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Vol. 21.

TORONTO, NOVEMBER 20, 1891.

No. 10.

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The offices of the CANADIAN MANUFACTURER and of the Canadian Manufacturers' Association, have been removed to Room 66, Canada Life Building, King Street West, where all communications should be addressed.

UNDERVALUATION.

In January of the present year Messrs. Smith & Patterson, a mercantile firm in Boston, bought from the Keystone Watch Case Company, of Philadelphia, some 2,000 watch cases. Messrs. Smith & Patterson have a branch of their establishment in Montreal, which is in charge of Mr. A. A. Abbott, and these watch cases were sent to Mr. Abbott for sale. Before importing these goods, Mr. Abbott submitted samples of them to Mr. Ambrose, a Dominion appraiser, explained to him that they were a job lot which his firm had bought at greatly reduced prices, and that they were worth no more than the valuation he placed upon them. Being contented with this explanation, Ambrose expressed the opinion that the goods could be imported at the valuation named, and so they found their way into Canada.

In the meantime the transaction had been talked about considerably, the facts being pretty well known, and soon after the arrival of the goods in Montreal a special officer of the Customs, named Belton, swooped down and captured the consignment from Abbott upon a charge of undervaluation. It is said that the Government offered to relinquish the goods upon the payment of a fine, but this Smith & Patterson refused to pay, and

so the matter found its way into the Exchequer Court in Montreal.

The case came on for a hearing last week when the following facts were developed: Mr. Abbott testified that the regular list price for these goods in the United States was \$4.50 for open-face cases and \$5 for hunting cases, with a trade discount of 15 per cent. This was the American combination market price, and the goods could not be bought for less in that market. Mr. Sheppard, agent of the Keystone Watch Case Company, testified that the goods were of a style now unsaleable in the American market, and the reason why they had been sold to Smith & Patterson at the reduced prices was because they could not be sold in the United States on account of an agreement with the other watch case manufacturers, to the effect that they were not to be offered at cut prices in that country for a period of one year; and a penalty of \$5,000 was attached to any violation of this agreement. When selling the goods, he understood that they were to be exported to Canada, for they could not be sold at that price to be consumed in the American market. The goods were known to the trade as "Cyclone" cases; and although his company had abandoned the manufacture of this particular style of Cyclone cases, yet they were manufacturing an almost identical Cyclone case, the only difference being in the ornamentation. There was no change in the intrinsic value, name, or price (in the American market) of either old or new Cyclone cases. Mr. Ambrose, the appraiser, was a witness for Smith & Patterson. He said that he appraised the cases at what he considered a fair market value as a job lot. He took special care to ascertain their intrinsic value. In cross-examination for the Government, Mr. Ambrose stated that he had understood from Mr. Abbott that the goods could be sold in the United States, for consumption in that market, at the same price as that paid by Smith & Patterson, and that the bargain was open to all buyers. He inferred from Mr. Abbott's conversation that the goods could be purchased by anyone, at the price actually paid, for consumption in the United States, and his valuation was based upon this assumption.

There is this to be said of this affair: The Keystone Watch Case Company is a member of the Watch Case Manufacturers' Association of the United States. According to the rules of this Association, as existing at the time, these goods were sold to be exported to Canada, all the regular goods of these manufacturers had to be listed, including name, trade mark and price. These particular goods were so listed, as appeared by the catalogue and price list of the Association, for each and every month of the current year. It is claimed that these goods were of old and unsaleable style, and that the manufacturer had a right to sell them as a job lot at reduced prices. In December, 1890, the Association passed a law which was to be and continue in force for one year from that date, which provided that no cases which were then listed could be withdrawn from the list and sold as job lots for slaughter purposes in the United States, under a penalty of \$5,000. If, then, these cases could not be sold for less than list prices for consumption in the United States, such prices are the standard of value upon which Canadian duties are levied, for under any other system the customs would be liable to be defrauded, and the Canadian manufacturers of watch cases placed entirely at the mercy of over-stocked American manufacturers.

While the slaughter prices at which these cases were sold for export to Canada were not intended to make them any cheaper to Canadian than to American consumers, from the following facts it looks as though the cut in the prices was made to meet the Canadian duty. It was in evidence in the trial that the American price list for the Cyclone hunting was \$5, subject to a trade discount of 15 per cent., and for the open-face \$4.50, subject to like discount, with a further discount of 6 per cent. for cash. The price which Smith & Patterson paid for the hunting case was \$2.52. At \$5, less the discount, the net price of this case was \$4.25, and this should be the valuation for duty—the discount of 6 per cent. for cash making the value of it just \$4. If the case was charged with the 35 per cent. duty upon a valuation of \$4.25, as it should be, the amount of that duty would be \$1.48, which, added to the slaughter price of \$2.52, would make the cost in Canada precisely the same as in the United States—\$4. In other words, the American manufacturer paid the Canadian duty for the sake of slaughtering his unsaleable goods in this country.

It looks as though these importers were very greedy. As we have shown, the American manufacturer had deducted the Canadian duty from the list price of the goods, and certainly Messrs. Smith & Patterson, the importers, having received this concession, should have been willing to have handed over the correct amount of duty to the Canadian customs. But this is just where they showed their greed. The 35 per cent. duty upon the correct valuation of these 1,000 hunting cases would have been \$1,480, and about the same upon the open-face cases, a total of, say, \$2,960. But they attempted to have them appraised for valuation for duty at a price which would give the Government but \$880 for the hunting cases, or about \$1,760 for the whole lot, or \$1,200 less than the Government had a clear right to collect. It was because Messrs. Smith & Patterson endeavored to avoid the payment of this latter amount that the goods were seized by the Customs officers.

At this writing the judge has not rendered a decision in this matter; but it may be depended upon that if his judgment is adverse to the Government, it will be upon technical grounds, probably because Customs appraiser Ambrose had, under a misapprehension of facts, expressed the opinion that the goods might properly be entered at the slaughter prices. If this should be the case, the law should be amended, otherwise the door would stand invitingly open at all times for gross and disastrous frauds upon the revenue. It can readily be seen that the judgment of the appraiser, Ambrose, is at fault in this matter; and it is but fair and charitable to suppose that his opinion was not influenced by corruption. But such opinions might be influenced by corruption and hope of unlawful gain; and if such should be the case, unless the law allowed the Government to set aside and override such opinions, there would be no telling to what lengths the abuse might be carried. All that would be necessary, as in this case, to demoralize and destroy the watch case manufacturing industry in Canada would be for importers to have their goods billed at slaughter or fictitious prices, paying duty on such prices only. In the case under discussion the difference to the revenue amounts to \$1,200, or sixty cents upon each watch case imported. In addition to the loss to the revenue, the importer would be able to sell such goods at prices at which

Canadian manufacturers could not possibly compete, for sixty cents is a fine profit to make upon such watch cases. But the Government and the Canadian watch case manufacturers would not be the only ones who would suffer in the matter. The jobbing and retail trade would suffer, and the Canadian consumers would also suffer. The manufacturer, being handicapped by the presence of undervalued goods in the market, would be forced to sell his products at a loss or close his establishment, throwing his workmen out of employ. The jobber who imports straight goods and pays duty on list prices would be handicapped in that he could not compete with the importer who brought in inferior goods at slaughter prices, and he would either be forced to abandon handling first-class goods, and himself go into the questionable business of handling undervalued, inferior goods, or go to the wall. The retail dealer would also be in the same boat; and the consumers who buy such goods would have to pay full price for an inferior article.

The Grit papers, of course, as they always do, have taken sides against the Government in this case. The *Star* speaks of our customs system as "legalized pillage by informers," and that "there are many stories told by Montreal importers that are all but unbelievable"; and it prophesies that "there must come a reform soon in which a wide distinction will be made between a criminal smuggler and an honest merchant who has been misled by the mistaken ruling of a customs official." The *Herald* speaks of "the sleuth-hounds of the Customs Department," saying they are after plunder; and both papers and others endeavor to curry favor with importers by pretending to take their part against what they would be pleased to have their readers believe to be outrageous conduct on the part of the Government. This sort of editorial stuff is exceedingly undignified and untruthful. If importers violate the law it is not pillage on the part of the detectives or others to ferret it out; and the gain these officers make is simply what the law allows them. If Montreal or other importers have any "all but unbelievable stories to tell" in this direction they should tell them. If they have been wronged their wrongs should be righted, and if they have been engaged in compromising shady transactions with the officials, the matter should be investigated and probed to the bottom. Undoubtedly there should exist a distinction between "criminal" smugglers and honest merchants, but merchants generally are men of intelligence, supposed to be familiar with the details of their business. Importers should certainly understand that duties must be paid upon the fair market value of the articles they import, and it will not do for them to buy merchandise at slaughter prices and expect to escape the payment of just duties thereon by asking incompetent or corrupt or deceived officers to appraise them far below their value. In this case the testimony showed that the appraiser was led under the impression that the goods were unrestricted, and that it was open for American purchasers to buy them for sale in the American market. Obtaining an opinion under such circumstances looks very like getting it by false pretences, and therefore it should be deemed valueless. Such blackguardism and abuse as the Grit papers indulge in is exceedingly vulgar and ill-bred, and should be avoided. It proves nothing.

It is quite time for all respectable importers, jobbers and

retailers to join with the manufacturers in supporting and upholding the Government in inflicting severe punishment upon importers who wilfully undervalue goods which they may be importing into Canada. The Government should be sustained.

### PROTECTION.

THE London, Eng., *Globe* of a recent date gave a deplorable picture of the depression in manufacturing industries in that country resulting from the operations of the American tariff. It says that the trade of the country has lost its buoyancy, the monthly report of the Board of Trade showing a shrinkage in imports as well as exports, the continual falling off of the trade with the United States being plainly noticeable. It says:

The McKinley tariff appears to be working more harm to British commerce than was anticipated. By handicapping our manufactures it has necessarily diminished our purchases of American products which we take in exchange. On the import side, raw material, especially cotton, shows the greatest falling-off, a fact which the working-class agitators will do well to take into account. It clearly presages the diminution of employment in some manufacturing industries during the coming winter, with a corresponding augmentation of supply of idle labor. In the case of raw cotton the decrease in quantity amounts to over forty per cent. Copper has fallen twenty-two per cent., while wood and tallow show substantial shrinkages. The broad result is that our foreign customers supply the requirements elsewhere. Thus the iron and steel exports fell last month over 12 per cent., copper, 20 per cent., machinery, 14 per cent., worsted goods 33½ per cent. The moral is written on their face. It is that England can only retain her foreign trade by the same means that she built it up—by cheapness of production—while the tendency of labor movements is to increase the cost of production.

There is this to be said on this subject. If British manufacturers are handicapped by the McKinley tariff, American manufacturers are correspondingly benefitted, and in making this tariff the American Government were moved by a desire to benefit their own industries and people more than those of Great Britain or any other country. If the foreign trade of Great Britain has suffered or is suffering from the effects of the McKinley tariff, the foreign trade of the United States has increased under it, both in imports and exports. The value of the imports of the latter country for the eleven months ending with August last were \$25,681,316 over those of the average corresponding months of the past twenty years; and the value of the exports increased in the same time \$49,087,323 over the average of the said twenty years; while the value of imports upon articles upon which no duties were levied in the eleven months recently ended was \$112,013,081, above the average of the corresponding months for twenty years past.

The *Globe* says that the situation in Britain clearly presages the diminution of employment in certain manufacturing industries, with a corresponding augmentation of supply of idle labor, the moral of which teaches that "England can only retain her foreign trade by the same means by which she built it up—by cheapness of production." This presents an exceedingly unfavorable outlook for British workmen. British mercantile trade is to be kept up to as high a notch as possible, even though it be at the expense of the workmen in manufacturing industries, whose wages are to be reduced to meet the emergency. What is the welfare of the British workman any-

how as compared with the necessities of British commerce? The *Globe* advises that the working classes take the situation into account; to reverse their agitation by which they hope to better their condition by obtaining shorter hours and better remuneration for their services, and not to increase the cost of production. This is very heartless, seeing that the greatest suffering prevails in Great Britain because of lack of employment.

But British manufacturers and British workmen also see the matter in a different light. They understand that if the mountain will not come to Mohammed, Mohammed must of necessity go to the mountain—that if the manufacturing industry which once made them prosperous has been transferred to the United States, they must follow it there or starve. They decline to starve if they can avoid it, and they can avoid it by following the transfer to the United States, and that is just what they are doing—that is just what the United States aimed to have them do. The McKinley tariff is a powerful lever in this matter.

There is a lesson in this for Canada. This country imports many millions worth of manufactures which might just as well be made at home; and the reason why they are not made here is that our tariff is not high enough. The United States held to a lower tariff for many years, during all which time, chiefly at the expense of her workmen, who were compelled to accept very low wages, Britain supplied millions of manufactures to the American market. Now that a much higher tariff prevails the British manufacturer and workman find themselves forced to emigrate to the United States. Under a similar tariff Canada could accomplish a like result. Under a higher tariff we would soon see both British and American manufacturers establishing plants in Canada, giving employment to thousands of Canadian workmen, and inducing the immigration of thousands of British and American workmen. Protection will do it, but like the McKinley article, it must be protection which will protect.

### CANADIAN SHIP-BUILDING.

THE new Dominion fishery cruiser *Constance*, built by the Polson Iron Works Company, of Toronto, was launched from their ship-building yards at Owen Sound, on Thanksgiving Day, the 12th inst. The *Constance* is a composite screw steamer, 125 feet long, 19 feet 8 inches beam, and 11 feet 3 inches depth of hold; and when completed will have a draught of 9 feet, 6 inches. Her engines are compound vertical, the cylinders being 18 inches and 36 inches, with 24 inch stroke. The two boilers are each 10 feet, 6 inches long, and 10 feet, 9 inches diameter. The steel sheets and angles entering into the construction of the ship were made in Scotland, the planking and all wooden parts being Canadian products. She is equipped with every desirable modern convenience and appliances, and is as well-finished and complete in all her appointments as any similar gun-boat that floats. Her armament, which was manufactured in England, will consist of four quick-firing guns; and her fuel capacity is such as to enable her to steam 2,000 miles without re-coaling. No finer finished or more tastily-decorated specimen of marine architecture was ever launched, and the Polson Iron Works Company have demonstrated their ability to build gun-boats quite as well as

large merchant steamers, such as the *Manitoba* and others which were constructed at their works. In some speech-making after the launch, Mr. G. R. R. Cockburn, M. P., stated that \$10,000 duty was paid on the imported material used in the construction of this vessel, and alluded to the fact that if she had been built in Great Britain, she could have been brought into Canada without the payment of any duty whatever.

The Polson Iron Works Company have built quite a number of fine iron and steel steamers of different descriptions since they embarked in the business; and there are several other Canadian concerns which have also demonstrated the fact that as fine and serviceable ships can be built in this country as anywhere else in the world. This fact being established, the question arises as to why we do not build more ships. For more than a hundred years the Maritime Provinces have been celebrated for the excellence of the wooden sailing ships built there; and we frequently record the building of such vessels there now: and as long as such vessels sail the seas New Brunswick and Nova Scotia will distinguish themselves in that direction. But our great inland seas require an entirely different class of vessels; and of such vessels as sail our great lakes under the British flag, but very few of them, comparatively, were built in Canada. Why?

Mr. Cockburn, seemingly without being aware of the importance of his statement, disclosed the reason why. Because we have no works in Canada for the manufacture of such steel and iron as are requisite in the construction of such ships as are required on our waters, we have to import these materials from abroad, upon which duties have to be paid; and because ships built in Great Britain are allowed to be brought into Canada without the payment of duty, and to engage in our internal marine commerce on terms of equality with Canadian built vessels. It is quite true that some certain articles for shipbuilding, including anchors, wire-rigging, etc., are allowed to be brought in duty free; and it is equally true that as long as these articles are thus allowed to be brought in, no works will ever be established in Canada for their production. There are forge works in this country which could be made to include machinery for the manufacture of anchors, and there are wire rope works which could be made capable of manufacturing wire rigging, but the demand for such articles at this time is not very large, and the free admission of foreign goods raises a barrier to the home production which cannot be overcome. And so it is that because of a very low duty upon dutiable articles, and no duty at all upon others, the Canadian shipbuilder finds himself at the disadvantage of having to depend upon other countries for materials which ought to be made here at home.

Another reason why so few ships are built upon our lakes is the free competition of British built ships, as alluded to by Mr. Cockburn. It might be difficult to frame a law which would exclude such ships from our internal commerce, but it is certain that unless such a law be made, Canadian ship-building can never be carried on with the success which should attend it. It must until then be conducted in a desultory and perfunctory manner. Some of the Canadian papers which attempt to discuss what they call the decline of our lake shipping industry, make the great mistake of supposing that some sort of political alliance with the United States would revive it. For instance, the *St. Catherines' Journal* speaks of our fleets

growing less, our shipyards and machine shops being idle, and the money lavished upon our canals unproductive, because of an imaginary line and false ideas of restricted trade; which evil unrestricted reciprocity alone could correct; and the *Toronto Globe* tells us that the main obstacle lies in the customs line and in the American laws which prevent our vessels from participating in the carriage of American freights from one American port to another, and that it is idle to look for any substantial return for our enterprise as long as these barriers exist. These journals ignore the fact that whatever prosperity attends American inland maritime trade is to be credited to that system of protection which makes it impossible for ships under any other flag to participate in it; and that it is not at all probable that, even if the United States should consent to some sort of reciprocal trade with Canada, other than Canadian built British vessels would be allowed to engage in the American inter-state maritime trade. It would be folly to suppose that the United States would allow any British-built ship to carry wheat from Duluth to Buffalo, or iron ore from Escanaba to Cleveland. Under unrestricted reciprocity Canadian-built ships might be allowed to participate in that trade; but it is not likely that if Britain will not now consent to allow Canada to exclude her shipping from Canadian interior traffic, while Canada alone would be benefitted thereby, she will consent to the exclusion for the benefit of the United States. If we had unrestricted reciprocity we would have to accept the McKinley tariff, which would not only exclude such shipbuilding materials as we now bring in free of duty, but also exclude British-built ships; and, if we could not obtain any free materials for ship building, or free British ships, unrestricted reciprocity in the carrying trade, and the right to Canadian vessels to trade between American ports, would be a hollow mockery and delusion.

The only way to create a flourishing and successful shipbuilding industry upon our great lakes is to inaugurate such laws as have enabled the United States to rise to the high eminence it holds in that direction. We should exclude all but Canadian-built ships from participation in our trade, and we should encourage the establishment of works in which everything, from an anchor to a compass—everything from the keel to main truck of our ships could be produced here in Canada. Protection will do this and nothing else will. It is not reasonable to suppose that the United States will ever give Canadian shipping all such favours and privileges as are accorded to American vessels, for if such an event should occur, the favours would not be to Canadian vessels sailing under the British flag, but under the stars and stripes.

It is exceedingly wearisome to listen to this continual talk about our dependence upon the United States for our prosperity. If we are to be prosperous only through some sort of political connection with that country, that connection will be annexation, and nothing else. But we do not want annexation. We believe in Canada, and that her high destiny is not to be a part of the Great Republic. Let us be brave, manly, courageous, self-reliant, determined, self-respecting. These are the qualities necessary to Canada's prosperity. This prosperity will come to us all the more quickly, and with all the greater certainty, if we cling to and maintain the National Policy. Protection will do it.



## THE IRON QUESTION.

OUR editorial "As to Iron" in the last issue of this journal created considerable interest on the part of some of our manufacturers, judging from letters we have received from them. Some of the points made in these letters are as follows:

"The Londonderry Iron Company make their bar iron in part from puddled pig, and I am not sure that they do not make some of it altogether from pig. In any case I believe the scrap used is only about ten per cent." This in reply to our statement that the only wrought iron manufactured in Canada is made from wrought scrap.

"We find the wrought iron made from scrap to test as high and show physical properties fully equal to the best imported, except Lowmoor and Swedes." This is paying a high compliment to our Canadian rolling mills which they should appreciate, particularly as it comes from a concern where only the best qualities of materials are used, and that in large quantities.

"The American is, for many purposes, so superior to the English, and the price so close to it, as to account for the closeness of the sales; and even if Canada could make up the full requirements of the market, still some American or Scotch iron must be imported with our irons to soften them, as Nova Scotia iron at least in itself is very sluggish." This statement shows that for certain purposes American pig is superior to English and that the prices of the respective irons are so nearly the same that the superiority of American iron more than counterbalances the slighter cheapness of the English. A noticeable lesson taught in this remark is that American iron, manufactured under the operation of the McKinley tariff—\$6 per ton—can be sold in Canada at as low a price as English iron manufactured under free trade. Protection and nothing but protection made this possible.

"Charcoal iron must necessarily have, at present, a limited market; and one good furnace could easily supply it. In fact I do not think that the Three Rivers furnace can sell all they could make; although the quality of the iron produced there is nearly if not quite, equal to the well known American Salisbury iron. Of course for making high grade steel charcoal iron would have to be produced, and that would increase the output by whatever amount might be required, minus the Swedes bar, which would have to be imported for certain grades." Unfortunately for the completeness of the statistics, the Trade and Navigation Returns do not specify the quantities of charcoal imported; but it supposed that a large portion of the pig imported into Canada, particularly into Ontario, is charcoal made in Michigan furnaces, for use in the manufacture of small malleable castings for agricultural implements and similar purposes. Perhaps a considerable portion of such iron is consumed in the manufacture of car wheels. It is estimated that the yearly importation of charcoal iron from the United States is about 10,000 tons. If our correspondent is correct in his opinion that the demand for charcoal iron does not equal the production of the Three Rivers furnaces, we cannot understand why 10,000 tons of such iron should be imported from the United States, unless it be that the transportation charges from the furnaces to points of consumption is greater than the duty on American irons, plus the freight on the shorter distance. Of course this cannot possibly be the cause. We have recently

shown that there is a large and growing demand in this section of Canada for charcoal iron the opinion of such large consumers of the article as the Massey's of Toronto, and Mr. Copp, and Mr. Laidlaw of Hamilton, being that if the article could be and was produced at a reasonably moderate price, the consumption would be very much larger than it now is. It is not doubted that charcoal iron can be made in Canada as cheaply as in the United States; and it is contended that the present duty of \$4 per ton and bonus of \$1 per ton is sufficient in the way of tariff protection; and the only reason imaginable why the domestic supply does not meet the demands is that the continual threatening of the anti-tariff party to place pig iron on the free list if they should ever come into power, acts as a preventive to the investment of capital in that direction.

"You state that the importation of wrought scrap iron last year amounted to 107,176,160 pounds, valued at \$678,574, all of which was consumed in the manufacture of bar iron; and that the only wrought iron manufactured in Canada is made of scrap, a very large proportion of which is imported from Great Britain. There is something wrong here. The country was informed by Sir Charles Tupper a few years ago that the then proposed heavy increase in the iron duties would enable us to manufacture wrought iron from native pig within two years. Six years have passed and now your admission has to be made. The result is that the people of Canada are paying about \$11 per ton more for their bar iron than they should to a few rolling mills which are manufacturing their products from imported scrap, upon which they pay only \$2 per ton duty. They must enjoy a bonanza. Either the high duty on bar iron should be reduced, or the low duty on wrought scrap increased so as to force the rolling mills to puddle domestic pig." This opens the discussion in a new direction. We have already stated in this article that the Londonderry Iron Company manufacture bar iron from puddle pig; but the supply from this source is quite small as compared with the imports of the article. It is true that under the Tupper tariff the iron duties were considerably advanced; and while it is probable that these duties were not as accurately adjusted as subsequent experience has suggested, it is evident that the duty upon pig iron, was not made high enough to ensure the desired results. The duty upon bar iron was made high enough to ensure the establishment of the rolling mill industry, and consequently we have that industry; and by the same argument if the duty upon pig had been made sufficiently high we would to day have enough blast furnaces in operation to supply a very large portion of the current demand for pig iron and products of iron and steel, without the bestowment of the questionable bonus. Sir Charles Tupper's mistake was not in placing a high duty upon manufactured iron, but in not placing a high duty upon pig iron. In our opinion it was a mistake on the part of the Government to place a duty of only \$2 per ton upon wrought scrap, which is a higher and more advanced form of iron than pig or cast scrap, while the duty upon these latter forms is \$4 per ton. If the duty upon wrought scrap was the same as upon cast scrap and pig probably the demand for pig would induce the larger production of it in Canada.

Some of our correspondents seem to entertain the idea that the iron duties are abnormally high. We do not think so. We know that of the consumption of imported cast-iron in Canada



last year—87,613 tons—23,170 tons came from the United States. We would not have bought this American iron if it had not been as cheap as English iron; and we know that the process by which American iron became cheapened so as to successfully compete with English iron, was that developed under and by high protective duties. The United States never became a large producer of iron until the duty was raised from a revenue to a protective basis, and the great spring forward that country made in the development of the industry was when the duty was \$9 per ton. Up to that time England supplied the American market with nearly all the iron consumed there; and if the duty had not been placed at the prohibition point almost, that market would not have passed from the control of the English ironmasters. Under high protection the American pig iron industry has grown and expanded until that country is now a greater producer than England; and the fact that Canada consumes such large quantities of American iron is proof that the cost of production is almost as low as it is in England. If Canada is ever to have a firmly established and successful pig iron industry it must be under similar circumstances. Experience has proven to us that a duty of \$4 per ton is not high enough. Experience has shown us that this duty, reinforced by the bonus of \$1 per ton is not high enough. Experience has demonstrated that the continual threats of the anti-protectionists to reduce or remove the tariff, has prevented investments in blast furnaces. Seeing these mistakes it is the part of wisdom to correct them. This we can do by increasing the tariff to at least \$7 per ton, guaranteeing that should the duty be reduced below that amount within the next fifteen or twenty years, a bonus to equal the reduction should be paid. This would prevent tampering with the tariff and ensure a financial steadiness to the industry which would give it a wonderful impetus.

#### SAW LOGS.

THE United States Census Bureau have issued a careful and comprehensive report of the lumber and saw mill interests of the States of Michigan, Wisconsin and Minnesota, showing that the aggregate increase of mill products of these States, in 1890, as compared with those of 1880, to be 29.66 per cent. in quantity and 75.92 per cent. in value. The growth of the wood manufacturing interests in the decade was very rapid. In 1880 there was invested \$55,855,632 in this industry, while in 1890 it was \$223,386,607, an increase of \$157,530,975. The aggregate value of the products of the industry last year was divided as follows: Forest products, not manufactured at mill, \$30,426,194; mill products, \$115,699,004; re-manufactures, \$21,112,618. The production of this value required the employment of \$270,152,012 capital, the operation of machinery and appliances valued at \$23,558,334, and the removal of 1,262,151,180 cubic feet of merchantable timber from natural growth.

The report tells us that "in some localities in Michigan the supply of all kinds of timber has become practically exhausted, and a decreased production is noted"; and that "it is shown from returns of individual manufacturers that their present holdings of standing timber in this group of States are only

sufficient to supply them for about five years at the present rate of consumption." The total area of land held by the State of Wisconsin is reported at 671,633 acres. Most of this land is located in the northern counties, and about one-half is said to be timbered. The State of Minnesota reports ownership of 13,000,000 acres of timbered land, containing 20,000,000,000 feet of standing timber, mostly pine, valued at \$60,000,000.

Will the Canadian Government kindly take notice of one fact stated in this report of the American Government, that the present private holdings of standing timber in Michigan, Wisconsin and Minnesota are only sufficient to supply the demand for about five years. Dr. Spohn, ex-M.P., in his place in the House of Commons, showed that the removal of the export duty upon logs had resulted in the closing down of hundreds of saw mills in Ontario, and the transfer of hundreds of mill labourers to Michigan, where the Canadian logs were being rafted to be cut into lumber; and we showed in a recent issue the extent to which Canadian logs were being cut for that purpose.

In our opinion the policy of the Canadian Government in this matter is wrong. When an export duty was levied upon logs the saw mill interest of Canada fairly boomed. Mills went up in all directions, and all the associated trades shared the prosperity. The manufacturers of saw mill machinery, the builders of steam engines and boilers, the saw makers, the leather and rubber belt manufacturers, the general supply men—all were benefited by the export duty upon logs. Of course many Americans who owned timber limits on this side and saw mills on the other side did not like the arrangement, but they had to invest in saw mills in Canada just the same. Their money was invested here, and they gave employment to Canadian labor, and Canada had something more than the stumps from which the timber was felled to show for her forest wealth. When this condition became apparent to our neighbours they calculated that they could reverse it by bulldozing. They knew that large quantities of Canadian lumber were sold in their country. They did not buy it for any love they had for Canada, but because they needed it. They knew that their forests in Michigan, Wisconsin and Minnesota, from which for so many years they had been drawing their supplies, were being denuded, and that they could hold out but a very few years longer, and with their characteristic magnanimity they made up their minds that they would not only fortify their necessities by buying up Canadian limits, but also force the manufacture of the logs in American saw mills. They saw that the Canadian export duty on saw logs interfered with their plans, and so they tried the bulldozing scheme of forcing Canada to withdraw this duty by threatening to increase their import duty upon Canadian lumber. Of course they succeeded, for as soon as the threat was made our Government very humbly apologised for what they had done by removing the duty. This was the death knell of our saw mill industry, and a fearful blow to all the allied industries.

The Canadian Government at that time should have increased the export duty upon saw logs from \$1 per thousand feet to \$3, the figure at which the United States Government threatened to place the duty upon Canadian lumber unless our export duty were removed. Self respect and dignity should have suggested this, instead of a surrender and backdown. If

this had been done it would have entirely prevented the export of saw logs, and if the sawn lumber must be had, the American purchasers would have had to pay the increased American duty. Canadian pessimists would have contended that in doing this we would have been injuring ourselves for the sake of spiting our neighbours, but this could not have been so, for as we have shown by the authority of the United States Census Bureau, the supply of such timber in that country is almost exhausted, there not being enough in Michigan, Wisconsin and Minnesota to withstand the drain upon it more than five years.

The remedy for the predicament in which Canada's saw mill interests finds itself, at this time, through Yankee bulldozing and Canadian Governmental weakness, is to re-impose the export duty upon saw logs. Let the Government impose a duty of \$3 per thousand feet as long as the United States imposes an import duty of like amount upon Canadian lumber, to be reduced to \$1 when that country restores the status to what it was before the advent of the McKinley tariff. This would be American tactics which Canada would do well to imitate. Impose the duty.

#### GOOD ROADS AND HOW TO OBTAIN THEM.

ATTENTION has heretofore been directed in these pages to the lamentable condition prevailing in the State of Tennessee, where the coal miners and others are in open and warlike hostility to the employing of convicts in coal mining. The convicts are leased to the coal operators for a tithe of what they had been paying free labour, and the free miners, finding themselves ousted from their occupation, and themselves and their families brought to starvation thereby, obtaining no redress for their grievance in their appeals to the State Government, have placed the law at defiance and are, with a large force, liberating the convicts from the pens in which they are kept. The convicts find themselves at liberty to go where they please and to do as they please, but the free miners prevent their employment in coal mining.

This journal has always combatted the policy of employing convict labor in occupations in which free labour finds its living, particularly in mechanical trades. The plea for the employment of convicts in such trades is that they are thereby made self-supporting, or partly so, and that it would be cruel as well as unnecessarily expensive to keep them in idleness. We have urged that if convicts must be educated at the expense of the public, that education should be diversified as much as possible, and that it is quite as well to manufacture them into physicians, lawyers, doctors of divinity, civil and military engineers, etc., as into blacksmiths, masons, carpenters and machinists; but meanwhile and until we can influence the general adoption of this idea, we suggest that they be employed in road making. They could be profitably employed in this occupation about half the year. Every person in Canada is interested in having good roads, the farmer as well as those living in cities and towns.

We learn that the trustees of a University in the United States have directed certain of their professors to prepare plans for putting the roads in the University property in the best possible condition, using the most suitable and economical materials, and giving the preference where possible to such as

can be obtained in the immediate neighborhood, but keeping in view the thoroughness, permanency and economic construction of the roads. In doing this, besides improving the property of the University, it is intended to give the public an object lesson in the art of road building.

This is a subject which we commend to the wardens of our penitentiaries, to our public men, and to our farmers. There are, indeed, few things of more importance to the farmer. The ordinary road, which is generally little more than a strip of land, divested of vegetation and banked up in the middle, and laid out up hill and down, with little or no attention to the configuration of the country, is one of the greatest drawbacks to his business. Teaming over it taxes him heavily in horseflesh, wear and tear of waggons and labor, and anything that will lessen this tax will add to his income in proportionate degree. Even a short piece of really good highway road, particularly if in the vicinity of any populous town where fairs are held, which farmers attend in large numbers, showing in section the method of laying foundation, wearing surface, top-dressing, and providing for drainage, would go far towards educating the farmers to be road inspectors in their turn; and a prize for the best essay and directions for road building would undoubtedly bring out information which would be of the highest practical value. Heretofore the cost of building such roads has prevented their construction, but with an adequate supply of convict labour this difficulty would be removed. It is of the utmost importance to farmers to have roads over which they could haul loads of produce at the rate of six miles an hour, and to travel with a buggy or light wagon at a higher speed—roads that could be depended upon at all seasons and which do not every spring become a slough of despond, or become navigable for boats after a few days rain in the fall. A road is practically little better than its worst part, that is, that the hauling power of a team at that part is the measure of the load that can be taken. From this proposition two deductions arise, the first, that no road can be called a good one that has bad spots in it, however few and far between they may be; the second, that the grading of a road is of more importance than is generally imagined. However well a road may be constructed, a succession of hills, or even one steep hill forms the measure of the load that can be conveyed along it.

These what now seem to be ideal highway roads are practicable and possible when viewed in the light we offer. Let our prison convicts be employed in constructing them. We cannot imagine any class in the community who would object to thus employing them.

#### NICKEL.

In view of the fact that the Canadian Government might possibly be induced to place an export duty upon nickel ore, and matte, our American friends are endeavoring to organize a counter movement, by telling about the richness and abundance of the New Caledonia nickel deposits. The United States Consul in that island, reporting to his Government, says:

In New Caledonia in an area of 2,000,000 square kilometres the nickel-producing area is about 800,000 kilometres, and that of the 2,000,000 kilometres 80,000 kilometres have been granted to mining companies, and about 200,000 kilometres

are being actually worked. The composition of the nickel ore is hydrated silicate of nickel and magnesia, without any trace of arsenic. It contains from 8 to 10 per cent. of metal, some samples containing as much as 16 per cent. The value of the poorer ore at the ports of shipment is now £4 per ton. The mines are said to be inexhaustible. The exports of nickel ore last year from New Caledonia amounted to 5,000 tons. The exports, however, will increase, as orders have been received for large quantities, the Creusot Works, of France, alone ordering 100,000 tons.

In a recent issue the fact was noticed that Prof. Emmons, of Pennsylvania, had passed through Toronto on his way to Sudbury, to investigate the wealth of our Canadian nickel mines. He has accomplished his mission, and the Pittsburg papers say that his report is that the richness and extent of these mines have been over estimated—that the deposits are in pockets of undetermined size, and that there is much unsatisfactory uncertainty regarding the matter. On the other hand we have the evidence of the commission, sent to Sudbury by the Navy Department of the United States Government last year. Included in this commission were Commander Wm. M. Folger, and Lieutenant B. H. Buckingham, both of the United States Navy; and their report was made to Secretary Tracy, on October 14, 1890. This report was quite exhaustive, and explained very fully the extent and richness of the deposits which they had examined. A summary of their investigation showing that they had estimated that the ore above the surface of the ground in deposits seen by them, amounted to more than 652,000,000 tons. Speaking of the nickel lands, owned by the Canadian Copper Company, these gentlemen stated in their report: "We were fully convinced from the surface indication, and the borings and shafts already sunk, that the company have an amount of mineral which cannot be exhausted by this generation."

More than a year ago, according to this commission, more than 150,000 tons of nickel ore had been taken from the Sudbury mines, and we know that work has been carried on there ever since. This is in strong contrast with the shipment of 5,000 tons from the New Caledonia mines last year. The world's chief supply of nickel must come from Canada, no matter how interested parties may talk; and our opportunity of profiting by these riches lies in imposing an export duty upon nickel ore and matte.

#### EDITORIAL NOTES.

COME and see us in our new offices, Canada Life Building, Room 66. The latch string is always on the outside of the door.

THE Dominion Government have placed flax seed and degreas upon the free list until the end of the next ensuing session of Parliament.

MEMBERS of the Canadian Manufacturers' Association and all others who may have business with Mr. J. J. Cassidey, Secretary of the Association, will find him at the office of the Association, Room 66, Canada Life Building, King Street West.

It is said that the Dominion Government have decided to adopt a vigorous immigration policy. Agents will visit Kansas, the Dakotas, Nebraska, Minnesota, Wisconsin and Michigan, to induce farmers to locate in Manitoba and the North-West.

It is stated that about 2,600,000 dozen eggs have been shipped from Canada to Liverpool since the beginning of the year. This is a good showing, but it still falls far short of our former export to the United States. During the year ended June 30, 1890, we sent 12,825,735 dozen eggs across the border.—*Toronto Mail*.

Of course this is a good showing. Our egg trade with Great Britain is but in its infancy, and two million dozen in a year is a good beginning. Tall oaks from little acorns grow.

THE Customs Department of the Government may rest well assured that the Canadian Manufacturers' Association, and Canadian manufacturers generally, will sustain it in all its laudable endeavors to suppress the habit of undervaluing imported goods. They are vitally interested in such suppressions. As long as we have a policy by which duties are imposed upon imports from foreign countries, not only the Customs Department of the Government and the manufacturers are interested in seeing both the spirit and the letter of the tariff law enforced, but every honest man in the country also, including importers themselves. If dishonest importers violate the law honest importers suffer; and there can be no justice to any class if the injustice wrought by dishonest importers, by undervaluation, is allowed to continue.

HON. CARROLL D. WRIGHT, Commissioner of the United States Department of Labor, is preparing his sixth annual report, which will have reference to the cost of production of iron, steel, coal, coke and limestone. It will consist of three parts, which, when printed, will be bound in one volume. Part 1 will give cost of production; Part 2 will give statistics relative to wages and the efficiency of labor in the industries named; Part 3 will show cost of living of families where heads are employed in the industries named. Mr. Wright has favored us with copies of part 1 and 2 of this report, which possess much interest in that they prove that iron can be made to advantage in Canada. Those interested in this industry, and those contemplating engaging in it, can no doubt find much valuable and timely information in these reports. The information they contain was obtained, collated and classified at immense expense to the United States Government.

THE views expressed in these columns a day or two ago on the question of nickel steel for United States warships, are borne out by a Washington despatch, stating that the recent experiments have, in the eyes of the naval authorities, satisfactorily exhibited the superiority of nickel steel for armor plates. The navy department has accordingly given orders to the public contractors to use nickel steel for all armor needed in present contracts. All the armored vessels of the new United States navy, except two, will therefore have their armor of nickel steel. If the nickel used is obtained from Canada, as it probably is, it will not be the only matter in which our enterprising neighbors play second fiddle to Canada, and show their good sense in taking everything good they need, whether they get it from foreigners or not.—*Empire*.

It seems more like Canada playing second fiddle to the Yankees, for we allow them to come and take away our nickel ore and matte without restriction, virtually thanking them for doing so, instead of making them pay us something for it. But who ever heard of the *Empire* expressing an opinion as to whether an export duty should be imposed upon nickel ore and matte? On this subject it is as dumb as an oyster.

EIGHTEEN million five hundred thousand eggs have been shipped from Montreal to England since the opening of navigation. That kept a good many Canadian hens busy.—*Montreal Gazette*.

That sounds large—18,500,000 eggs—but it is very small compared with the 153,908,820 eggs shipped to the United States in 1889-90. We have no doubt, however, that the egg trade with Great Britain would grow to respectable dimensions if we had freer trade with that country. If we purchased more goods from England we would sell more of our products to her.—*Montreal Herald*.

Will the *Herald* please explain how "free trade" would enable us to sell more eggs to Great Britain? As it is we find there a profitable market for all we can send, and the demand is unlimited. We would like to know just what lines of goods, and in what quantities, it would be necessary for us to purchase from Britain to enable us to sell her more eggs than we have to sell.

THE policy of the Grit party seems to be jam factories. Our esteemed local contemporary the *Times* used to shout for cheap sugar, that the Niagara fruit district might break out into an eruption of jam factories. And now our esteemed fellowtownsman, the Earl of Aberdeen, is to start a jam factory in British Columbia. It is unfortunate that our esteemed local contemporary's theory doesn't work. For where sugar is cheap and fruit is cheap, in the Niagara district, no jam factory has made its appearance, while one is about to be started in British Columbia, where sugar is dearer than anywhere else in Canada. The jam maker is generally more influenced by the price of turnips than the price of sugar.—*Hamilton Spectator*.

Unfortunately no diagram accompanied this brilliant item to show where the joke comes in about the turnips. The Earl of Aberdeen probably sees his way clear to manufacture jam on the Pacific Coast, and no doubt he would make it a greater success if he could get his sugar as cheap as he would if the Montreal refiners did not have such a pull at Ottawa. But a long as things remain as they are the price of turnips will be considerably cheaper than the price of sugar.

FROM a recent report of the United States Consul in New Caledonia, it appears that in an area of 2,000,000 square kilometres the nickel-producing area is about 800,000; that of this 80,000 kilometres have been granted to mining companies and that about 20,000 kilometres are being actually worked. The composition of the nickel ore is hydrated silicate of nickel and magnesia, without any trace of arsenic. It contains from 8 to 10 per cent. of metal, some samples containing as much as 16 per cent. The value of the poorer ore at ports of shipment is now £4 per ton. The mines are said to be inexhaustible. The exports of ore last year from New Caledonia were: Nickel ore, 5,000 tons; chromate of iron, 1,500; cobalt, 700; gold quartz, 210; and small quantities of nickel, silver, lead and copper. These exports, however, will increase, as orders have been received for large quantities, the Creusot works alone ordering 100,000 tons of nickel ore. Foundries and furnaces are being erected near Noumea for the treatment of the ore.—*Canadian Mining Review*.

"The exports of nickel ore last year from New Caledonia were 5,000 tons; the mines are said to be inexhaustible." New Caledonia is a long distance from France, and with an export of only 5,000 tons per year the Creusot works will be a long time in obtaining its 100,000 tons—from there. The world's supply of nickel lies at Sudbury, Canada. Our respected con-

temporary some months ago published a statement showing that over 650,000,000 tons of nickel ore was to be seen above the surface of the ground there. But this richness will never be of material benefit to Canada unless an export duty be levied upon the ore and matte. Impose the duty.

THE *Montreal Herald* holds itself up as a paragon of purity, and it is constantly prating about the injustice practised in the enforcement of the customs laws. In a recent case it spoke of the customs officials as being "sleuth hounds" and "plunderers," and this because the officials had seized goods which had been fraudulently undervalued to escape the payment of full duty. Its idea evidently was that it was making itself solid with importers. But it seems to forget the fact that although some importers may be opposed to the tariff, yet as good citizens and honest men they desire to see the laws faithfully and honestly enforced, and that they would scorn to defraud the Government in any way. Therefore the *Herald* cannot possibly be raised in the estimation of honest importers when it applies opprobrious epithets to officers because they faithfully discharge their duty. The inference is, then, that the *Herald* in its blackguardism and abuse of faithful officers, aims to gain the applause of dishonest men who have been detected in their efforts to defraud the Government, rather than that of the honest merchant, the manufacturer and the Canadian consumer of such goods.

THE following is an excerpt of the *Globe's* report of the speeches made at the launching of the Dominion gunboat *Constance* last week:—

G. R. R. Cockburn, M.P., said that he was profoundly ignorant on the subject of fishing cruisers, and his parliamentary experience had taught him that the less a man knew on a subject the more ably he could speak on it. The fishing product of the Dominion, he said, amounted to \$30,000,000 a year, and while protecting that industry we should try to assist those engaged in the building of vessels. There was \$10,000 paid in duty on the material used in building the cruiser, and the vessel itself could be brought from Liverpool or Glasgow without paying one cent of duty. But he thought we should be cautious in the matter, as last year, for the first time, more than half of the foreign freight of Canada was carried in ships of foreign bottoms. It also occurred to the speaker that the United States had succeeded in killing off her merchant marine.

Just what ideas Mr. Cockburn meant to convey in making these remarks we do not know. He did not explain how our shipbuilders should be assisted—whether by excluding British vessels from participation in our inland maritime trade; by placing protective duties upon all shipbuilding materials, thus forcing the manufacture of them in Canada, or by placing all shipbuilding materials upon the free list. He should have been more explicit. Perhaps he has no views in this matter, and that he spoke truly when he jestingly said that "the less a man knows on a subject the more ably he could speak on it." We really think Mr. Cockburn to be an able speaker.

IN a recent issue we stated that Prof. Emmons of Pennsylvania, had passed through Toronto on his way to Sudbury, to examine the nickel mines in that region. About a week after this learned expert passed through this city on that mission, he again passed through it on his way back home. This was

pretty quick work for a learned expert to explore and investigate so large a region, containing so many known deposits of mineral. But the Prof. seems to have been equal to the emergency. He is also equal to the emergency of making a report of his investigations, and doing it in about as short time as he spent in Sudbury. But then, according to American exchanges, there was but little to report, simply because there was but very little nickel ore in the region. We are told that it is the unqualified judgment of Prof. Emmons that the quantity and quality of the deposits have been very much exaggerated. The ore is not in veins or fissures, but in pockets, which may contain from 10 to 10,000 tons, but there is no certainty of the finds, and the owner of a find is not certain of a good output. Too bad. And then it was only a year ago that Commodore Folger, of the United States Navy, who was sent by the American Government to investigate the matter, made a formal report in which he estimated that there were over 652,000,000 tons of nickel ore there above the surface of the ground in deposits seen by him. At that time more than 150,000 tons of this ore had been taken from the mines. We hope for the sake of the United States navy that Professor Emmons will not entirely obliterate our nickel mines. The nickel mines of New Caledonia have never been large producers, the estimate for the current year—much larger than ever before—being placed at 5,000 tons. It seems as though Prof. Emmons had hired himself out to the bear side of a speculation.

We have frequently adverted to the injudicious extent of the protection granted to the sugar-refining industry in the United States, and still more notably that in our own Dominion. Some of the members of the House of Commons, who are personally interested in the maintenance of the present high rate of duty on refined sugar, disputed the correctness of our position and charged us with ignorance on the subject. Our position was this, that the United States tariff of 50 cents per 100 pounds upon refined sugar afforded the refiners a higher protection than was necessary to their reasonable prosperity, and enabled them to charge consumers a higher price for their sugar than they ought to obtain. In proof of our contention we showed that American refiners had been exporting large quantities of refined sugar to Great Britain, which they were selling there, after paying freight, insurance, landing charges and commission at much lower prices than the wholesale prices in New York and Philadelphia. The statistics of the trade, since the discussion in Parliament, fully sustain the position we then took. During the nine months ending September 30, 1891, Great Britain imported from the United States refined sugar of the value of £446,816, as compared with £204,805 during the same period in 1890. The price of American granulated sugar in London during the last six months has ranged from 16s. 3d. to 17s. 6d. per 112 pounds. Taking the highest quotation, 17s. 6d. per 112 pounds, this is equal to \$3.75 per 100 pounds. The average wholesale price in New York and Philadelphia during the same time has been fully \$4.50 per 100 pounds; making a difference in favor of the English as compared with the American consumer, of 75 cents per 100 pounds. Is this fair to the consumers of the United States? Does not the fact that American refiners are able to sell their products in

London in open competition with British and French and German refined sugars prove that the sugar-refining industry in the United States does not require so much protection? If 50 cents per 100 pounds on refined sugars is unnecessarily high protection for American refiners, is not 80 cents per 100 pounds still more inordinate protection for Canadian refiners?

THE *Toronto Globe* calls attention to the fact that in the last election the Government obtained its majorities in those sections 'within the sound of protected manufactures,' and this it interprets to mean that the electorate "demand a change in the tariff." It tells us that if the tariff were "modified" it would deprive the manufacturers of their "power," thereby enabling the advocates of unrestricted reciprocity to capture the Government and effect their ends. In one breath the *Globe* refers to the manufacturers as being only a "handful" and that their interests should, therefore, be destroyed, and in another breath it tells us that this "handful" are able to control and do control the destinies of the country. And so they do, and why not? As voters they are but a "handful" as the *Globe* suggests, though a pretty big handful they are; but it is not this handful of votes which controls the elections—it is the votes of the thousands of men who are in their employ, who understand that tariff protection means bread and meat, clothing and shelter for them and their families; and it is the votes of the thousands of farmers, whose produce feeds these working men and their families, which always on election days sustains the N.P. Therefore these voters want no modification of the tariff which would deprive the manufacturers of their "power" to give them employment. The men who desire this change are the politicians who would gladly sacrifice their country's best interest for the sake of obtaining office, power and plunder. They are the ones who see nothing good in Canada. Their sky is always cloudy and lowering. They are the hopeless and helpless ones whom it would be well for the earth to open and swallow.

MR. ANDREW CARNEGIE has arrived in England, and has been welcomed by Mr. John Morley, a Liberal and a free trader. Mr Carnegie has some ideas which may afford his friends food for profitable reflection. In an interview he has already stated to all whom it may concern in Britain, "The McKinley bill is working magnificently, and will work better and better as time goes on. I can say this impartially, because the bill has really lowered duties in my line of work. Already a prominent British firm has begun to send over the materials for locomotives. One important effect of the law is that it is driving British manufacturers into the United States. Several have sent over representatives to establish plants. The great woollen manufacturers of Leeds Bradford, and other important centres will be forced to erect works in America."—*Toronto Empire*.

It is funny that the *Empire* should be publishing this evidence of the success of the McKinley tariff in transferring British manufacturing industries to the United States, when it has so many harsh criticisms to make regarding that measure. But Canada could do in many things just what the United States is doing, if we adopted the spirit if not the letter of the McKinley tariff. As we have shown elsewhere, in the matter of manufactures of iron and steel we import more from the United States than we do from Britain, although

one country represents the acme of protection, and the other free trade. The McKinley tariff very pointedly discriminates in many particulars against Canadian products, and if we were to adopt the McKinley tariff in many particulars—as against the United States, of course—the results would be a transfer of many American manufacturing industries to Canadian soil, at the same time largely increasing our trade with Britain. We would find then that such a tariff would work magnificently for us, and that, as time goes on it would work better and better, as the McKinley tariff does for our neighbors.

ABOUT eighteen months ago the Franciscans, a mendicant order of monks, bought a private estate in Montreal valued at \$50,000, and now they are claiming to have it exempt from taxation. Speaking of this *La Patrie*, a French Catholic paper of that city says:—

It is high time that a stop should be put to this exemption of real estate the moment it goes into the hands of religious communities. The more the number of the latter increases the higher the rate of taxation on other properties as a natural consequence. Neither does there seem to be any necessity that religious orders should get hold of the property in our best streets. We are not at all astonished that the Protestant population in our city protest against the exemption from taxes enjoyed by the real estate of religious communities. History shows that in all the countries where the clergy lost their property and met with persecution, the thing only occurred after they had abused the privileges granted them, and there is no reason to hope that the same causes will not produce the same effect in Canada. It is good advice to the clergy that they must place a limit upon their inclination for real estate.

One of the greatest obstacles to the property of the manufacturing industries of Canada, is the taxes imposed upon plants and property. There is no city on the American continent, better adapted for manufacturing industries than Toronto, and yet we constantly see such industries being removed to other localities, and but very few new ones being established, simply because they are taxed to death. Some twenty millions of dollars worth of real estate in Toronto, is exempt from taxation, including churches, universities, etc., which are luxuries for the rich which they can well afford to pay for, but do not; but let a manufacturer put his money into a factory and plant of machinery, by which employment will be given to hundreds of people, and forthwith he is taxed beyond endurance. And it is so all over Canada. Congregations of rich men may invest large wealth in fine churches with tall spires, and although the property has the advantage of paved streets, gas, water, police and fire protection, etc., it does not pay a cent of taxes. But if a poor shoemaker starts a cobbler's shop within the shadow of any of these stately churches, by which he hopes to obtain a living, the tax assessor marks him for his own. To this evil condition is to be ascribed the fever heretofore so prevalent for bonusing industries as an inducement to locate. Manufacturers as a class are not paupers that they should ask for bonuses, but they feel that inasmuch as they are punished by law for investing their money in workshops and factories, they are privileged to recoup themselves when opportunity offers, by accepting bonuses. If all real estate bore its just proportion of taxation, and if men were not punished for investing their money in factory buildings, there would be no bonusing crase.

Workshops and factories are of no less value in the community, than churches and universities. One are places where industrious working people earn their living—the other are luxuries for the rich. The source of the working man's living is taxed—that of the rich man's pleasure is untaxed.

A FEW days ago the *Toronto Empire* published this telegram from Kingston:—"Robertson & Son dropping out of the combine has caused the price of sugar to fall one-eighth of a cent. The price of sugar to Robertson & Son was raised last week by the refineries." Which means that by this firm dropping out of the wholesale grocer's guild the consumers in Kingston are able to buy sugar cheaper than before. But why should the refiners raise the price of sugar to Robertson & Son and not to the entire guild? Evidently these gentlemen were under the impression that when they bought sugar and paid their money for it, they had a right to sell it at any price they pleased; but it is equally evident that the guild and the refiners will allow no such privilege. Not much. The refiners stipulate the price at which the wholesale grocers may sell sugar, and the guild will not allow a member to cut prices. If the price is cut, out goes the member; and if he can get any sugar at all from the refiners it is at an advanced price. Canada has no experience with any other such tyrannical combine as the sugar refiners and the wholesale grocer's guild. Perhaps these latter are in no condition to help themselves, for they must do just what the refiners say. The refiners are the masters of the situation, and this by the grace and goodness of the Canadian Government. Their industry is protected by the tariff, as it should be, but the National Policy never contemplated giving them the power to be the tyrants they are. We are accustomed to viewing the McKinley tariff as the acme of protection, but that measure gives American refiners but \$10.00 per ton duty on sugar, while the Canadian tariff gives Canadian refiners \$16.00 per ton. And Canadian consumers are the sufferers. If our duty was no higher than the American duty, the wholesale grocers could protect themselves from the extortion of Canadian refiners by importing German or English sugar. As we have before shown, the Canadian Government in placing a duty of \$16.00 per ton on refined sugar, besides giving Canadian refiners as much protection as American refiners, gives them, in addition thereto, the absolute power to squeeze and extort \$6.00 per ton on all the sugar they can produce out of Canadian consumers. Do such government newspapers as the *Toronto Empire*, *Montreal Gazette*, *Ottawa Citizen* or *Hamilton Spectator* denounce this condition of things, protesting against it in the interest of the people of Canada? No, indeed. Why? Ah, that is what no man may know. The tyranny of the sugar refiners is only equalled by their influence with the Government to prevent the people obtaining cheap sugar.

IN the November 6th issue of this journal we published a letter from a correspondent in which he inquired why this journal so continually advocated increased protection for pig iron. We endeavoured to explain our views on that question, going over the ground quite fully, showing the quantities and values of pig iron and iron products imported into the country, and that with a properly established pig iron industry in Canada



the demand for the article would amount to probably 300 000 tons. Our correspondent is not entirely satisfied with what we said, and again writes us on the subject. He says that our facts and deductions do not give the proof of the inability of a modern well equipped furnace to pay a handsome profit on the investment on account of the cost of production approximating so closely to the import price plus the present duty, his impression being that there is a profit of \$8 per ton beside the bounty on the product of any desirably located furnace in Ontario. As we have stated, the domestic production of pig iron in 1890 amounted to 25,921 tons, and the importations to 87,613 tons, while the total consumption of iron and manufactures of iron in Canada in that year amounted to over 600,000 tons. We know that pig iron made in Canada is as valuable as any made anywhere else in the world, and that it can be made at comparatively small cost; and our correspondent expresses the opinion that there is under our present duty, a margin of about \$8 per ton for any who would embark in the business. If this is a fact, it is more than strange that the furnaces do not appear; for a net profit of \$400 per day upon the cost of a 50 ton furnace ought to induce the erection of many such. There can be but one of two reasons given for the non appearance of the industry—our correspondent must be mistaken in his estimate of the profit of manufacture, which he places at \$8 per ton, showing that a higher duty is required, or that capital, proverbially timid, is afraid that the continual warfare made upon the tariff may finally effect its destruction. This latter is possibly the true cause. But whatever the cause may be we find ourselves deficient of iron furnaces; and the best thing that the Government could do, in our opinion, is to increase the duty upon pig iron to say \$7 per ton, withdraw the bounty, and guarantee that the duty should not be changed for a term of twenty years. This would give the necessary confidence to capital and induce the establishment of furnaces sufficient to meet the domestic demand. The price of the article would be regulated by the inexorable commercial law of supply and demand. What the industry requires is a protective duty guaranteed for twenty years.

## SPECIAL ADVERTISEMENTS.

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

"TRIUMPH OF THE AGE." Attention is called to the advertisement of The Eno Steam Generator Company, Limited, on page 323 of this issue. This Generator is being adopted by the leading manufacturers in Canada and the United States. Every steam user should investigate its merits.

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

THE HEESON IMPROVED SHAKING FURNACE GRATE has no equal for all kinds of furnaces, round or square, boilers heating

furnaces, ovens and stoves. It is the only grate that will clean fires without opening fire doors. It is the strongest bar known, having the most air space, thus securing better combustion. These bars are saving more fuel and generating more steam and will last longer than any other bars on the market. Ten per cent. saving in fuel guaranteed or no sale. References on application. HEESON GRATE BAR CO., 38 King St. East, Toronto.

FOR SALE, A VALUABLE CANADIAN PATENT.—The Trenholm Improved Perpetual Hay Press, patented 1882, has been manufactured in New Brunswick for nine years, and stands without a rival in the Maritime Provinces. As it has not been introduced in the Upper Provinces, the purchaser can, if he manufactures there, get practically a complete control of the business in Canada, as this machine is cheaper, stronger, easier running and more durable than any other Press of its class, and is well protected by patent. Full investigation invited. Terms easy. Write for particulars to A. J. TRENHOLM, Sussex, N.B.

THE publishers of the *Dominion Illustrated* showed last year in their magnificent Christmas Number that Canada can produce artistic and literary work in this line to compare favorably with the best English and American. This year's Christmas number of that journal will far surpass that of last. And it will be Canadian all through. Don't fail to secure it. The Sabiston Lithograph & Publishing Co., Montreal.

THE announcements of *The Youth's Companion* for 1892, which we have received, seem to touch about all healthy tastes. It fiction embraces folk-lore, serial, sea, adventure and holiday stories. Frank Stockton, Clark Russell, Will Allen Dromgoole, Mary Catherine Lee are a few of the distinguished story-writers. Its general articles cover a wide range. "Self-Education," "Business Success," "College Success," "Girls Who Think They Can Write," "Natural History," "Railway Life," "Boys and Girls at the World's Fair," "Glimpses of Royalty," "How to See Great Cities," "Practical Advice," are some of the lines to be written on by eminent specialists. Gladstone, De Lesseps, Vasili Verestchagin, Cyrus W. Field, Andrew Carnegie, Mrs. Henry M. Stanley, are among the contributors. *The Companion* readers thus come into personal touch with the people whose greatness make our age famous. Its 500,000 subscribers show how it is appreciated. Whoever subscribes now for 1892 gets it free from the time the subscription is received till Jan. 1, 1892. \$1.75 a year. Address, *The Youth's Companion*, Boston, Mass.

THE forthcoming December *Popular Science Monthly* will evidently be a most enjoyable and instructive number. Its *menu* will contain a very attractive account of "The Rise of the Pottery Industry," by Edwin A. Barber. It will be illustrated with figures of early American ware, the apparatus used in making it, etc. This is the tenth article in the *Monthly's* illustrated series on American industries. Volcanoes in Connecticut are what very few persons would expect to find, but Prof. W. M. Davis has found a place near Meriden where they have been, and will describe his discoveries in a fully illustrated article. The fourth and last of Prof. Frederick Starr's papers on "Dress and Adornment" will appear. It deals with "Religious Dress," including the dress of religious officers of worshippers, of victims, of mourners, amulets and charms, and the religious meaning of mutilations. It will be copiously illustrated. An invention that bids fair to work a revolution in printing, namely, "Type-casting Machines," will be described by P. D. Ross. A cut of each of the two forms will be given. These machines are used by several of the largest newspapers in the United States, and have been ordered for a number of others.

A NEW and attractive feature appears in the *Illustrated American* for the week ending November 21, 1891. It is the famous poem by Lord Tennyson, "Lady Clara Vere de Vere," fully illustrated throughout with capital comic pen and ink sketches by S. B. Griffin. It is most amusing and a decided attraction to this wonderful paper. The leading article for the week is a beautifully illustrated article on the defences of the Golden Gate, by Lieuten-



ant Alvin H. Sydenham, while the recent earthquake in Japan, geographically told and illustrated, is another admirable story. A description of the scenes at the Brooklyn Navy Yard in the preparation of the war ships for sea is fully illustrated, and the usual "Beauty of Bygone Days" is given. If you are desirous of seeing the photographs and reading about the late Mgr. Preston and the life of Professor Virchow, read the *Illustrated American* for this week. The accounts of both are interesting. A page and a half of personals on prominent people is also a feature. A pen and ink sketch of W. J. Florence in the "Heir at Law" looks out upon you as the frontispiece, while the gallery of players is represented by Miss Marie Burroughs. The story this week is "The Heiress of Proctor's Lane."

A VERY good idea of the amount of money it costs to successfully conduct one of the magazines of to-day is aptly illustrated in some figures regarding the editorial cost of *The Ladies' Home Journal*, of this city, says the *Philadelphia Public Ledger*. The *Journal* is edited by Mr. Edward Bok. For shaping the thoughts of his 750,000 women readers each month Mr. Bok is paid \$10,000 per year, and has an interest in the business besides which nets him fully twice his salary. He has a staff of sixteen salaried editors, which includes men and women like Rev. Dr. Talmage, Robert J. Burdette, Palmer Cox, Margaret Bottome, Isabel Mallon and Maria Parloa. The combined salaries of these editors exceed \$20,000 a year. The *Journal* spends each month \$2,000, or about \$25,000 per year, on miscellaneous matter not contributed by its regular editors, and the working force in the editorial department means at least \$6,000 more in salaries, making over \$60,000 a year, and this represents but a single department of the magazine; and I question whether any periodical is conducted on a more business-like and economical basis than is the *Journal*. No wonder that J. B. Lippincott, when asked by a friend why he did not keep a yacht, replied: "A man can only sustain one luxury—I publish a magazine!"

MESSEURS. FETHERSTONHAUGH & Co., patent barristers, solicitors and experts, Toronto, have sent us a circular having reference to their business. In this progressive age the fever for inventing things is liable to break out in any direction, and there are none who are entirely exempt from contracting it. Of course the first thing an inventor does, or should do when he thinks he has tumbled to a good thing which should be worth a fortune to him, is to find out if it is really patentable. If it is not, it is not worth his while interesting himself any more about it. If it is patentable, why of course he wants to obtain letters patent for it in Canada, United States, Great Britain, France, Germany and all the isles of the sea, but particularly and firstly in Canada. A man may be a wonderful inventor, but it does not necessarily follow that he has any knowledge whatever about obtaining patents, and if he is wise he will immediately make his way to the office of a competent and reliable patent attorney and entrust to him the legal and technical part of the business. He should do this because mistakes are often fatal, and he should do it quickly, because delays are always dangerous. Some other fellow, you know, may happen to catch on to the idea and slip in ahead of the original and right man. Messrs. Fetherstonhaugh & Co. are the sort of patent attorneys inventors should apply to.

MESSEURS. D. LOTHROP COMPANY, Boston, have sent us their prospectus for 1892 of their excellent magazine, *Wide Awake*, mention of which is made so frequently in these pages. Since its recent enlargement *Wide Awake* always contains 100 pages, and as it is published every month it is seen that for the subscription price—only \$2.40 a year—not less than 1,200 pages of most delightful reading matter are given. When this fact is considered, and that this reading matter is of just the proper and most desirable character for those for whom it is intended, one can comprehend that no greater value for the money could possibly be had. Certainly if one should go into a bookstore to invest \$2.40 in a book to be presented to a girl or boy it would not be expected to obtain for that money more than a couple of hundred pages of reading matter; but *Wide Awake* for a year will present six times as much, a desirable and important feature of it being that its visits are made every month, and before the novelty of one number ceases a new pleasure comes with a new number. The literary menu promised to be set before the readers of *Wide Awake* the coming year is of rich and varied character, made so by such eminent writers as John Mead Howells, son of W. D. Howells; Robert Beverley Hale, son of Edward Everett Hale; Lieut.-Col. Thorudike; Mrs. Harriet Maxwell Converse, Mrs. Maria McIntosh Cox, Kate Upson Clark, Capt. C. A. Curtis, U.S.A.; Mrs. Jessie Benton Fremont, Margaret Sidney, author of the delightful series of "Five Little

Peppers" papers, and many others. Our many readers will undoubtedly appreciate the information we here give them regarding the latest and best in juvenile literature.

## FUEL GAS.

THE public will hope that Mr. Littlehales is correct in thinking that he can continue the distillation of coal until all the carbon contained in it is converted into inflammable gas. If we burn coal in a grate or a stove or a furnace, the process of distillation, and the combustion of the liberated gases, go on until nothing but ash and mineral residue are left. When the coal is distilled in a closed retort for gas-making it has not been found economically profitable to conduct the process further than the extraction of a sixth, or at most a fifth, of the carbon in the coal. Good gas coal contains about 1,836 pounds of carbon to the long ton of 2,240 pounds. Of this the gas companies convert from 300 to 400 pounds into gas. The rest is not waste, since the remaining coke makes very good fuel, and the tar, ammonia and other by products are valuable. But it is evident that if 1,800 pounds of gas can be extracted instead of 300 or 400, or say 50,000 feet instead of 10,000 from a ton of coal, the increased value of the gas will be out of all proportion greater than the value of the coke which will be destroyed. If the 1,400 or 1,500 pounds of coke are worth \$3, the 40,000 additional feet of gas made will cost no more than 7½ cents per 1,000 feet, less the cost of the fuel needed for the continuance of distillation and the additional incidental charges for continuing the process. It should be remembered also that the gas which remains in the coal has much greater heating power than the more volatile portions which are now utilized, though the latter possess greater lighting power.

If Mr. Littlehales' expectations be realized, we shall certainly have fuel gas at a price which will drive coal and wood from use for domestic purposes. Even at \$1 per 1,000 feet, gas is coming into use for cooking purposes. Many citizens have testified that it not only saves trouble, but costs no more than coal. Now, if the gas could be supplied at twenty-five or thirty cents per 1,000 feet, it would come into general use for all domestic purposes. It is not necessary to show that 20,000 feet of gas will, when burned, give out as much heat as a ton of coal. But it is evident that gas can be much more economically used than coal. More perfect combustion can be secured, and the heat obtained from its combustion can be created where needed to greater advantage than can be done with coal. Under the most favorable circumstances the gases in coal are only partially consumed; some of the coal itself is carried out with the ashes as cinders. A large part of the heat created goes up the chimney, where it does no good, or escapes into the cellar, where it does harm, and in variable weather the fire must often continue to burn when it is not needed. If gas be used it can be burned in each room where needed and as needed. The chimney openings can be reduced so as to leave room only for the draft required to produce perfect combustion; and when the fire is not needed it can be stopped in a moment. The convenience of gas can hardly be overstated. No fires are to be made, no ashes to be carried out, and no dust is made. With gas for cooking and heating the most disagreeable part of domestic work will be done away with, and housekeepers will find it much more easy to get and to keep good domestic servants than at present.—*Hamilton Spectator*.

## AN IMPORTANT JUDICIAL RULING.

THE Supreme Court of Pennsylvania has recently given judgment in a case involving a point of law of vital importance to trade unions, and as the decision is one adverse to their interests it is certain to arouse a protest from workmen of strong unionist sympathies all over the land. The question before the court was one involving the Cigarmakers' International Union of Ephratah, in the State above named. It appears that the union some time ago restrained a certain cigarmaker from using the union label upon goods of which he was the manufacturer. The County Court sustained the action of the union, and the aggrieved cigar dealer took his case to the Supreme Court, which has just reversed the decision of the lower court on the ground that "the union is a personal and social organization and not a commercial one, and under the law of Congress cannot own a trade-mark." The language used by the court is particularly direct and incisive. Judge Williams, who delivered the decision, lays down the law in regard to the rights of workmen unaffiliated with unions in language severe and scathing.

He says: "This is an attempt to use the public as a means of coercion in order to find a market for goods or labor. Filthiness and criminality of character depend on conduct, not on membership of a union. Legitimate competition rests on superiority of workmanship and business methods, not on the use of vulgar epithets and personal denunciations. The International Union in this case has an avowed purpose to do harm to non-union men, to prevent the sale of their work, to cover them with opprobrium, and asks a court of equity to say they have a right to do it. We decline to say so."

This decision strikes trade unionism in its most vital spot, for, as is well known, the "boycotting" tactics of organized labor comprehend no weapon so effective as the label which is attached to the manufactures turned out of union shops and upon which the labor organizations rely to distinguish their product from the work of non-unionist, or, as the union devotees term them, "rat" workmen.

As to whether this decision of the Pennsylvania court is founded upon justice we do not think there can be two opinions. That a workman in any line of industry should be stigmatized by opprobrious epithets and denounced in the strongest terms to be found in the vocabulary, for the sole reason that, according to his view—a mistaken one it may be—he is serving his own interests best by remaining outside of the union to which many of his fellows own allegiance, is a condition of things which can be justified by no possible argument. It is in the clearest sense libellous, and we question very much whether if an individual issue were made of a case of the kind an action for damages would not lie against the union guilty of circulating these damaging and offensive allegations. We have nothing to say against the purposes of organized labor when the aims which workingmen's organizations have in view are sought to be achieved in a rational and civilized way. The individual who denies the utility of such guilds or who questions whether they have assisted labor's cause is simply purblind. We, however, do most strongly condemn the methods which some of these bodies employ to gain their ends. The vilification of independent workmen who do not see things through the spectacles of the enthusiastic union advocates is one of these practices. The judge who has defined the limits of this abuse has performed a service which will be appreciated by every lover of individual liberty of action, and deserves the thanks of every fair-minded citizen in the land.—*American Artisan*.

### ELECTRIC TRACTION.

No branch of the great electric industries has progressed with such rapid and gigantic strides as electric traction. Four years ago the electric car was struggling for recognition as a commercial possibility; a year later it was a pronounced commercial success; today about one-half of the capital invested in the street railways of this country is employed in the operation of roads employing electric motive power. Within these few years numerous competing systems of electric traction have sprung up, and a vast amount of ingenuity and patient effort has been expended on the improvement of motors, gearing, generators, systems of conductors and feeders, accumulators, underground conduits, and all the numerous units which combine together to move passengers from place to place by means of the subtle influence of the electric current.

The single trolley system of electric traction has held its own way by reason of its economy and simplicity, against all rivals, but the inevitable law of survival of the fittest, promises, before very long, to cause the relegation of the single trolley to the background. It is true that the single trolley gives excellent results in some towns and cities, where it is well received and welcomed in spite of difficulties with the telephone, but for great cities and crowded streets the overhead trolley system is emphatically not the thing. There is no more probable field for electric traction than great cities, but the field will not be thrown open until either a thoroughly satisfactory underground conduit system has been produced, or the storage battery emerges financially triumphant from the long period of repression which wearisome legislation has imposed upon it. With regard to underground conduit methods, we cannot help thinking that our electric engineers are somewhat backward in this respect; the problem is surrounded by many difficulties, it is true, but these difficulties have been successfully overcome abroad, and there is no reason why the same results should not be achieved here.

We sometimes think that the will, rather than the way, is absent, and that as long as the overhead trolley is accepted by the public, no serious effort will be made to produce a satisfactory underground conduit system.

Of the storage battery great hopes may reasonably be conceived and a bright future seems to await it. There is no doubt, as we have frequently said, that the storage battery car provides the ideal system of electric surface traction for cities. Each car is self-contained and absolutely independent, and no break-down of an ordinary nature can effect more than one car at a time. In fact, storage battery cars are simply horse cars without the horses, with the additional advantage they are more easily controlled and more slightly. If the storage battery can be made to compete financially with animal power, in a very few years horses will be entirely freed from the bondage of the surface car in all our great cities. According to the views of those interested in storage battery traction, this devoutly-to-be-wished-for consummation is now in a fair way to be realized.

No less halcyon a future can be foreseen for the electric motor in competition with the steam locomotive for heavy passenger traffic. Despite the scoffing of carping spirits, ignorant of the achievements of electric engineering and too prejudiced to learn, there can be no doubt that the electric motor is fully capable of taking care of the fast passenger traffic of a great city, and providing efficient rapid transit for suffering multitudes. The working of the underground electric railway of London has proved this beyond a doubt, and in this line of work a new and vastly important field has been opened up for the electric motor.

It would be idle to attempt to prophesy at this time what the future achievements of the electric motor for traction purposes may be. The foregoing brief review of the present situation, although but a mere sketch of what really has been and is being done, affords abundant evidence that the progress made within the short period during which electric traction has been a prominent factor in the electrical industries has been accomplished with surprising energy and rapidity. If progress be made at a similar rate during the next five years, we shall have some very satisfactory facts to chronicle during that time.—*Electrical Review*.

### A TRUE GRIT.

"BEFORE we knock the barrel out from under you," said the leader of the band of Arizona regulators, "we'll give you a chance to say a few words."

"What's the use?" replied the man with the rope around his neck. "You wouldn't listen to me."

"We'll listen for just five minutes," rejoined the chief, pulling out his watch, "if you want to shoot off your mouth. If not, up you go."

The condemned wretch looked with dogged, sullen hate at the crowd before him.

"It won't do any good that I know of," he said, "for me to make any remarks, and it won't help me any, I reckon, to kick against these proceedings. It's nothing more than I expected anyhow. I'm used to being knocked around, and I'm used to seeing everybody else knocked around. Your turn will come some day. You ain't a bit better than I am. The whole country is going to the devil as fast as it can go. Been going to the devil for years and years. There ain't any chance for a man to amount to anything here, and it's not worth while for him to try. Every man's doing what he can to down every other man, and it doesn't make much difference which comes out on top. The fellows that get on top generally stay there, and the poor devils that are under can squirm and squirm and it won't do them any good. They've got to stay there and—"

"Fellers," said the leader of the band, much mortified, "we've made a mistake. 'We've got one of those darned Grit calamity howlers from Canada. He ain't worth hangin'!"

And they walked away and left him standing on the barrel.

### IMPROVED SUGAR MACHINERY.

THE New Orleans *Times-Democrat* speaks of the effect of the new sugar bounties in concentrating the sugar industry in Louisiana in a comparatively few establishments and introducing improved machinery.

There has been a steady improvement in the machinery used for some time, and an immense amount of money has been expended for it in the way of triple rollers, centrifugals, diffusion batteries, etc. A natural consequence of this system, and the great expense thus forced on the planters has been to require a very large capital to carry on the business, so that the plantations are growing larger in

extent and smaller in number. There were 1,500 in *ante bellum* days, 746 last year, while only 704 will manufacture this year—that is, have applied for the bounty.

Of the sugar houses in operation last year 156 had vacuum pans, using only the most improved methods; 143 had open pans, and 447 open kettles. The latter, however, were mostly small concerns and manufactured only a small percentage of the sugar production of the State. They are rapidly going out of favor, and it is a question of only a few years when they will be completely abandoned. There is a tendency at the same time that the large plantations are growing larger by absorbing neighboring ones for the small planters to abandon the manufacture of sugar altogether and sell their cane to the refineries or central factories.

The effect of the new movement in the sugar industry is seen in the greatly increased demand for improved machinery, giving a stimulus to the foundries here, which, with few exceptions, report their business, particularly in the manufacture of sugar machinery, to be many times greater than ever before. Nor are the orders for machinery confined to New Orleans alone, but many of them have been placed in Philadelphia, Cincinnati and Louisville and a considerable quantity imported from Europe, more than ever before.

#### A GIGANTIC MICROSCOPE.

A MAGNIFICENT microscope has just been completed by the Munich Poeller Physical and Optical Institute for the Exposition, at a cost of \$3,750. It possesses a magnifying power of 11,000 diameters. As might be expected, electricity plays an important part in the working of this gigantic instrument, which, after inspection by American citizens, is expected to give an impetus to the Munich mart for scientific apparatus. The electricity furnishes and regulates the source of light, which, placed in the focus of a parabolic aluminum reflector, reaches an intensity of 11,000 candle power. The electricity also provides the means of an ingenious automatic mechanism for the centering of the quadruple condensers illuminating the lenses. There is an arrangement for the exact control of the distance of the carbon point. The most important novel feature is the cooling machine, which is indispensable on account of the extreme heat, 1-43 calories per second, generated by the intense illuminating arrangement. A machine regulated by a Helmholtz electric centrifugal regulator provides the several microscopic and polariscopic systems of the apparatus with a fine spray of fluid carbonic acid, which immediately after its release from the copper vessel, in which it is held under a pressure of twenty-three atmospheres, becomes converted into gaseous matter, so intensely cold that only 0.00007 gram of carbonic acid per second is required to give the result. The magnifying power of the apparatus with ordinary objectives, as has been stated, is about 11,000 diameters, but with the oil immersion it can be increased to 16,000.

#### THE REALM OF FIRE.

THE general aspect of the interior of a converting-house at night is at once startling and grandly impressive. Here heat, flame and liquid metal are ever present; locomotives whistle and puff, dragging with clatter and clang huge ladles of molten iron; the lurid light, flashing and flaming, that illuminates the scene, throws shadows so intensely black that they suggest the "black fire" of Milton, for in such a place it is impossible for a shadow to be cool; half-naked, muscular men, begrimed with sweat and dust, flit about; clouds of steam arise from attempts to cool in some degree the roasting earth of the floor; converters roar, vibrate, and vomit flames mingled with splashes of metal from their white-hot throats; at intervals the scorching air is filled with a rain of coruscating burning iron; ingot molds lift mouths parched with a thirst that can only be appeased for a short time by streams of liquid steel that run gurgling into them; the stalwart cranes rise, swing and fall, loading scores of tons of red-hot steel upon cars of iron; all these conditions and circumstances combine to make an igneous total more suggestive of the realms of Pluto than any other in the whole range of the metallurgic arts.—*The Popular Science Monthly*.

#### THE QUEENSLAND SUGAR INDUSTRY.

QUEENSLAND appears to be entering upon a period of renewed activity in connection with the sugar industry. It seems to be the general opinion that the labor restrictions must be met by the intro-

duction of improved machinery and the adoption of better methods of manufacture. This is especially evident from an agricultural conference recently held at Fundaberg, at which the position of the sugar industry was earnestly discussed. Among a number of speakers was Mr. Angus Gibson, a Queensland planter of twenty-five years' experience, who urged the appointment of a Government chemist to direct the sugar manufacturers in the best modern systems; and pointed to other sugar-growing countries where, he said, there was no doubt that the very best results were obtained. Phosphoric acid had been extensively used during the past year in making sugar, and he believed much more would be used this season. Even with a small plant a man could turn out a very good sugar. The great refinery he should like to see erected should have the best machinery, appliances and necessaries, as well as those possessing the best knowledge of the manufacture. By such means the industry would go ahead by leaps, and Queensland would soon be the leading sugar-growing colony in the world.

#### EARLY USE OF SOAP.

MORE than two thousand years ago the Gauls were combining the ashes of the beech tree with goat's fat and making soap. When Marius Claudius Marcellus was hastening southward over the Flaminian Way, laden with spoils wrested from the hands of Viridomarus, the Gallic king lying dead by the banks of the Po, his followers were bringing with them a knowledge of the method of making soap. The awful rain of burning ashes which fell upon Pompeii in 79 buried (with palaces and statues) the humble shop of a soap-maker, and in several other cities of Italy the business had even then a footing. In the eighth century there were many soap manufacturers in Italy and Spain, and fifty years later the Phœnicians carried the business into France and established the first factories in Marseilles. Prior to the invention of soap, fuller's earth was largely used for cleansing purposes, and the juice of certain plants served a similar purpose. The earth was spread upon cloth, stamped in with the feet, and subsequently removed by scouring. It was also used in baths, and as late even as the eighteenth century was employed by the Romans in that way.

#### THE SOURCES OF BEAUTIFUL COLOR.

THE cochineal insects furnish a great many fine colors. Among them are the gorgeous carmine, the crimson, scarlet, carmine and purple lakes. The cuttle-fish gives the sepia. It is the inky fluid which the fish discharges in order to render the water opaque when attacked. Indian yellow comes from the camel. Ivory chips produce the ivory black and bone black. The exquisite Prussian blue is made by fusing horses' hoofs and other refuse animal matter with impure potassium carbonate. This color was discovered accidentally. Various lakes are derived from roots, barks and gums. Blue-black comes from the charcoal of the vine-stalk. Lampblack is soot from certain resinous substances. Turkey red is made from the madder plant, which grows in Hindostan. The yellow sap of a tree of Siam produces gamboge; the natives catch the sap in coconut shells. Raw sienna is the natural earth from the neighborhood of Sienna, Italy. Raw umber is also an earth found near Umbria and burnt. India-ink is made from burnt camphor. The Chinese are the only manufacturers of this ink. Mastic is made from the gum of the mastic-tree, which grows in the Grecian Archipelago. Bistre is the soot of wood-ashes. Chinese white is zinc, scarlet is iodine of mercury, and native vermilion is from a quick-silver ore called cinnabar.—*American Druggist*.

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# Manufacturing.

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

THE capacity of the Moncton, N.B., sugar refinery is to be enlarged.

THE Consumers' Cordage Company, of Montreal, have purchased the cordage factory at Brantford, Ont.

THE planing mills of Messrs. Lawrence & Sons, Sarnia, Ont., were destroyed by fire Nov. 17th, loss about \$8,000.

THE vinegar works and grist mill of Mr. McCready, St. John, N.B., were destroyed by fire Nov. 15th, loss about \$14,000.

THE large flouring mill of Mr. John Frederic, at Holloway, near Belleville, Ont., was destroyed by fire Nov. 2nd, loss about \$22,000.

THE Goldie & McCulloch Company, Galt, Ont., have recently shipped two large fire and burglar-proof safes manufactured by them to Roumania.

THE Kittselman Wire Fence Company, St. Thomas, Ont., is being organized with a capital stock of \$10,000 for the manufacture of wire fence goods, etc.

THE Metallic Roofing Company of Canada, Toronto, have just put into their works a complete plant for the manufacture of corrugated sheets of every description.

THE Adams Wagon Company, Paris, Ont., have been making some important business changes, and start into this season's business with fine prospects ahead.

THE Dominion Cotton Mills Company are making improvements to their mills at Moncton, N.B., including new machinery, which will increase their capacity one-third.

MR. M. E. TOOKEY's planing mill and sash and door factory at Sundridge, Ont., was destroyed by the explosion of the steam boiler and fire resulting therefrom on Nov. 6th.

MESSRS. RICE & SPELLMAN, of Walkerville, Ont., are anxious to find some town which will offer them some valuable inducements to establish a basket and fruit package factory.

MR. JAMES IRELAND, of the West Oxford Cheese Factory, Ingersoll, Ont., has recently manufactured five immense cheese for parties in Chicago. Four of these weighed 22,000 pounds.

MR. JOHN PENMAN, President of the Penman Manufacturing Company, Paris, Ont., has been confined to his house with a low fever for some time, but is now able to attend to business again.

THE Citizens' Light and Power Company is being incorporated in Montreal with a capital stock of \$50,000 to engage in the construction of an electric system with which to supply light and power.

MR. JOHN MABRER, Nanaimo, B.C., has just finished making an important enlargement of his brewery, which includes a three-story brick building 75 x 40 feet and a similar building 60 x 36 feet.

THE British Columbia Boot and Shoe Factory, Nanaimo, is running full time and employs twenty-five hands—all white labor. It is equipped with the latest improved machinery, and is turning out a class of goods suitable to the wants of the Province.

THE Taylor Decarbonized Iron and Manufacturing Company has been incorporated in Montreal with a capital stock of \$150,000 for the purpose of manufacturing decarbonized iron according to the Taylor process.

MR. ALEX. SHAW, the proprietor of the Nanaimo, B.C., electric light system, has added the arc system. Twenty-five of the leading business houses are lighted with it. An additional arc dynamo is being put in, the city having contracted for forty lights, which are to be in operation by December 1st. Nanaimo will then be one of the best lighted cities on the Pacific Coast.

TAYLOR's cooperage, in Paris, has turned out 20,000 apple barrels this season and could have sold five thousand more. The most rapid work we have heard of in this line was the turn over of one workman who made day after day one hundred barrels in ten hours.

A NEW industry, under the management of Mr. Charles E. Adams, has been started by the Ever Ready Dress Stay Company, of Windsor, Ont. It is the manufacture of Arctic socks. Mr. Adams was formerly of the Grand River Knitting Mills, of Paris, Ont.

MESSRS. MAILLAND, RIXON & Co, the extensive lumber and saw-mill men of Owen Sound, Ont., have purchased the steam tug *King*, and Mr. John Simpson, the shipbuilder of that place, will, during the winter, put her in excellent order for towing and rafting next season.

MR. J. V. FLEMING, of Kamloops, B.C., has discovered a mica mine on the Canoe River, that Province, from which sheets of flawless white mica 26x12 inches are said to have been taken. This is a pretty big size for mica, but then British Columbia is a big country.

MESSRS. PATTERSON & CORBIN, St. Catharines, Ont., manufacturers of street cars, etc., are building two cars for a street railroad in Port Arthur, Ont., which are to be heated by an electrical device. It is claimed that these will be the first of such cars ever manufactured in Canada.

THE John Doty Engine Company, Toronto, have contracted to build a fine side-wheel passenger steamer to be used on the route between this city and St. Catharines via Port Dalhousie and the Welland Canal. She is to be 160 feet long and 26 feet beam, and to have a guaranteed speed of sixteen miles per hour.

THE Dominion Paper Box Company, Toronto, are occupying their spacious new factory in Adelaide street west, this city. The building is of brick, 80x26 feet, seven stories high. This company are patentees of an automatic machine for the manufacture of oyster pails, which produce the complete article, including the printing, at one operation. They consume in their works more than 400 tons of cardboard a year, and give employment to about 100 hands.

MESSRS. GILLIES BROS'. planing mill, saw mill and coal and lumber yard, in Paris, Ont., was badly used up by an incendiary fire a few days ago. It was a heavy loss to the proprietors, as there was very light insurance. There seems to be a fire bug in that locality who pays special attention to saw mills. Observing people in the locality count up eight mills which have within a short period been laid low by the same destroying hand, and still the arm of the law has not been able to reach him. More's the pity.

THE American shareholders of the Alabastine Company, of Paris, Ont., have bought out the stock of the Canadian members and are putting the concern under new management. It is the intention to begin the manufacture of new materials to be used in wall construction and finish as well as to manufacture alabastine and land plaster as heretofore. They will go into contracting on a large scale to do interior finishing of public and private establishments in Canada as they have been doing in all the large cities of the United States.

THE B. C. Sugar Refining Company are adding a large addition to their warerooms which will give double the storage they have now. This institution continues to do a flourishing business. The excellent of the quality of the sugars and syrups made by them has become known throughout this Province, the North-West and Manitoba, and to-day is supplanting the products of all the eastern refineries in these Provinces. As soon as spring opens the capacity of the refinery will also be increased.—Vancouver, B.C., *Telegram*.

THE Canada Furnace Company has been organized at Montreal to acquire and operate the old Radnor furnaces near Three Rivers, Que. This company is connected with the St. Thomas Car Wheel Company, of St. Thomas, Ont., and the Montreal Car Wheel Company, of Montreal. Besides the Radnor furnaces this company have purchased ore rights in over 50,000 acres of metallic lands in Quebec and also Lac a la Turtu, which is said to cover one of the largest and most valuable known deposits of bog ore in the world. Under the new regime this output of No. 1 charcoal iron from this establishment will be about forty tons per day.

THE arrest and conviction of Archibald Chisholm, manager of the Winnipeg Barb Wire Works, for a scandalous crime, will in no wise affect the continuance of this industry. The Winnipeg Wire Works has been a very prosperous industry for some years, and the stockholders, who are men of abundant capital and business energy, will continue the business without interruption. While Chisholm

will languish in prison, the industry with which he was lately connected, will it is expected, be more prosperous than ever. The stockholders have recently arranged to begin the manufacture of new lines, and the industry will be continued on a larger scale than heretofore. — *Winnipeg Commercial*.

THE Waterous Engine Works Company, Brantford, Ont., inform us that they are meeting with large success with their grip pulleys and cut-off couplings manufactured by them. They have already been placed in perhaps a hundred different manufacturing establishments in Canada in many of them repeat orders attesting the satisfaction given by them. In fact of all those who have them in use, the company have never yet heard of any which have failed to give entire satisfaction. Not only in Canada but in other countries are many of these pulleys manufactured by the Waterous Engine Works Company. A large number of them are in use in the United States, and repeated shipments have been made of them to Central and South America. The company will take pleasure in sending full description of these goods and list of names of manufacturers who have them in use.

THE Cant Bros. Co., of Galt, have just brought out a new multiple spindle boring machine which is designed for accurate and rapid boring, being specially suitable for dowelling joints, table leg work, furniture work, church furniture, school seats, etc. The frame is of iron, well braced and planed perfectly true. The mandrel frames slide on planed ways. Each mandrel frame is independently adjustable to and from the other by means of screws and crank, each mandrel being driven by an independent belt. The table works on planed ways, and is raised and lowered by means of bevel gears and screws operated by a crank and parallel shaft below. The treadle is connected to the table by adjustable rods to regulate the throw of the table, which is moved forward to the boring bits when the treadle is pushed down by the foot, and which returns to its original position when the treadle is released. The clamping device on this machine is entirely novel, the work being held down by four eccentrics which are operated by one handle, so that along with the end stop it is impossible to bore the holes out of line. The machine can be made with one, two, three or four spindles, which will bore holes from four inches to four feet apart.

AMONG the numerous industries in Victoria is one which bids fair to be a success. This is the British Columbia Fruit Packing Company. This industry will largely help the farmers of the district, and also find employment for many young ladies. Messrs. O'Kell & Morris, the proprietors, have come out from the Old Country, with all that goes to make a business successful—strength, energy, character and money. A representative of the *Commercial Journal* recently noticed in passing Rock Bay bridge a large sign—and his curiosity led him to visit the place. Here he was courteously shown around the factory and the mode of packing the fruit, which is put up in glass jars. Much of it is being exported to England, a large consignment now being in process of preparation for export. The mode of preserving deserves mention. The fruit is picked by young ladies, and by them passed to Mr. Morris, who personally superintends this department. The whole of the preserving is done in large steam copper pans, such as are used by the largest manufacturers in England. Nothing but pure granulated sugar and fresh fruit are used. It will indeed be a great convenience to the ladies of Victoria to be able to procure jams, jellies and marmalades, such as are made at their own homes, and thus save them trouble. This firm have also a very fine machine for making orange and lemon marmalade. It is desirable that the citizens of Victoria should encourage the new firm by asking for O'Kell & Morris' goods.—Victoria, B.C., *Commercial Journal*.

MR. J. B. HASTINGS, of Ohio, is the patentee of a new process for the manufacture of steel: and if he can accomplish that which he says he can by it, he has a snap which ought to make him a multi-millionaire in short order. Mr. Hastings was in Toronto a few days ago and gave an exhibition of his process in the casting department of the works of the Massey Manufacturing Company. The following, taken from a Baltimore paper, explains the business: "There is to be located at this place a cast steel casting foundry which in itself is not a matter of much significance, were it not for a new process which is to be initiated into the manufacturing world: and it is believed by those who understand its workings, which it is the object of this article to describe, that it will revolutionize the cast steel casting world, if not some of the near neighbours to this branch of industries. Mr. John B. Hastings, the founder, is here with his samples, and takes pleasure in explaining to all the advantages of his method, which consists of a chemical reaction on molten pig metal, and, strange to say, this is accomplished in the short space of two minutes. Mr. Hastings places a

compound, which is a fine powder, in the ladle, into which is drawn off the molten metal from the cupola, and which metal is thoroughly permeated thereby. The reaction takes place in a surprisingly short time, no change being noticeable in the ladle, after which the casting is poured. The casting thus made, when taken from sand, is as soft and workable as cast iron, excepting that it is much closer and has taken, to some little extent, the property of toughness. This casting is now tooled into shape required in its utility, after which it may be tempered to any degree of hardness required, from adamant itself to soft steel casting. Nor is this the extent of its wonderfulness, for some casting may be many times drawn and re-tempered without losing its life, proving just as hard when last tempered as formerly. To those who have a knowledge of this line of business it must, of itself, having these properties, appeal to their good graces, and Mr. Hastings informs me that it produces the same effect upon Virginia as Tennessee and Ohio Iron. The large adaptability will insure it a large market and its tempering properties will cause it to many times outlast any product now in existence. The short time required to produce this in contrast with the ten days soaking methods now used is in itself a large item, not to mention its other additional properties. It is proposed by Mr. Hastings to produce steel pig direct from the blast furnace at no distant day, reasoning from the successes attained in this line.

A CONCESSION has been granted to M. Stepanni to erect a Moorish palace at the World's Fair. One of the many attractions which he proposes to exhibit in this palace is \$1,000,000 in gold coin in one pile. He believes that this will be a great drawing card and that nearly every visitor will want to see it. Of course great precautions will be taken for the safety of such great treasure. It will be in a strong cage, and, Mr. Stepanni says: "Just under the gold will be constructed a fire and burglar-proof vault. To the doors of this vault will be connected electric wires. In the event of an attempt to rob the palace my guards will press an electric button, the entire pile will fall into the vaults and the doors will spring shut." A space 200 by 250 feet was granted for the Moorish palace, upon which Mr. Stepanni says he will expend \$400,000.

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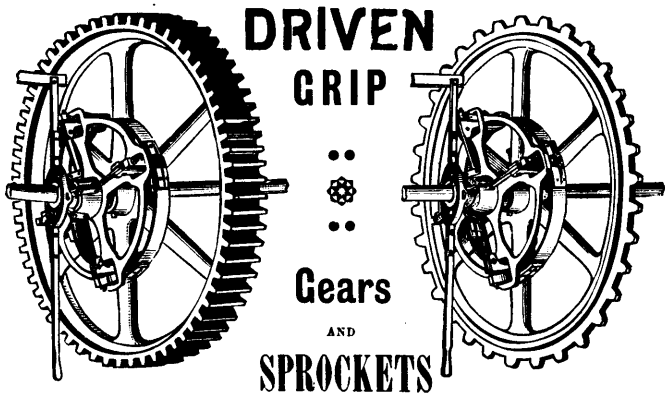
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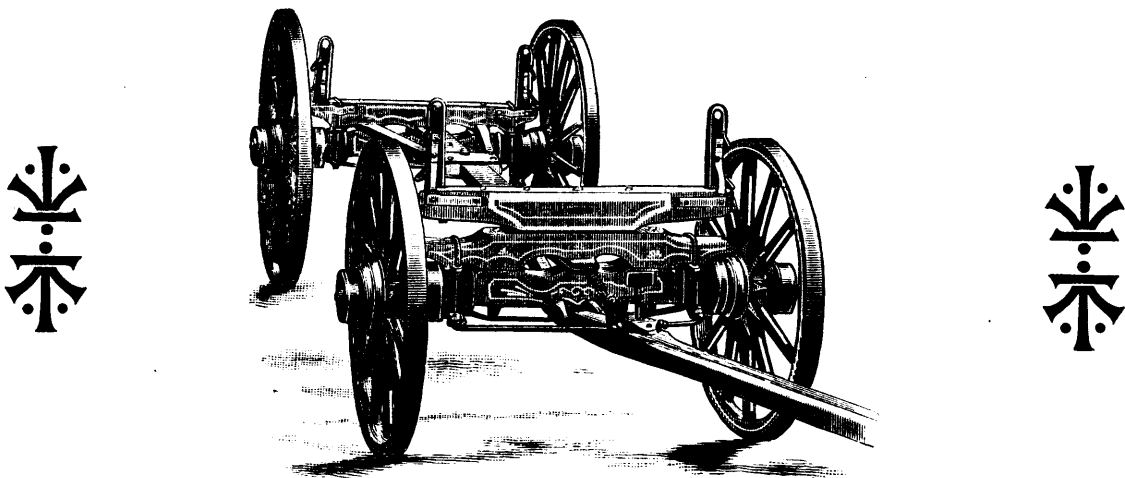
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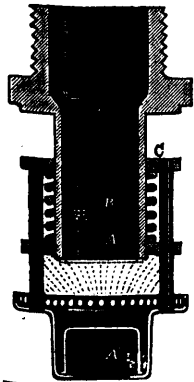
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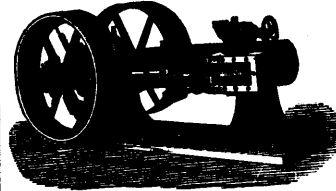
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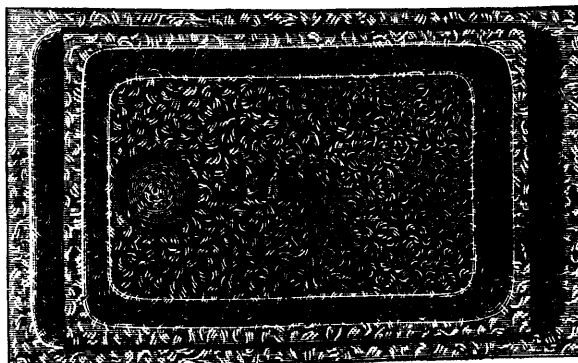
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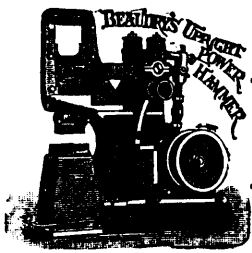
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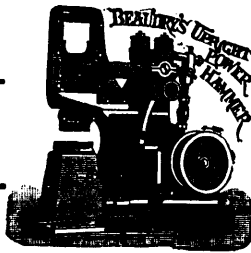
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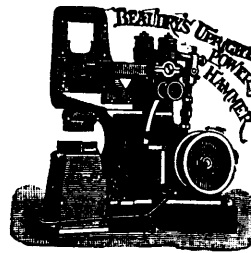
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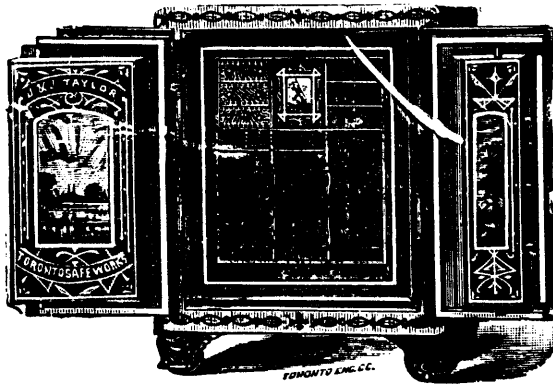


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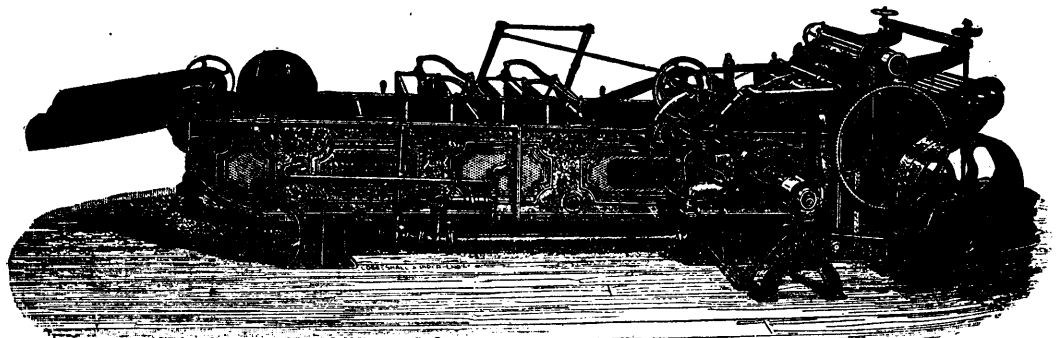
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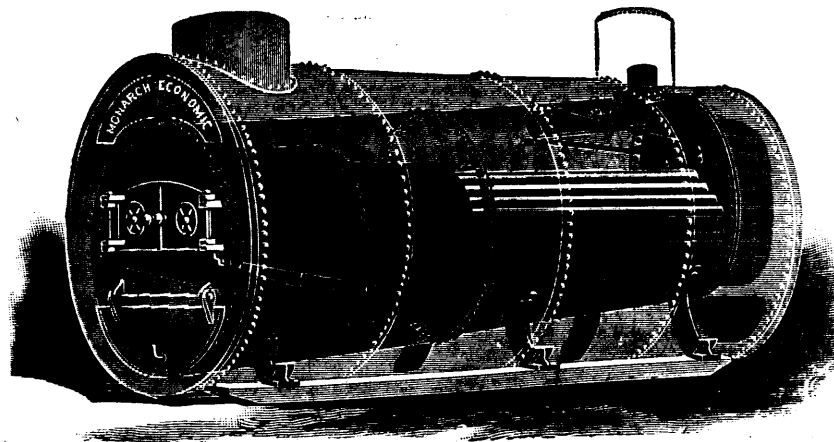
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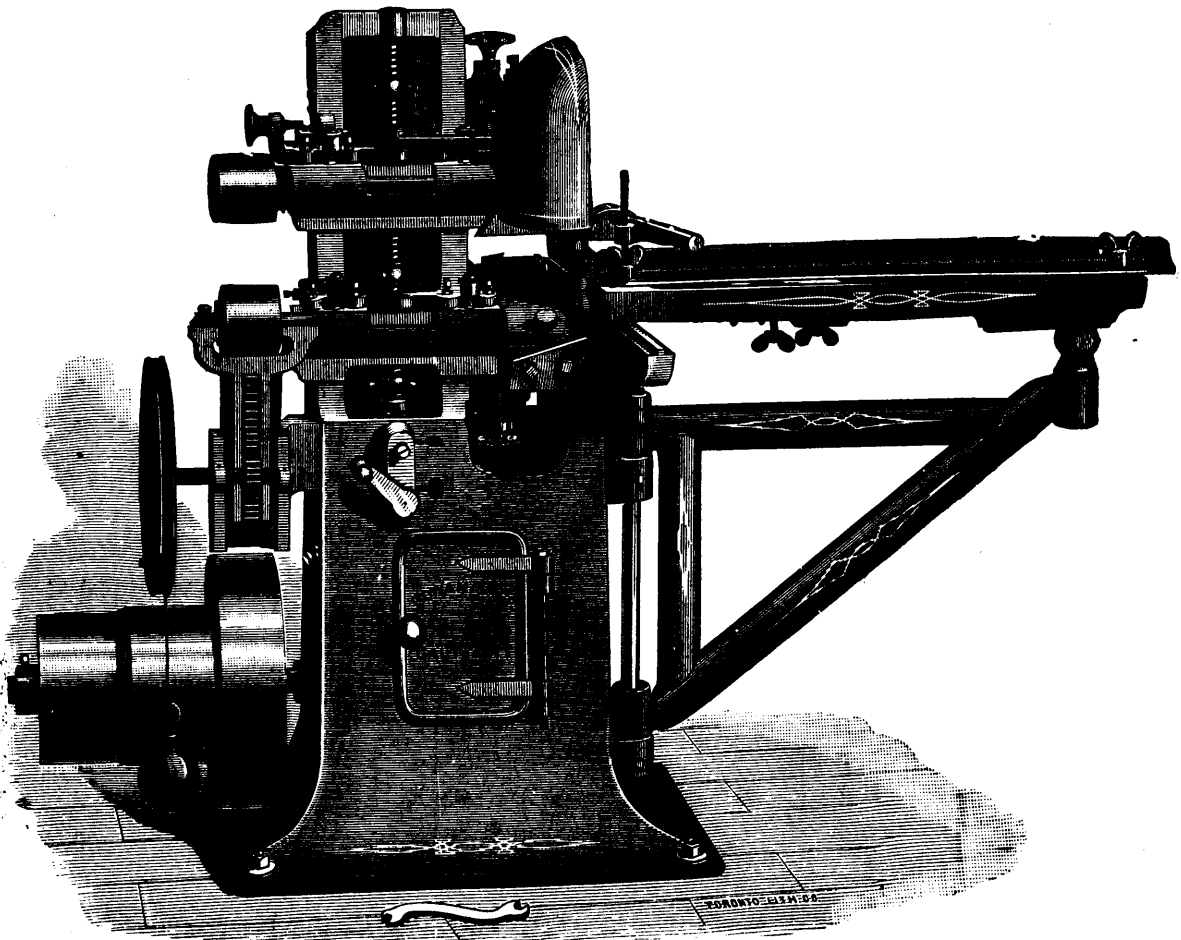
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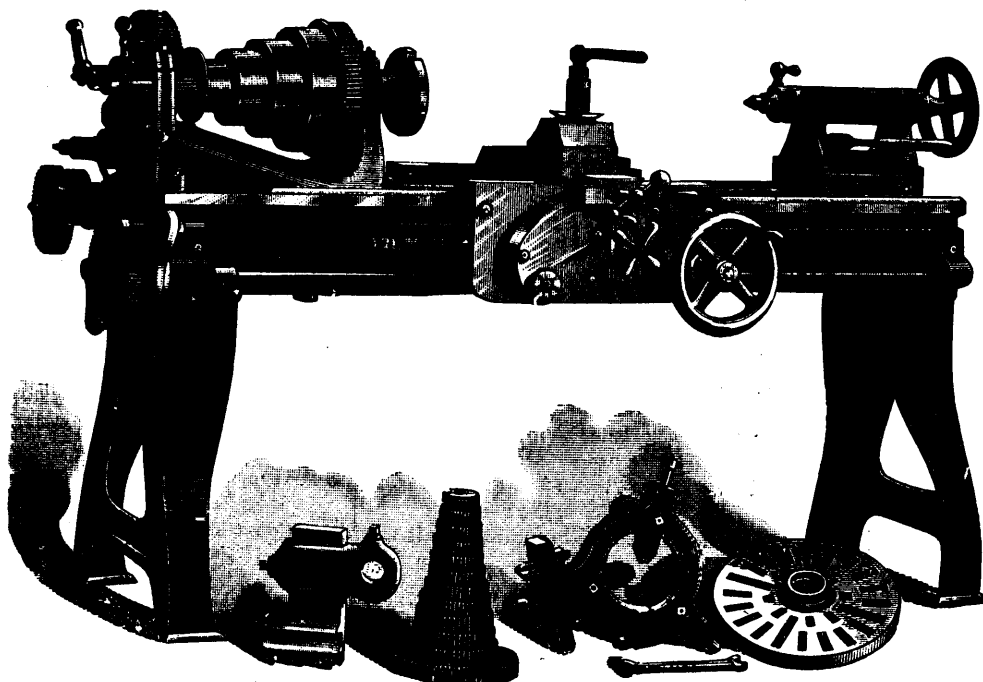
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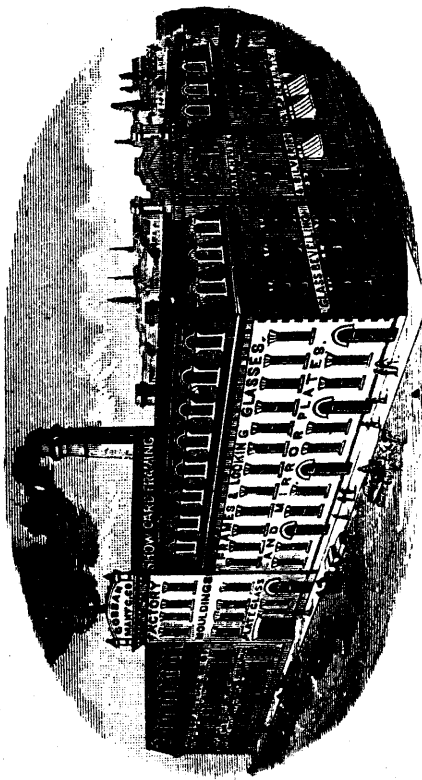
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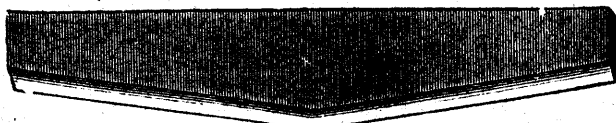
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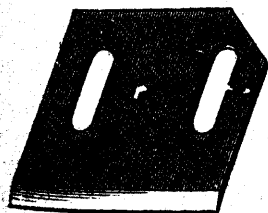
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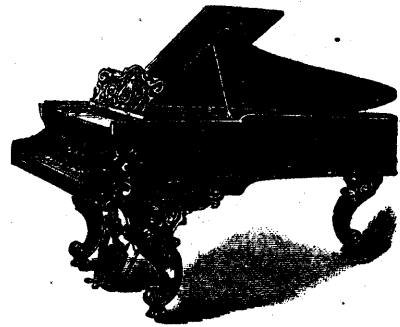
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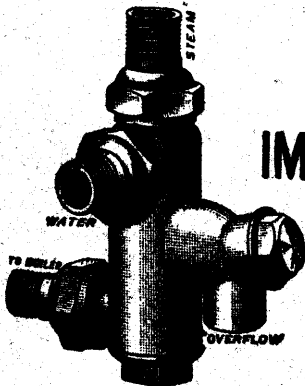
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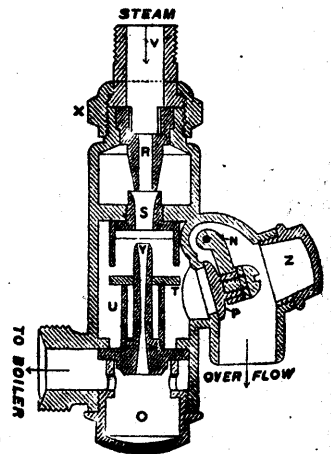
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