydraulic lifts, and the buildings are to cost in the vicinity of \$25,000 each.

THE St. Andrew's Bay Canning Company are negotiating for the purchase or lease of the property formerly used by W. D. Hartt & Co., as a sardine factory. The canning company propose starting up their sardine business at once, providing they can secure a suitable lease. The fire last month, which destroyed their stock and plant, has been a bad setback to the company, but they feel they can do a profitable business this season.—*St. Croix Courier*.

A LARGE number of hands are wanted at the Strathroy flax mill to assist in the pulling which shortly commences. Last season was a very favorable one for this industry, and instead of shutting down in March or April as usual, the mill was kept running right along until a couple of weeks ago. The prospects are also good for this year, we are glad to hear, and we trust even more favorable results will reward the efforts of the enterprising proprietors.—*Strathroy, Ont., Despatch*.

THE United States Treasury Department having decided that natural gas is not subject to duty when imported into the United States from Canada, the Provincial Gas and Fuel Company will shortly enter into a contract with the Standard Oil Company for a supply of natural gas. A pipe eleven miles in length will be laid by the Canadian company to Buffalo, N.Y. They will also lay a pipe to supply the towns along the Welland canal. Their wells are in Welland county, Ont.

THE Otterville Manufacturing Company, Otterville, Ont., have sent us their illustrated catalogue and price list of hardware and house furnishing specialties manufactured by them. Among the articles enumerated are the Tothill baby jumper, folding cots and camp chairs, reversible clothes bar, towel rollers, garden and step ladders, post hole diggers, wire stretchers, wire window screens, corn planters, corn shellers, wagon jacks, drive well points, children's velocipedes, express wagons, baby carriages, sleighs, hat and coat racks, folding saw bucks, snow shovels, etc.

ON the farm of William Mead, near Mull, Ont., in sinking a well for water a few days ago, Mead struck gas at sixty feet, and a pipe and reducer were put in. By turning a tap a stream of gas escapes with a deafening roar, showing a pressure estimated at thirty to sixty pounds to the square inch. The gas is without odor, and Mead has probably enough to run powerful machinery for generations. In the meantime he will put it into his house and utilize it for cooking, heating and lighting purposes. The Mead well is only five and a half miles in a bee line from Ridgeway, Ont.

THE wood of Newfoundland has been experimented upon for the manufacture of pulp by Partington, of Great Britain, and favorably reported on. A location for pulp works has been selected by this firm in the island. It is about 100 miles west from St. John's, on one of the southern bays, where the timber is suitable and inexhaustible. It is said that neither pyrites nor sulphur in any form will be made use of in the process, which is reported to have been fully tested in Austria. An expert whom Partington sent out would have nothing to do with Green Bay, on account of the length of time during which it is closed in the winter.

WORK has been commenced on the Vancouver, B.C., sugar refinery building. The structure will be 94x107 feet, divided into four departments. At the south-eastern corner will be the building for the refining and packing process. This building will be six storeys high, and in it will be conducted the final process through which the sugar will have to pass. The foundations for this large building will be of granite masonry four feet in thickness. The walls will be of brick. The supply of raw sugar will be obtained from Manila and Java. The company expect to give employment to about fifty men when the works are in full blast.—*Colonist*.

THE prospect of a large crop in the North-West is most encouraging, and to-day the Chatham Manufacturing Company received an order for another carload of wagons. The Chatham wagon has left all of its competitors far in the rear, and the present prospect is that the total number for this season will reach twenty-five hundred wagons for 1890, or five hundred more than last year. In addition to this business, a large number of carts have been made, and the workmen are at present completing an order for four hundred sleighs. If we had two or three more industries like the Chatham Manufacturing Company, Chatham would be a city in a short time.—*Chatham, Ont., Planet*.

MESSERS. GOLDIE & McCULLOUGH, Galt, Ont., have just placed an immense safe in the office of the Dominion Finance Department at Ottawa, which is claimed to be the biggest of the sort in Canada. It is 22 feet long, 17 feet wide and 13 feet high, with a wrought iron gallery running around three sides about half way up. It is built of three layers of steel plate, each  $\frac{1}{2}$  inch in thickness, in all 142 tons of iron and steel being used in the construction. This massive structure is fastened with 18,000 steel screws. The foundation rests upon the solid rock of Parliament hill, upon which a thickness of 25 feet of rock and cement is laid. The two doors are fastened, when locked, by 22 heavy steel bolts in each, the contrivance being worked by an ingenious combination and time lock.

G. F. SLATER's shingle mill at Vancouver, B.C., is shortly to be increased in capacity. The mill has been gradually increased until the capacity is 100,000 shingles per day. A Challoner's shingle machine is now being purchased, which will bring the capacity up to 130,000 per day. A Sturtevant dry kill is also being put in, which will dry the total cut in twenty-four hours, or as fast as turned out. In addition to shingles, machinery was recently put in for the manufacture of clear red cedar lumber for factory work. Only the finest quality of red cedar will be used, and a specialty will be made of supplying clear lumber, etc., to sash and door factories and for other special purposes. About 100 cars of these shingles were shipped to Manitoba last year, and more were wanted, but could not be supplied with the facilities then enjoyed. The mill is now the largest as well as the most complete of the kind on the Pacific Coast. The success of this mill is mainly owing to the growing demand for Manitoba for the shingles, where the goods from this mill have given great satisfaction.

THE Dodge Wood Split Pulley Company, of Toronto, give the following instructions for putting their pulley on a shaft:—In the first place it is important to see that the size of shaft be correctly given, in order that the bushing will be a perfect fit, as it is easily understood if the shaft should be 1-16 too small or too large for the bushing, the compression fastening or grip would not be perfect. In cases where a bushing has become imperfect from experimenting with the same unsuccessfully, it is advisable to get a new one, which involves the expense of a few cents only. Secondly, the shaft should be clean and thoroughly free from oil and grease. If the shafting is oily, it should be cleaned with coal oil or acid, and wiped dry, then place the pulley in position and bolt it on carefully; don't

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bolt the hub down to the utmost on one side before tightening the other, but screw all the bolts up gradually and at equal strain all around. If these instructions are carefully observed every pulley must run perfectly true, if the shafting is true, and slipping is impossible. All pulleys should be examined after running a day or two, and set up tighter if possible. After this no further attention need be given.

THE Polson Iron Works Company, Owen Sound, Ont., launched from the building yards of that place, on July 16th, the steamer *Seguin*, built by them for the Parry Sound Navigation Company. The *Seguin* is a steel steamer of the barge type, intended for freight traffic, though she has half a dozen handsomely finished cabins. She is 215 feet long, 34 feet beam, and 13 feet depth of hold. She is of Scotch steel, but the bottom is cased with 5 in. rock elm to save the steel in case of contact with a rock, a not unusual occurrence on the North shore. She has a capacity of 1,000,000 feet of lumber, or 1,500 tons of freight. The wheel is driven by a triple expansion engine that will develop 800 horse power. The cylinders are 17, 28 and 46 inches, with a 30-inch stroke. These engines are fed from two boilers, 10 feet 6 inches in length, and 10 feet in diameter, which will carry a working pressure of 160 pounds. The wheel itself is 11 feet in diameter, and has 14 feet 6 inches pitch. The vessel carries three spars, is fitted throughout with electric lights, is fully supplied with steam winches, capstans and windlasses, has a new patent steering apparatus, and in general there is nothing of her style on the lakes that can beat her. She will run 14 miles an hour, it is expected, and will be classed A 1. Her total cost will be \$100,000.

THE beet sugar industry which was started at Farnham and Berthier, Que., a few years ago, and subsequently failed, is about to be revived. A number of French capitalists of experience, with Baron Zilliere at their head, have taken hold of the Farnham establishment, and, from all appearances, the greatest energy seems to have been infused into the affair. The director-general of the company in question is Mons. A. Mosy, an experienced beet sugar manufacturer from Europe, and this gentleman has made the following interesting proposition to the farmers of Farnham and the province in general. In the first place, the beet seed is supplied to the farmers free by the company in question, which agrees to pay \$4.50 per ton for the roots delivered either at the factory or on board cars. In the next place an advance of \$10 per acre will be made in the month of June to the farmer who will have at least three acres of beet roots under cultivation. A second advance of \$10 per acre will be made in the month of July to every farmer who succeeds well with his crop. In order to encourage the farmers in the successful culture of the beet root, Mr. Mosy likewise offers prizes of from \$50 to \$100 for the best culture of three acres or less. It is said that an acre of ground well cultivated will produce ten tons of beet roots, and the managers allege that the establishments at Berthier and Farnham can work up 15,000 tons of beet root per annum, and produce three million pounds of sugar.

SOMETHING like ten years ago there was put upon the market a double napped Canton flannel, dyed in solid colors, which was eagerly taken by the trade for the purposes of door hangings or *portières*. A large demand was created for them; they furnished persons of moderate means a cheap, durable and slightly drapery, and were used for *portières*, lambrequins, mantel covers and the various other uses to which draperies are put. They were used to beautify and render attractive the homes of those of limited means. They were colored in all the popular shades of the day, from the dark Turkey red to the olive and old gold. The sale for these goods has steadily increased, and it has furnished employment for a large number of mills. The demand for the solid colored flannels opened up the avenues of investigation, and led to improving the beauty and desirableness of this fabric. Various attempts were made to add to the attractiveness of these flannels by printing designs upon them, but it was not until about three years ago that these attempts were successful. The strides in printing a piled or napped cloth have been rapid until the difficulties have been overcome, and the most intricate and elaborate designs of the most varied colorings are as readily and clearly transferred upon it as upon a smooth-faced cloth. The double-napped goods can now be had printed on both sides. There are some five manufacturers in this country, and they are finding an increasing demand for their production.—*Wool Reporter*.

SPEAKING of the cartridge factory at the city of Quebec, the *Chronicle* of that city says:—On Thursday afternoon, at two o'clock, there was a large number of shells cast at the Dominion Government Cartridge Factory here, under the management of Major Prevost and Mr. William Dixon. The factory is a model of order, economy and enterprise. The machinery in use for the casting of

the shells and for making the Snider cartridges was imported from England in 1881 and 1882. It was then both old and out of order, but thanks to the ingenuity of Mr. Dixon, has since been put in a good state of repair, many pieces being entirely re-made. In one machine alone Mr. Dixon has replaced thirty-four pieces by new ones. In the department in which the shells for the large guns are manufactured, 2,000 9-pounder common shells, 1,600 64-pounder common shells and 1,400 9-pounder shrapnel shells were cast during the past year. The 64-pounder shrapnel shells have not yet been made in Quebec, for the simple reason that no orders to that effect have been received from the Militia Department, though the implements in the factory would easily permit such work to be done. For the Snider cartridges the lead used for the bullets is imported from England in pigs weighing 120 lbs. each. One of the causes of the great superiority of the Quebec cartridge over that imported from England, is that the former are enveloped in a copper case, which effectively prevents the rain or any humidity in the air from altering or decomposing the powder in any manner whatever. In addition to this another advantage is that the copper shell may be recharged at least a dozen times without being destroyed. This was definitely proved before Colonel Panet, Deputy Minister of Militia, in a competition fired on July 5, 1889, between a Snider rifle and the Quebec cartridge and a Martini-Henry rifle and the English cartridge, the former made 84 points to the latter's 83, a fact which effectively proves the superiority of our cartridge. We understand that the Quebec shells for the 9-pounder and 64 pounder guns give great satisfaction. A large number of hands are employed in the factory, to which a visit amply repays the visitor for his trouble.

SINCE the inauguration of the dry dock at Esquimaux, thirty-eight vessels have entered it for repairs of greater or less importance. The charges for dock dues have been made as low as possible, the idea of the Dominion authorities having been in every possible way to encourage trade. Indeed, so much had this idea been carried out that the attendant expenses of docking at Esquimaux are no more than those that would be incurred at Liverpool, England. The dry dock at Esquimaux, with improvements and additions, has cost \$1,150,000, and has taken in thirty-eight vessels with a receipt of not more than \$3,000 over and above working expenses. H.M.S. *Amphion* was in the dock 222 days. Had it been necessary to dock her in San Francisco it would have cost her fifty cents per ton per day, the cost to sailing vessels being forty cents per ton. Here the charges had been made as small as possible, so as to encourage Pacific Ocean trade. Were it not for this dock the Canadian trade on the Pacific Ocean would be very much crippled, as it would otherwise be extremely difficult and expensive to deal with disabled vessels, which, as has been the experience of the *Amphion*, could be handled here just as well as upon the other side of the world. As concerned the *Amphion*, the arrangement with the Imperial authorities under the original agreement was that British war ships should pay only the actual cost of dockage. It was, however, ridiculous to pretend that on the basis of the charges at San Francisco the cost of her dockage would have been \$350,000. It cannot be denied that had it not been for this dock Canadian shipping on the Pacific would be in a very peculiar position, it being impossible to give to it the necessary repairs, while, as concerns war ships, there could not otherwise be any means of giving them the repairs that, in the natural order of things, become necessary from time to time, the harbor of Esquimaux being the headquarters of H.M. Pacific squadron. As an Imperial or Dominion investment it is impossible to expect that the dock enterprise can ever pay interest on the cost; but it is as a national work that the enterprise has to be regarded. The dry dock plant at Esquimaux is of the most comprehensive character. There are four immense boilers, one of which is always in operation, while the big pump is one of the largest on the continent, the smaller one being employed in guarding against any possible leakage. All that is necessary at the present time for all needed requirements is, it is said, to build a dock alongside the present one for the accommodation of war vessels, the existing arrangements being left for the ordinary trade of the Pacific Ocean, which experience has shown to always require accommodation. The boilers, the electric lights, the pumps, and the same staff would be all that an additional dock, alongside the present one, would require, all that would be necessary being to make the dock alongside considerably deeper and larger than the one now existing. The land on which the dock is situate already belongs to the Government, so that in this particular there would be a saving of money. The following is the tariff in vogue at the Esquimaux graving dock: For all vessels up to 1,000 gross tons, \$400 for the first day of docking, and 10c per ton thereafter; up to 2,000, \$500 and 8 cents; up to 3,000, \$600 and 6 cents; up to 6,000, \$700 and 5 cents. No reductions are allowed for Sundays or holidays.—*Victoria, B.C. Colonist*.

DEFEATED in their direct attack on the sugar bounty system the opponents of this fiscal herey are now making a side movement intended doubtless to achieve the same object as the agitation and abortive conference of a year ago. Certain agricultural and other members of Parliament are having papers read to them on "the desirability of growing sugar beet in England and Ireland." The expert who prepares the lecture proves very conclusively that it is possible to grow beet in the United Kingdom. He claims also that the introduction of sugar beet into the rotation of crops cultivated in England would improve the soil to such an extent as to improve the yield of other crops. The sugar beet industry has undoubtedly prospered on the Continent, and the practicability of growing beet in this country has been demonstrated. Dr. A. Voelcker, late chemist to the Royal Agricultural Society of England, found 12 per cent. of sugar in roots from Suffolk, 12½ and 13 per cent. in roots from Berkshire, 11½ per cent. in roots from Surrey, 10½ to 13½ per cent. in roots from Yorkshire, and from 10 to 15 per cent. in roots from Kilkenny. Analyses of roots grown in England and Ireland last year showed that they compare favorably in their yield of sugar with those of German growth. In order profitably to extract the sugar on a commercial scale, combination and co operation were necessary, and those could best be brought into play by the factory system. Estimates of the expenditure and returns in connection with beet cultivation show that a very satisfactory balance is left in favor of the grower, at as much as 5*l.* per acre. Emphasis is laid on the fact that the fibrous substances of the roots, after the saccharine matter is extracted, form an excellent food for cattle. The only serious drawback to the industry in this country is the foreign bounty system. A gentleman in London is reported willing to invest a quarter of a million of money in the development of the industry in England and Ireland. It is admitted that there is no difficulty in growing sugar beet in this country. The only difficulty of the farmer is that there is no factory to take the beet raised. In short, the possibility of growing beet and making sugar therefrom in England has been proved over and over again. The only question not answered is whether it is desirable to invest capital in doing that which foreign governments tax their people to do for us at a much cheaper rate.—*British Trade Journal.*

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SEALED TENDERS addressed to the undersigned, and endorsed "Tender for Coal, Public Buildings," will be received until Monday, 11th August next, for Coal supply, for all or any of the Dominion Public Buildings.  
Specifications, form of tender, and all necessary information can be obtained at this Department on and after Wednesday, 16th inst.  
Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied, and signed with their actual signatures.  
Each tender must be accompanied by an accepted bank cheque made payable to the order of the Honorable the Minister of Public Works, equal to five per cent. of the amount of the tender, which will be forfeited if the party declines to enter into a contract when called upon to do so, or if he fail to supply the coal contracted for. If the tender be not accepted the cheque will be returned.  
The Department will not be bound to accept the lowest or any tender.  
By order,  
A. GOBEIL,  
Secretary.

Department of Public Works, Ottawa, July 14, 1890.

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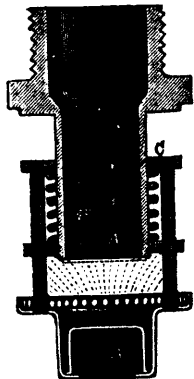
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SEALED TENDERS, marked on the left-hand corner of the envelope, "Tenders for Militia Store Supplies and Necessaries," addressed to the Honorable the Minister of Militia and Defence, will be received up to noon of Monday, the 4th of August, 1890.

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.

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

A. BENOIT, Capt.,  
 Secretary.

Department of Militia and Defence.  
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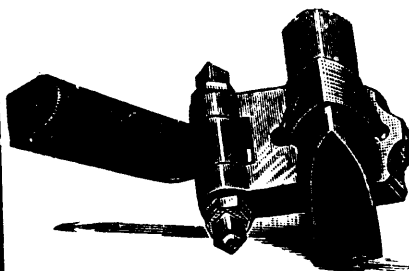
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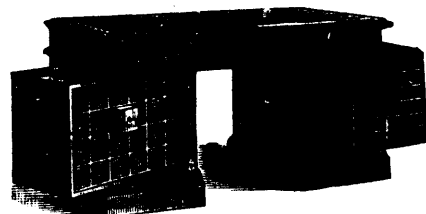
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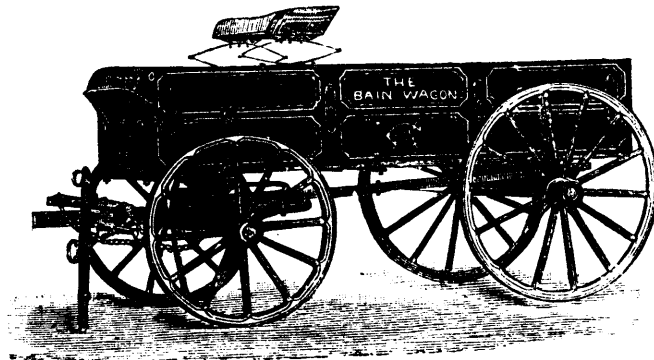
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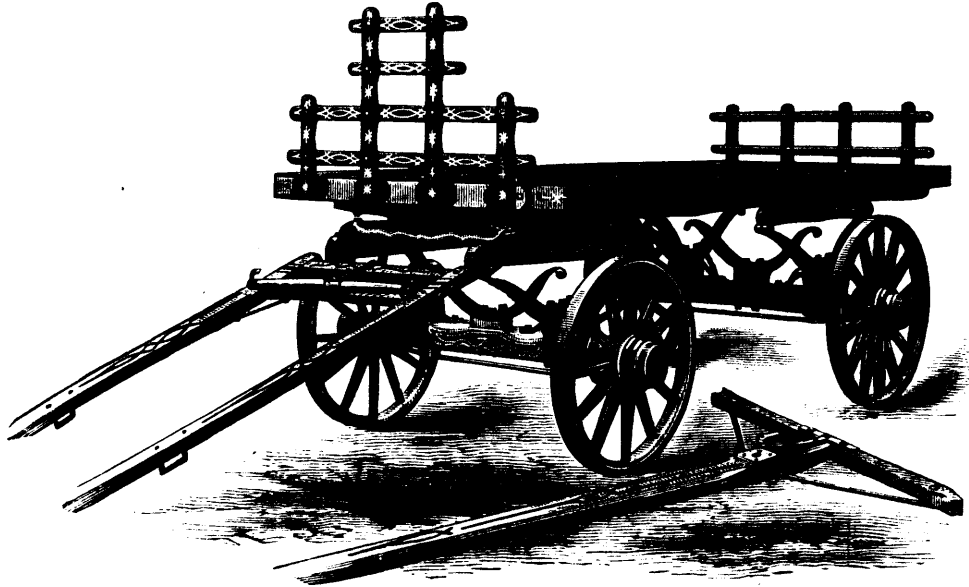
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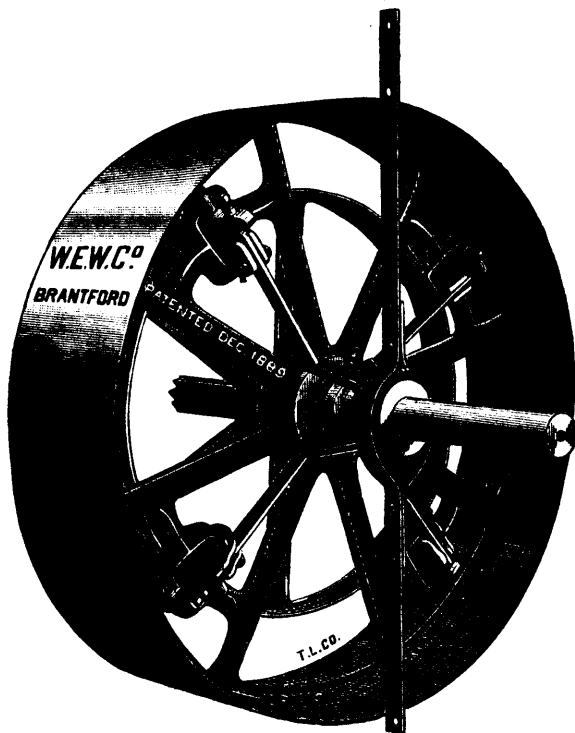
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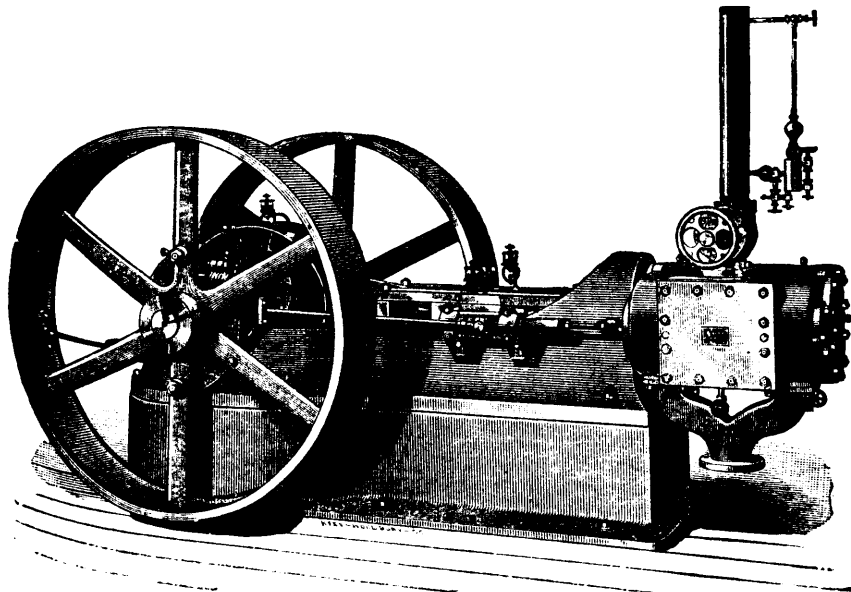
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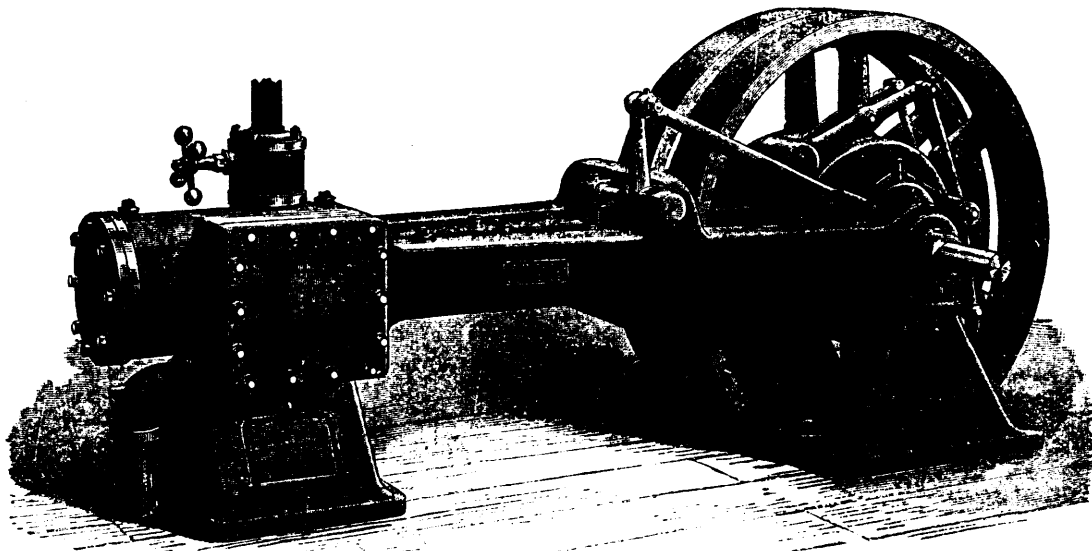
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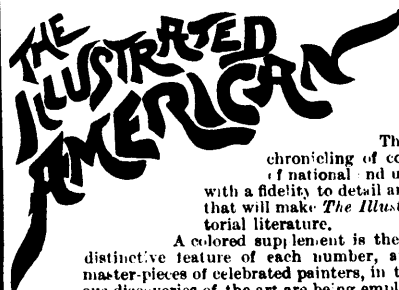
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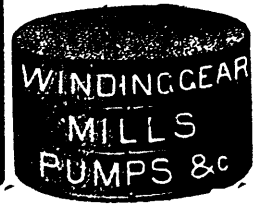
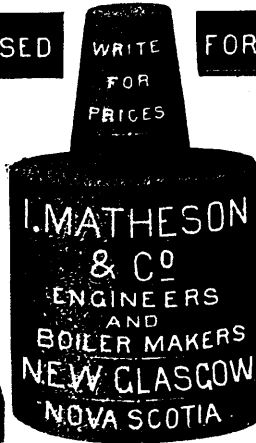
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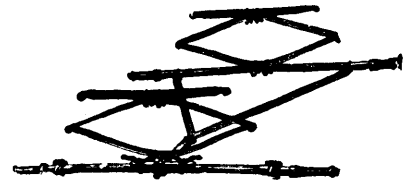
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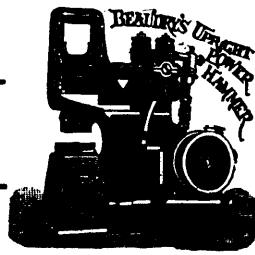
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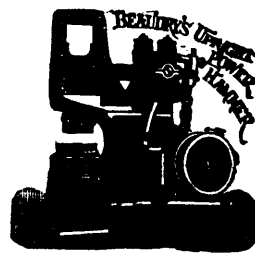




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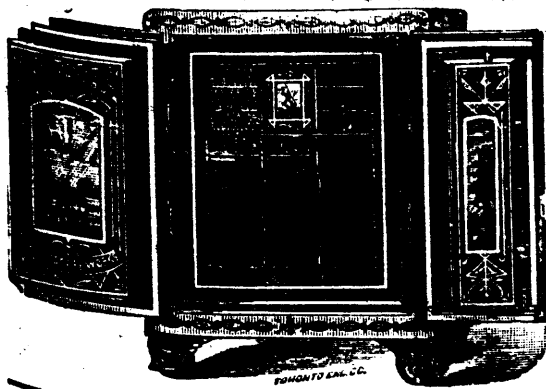


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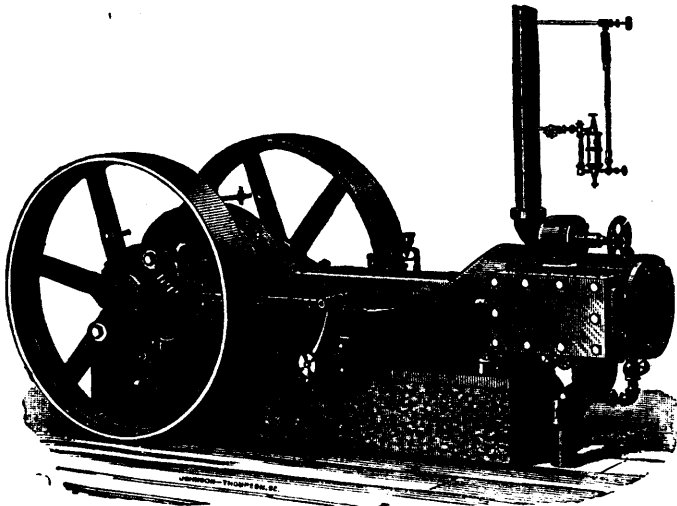
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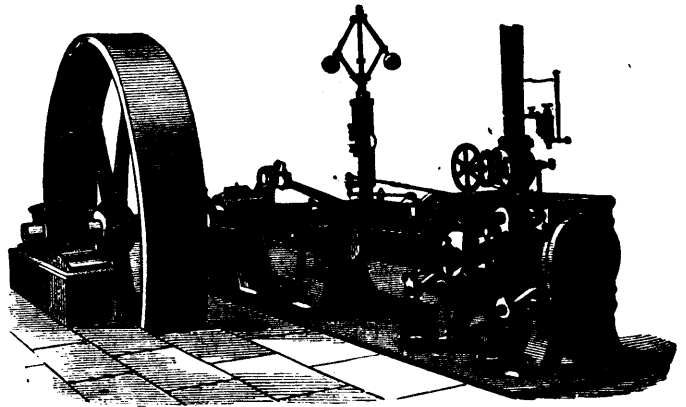
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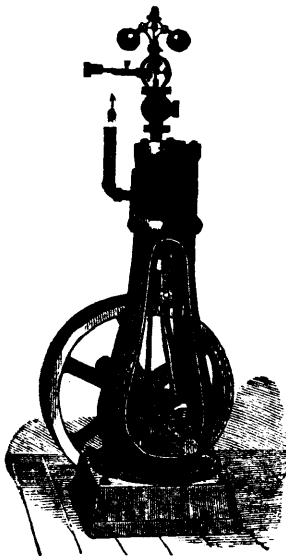
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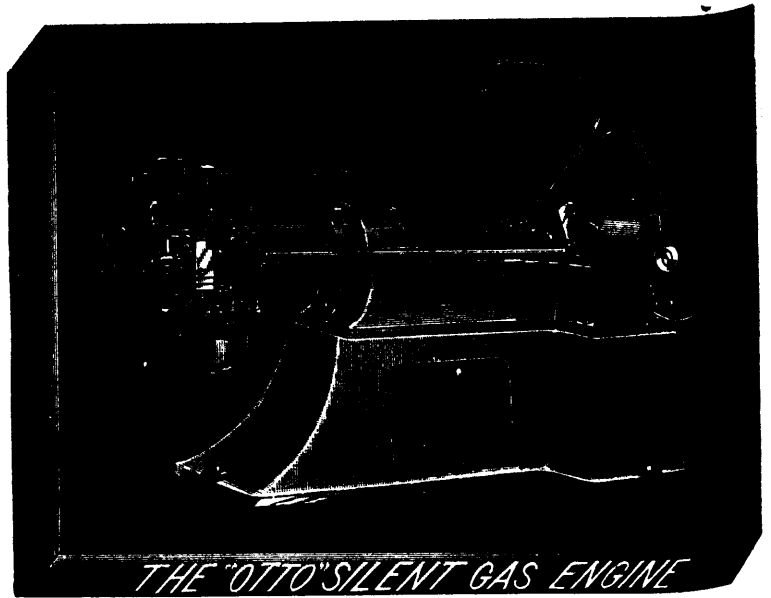
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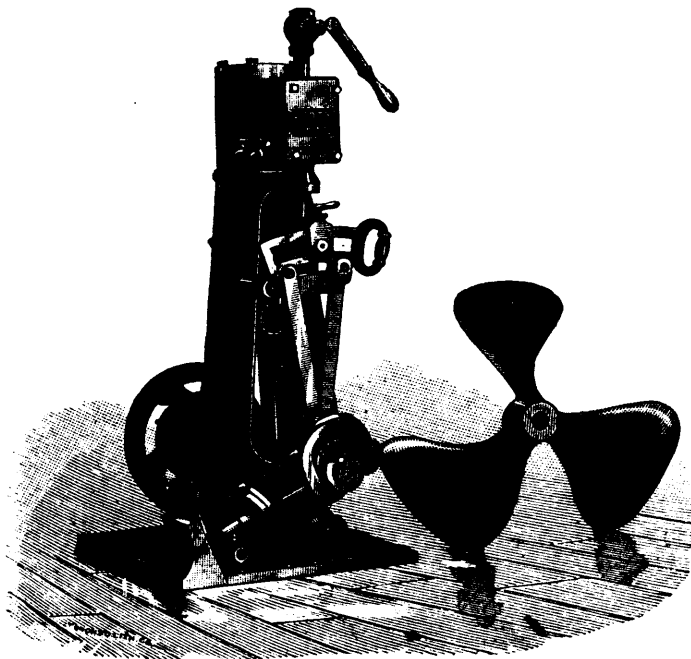
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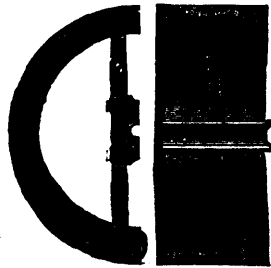
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*We will furnish a Pulley for any service for 30 days free of charge, if it does not meet the warranty. Prices as low as any other good Pulley. Send for Catalogue, Price List & Guarantee*



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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.  
SHATTO & DENNIS, MINNEAPOLIS, MINN.

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION, NEW ORLEANS, March 19, 1885.  
W. H. DODGE, PREST. DODGE MFG. CO., MISHAWAKA, IND.  
*Dear Sir:* I have a number of your Patent Wood Split Pulleys in use here at the Worlds Fair and Cotton Centennial Exposition, driving Dynamos for Electric Lighting. They are doing heavy work, and are held upon the shaft by the compression of wood on iron. They hold firmly, and do not slip. I have watched with a great deal of interest the many Pulleys of your make running at this Exposition; and I think them the best Pulley I have ever seen. I believe them to possess the following points of merit over any other Pulley: All Pulleys being split or in halves; best belt surface; best shaft fastening; best method of utilizing Pulleys to shafts of different sizes; best balance; lightest on the shaft; strong, and I believe durable. I heartily recommend them.  
Yours very truly, S. H. GILMAN, Chief Consulting Engineer.

### 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. 60,000 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.

*Send for Illustrated Circular and Reference List.*

# THE DODGE WOOD SPLIT PULLEY CO., TORONTO.

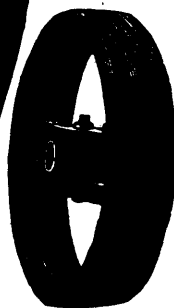
P. O. BOX 333.

TELEPHONE 2080.

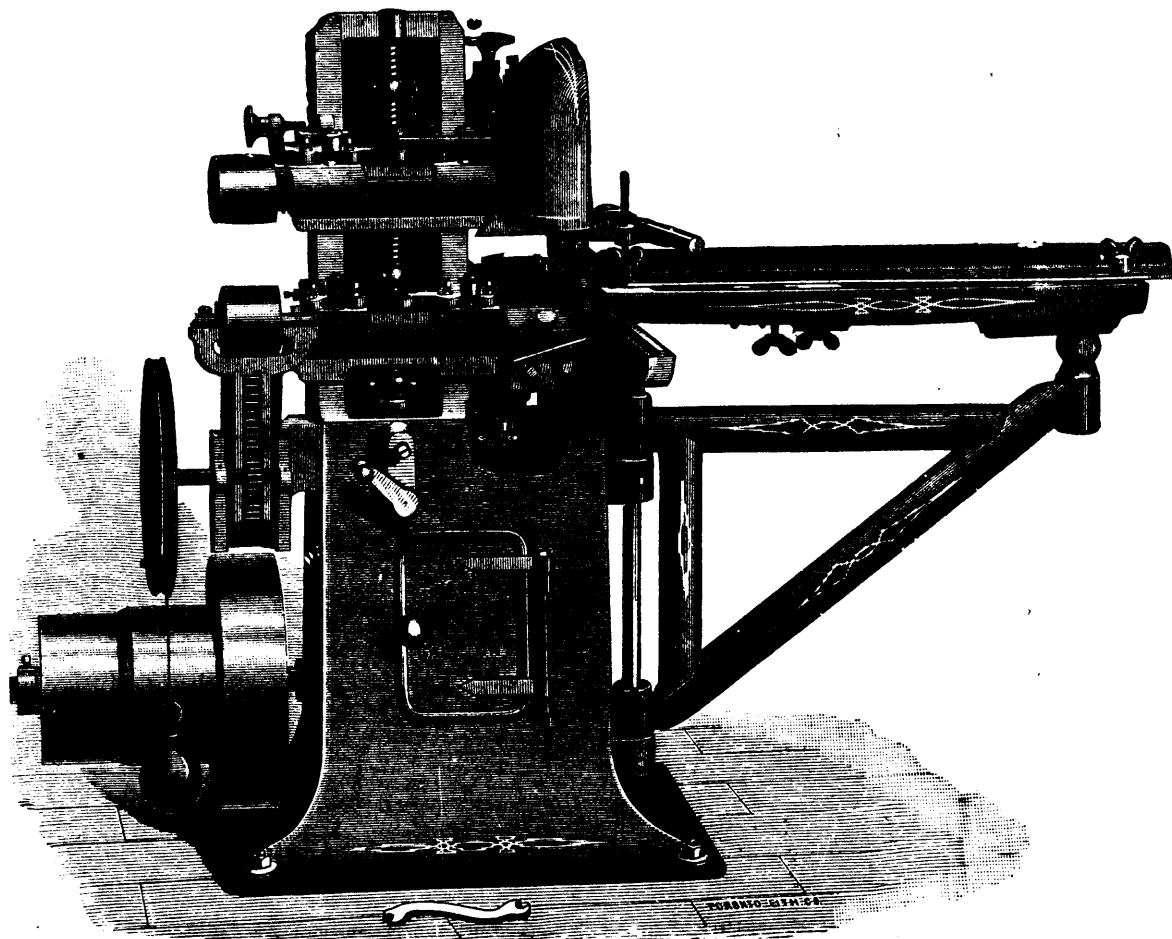
**TAKE NOTICE:--Our List of Prices for the DODGE PATENT WOOD SPLIT-PULLEYS is for ALL SPLIT-PULLEYS.**

**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.

## COWAN & CO.

“Galt Foundry” Engine and Machine Works, GALT, ONTARIO, CANADA.

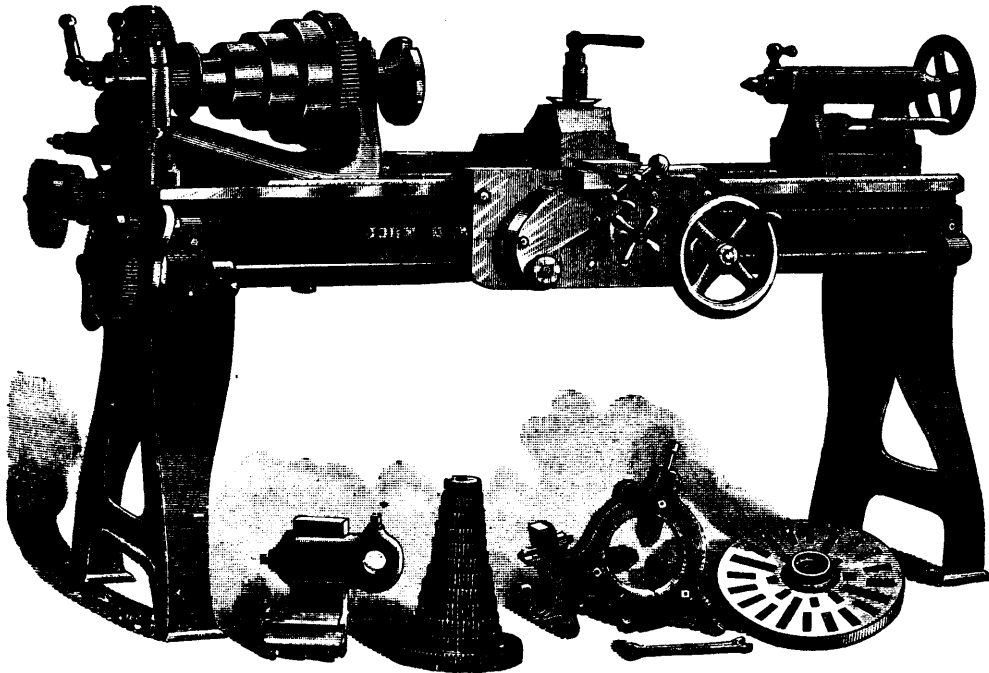
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Warerooms: Permanent Exhibition, Toronto; Polson Engine Co. 38 Yonge St.; Machinery Supply Ass'n, Montreal.

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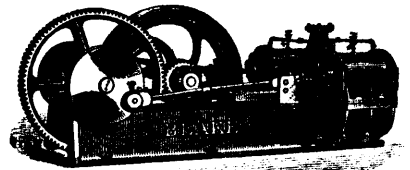
FEDERAL STREET

NEW YORK

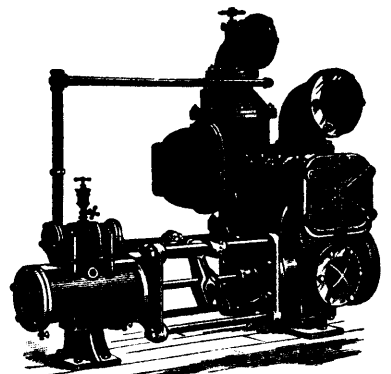
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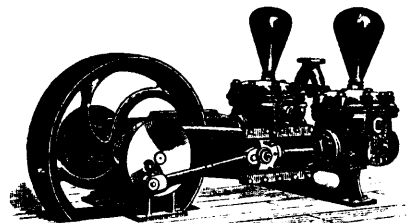
These goods may be seen at the Permanent Exhibition 63 to 69 Front Street West, Toronto.



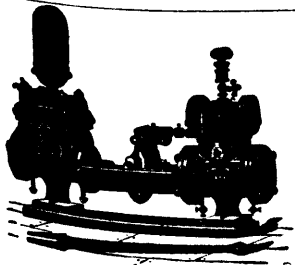
AIR COMPRESSOR.



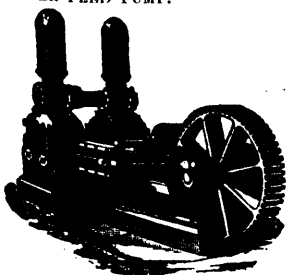
AIR PUMP AND CONDENSOR.



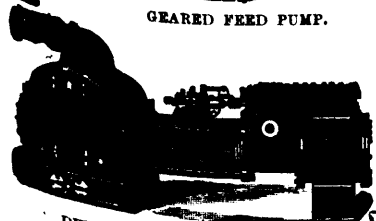
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NEW GLASGOW, NOVA SCOTIA

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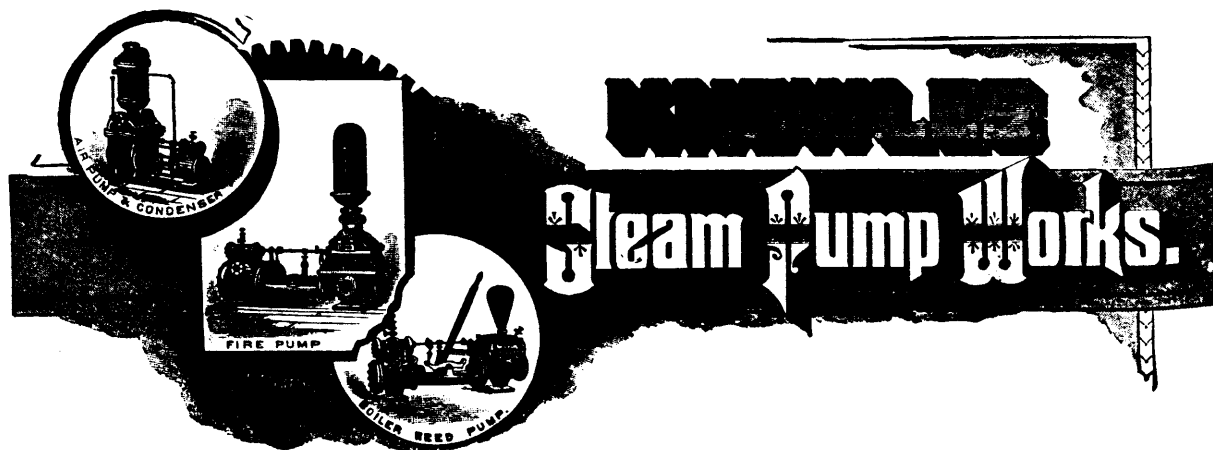
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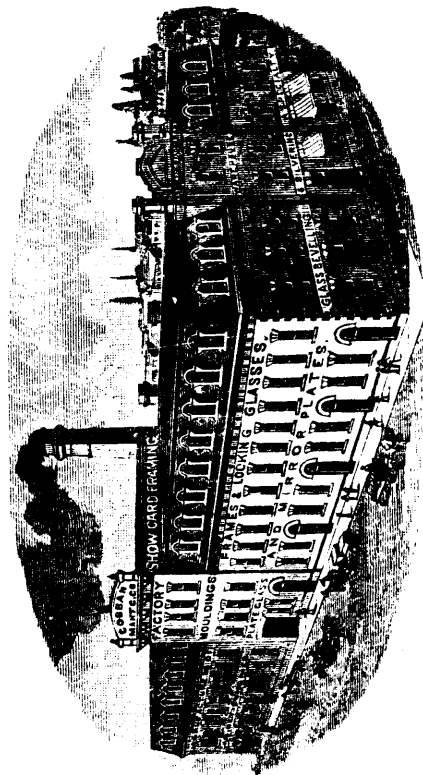
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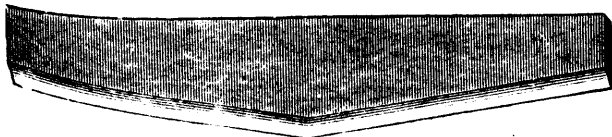
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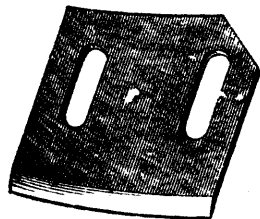


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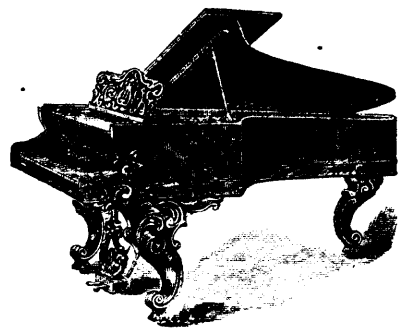
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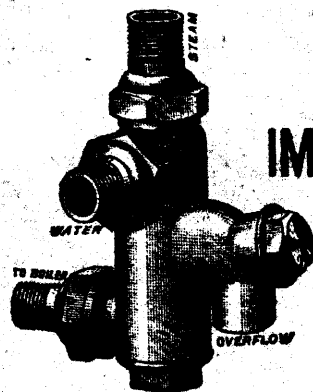
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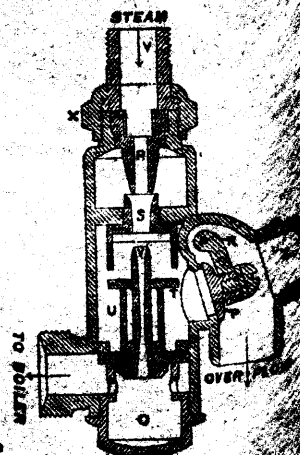
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