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Vol. 18. TORONTO, MAY 16, 1890. No. 10.

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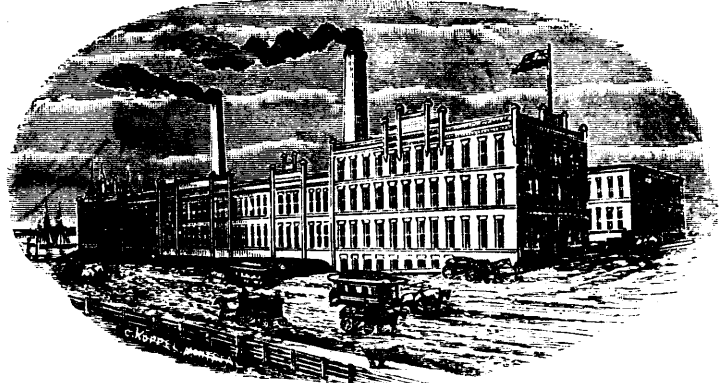
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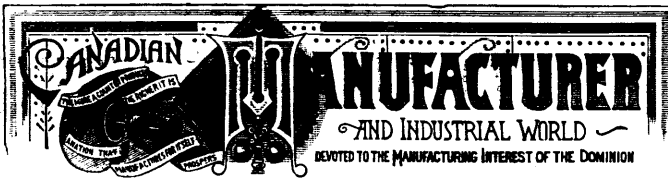
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CANADIAN MANUFACTURER,  
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### THE SUDBURY NICKEL MINES.

NICKEL ore is to come in free, under the new tariff bill, according to reports. This will please Mr. S. J. Ritchie and his Ohio stockholders in the Sudbury nickel and copper mines of Canada. In good faith, we shall now expect to see that extensive smelting plant at once erected in Cleveland or Findlay, as promised the Committee on Ways and Means.—*Cleveland Iron Trade Review*.

According to Mr. Ritchie, there are only two important nickel mines in the world—that at Sudbury, Ontario, Canada, owned by two companies of American capitalists, of whom Mr. Ritchie is one, and that on the Island of New Caledonia, which belongs to the Rothschilds. Nickel is a metal that enters into a thousand uses in every day of life; and the fact that the nickel mine at Sudbury contains the largest, most available and most valuable deposit known, gives it an importance that cannot be overestimated.

The American tariff imposes a duty of 15 cents per pound upon the nickel contained in importations of nickel ore and matte, and a like duty upon nickel oxide. But under the McKinley Bill, now being debated in Congress, nickel ore is placed upon the free list, while a duty of 5 cents per pound is levied upon the nickel contained in matte, and the old duty of 15 cents per pound is retained upon importations of nickel oxide.

The companies alluded to owning the Sudbury mines are the Canadian Copper Company and the Anglo-American Iron Company, both of which are organized under the laws of the State of Ohio. They have erected mining plants and reduction works which are now, we understand, in operation, the products of which—nickel and copper matte—are being shipped to Great Britain and Germany. Before the discovery of these Canadian deposits the world's production of nickel was so small that

it could not supply anything like the demand there is for it at this time.

Some weeks ago when the Ways and Means Committee of the American House of Representatives was in session in Washington, obtaining information regarding the tariff, Mr. Ritchie appeared before it, asking that the products of his Canadian mines be admitted free of duty. Urging this matter he said:—

“Our company, although an Ohio corporation, has, for all purposes in Canada, been made by the Canadian Parliament a Canadian Company. The Dominion Government remits the duty on the American machinery which we send in to work these mines. It also remits the duty on the coke which we use for fuel. It also offers quite a large bonus per ton for the manufacture of iron and steel from this material. But the natural gas in the neighborhood of Findlay, Ohio, is so admirably adapted to manufacture and treatment of these ores, and especially our mattes, that we are seriously contemplating bringing all our ores to that place to be smelted. But we can only do this on condition that our own Government shall admit them all free of duty—every part and constituent of them. Every shareholder in these companies is a citizen in the State of Ohio. Every dollar invested in them is Ohio capital, and in making this request we only ask that you treat your own citizens as liberally as the Canadian Government has treated foreigners who are American citizens. Besides the mines in Canada, there is only one other nickel mine of importance in the world, and that is located in the Island of New Caledonia, and belongs to the Rothschilds. It probably has not one-fifth part of the producing capacity of the Canadian mines.”

In asking for the free admission of copper, nickel and iron ores and sulphur, Mr. Ritchie said that the United States now derive no revenue worth mentioning from them, and, in admitting them free, would give the broadest possible interpretation to the doctrines of Protection. “Nearly all the mines in Canada,” he continued, “and 80 per cent. of her lumber interests are owned by American's and their products are in every sense of the word the product of American capital and American labor. We are paying more for labor, machinery, freights and provisions of every kind at our mines in Canada, than we could purchase the same for in the State of Ohio.”

This explains the allusion in the *The Iron Trade Review*. It is plain that, as far as Mr. Ritchie and his companies of American capitalists are concerned, assisted by the Dominion Government, Canada is to be an auxiliary of the United States, and all the benefits that Canada and Canadians are to receive from the wonderfully rich mines of the Sudbury district, will be such as were received by the children of Israel while in bondage in Egypt, where they were but hewers of wood and drawers of water for the Egyptians. What benefit is there to accrue to Canada from the development of these mines by these American capitalists? As we have shown, at Mr. Ritchie's request the American tariff is to be altered with special view to the performing of all the labor and expending of all the capital in the reduction of the ores from these mines in the United States. There will be nothing whatever done or expended in Canada beyond what is actually necessary in raising the ores from the mines and depositing them on cars for transportation to Findlay, Ohio; and the Canadian treasury is not to receive even the duty on the machinery necessary in these mining operations, the Dominion Government having, as Mr. Ritchie shows, even “remitted the duty on the Ameri-

can mining machinery" which he sends to Canada for that purpose. This is not because such machinery cannot be manufactured in Canada, for there are many establishments here where such machinery can be produced; but it seems to be done because these American capitalists request it.

The reduction works at these Sudbury mines are in operation, the products being matte, which are now being shipped to Europe, where no duty is levied upon them, but not to the United States, where a duty is yet imposed. These works are maintained in Canada because it is cheaper to reduce the ores here than to do it in Ohio, where, according to Mr. Ritchie, "labor, machinery, freights and provisions" are cheaper than in Canada, but where duties are imposed upon the ore. Notwithstanding the higher cost of labor, etc., in Canada, the reduction of these ores is a remarkably profitable business, although the benefit accruing to Canada out of it is very small. But, small as it is, it is to be reduced to an infinitesimal point as soon as the new American Tariff Bill becomes law; for when that occurs Mr. Ritchie promises to remove his American machinery from Sudbury, (allowed to be brought into Canada duty free), and establish it in Ohio, leaving absolutely nothing at the mines but the bare machinery necessary for taking out the ores, and giving employment to only the few Canadians engaged in mining.

What benefit, then, will Canada receive from these wonderfully rich Sudbury mines? None whatever, except the employment of the men engaged in mining; and even the duty on the fuel is remitted. But the United States and a few American capitalists will reap enormous benefits. Large reduction and refining works for manipulating Canadian ores will be established in Ohio, and this implies the investment of large capital and the employment of large numbers of skilled and unskilled workmen, and the establishment of the only industry of the kind in that country. Canada's benefit will be at the little end of the horn.

There is one way, however, by which Canada may retain at least as important an interest in these mines as she now does. The American duty of 15 cents per pound upon the nickel contained in the ore and matte imported from Canada, and a like duty upon the nickel oxide, forced the owners of them to establish their reduction works at the mines, their intention being to remove these works to Ohio as soon as these products are placed on the American free list. As soon as that is done let the Dominion Government impose an export duty on these products to equal extent. This would maintain the status and continue Canada in the possession of this industry.

#### HINC ILLÆ LACRIMÆ.

MR. STAPLETON CALDECOTT, of Toronto, is an individual whose opinions on political topics are worth no more, probably, than the opinions of a considerable number of other gentlemen who, like himself, are engaged in the importation and sale of foreign merchandise almost exclusively. But Mr. Caldecott finds time, aside from his counting-house business, to indulge in writing tearful letters to the newspapers in which he bewails the woes of the Canadian farmer because he cannot purchase foreign merchandise "at least twenty per cent. cheaper than he does at present." He tells these farmers that the N.P.

which protects Canadian manufacturers against the indiscriminate slaughter of foreign merchandise in the Canadian market is a system that virtually makes "white slaves" of them, and that this protection "keeps in a precarious state of existence some industries that could not last a day but for the heavy taxation the consumers are called upon to submit to." He compassionately tells them that they "do not realize the extent to which they are being taxed" under the N.P., but that it is so nevertheless, and explains this by saying that "since 1878 the improvements in machinery have so reduced the cost of manufactures that wages have advanced—that "the extra duties have not made themselves as apparent as they otherwise would, hence the farmer so far has not realized the extent to which he is being taxed."

Alluding to the recent increase in the tariff, Mr. Caldecott formulates a series of numbered questions in which he wants to know why people of Canada should be taxed to enable Canadian manufacturers to sell their goods twenty-five per cent. dearer than they could be bought for in an open market; why we should improve our means of communication with the outside world and at the same time harass and curtail business by imposing tariff duties; how a duty upon wheat will help the Canadian farmer, and how increased duties upon food will help the Canadian manufacturer. He informs the farmer that he "must sell his stuff at the world's price; and the panacea for all the ills he complains of would, in his opinion, consist in the farmer resolving to buy what he consumes in the same way, "thus at once adding considerably to his income, and the happiness and prosperity of himself and family."

Mr. Caldecott is correct in saying that the price of the "stuff" that farmers produce, when not consumed in Canada, but sent abroad for sale, is regulated by the "world's price." By this he means that whatever wheat, barley and oats the Canadian farmer cannot find sale for for consumption at home, where the price may be in a measure controlled, must be sent to Liverpool for sale, where the price cannot possibly be controlled, entering into competition with like products from the United States, Russia, India and all the rest of the world. Other qualities being equal, a bushel of Canadian wheat in the Liverpool market is worth no more and no less than a bushel of wheat produced in any other country; so that, if, according to Mr. Caldecott, it costs all that it is worth to produce a bushel of Canadian wheat, and if wheat can be raised cheaper in India and Russia than in Canada, as is the fact, it certainly will not pay the Canadian farmer to raise wheat for the Liverpool market. But there is a large demand for wheat for home consumption; and this demand the farmer can supply, unless, perchance, he is supplanted even here by the cheaper wheat of India and Russia. Foreign wheat in large quantities is imported into Canada as Mr. Caldecott knows, or should know; and common sense tells us that with a Canadian duty upon wheat the Canadian wheat-grower is "protected" to that extent. This is an answer to his question "How will a duty upon wheat help the Canadian farmer?" Mr. Caldecott unwisely supposes that Canadian farmers when going to market put all their eggs into one basket—that they plant their farms to wheat, knowing that the home demand cannot possibly consume it all, and that the surplus must be exported; and decline to plant diversified crops with the strong probability

that they would all be consumed at home. This may be the case with a few farmers who do not indulge in any better literature than that supplied to them by Mr. Caldecott's newspaper letters; but Canadian farmers generally are not constructed on that model. There are but few prosperous farmers whose farms are not near manufacturing towns. Such towns are to be found all over Canada; and their existence indicates that in them are thousands of consumers of farm products; and these farmers know that whenever they have any farm products to sell they can always depend upon disposing of them at remunerative prices to these consumers. They also know that the greater the diversity of their products the less risk they encounter in incurring losses in disposing of them, and the greater certainty there is of selling them to good advantage. And this is one way Protection benefits the farmer. Without Protection there would be no tall chimneys and manufacturing towns and thousands of employes in factories and workshops; and without these there would be no home demand for these diversified products of the farm; and without this demand the farmer would be compelled to confine his operations to one or two standard crops for export where he would be forced to meet the competition of the whole world.

Mr. Caldecott is wrong in supposing that because we have Protection the price of all protected articles is enhanced. But if these prices were thus enhanced, if the farmer can make money by selling at home the diversified products of his farm, while, according to Mr. Caldecott, it costs all that wheat will bring in the open markets of the world to produce it, what would it avail the farmer to have free access to the markets of the world in which to buy the necessaries of life, if there is no money with which to pay for them? The farmer is certainly better off, under Protection, having made money from the sale of his products in his home market, even if he has to pay more for his purchases at home, than they could be bought for abroad.

Crocodile tears are shed at the idea of Canadian manufacturers having to pay more for the food they consume because of the protection afforded the farmer. Mr. Caldecott need give himself no uneasiness on that account. When the manufacturers begin to kick against the benefits farmers derive from the tariff it will be time enough to raise objections to the tariff on their account; but we can assure the gentleman that all his sympathies in that direction at this time are misplaced and unappreciated.

The Jeremiah who thus bewails everything Canadian; the discontented wandering child of Israel who thus regrets the departure from the Egyptian flesh-pots, betrays the cause of his sorrows. There are but few persons engaged in mercantile business in Canada who confine their operations exclusively to handling merchandise manufactured in other countries, who do not object to any tariff. It is true the tariff stands as a wall to keep out of Canada the cheap and shoddy products of the pauper labour of other countries; but that is just what the people of Canada want. They want factories and workshops at home in which the articles that they require may be produced; and they want a home market for whatever they can raise on their farms. But as a class the importers do not want these factories which produce home-made goods well

adapted to the wants of the people, but prefer that all the goods sold in the country should be made abroad, and that they, the importers, should be the distributors of them to the people. And this is why most importers are so bitterly opposed to the tariff.

There is a difference in the status in the community between importers and farmers and manufacturers. The business of an importer of foreign merchandise does not require that he should even own the warehouse in which he carries his stock, and his tangible assets may be nothing more than the goods that are brought in to-day and sold out to-morrow. On the other hand the farmer has his wealth invested in lands and improvements, which are immovable, and in animals, implements and crops; and the manufacturer has his wealth absorbed in factories and workshops, which are also immovable, and in heavy plants and machinery that are always in sight. The importer reposes in his office chair and denounces a system that interferes with his profits in handling foreign merchandise; while the farmer, who needs Protection, follows his plow early and late, and the manufacturer, who also needs Protection, finds no time to be away from his factory.

#### CANADA NOT MEXICO.

The animus as regards international reciprocity, as viewed from the American standpoint, is accentuated in the status as between the United States and Mexico. General Grant was a strong advocate of reciprocity between those countries, and it was through his influence that a Treaty was drawn up, to which Mexico gave formal assent, but it was defeated in the United States Senate. The idea was that under this Treaty Mexico would send vast quantities of raw materials to the United States, and the United States would send vast quantities of manufactures to Mexico; the opinion of the Minister of the United States to Mexico being that, with a proper reciprocity treaty, his country would send a hundred million of dollars' worth of merchandise a year to Mexico. Efforts are again being made to effect that object, it being urged that the two countries are exceedingly well adapted to do this sort of trading with each other. Mexico, being a semi-tropical country, produces in abundance many things that the United States require, but which they cannot produce; while the latter country is distinguished for its manufactures for which it desires more extended markets. The two countries are closely connected by extensive railroad systems, and the Americans are more than willing to supply all the manufactured goods that the Mexicans require, and all the breadstuffs and provisions they consume, if the Mexicans will confine themselves to their "indigenous" industries. "The products of Mexico," says an American exchange, "are mostly such as are peculiar to tropic and semi-tropic lands, and such they must remain in so far as international exchange is concerned; while in the United States the cereals, fruits, vegetables and articles of manufacture which distinguish the temperate zone more or less markedly throughout its whole circuit of the earth, must be the main reliance of our export trade to Mexico and to all other countries."

There does not seem to exist any great love on the part of the Mexicans for their Yankee neighbors. There are great racial

and religious differences between the two peoples; and while Mexicans may be desirous of seeing their country keep up with the procession of energetic Nineteenth Century nations, they do not propose to swap off their prospects of commercial and industrial independence to become the slaughter ground of American manufacturers. They may not be thoroughly acquainted with the English language, but they are not slow to observe that the reciprocity that the Americans are after is of a jug-handled description, with the handle on the wrong side for them. This fact was brought home to them very forcibly recently when Secretary of the Treasury Windom ruled adversely to their ideas of the law and justice, regarding the admission of Mexican argentiferous lead ores into the United States.

These Mexicans have a way of their own in resenting an injury; and the method they adopted in this instance was to retaliate by imposing heavy duties upon certain lines of American produce; a few specimens being as follows: Wheat, \$1.20 a bushel; corn, 28 cents a bushel; cattle, \$3 a head; hogs, \$2.25 a head; horses, \$20 a head, and manufactures of wood \$13 per hundred pounds. These duties seem to be prohibitive and to shut out American merchandise from the Mexican market. A Western sash and door manufacturer complains to his member of Congress that under this duty a door that he can sell at his factory for \$1.50 cannot be laid down in the City of Mexico, duty paid, for less than \$6.75. This is rough on the Western manufacturer, but it must be remembered that the average Mexican does not have much use for doors anyway, and that what wheat he has to sell readily brings him \$1.25 a bushel, which would mean a big profit to the Western farmer if he could run his wheat into Mexico free under reciprocity.

Mexico is not the only country with which the Americans desire reciprocity and for the same reasons. They are just dying for reciprocity with Canada, but it will eventuate no sooner to the north than to the south of them. Canada, unlike Mexico, is not distinguished from the United States by racial or religious peculiarities; nor is it a semi-tropical country. There are many marked and distinguishing features in common between Canada and the United States, among the most important being that indomitable energy and perseverance that has made the one the great and powerful nation it is, and which are rapidly placing the other in a similar position. It may be said that as between the United States and Mexico their interests lie in longitudinal lines, which as regards Canada and the United States, their interests lie parallel and in latitudinous lines. It may be that Mexico will never achieve even a tithe of the industrial independence now held by Canada; and if she never does, there is no reason why, if she has to depend upon other nations for many of her manufactured products, a very large part of her demands should not be met from the United States. But this can never be the case with Canada. In this country we have every element of greatness; and the difference in this greatness as between Canada and the United States is of quantity only—not quality. Whatever has tended to make the one country great and independent will as certainly make the other equally so. Whatever may tend to repress our elements of greatness must be repressed. There can be no strong objections urged against a reciprocity in natural products between Canada and the United States, but there is every objection to be urged in

making reciprocity unrestricted. If our American neighbors have extensive manufacturing plants with which they may be able to supply other markets than their own with their products, Canadians desire the prevalence of a similar condition here; but the way to prevent this is to allow our neighbors to use ours as a slaughter market for their overproduction.

Canadians are too proud and too self-reliant to allow Americans, or any other people, to do for us what we ought and can do for ourselves. Canada is not Mexico.

#### LAWS THAT OPPRESS CANADA.

It is understood that the Imperial Government will disallow the Canadian Copyright Act, recently passed by the Dominion Government. This Act was clearly within the spirit of the law that called the Dominion of Canada into existence, and bestowed upon her the right to manage her own internal affairs as she pleased. This Dominion has always been loyal to the Mother Country, and she desires to maintain towards her the most amicable and kindly relations; but the disallowance of this Act is not calculated to increase our love or to strengthen our affection for a Government that thus strikes directly at one of the privileges that we ought to enjoy. The disallowance is in the interests of both British and American publishers, and it directly antagonizes the interests of Canadian publishers. This Act is a legitimate and proper development of our National Policy, and we are as much entitled to legislate in this direction, and to have our copyright laws sustained as we are to impose tariff duties against importations of British merchandise. British owners of copyrights refuse to make any arrangements with Canadian publishers whereby their books may be manufactured in this country, preferring rather to include Canada with the United States in any arrangement they may make with American publishers for the production of their books. This leaves Canada at the mercy of American publishers; and we observe the strange anomaly of Canadians being prevented from publishing British copyrighted books, while at the same time the market is flooded with cheap reproductions of the same issued from the United States.

This sort of thing is becoming exceedingly monotonous, and it is not at all strange that Canada is becoming very tired of it. We should be allowed to make all our own laws, or the entire privilege should be taken from us. Many of our most valuable interests are most unaccountably held in abeyance by the Imperial Government, without any good or satisfactory reason being given therefor, and to the great discouragement of Canadian industrial enterprise. Year after year Canadian vessels with Canadian crews have been arrested on the high seas and despoiled of their cargoes by the armed cruisers of a not over friendly nation; and although public sentiment and the laws of nations are clearly against such doings, Canada is helpless to redress the wrongs of her people, and the Imperial Government, which is supposed to protect British rights all the world over, stands supinely by and raises not even a faint remonstrance in our behalf. Time was when things were not so. Time was when the floating of a British flag over a vessel, particularly on the high seas, meant protection to both vessel, cargo and crew. Alas, this is not so now.



Britain has achieved her greatness more through her Navigation Laws and her special laws made in the interest of British merchants and manufacturers than in all other ways combined; and these laws now bear so gallingly on Canada that it were well if they were modified or repealed as affects this country. Very similar to her Copyright Laws, which, as we have shown, bear so unjustly upon us, are her Navigation Laws which enforces the right of British shipowners to bring their vessels to Canada and participate in our coastwise trade on equal terms with Canadian vessels, and without the payment of any duties, or of any dues more than are exacted of Canadian vessels. Builders of vessels in this country pay duty on much of the imported materials entering into their construction, but British vessels, including their equipments and furniture, are allowed to come in duty free and enjoy all the advantages of the domestic trade. Time was when Canada did not aspire to the national dignity she now seeks; and then it was that Britain may have had a substantial reason for enacting her Navigation Laws. She desired to be the builder of ships for all nations, and the international carrier of merchandise for all the world; but the day has long since passed when she could do this; and the day is come when Canada demands the right to legislate in favor of all Canadian industries, even if it be against British interests.

Britain will have to recede from the position she has taken against the Canadian Copyright Act. She may dislike to do it, and may hesitate and put the matter off as much as possible, but she will have it to do. And when Britain begins to recede from the enforcement of laws that are oppressive of Canada, she will recede from her Navigation Laws that now make the building of a Canadian merchant marine impossible.

#### AUSTRALIAN CONFEDERATION.

AUSTRALIAN, or Australasian federation seems to be an approaching fact. Our readers are aware that each of the Australasian colonies maintains its own tariff which is enforced against each other colony as well as against the rest of the world. Efforts have been made for some time past to bring about an arrangement whereby there would be Free Trade between these colonies; and the recent conference at Melbourne of representatives of the colonies seems to have brought that condition appreciably nearer. The great difficulty that appeared to bar the way to the Confederation scheme was the dissimilarity of the tariffs of the different colonies; but the desire for Confederation was so strong that the importance of this barrier became greatly diminished, the general feeling being that the whole tariff question would be remitted to a National Parliament should such be called into existence.

Speaking of the situation in this respect, the *Australian Ironmonger* says:—

"It is probable that the immediate effect of the uniform tariff will be much smaller than many people believe. Between the different colonies there is not nearly so much difference in the conditions of labor and capital as there is between Australia and Britain, or Europe. Other things being, therefore, equal, the cost of freight will have a much greater influence on the course of trade than is now suspected. Until steamship communication becomes much more extensive and much

less costly, Adelaide, Melbourne, Sydney and Brisbane will be still largely protected against each other. And yet for many years to come the establishment of a uniform tariff can hardly check appreciably the growth of our imports of engineering goods, hardware and metal goods generally, though, in individual cases, the effect may be considerable."

While the establishment of this Australian Confederation seems to be a foregone conclusion, it is inevitable that a number of years must elapse before it is accomplished. But it is coming nevertheless; and without doubt it will be but a stepping stone in the road to distinct nationality of what will be one of the great powers of the world; the corner stone of which will be Protection to Australian industries.

#### A CRUEL DECEPTION.

WHAT is now known as "Webster's Unabridged Dictionary" was copyrighted and published in 1847, and as the work passed through its successive revisions, each revision was successively copyrighted, the last copyright having been issued, we believe, in 1884, the late editions containing supplements including about five thousand new words with their definitions, together with much other important and valuable matter. The late Chief Justice Waite, of the Supreme Court of the United States, recognized this dictionary as standard authority in the Federal courts; it is the standard used in the printing offices of the United States Government, and it has been and is warmly endorsed by the best writers of the country, and recommended by superintendents of Public schools of about every State of the Union.

The 1847 copyright of this work has expired by limitation, and now both the United States and Canada are flooded with cheap and trashy imitations of it. In some respects this spurious affair resembles the original—that is to say it is similar in size and general appearance, and the title announces it to be "Webster's Unabridged Dictionary." But a close examination of it shows that the paper, the press work and the binding are all vastly inferior to that of the genuine article; and the best that can be said of it is that it is a reproduction of a work that possessed valuable features more than forty years ago, but many of which have become obsolete by the advances made in lexicography in that time. In many instances the etymologies are misleading, the definitions imperfect, the vocabulary defective, and thousands of words and terms now in common and constant use conspicuous by their absence. No sensible man could expect to buy gold dollars at a discount, and the offering of anything resembling them for less than their face value would be *prima facie* evidence of fraud: So, too, regarding Webster's Dictionary; the genuine article is only published by one concern at a stated and uniform price, and when cheap and base imitations of it are hawked in cheap stores at what are claimed to be exceedingly "cheap" prices, it amounts to a cruel and heartless deception, against which we deem it our duty to warn our readers.

This deception is all the more cruel from the fact that the persons appealed to to become purchasers of this spurious book are the ones least able to invest their money in expensive works, but who it is sought to inveigle by false representations. These persons are usually of small means, and

students who desire to obtain correct and reliable information in this direction, but who will meet certain disappointment if they purchase this book. It is noticeable that this book is being handled almost entirely outside the regular trade channels, but in cheap stores of various characters; and we have knowledge that one of the daily morning papers of Toronto is offering it as a premium, valuing it at about three dollars, as an inducement for subscriptions, although it is advertised at retail as low as \$1.57 per copy.

#### EDITORIAL NOTES.

THE city council of Hamilton, Ont., have passed a resolution to the effect that all machinery, paint and tools used in any factory in the city of Hamilton be exempt from assessment for taxation.

OUR respected and candid contemporary, the *Iron Trade Review*, is requested to refer to our issue of May 2nd, wherein it will find editorial discussion of the "fruitful subject" to which it alludes in its issue of May 1st.

THE Russian Government has decided to advance very materially the duties on certain goods of foreign origin—agricultural implements among others. This is done to stop imports and to induce manufacturers from abroad to put up in Russian territory factories capable of supplying the home market until Russians can manufacture the goods they use without foreign assistance.

THE Dominion Minister of Militia will supply all the ammunition necessary to the Canadian Military League for the teams that are to engage in the forthcoming shooting matches under the auspices of the League. There is a maximum amount of Canadian individuality in the League, and as these shooting matches are for the education of Canadian marksmen in the use of the rifle, the Minister has done well in supplying them with the necessary ammunition.

IN the Philippine Islands, where earthquakes are more or less frequent and severe, the people have commenced putting up iron edifices to resist the seismic influences. The United States Consul there reports that in rebuilding a church, 162 feet long by 70 wide, at Manila, wrought and cast iron, securely bolted together, were the principal material used. The walls are of double plate iron with a space of thirty inches between the plates, and the elaborate architectural decorations are of cast iron. When finished the structure will weigh 1,600 tons and cost \$35,000.

WE have great respect for the candor and ability of the *Iron Trade Review*, but are surprised at its lack of accustomed thoroughness in pursuit of information in supposing that we had failed in that respect when stating that the manufacture of steel is not an industry carried on in Guelph, Ont. We again assert that there is no steel manufacturer whatever in that town. We are ready to admit, however, that there are manufacturers there who consume steel in their business, as there are in every city, town, village and cross-roads in Canada. But there is no manufacturer of steel in the Province of Ontario.

THE man who is shocked to death by electricity should be buried in a volt.—*Texas Siftings*. Yes; it would be an appropriate place for his last ohm.—*Toledo Blade*. Since he is sure to dynamo.—*New York World*. Wire you so certain? he might offer you resistance.—*Electro-Mechanic*. We intended to remark upon the shocking character of the above, but they came insulate that we were afraid they would hardly pass current.—*Builder and Woodworker*.—What bad attempts to telegraphic story.—*Builders' Exchange*. Watts the matter with the attempts? Coulomb off if you don't appreciate di-electric stories.—*Cincinnati Artisan*.

Our respected contemporaries are all wrong—cut out, as it were. Phonographic story, however grounded, could portray his excited feeling, alternating with such intensity twixt hope and fear.

THE recently elected Mayor of the town of Edgerton, Kansas, is Mrs. Maggie Kelly, the wife of a flour miller of that place. She is described as being an exceedingly handsome woman, less than thirty years old, who is largely endowed with good hard common sense, and she is proud of the distinction of having become a mother in the same week in which she was elected to office, taking more interest in the former event than in the latter. She is modest and retiring, and loves her own home more than public honors. She does not consider the performance of household duties as beneath the dignity of a lady, and impresses one with the conviction that she can manage as well the affairs of a city as she evidently does those of her own household. It is predicted that she will make a spanking good Mayor.

THE Washington House of Representatives has adopted a modified resolution upon the subject of closer commercial relations with Canada. It sensibly provides that whenever the Dominion expresses a desire to have unrestrained trade between the two countries, the United States will turn a listening ear and the President appoint commissioners to see about it. That's better. Let Canada take the initiative.—*St. Louis Stove and Hardware Reporter*.

Closer commercial relations between Canada and the United States would probably be a good thing—for the United States if it should be "unrestricted." But Canada will never give American manufacturers unrestricted access to the Canadian market. Canada has had upon her Statue books for years an open offer to the United States to exchange natural products free, but it has never yet been accepted. Canada will take no "initiative" in any other sort of Reciprocity.

THE Dominion Parliament have passed an Act authorizing the payment of a bounty of two dollars a ton on all pig iron manufactured in Canada from Canadian ore, on and after July 1, 1892, for five years. The present bounty is one dollar a ton. The production of pig iron in Canada last year was only about 30,000 tons; and the duty imposed upon imports of the article is only four dollars a ton. The consumption of imported iron and manufactures thereof in Canada amounts to about 300,000 tons a year, and there is no reason why all of this should not be manufactured in Canada, except that the duty is not high enough. If instead of granting a bonus of two dollars a ton the Government had increased the duty to that extent, it would not then have been as great as that imposed by the American tariff, but it would probably have incited the establishment of additional blast furnaces and

the utilization of the rich ores of some of the Canadian iron mines that now remain undeveloped. The duty should be increased.

THE Grit papers have recently been directing attention to the fact that corn was being used for fuel in some of the Western States, and accusing the protective policy of the United States of being the cause thereof. Of course this was the silliest twaddle, for the price of the article is not controlled in any way by the tariff, but by the Liverpool market, where it enters into competition with the breadstuff sent there from all quarters of the globe. Corn in Iowa this year is about twelve cents a bushel less than it was last year; but the price in Liverpool this year is only four cents a bushel less than it was a year ago; the cost of transportation from Iowa markets to Atlantic shipping ports being unchanged. The difference is in the higher rate of ocean carriage, the freight upon all agricultural products having been greatly advanced. Iowa farmers will consult their best interests if they will diversify their crops so as to ensure the consumption in home markets of all their products, and not depend upon foreign freight carriers and foreign markets in the disposal of them.

THE *Marine Journal* of New York makes use of the figures recently compiled by this paper from the Inland Lloyds Register, and adds that "Canada has sixty-two new steamships and eleven sail vessels in her new fleet added in 1889." This is a mistake. The figures represent the addition to the merchant marine of the United States on the lakes in 1889. It is probable that Canada did not add more than half a dozen to the lake fleet in that year. The ship-yards of Cleveland, Detroit, West Bay City and Buffalo, are building the boats of the lakes, while Canadian manufacturers are crying for protection to enable them to enter the shipbuilding business.—*Cleveland, O. Marine Review.*

This is a disagreeable fact that must be acknowledged. There is a big and profitable business open for steamers on the lakes, and Canadian steamers would enjoy their full share of it if the shipbuilding industry received such protection in Canada as it does in the United States. But as our laws now are, Canada can never expect to participate fairly in this trade, and, strange enough, those who would be most benefited by it—Canadian shipbuilders and Canadian shipowners and seamen—are the ones who, instead of demanding the full and fair extension of our National Policy over that industry as a right, accept half-hearted concessions of remissions of duty on some of the materials entering into the construction of Canadian vessels so called. Canada is at the mercy of bad laws that ought to be repealed.

PERHAPS no one gives as much in return for his wages as a professional labor agitator. In his own estimation he is always the most important man in town, and yet his very stock in trade is wind. The industrious employe quits him with "give us a rest," while the manufacturer treats him courteously only to be misrepresented. The agitator is never satisfied with the passage of a law, but must on every occasion, when possible, make himself obnoxious to employes who are anxious to make fair wages. An agitator of this class was instrumental in having the Labor Committee from the Massachusetts House of Representatives visit Lawrence, Mass., on the night of March 13th, with a view of acquiring information

relating to the working of women and children at night in factories. Fortunately for the cause of liberty, most of the women and children had no complaint to make, as they have a holiday from 6 a.m. Saturday morning to six o'clock the following Monday morning. *Fibre and Fabric* is with all in an honest endeavor to ameliorate the condition of the laboring man everywhere, but the "professional agitator" is but an anarchist strayed from his kindred. The storekeepers and business men of the town make a sad mistake when they invest this class of men with authority. The interests of the employer and the employe are one, and if our industries are crippled in any way the employes will be the sufferers. It is a mistake to allow agitation to saddle all experimental laws on the manufacturers.—*Wade's Fibre and Fabric.*

THE falling off of importations of dry goods at Toronto explains in a measure the cause of the tears being shed by importers and their denunciation of the tariff. During the month of April, the value of such importations amounted to only \$383,913 as compared with \$681,544 in March, and \$488,406 in April of last year. In all classes of goods there is a decrease, and woolens show a falling off of nearly \$38,000 as compared with the corresponding month of last year. The following shows the imports in detail during April, as compared with the same month of last year:—

	April, 1890.	April, 1889.
Cotton, manuf. of.....	\$ 90,819	\$113,910
Fancy Goods.....	46,624	50,024
Hats, caps and bonnets.....	44,425	49,773
Silks.....	63,880	97,742
Wool, manuf. of.....	138,167	176,937
Total.....	\$383,913	\$488,406

THE aggregate imports of goods at Toronto during April were valued at \$1,381,674, as against \$1,495,752 during the corresponding month last year. The cause of this decrease in importations of dry goods is to be found in the increased consumption of home-made goods.

MR. F. SUGIMURR, Japanese Consul at Vancouver B.C., has written an official letter to the Toronto Board of Trade, in which he states that the business men of Osaka, a large commercial town in Japan, contemplate establishing a commercial museum or exchange there and that they desire to obtain samples and specimens of the manufactured products of Canada for exhibition in it. Mr. Sugimurr says:—

"I think their intention is a good way to encourage trade between both our countries, but owing to my not having any facilities for gathering them from the several districts in this country, I have the pleasure to ask you to take the trouble of sending me any information about your products or manufactures according to annexed note.

If you allow me to give the said information, and I find anything in it which would be suitable to said museum, I will again ask you to send them on payment of proper cost.

As a further inducement, if there are any merchants or manufacturers wishing to send several products or manufactures at their own expense for our museum I will be glad to receive them, and at my expense send them to Japan, and I would esteem it a favor."

The names of articles about which the information is desired are as follows; Vegetable wax, flours of different kinds

of grain, sauce, menthal, crystal and peppermint oil, cotton and silk cloths, cotton and silk or woolen and silk and woolen mixture, porcelain and earthen ware, copper and bronze ware, bamboo and woodenware, wall paper, furniture and several kinds of ware for house use, umbrellas, fans, etc. Information with reference to the above items is of importance, showing wholesale or export price for single articles, dozen, pound, etc.; place of production or manufacture; names of manufacturers; amount produced or manufactured during a year; amount exported to foreign countries in 1889; rate of discount allowed on wholesale orders for export purposes; name of principal merchant in particular line of business. Manufacturers interested in this matter should put themselves in communication with Mr. Sugimurr at Vancouver.

REFERRING to the proposed federation of the Australian Colonies, *Bradstreet's* a few days ago published a letter from its Melbourne correspondent in which, speaking of the conference of delegates held in Melbourne in February, says:—

"The conference was proposed by Sir Henry Parkes, Premier of New South Wales. Two delegates were sent by each colony, except Western Australia, which sent one, and the South Australian and Queensland delegates each included the leader of the Opposition. The principal resolution, moved by Sir Henry Parkes, and debated at length, affirmed that the development of the colonies since 1883, when the Federal Council was founded, justified the union of the Australian colonies under one Legislative and Executive Government. The above resolution does not include New Zealand, whose delegates would not bind themselves to join the other colonies, principally because of its distant insular position and its South Sea interests, which only slightly concern the continental colonies. But a resolution was passed entitling the 'remoter Australasian colonies' to admission in the future. Two other resolutions were passed providing for the holding of a national Australasian convention, to consist of seven members from each colony, except the Crown colonies, who will send four each, and 'empowered to consider and report upon an adequate scheme for a federal constitution.' This convention will probably meet early next year. A proposal was made by a Victorian delegate providing for the interim employment, for defense and other common purposes, of the Federal Council, but the motion was withdrawn in order not to create an unfavorable impression in New South Wales, where the Federal Council is disliked. The only real difficulty in the way of federation is the tariff question. Many Victorian Protectionists are averse to a removal of duties on the products of other colonies. The New South Wales Free Traders, on the one hand, dread the probable loss of their cause in a common Australian vote, but, on the other hand, consider that the country population of the colonies, being no longer protected from one another, may unite in favor of Free Trade. The New South Wales Protectionists desire to establish, and the South Australian Protectionists to maintain, a system of protection until their 'infant manufactures' can stand in free competition with the older Victorian manufactures."

ENGLISH manufacturers display still the same carelessness as to the wishes of their Australasian customers which has in the past given the first opening for the intrusion of the German into their best markets, and we suppose that the improvement of general business at home will make them even more independent. When Jeshurun waxed fat he kicked, and this seems to describe the British manufacturers' attitude exactly; but some of them, doubtless, remember the evil times after the collapse of business in 1875, when it was their turn to be kicked. We have heard within the last few

weeks of one respectable firm in Britain which took an order for certain goods for delivery within a specified time. Delay after delay, and excuse after excuse was made, until the time for delivery had more than expired; then word was sent that the order would not be executed, unless at a rise in price. We called the firm just now respectable, but that was their title of courtesy. We hear of another firm which has had orders on its books for bread and butter stuff for six months, but during that time has only sent an acknowledgment of the order, no excuse for the delay in filling it, or hint that it may be expected within any reasonable time. The natural result of all this is to encourage competition in more than one direction. The foreigner is invited to seek some of the business which our fellow countrymen seem to care little about. And the enterprising colonial, who knows ever so little about the matter, is tempted to see if he cannot supply some at least of the local demand. In both cases the first success is not generally great, but one has only to reside in these colonies a few years to be more and more impressed with the speed with which new industries are established in the face of the greatest odds, and to recognize that the very enterprise which leads men to undertake industries, which no one in England would venture upon without a life-long training, is just the factor which compels final success. Let no British manufacturer flatter himself that he is secure in the possession of secrets of manufacture or manipulative skill, so that he may treat his colonial customers as cavalierly as he pleases. As soon as a business seems to meet a demand which will give any man a good profit some one will attempt it in the colonies. He may fail, but he will have successors, who, profiting by his mistakes, will, sooner or later, succeed. It is a common remark among the more observant in Australasia that the best of the men who have come out from Britain as agents for manufacturers have, sooner or later been so disgusted with the indifference with which they have been treated by their principals, that they have turned to other, and often manufacturing, pursuits.—*Australian Ironmonger.*

In an editorial in this issue *re* "The Sudbury Nickel Mines," Mr. S. J. Ritchie, of Ohio, is mentioned as being one of the American capitalists who own these mines. The *Morrisburg, Ont., Courier* has the following to say regarding this gentleman and his Canadian friends:

The name of S. J. Ritchie, the Ohio capitalist, is well known in this country. He is a friend of Wiman, and was largely instrumental in bringing about the present discussion of the relations of Canada and the United States. The *Conservative Press* has often charged the Grits with being Annexationists—we say the Grits, but be it remembered that there are two sections of the Reform Party, the Grits and the Liberals. The former have shown by their speeches and attitudes upon the public questions of the day to be largely tinged with annexation sentiments, while the latter spurn the idea of selling their country, and at the next general election will separate themselves from the traitorous element. Loyal Canadians, listen to the words of S. J. Ritchie, of Ohio, the friend of Wiman, the ally of Butterworth, the instructor of Hitt, and the drafter of the present policy of the Grits in the House of Commons. Here is what he said to a New York reporter:

"The change of sentiment in Canada over the question of Reciprocity or annexation with the United States has been marvellous in three years. It is just that long ago since I drew up the Reciprocity resolution which was introduced into the Dominion Parliament. I could not induce a single member to introduce it until just at the close of the session, when it was so late that there could be no debate on it. At that time the Canadian who breathed the word annexation was stamped as a traitor with capital letters. Now, the very same resolution is introduced early in the session as the principal plank of the opposition to the Government, and Annexationists

have been elected to local offices on that issue alone. The drift of things is distinctly towards the final union of the two countries. Anybody can read the handwriting on the wall."

How do you like that, Canadians? Was the Conservative Press wrong in placing the stigma of traitor on the Grits in the House? The words of Ritchie, the intimate friend of the Grit leaders, answer the question. Read also the speeches of Cartwright, Charlton and others in the House of Commons, and if they don't breathe of annexation words of man never did. If the loyal element of the Liberal Party does not interfere, and that right soon, the Grit faction will throw off all disguise and come out flat-footed for annexation.

THE directors of the Geological Survey of Canada have issued the following summary of the mineral production of Canada in 1889. It is subject to revision:

NAME OF PRODUCT.	QUANTITY. (A)	VALUE. (B)
Antimony, tons.....	55	\$ 1,100
Asbestos, tons.....	6,014	424,350
* Bricks, thousands.....	190,824	1,252,667
* Building stone, cubic yards.....	310,582	899,105
Cement, barrels.....	90,474	69,790
Charcoal, bushels.....	1,426,800	83,573
Coal, tons.....	2,719,469	5,570,742
Coke, tons (c).....	54,539	155,043
Copper, pounds (d).....	6,810,952	885,424
Felspar, tons.....	510	5,100
Fertilizers, tons.....	775	26,606
Fire clay, tons.....	400	4,800
Flag stones, square feet.....	14,000	1,400
* Glass.....		150,000
Gold, ounces, (e).....	61,799	1,116,145
Granite, tons.....	12,535	78,624
Graphite, tons.....	220	1,630
Grindstones, tons.....	3,385	30,63
* Gypsum, tons (f).....	206,201	193,658
* Iron, tons.....	58,783	2,210,062
Iron ore, tons.....	84,181	151,640
Lead, pounds.....	164,000	5,863
* Lime, bushels.....	2,278,678	265,208
Limestone, for flux, tons.....	22,122	21,909
Manganese ore, tons (g).....	1,447	31,814
Marble and Serpentine, tons.....	980	980
Mineral paints, tons.....	794	15,280
Mineral water, gallons.....	404,600	37,360
* Miscellaneous clay products.....		239,385
Petroleum, barrels (h).....	704,690	672,978
* Phosphate, tons.....	30,540	312,182
Pig iron, tons.....	25,921	499,859
Platinum, ounces.....	1,000	4,500
Pyrites, tons.....	68,047	306,212
* Salt, tons.....	24,716	110,387
Sand and Gravel (exports), tons.....	451,195	69,506
Silver, ounces.....	378,675	343,848
Slate, tons.....	6,935	119,160
Soapstone, tons.....	195	1,020
Steel, tons.....	26,333	917,822
Sulphuric acid, pounds.....	10,998,713	148,482
* Tiles, thousands.....	10,286	130,871
Estimated value of mineral products not returned (principally nickel, iron, mica and structural materials).....		1,933,752
Total.....		\$19,500,000

\* Some returns yet to be received.

(a) Quantity marketed, except when otherwise specified. The tons are of 2,000 pounds.

(b) Market value, less charges of transport from point of production.

(c) Oven coke; all the production of Nova Scotia.

(d) Copper contents of Canadian ores at 13 cents per pound at the mine.

(e) Nova Scotia gold is calculated at \$19.50 per ounce, and that from British Columbia at \$17.

(f) Production of New Brunswick and Ontario, plus Nova Scotia exports.

(g) New Brunswick production, plus Nova Scotia exports.

(h) These figures are calculated from the inspection returns at 100

gallons crude for 38 gallons refined oil, and are computed at 95½ cents per barrel of 35 imperial gallons. The barrel of refined oil inspected was assumed to be 42 imperial gallons.

THE object of the Canadian Military Rifle League is to encourage rifle practice, and to induce those who have not already done so to make military rifle shooting their favorite pastime. The teams for the season of 1890 are limited to regimental teams of ten men each, comprised of officers, non-commissioned officers or privates who were enrolled prior to May 1st, 1890. Any regiment may enter any number of teams. The ranges and positions will be at 200, 500 and 600 yards, seven shots at each, the shooting to be done with the Snider rifle. The matches are to be fired on Saturday May 17th and 31st, June 14th and 28th, July 12th and 26th, and August 9th. The ranges are to be at places selected by the teams themselves, and the shooting under the direction of range officers, and in accordance with the rules and regulations of the League. Score sheets are supplied by the League, and immediately at the close of the firing each team's total score, and other particulars are to be telegraphed to the chief operator at Montreal of the Canadian Pacific Railway Telegraph Company, who will send a return dispatch to each team, containing the scores of all the contestants, as soon after each match as possible. The entrance fees are \$10 per regimental team, which are to be devoted to the purchase of trophies and badges. There will be one trophy for each five teams entered, and certain individual prizes to be awarded at the discretion of the executive of the League; the team prizes to be won by the highest aggregate scores of the seven matches. In the distribution of the League badges every competing team will be awarded a badge to be won by the highest individual aggregate score of that team. When not covered by League rules, the Dominion Rifle Association rules will be observed. The first annual meeting of competitors and presentation of prizes will take place at the Dominion Rifle Association matches at Ottawa on September 1st. In addition to the League prizes there are several special prizes offered by different gentlemen. It gives us pleasure to announce that every feature of these contests is and will be strictly Canadian in character, the trophies, which will be beautiful and valuable, and also the embroidered badges, being made by leading Canadian manufacturers. This is a departure on the part of this League for which those having the matter in charge are to be congratulated. Heretofore all military trophies, and even the badges also, have been made in England, the ridiculous idea seeming to prevail that such things could not be satisfactorily manufactured in Canada: but we are assured that in this contest the Canadian Military Rifle League expect to present trophies that will compare most favorably with any that can be produced anywhere else, all of which will be exhibitions of Canadian skill and handicraft, of which all Canadians will be justly proud.

A BILL has been introduced into the Dominion House of Commons by Hon. J. A. Chapleau, Secretary of State, providing for the collection and publication of labor statistics; and it is probable that it will become a law at an early day. In introducing the Bill Mr. Chapleau said:

"The character of the Bill is already known. It has often been mentioned in the public press, that a necessity existed

publishing special statistics concerning the relations between capital and labor. Without entering into the question itself, I may say that it has often been stated as one of the grievances of the laboring classes that the different statistics obtained by Governments and published by them were not such as would put their claims their wants, their just demands before the public and before Parliament. The necessity for the establishment of a bureau of statistics has been often admitted, and it has been brought under the consideration of Government and of Parliament, by the trades unions and the other labor organizations of the country. Promises were made, that the attention of Parliament would be called to this matter, and that a measure would be introduced with that effect. This is the measure. In this we are following the example given to us by the neighboring country, where a Labor Bureau is established. This Bill consists in provisions for the organization of such a bureau. It is proposed to establish a new branch under the Minister of Agriculture, as a branch to attend to labor statistics. The Minister presiding over that Department will be the Commissioner of Labor Statistics. He will have the right to appoint an assistant whose duty it will be to collect these statistics. I may say here that, if this measure has not been presented by the Minister of Agriculture, it is because I was charged at the beginning of the Session with matters affecting the relations between capital and labor. I have prepared this Bill, which is a very inoffensive one, and there should be no need to say, as some of the press of the country have said, that it was a slur upon one of my colleagues because this Bill was prepared by the Secretary of State, who is the general channel of communication with the outside world. It is provided that it shall be the duty of the commissioner to collect from Dominion, Provincial and Municipal officers, and of all officers of any public institutions in the nature of boards of trade, harbor commissioners, and of all trades unions, mutual benefit associations and other workmen's associations, all the information in their power necessary to assist in carrying out the objects of this Act. The amount of \$10,000 is to be appropriated to provide for the working of the new Department, including the publishing of the report of the Commissioner of Labor. The principal objects of investigation will be agricultural, mining, mechanical and manufacturing industries, transportation, clerical and all other skilled and unskilled labor, that amount of capital invested in lands, buildings and machinery respectively, and the means of production and distribution generally; the number, age, sex and condition of persons employed, the nature of their employment, the extent to which the apprenticeship system prevails in the various industries requiring skilled labor, the number of hours of labor per day, the average time of employment per annum, and the net wages received in each of the industries and employments in Canada; the number and condition of the unemployed, and their age, sex and nationality, together with the cause of their idleness; the sanitary condition of lands, workshops and dwellings, the number and size of rooms occupied by workers, etc.; the number, and condition of the Chinese in Canada; the number, condition and nature of the employment of the inmates of prisons, and so on, and all such other information as the commissioner deems essential to further the objects of the Act.

WE recently mentioned the fact that the employes of the McCleary Manufacturing Company, London, Ont., had organized a social club under the name of the McCleary Club. It has been in operation but a few weeks, and at this time it has about 18; members of whom thirty-three are ladies. Meals are served to the members at all hours at a very low rate, and on an average fifty-five a day so far have availed themselves of this convenience. A large restaurant in connection furnishes the members and the general public with refreshments.

The amusement department comprises billiards, cards, checkers, chess and everything that would tend to keep the members from wandering about the streets, and furnish them with amusements which are harmless and enjoyable. The ladies' department contains a fine piano and everything else that would help to make it home-like. A reading-room containing a number of books and the latest papers seems to be well patronized. Altogether the club has seven well-fitted rooms with every convenience, after the most improved pattern. The following from their constitution will give an insight into the working of the organization:

1. Entrance fees for members shall be at the rate of \$4 per annum or \$1 per quarter for men and boys earning over \$5 per week. All girls and boys other than above to be admitted with same privileges at half rates.
2. No intoxicating liquors shall be allowed on the premises.
3. No games or amusements shall take place on Sunday.
4. No member shall be permitted to gamble on the result of any games.
5. The punishment for an infringement of these rules to be suspension or dismissal.

Mayor W. M. Gartshore, of the McCleary Manufacturing Company, is President of the Club, assisted by sub-officers and committees selected from among the Company's employes. There are a competent steward and stewardess and a first-class cook.

## SPECIAL ADVERTISEMENTS.

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

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

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

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

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

**FOR SALE** in Kent County, Michigan, the Buchanan Mill property consisting of a first class lumbering mill the extensive water power in connection with it including the entire

power furnished by the river with real estate on both sides of sixteen acres, situate one mile from Main Street of Lowell, a rich farming country surrounding an excellent location for paper mill, furniture factory, woolen mill and the many uses that require power. Also a splendid home and farm of 87½ acres with buildings, fruit, evergreens etc For further information call at the premises of JAS. R. BUCHANAN, Lowell, Michigan.

The officials of the Geological Survey of the Dominion have made public their preliminary table of the mineral production of Canada in the year 1889. It is understood that the figures are subject to revision, for the returns are not in all cases complete; but as far as they go they exhibit a gratifying increase in many important directions, the aggregate value being some three millions of dollars in advance of 1888. There is no very great increase in coal production, the year 1888 having been in some respects exceptional under this head, but the increased yields of gold and copper are encouraging. The larger figures of iron, pig and rolled, may well attract attention. Pyrites shows an increase of sixty per cent.; and the manufacture of sulphuric acid, that "barometer of a people's progress," as it is called, shows a still greater ratio of increase. A decrease in production of petroleum is manifest, however. Structural materials, such as building stone, bricks, tiles, etc., show a marked advance in production. The estimated value of mineral products not returned, principally nickel, iron, mica and structural materials, was \$1,933,752, making a total of \$19,500,000 produced last year.

	VALUE, 1889.	VALUE, 1888.
Coal.....	\$ 5,570,742	\$ 5,259,832
Gold.....	1,116,145	1,058,610
Iron, rolled.....	2,210,062	1,442,974
" pig.....	499,859	226,443
" ore.....	151,640	139,493
Steel.....	171,822	470,819
Copper.....	855,424	667,543
Silver.....	343,848	368,396
Pyrites.....	396,211	232,938
Manganese ore.....	31,814	47,243
Phosphates.....	312,182	242,295
Salt.....	110,387	143,804
Mica.....	.....	30,207
Lead (fine in ore).....	5,873	27,742
Petroleum.....	672,978	716,067
Gypsum.....	193,658	179,393
Grindstones.....	30,153	42,159
Sulphuric acid.....	148,482	97,755
Mineral paints.....	15,280	11,750
Graphite.....	1,630	1,200
Asbestos.....	424,350	255,007
Antimony.....	1,100	6,894
Arsenic.....	.....	1,200
Mineral water.....	37,360	11,456
Charcoal.....	83,573	15,703
Coke.....	155,043	134,181
Fertilizers.....	26,606	21,600
Limestone, for flux.....	21,909	14,742
Brick.....	1,252,667	1,033,721
Building stone.....	899,105	561,597
Lime.....	265,208	339,541
Tiles.....	130,871	114,057
Granite.....	78,625	63,846
Marble and serpentine.....	980	3,110
Slate.....	119,160	90,689
Sand and gravel.....	39,506	.....
Flagstone.....	1,400	.....
Cement.....	69,790	35,593
Miscellaneous clay products.....	239,385	350,370
Glass.....	150,000	150,000
Feldspar.....	5,100	.....
Fire clay.....	4,800	.....
Platinum.....	4,500	.....
Soapstone.....	1,020	.....
Add short returns of a dozen items.....	1,933,752	650,000
Total.....	\$19,283,990	\$15,259,190

It is claimed that wall paper can be made in such a way that the passage of a low tension electric current will heat it moderately warm to the touch, and diffuse throughout the room a moderate temperature.

THE Nova Scotia Steel and Iron Company, New Glasgow, N.S., operating under a new charter granted by the Legislature of Nova Scotia, have issued a prospectus relating to their business. The authorized capital is \$2,000,000. The Company are now employing about 450 men, and look to increasing the number as soon as they get to work building their blast furnace, etc., which will be immediately.

THERE are now in operation in the United States stationary electric motors aggregating between 5,000 and 10,000 horse power, besides 6,000 to 8,000 small motors, fan outfits, etc. The confidence of the public in the electric motor as the most reliable and economical power available is now an assured fact, which is becoming more evident every day by the demand for power in shops and factories using from twenty to 100-horse power, and even higher.

AN immense hydraulic riveting plant—the largest ever made—has just been built in London for an engineering company in Holland, and is to be employed on marine boilers. The riveter has a gap 12 feet deep, closes its jaws with a power of 200 tons, and is capable of closing rivets up to 3½ inches in diameter. A traveling crane, 50 feet high, is designed to raise and manipulate a boiler weighing anything up to 50 tons. The crane is operated by two engines, steam for which and the powerful pumps giving hydraulic power for the riveter's great accumulators, is supplied by two steel boilers, each capable of doing duty equal to about 130 indicated horse-power.

THIS transaction serves to illustrate how small is the actual amount of money needed to adjust balances: "The office boy owed one of the clerks three cents. The clerk owed the cashier two cents. The cashier owed the boy two cents. One day the boy having a cent in his pocket, was disposed to diminish his outstanding indebtedness, and paid the clerk to whom he was indebted three cents, one cent on account. The clerk, animated by so laudable an example, paid one cent to the cashier, to whom he was indebted one cent. The cashier, who owed the boy two cents, paid him one. And now, the boy having again his cent in hand, paid another third of his debt to the clerk. The clerk, with the said really 'current' cent, squared with the cashier. The cashier instantly paid the boy in full. And now the lad, with the cent again in his hand, paid off the third and last installment of his debt of three cents. Thus were the parties square all round, and their accounts adjusted.—*New England Grocer.*

GREAT interest is manifested here in the probable establishment of another electrical industry at West Lynn for the manufacture of welded shells. The works of the Thomson Electric Welding Co. are crowded to their utmost capacity in the manufacture of welding machines, which will be used largely in the new industry. As soon as the patents of Lieutenant Wood, U.S.N., for welding shells were brought to the attention of the Government, there was a prompt appreciation of their value, and an order was at once placed for 100,000 shells for Hotchkiss guns and Shrapnel shells as soon as facilities were ready for making them. The time of getting the patents, which usually takes six months, was reduced to thirty days. By the new process the shells, instead of being made of cast iron and boxed as formerly, are made by welding the chilled point and butt to a section of soft iron pipe. In the case of Shrapnel shells the labor and uncertainty of graduating the thickness of the shell with calipers after boring, and adjusting the nicely poised diaphragm between the powder at the butt and the bullets with which it is filled, is greatly lessened.—*Boston Advertiser.*

FROM carefully conducted tests recently made in England with a Thomson electric welding plant to ascertain the time required, the power consumed, and the probable cost per weld, it was found that ten welds of one inch round iron with rough ends could be made in thirteen minutes, and that a weld with most excellent finish could be made in considerably less than two minutes. In another test of a number of pieces of one and one-eighth inch round iron it was found that two and one-half minutes was ample time for each weld. Computing upon this basis, and taking the maximum horse power necessary, making allowance for the fact that the engine power was needed only about one-half the time, the engine running light the other half, it was found that the cost of the electric weld was somewhat less than that of the same work done at a fire in a blacksmith shop. The cost of the plant and its maintenance is not, however, considered in this. It is in this direction that a great saving is made by electric welding, as by the electrical process the number of

welds which can be made in one day by two men and a single machine is very great. When welds have to be made with great exactness, and where the heating must not extend far upon either side of the weld, the electrical process is far ahead of any other.—*Railway Review.*

TEXADA ISLAND, British Columbia, in the Gulf of Georgia, immediately opposite Nanaimo, is described by geologists and other scientific men as being at the same time the most wonderful and valuable tract of land on the face of the known globe. It is said to be rich in good silver, lead, copper, iron, coal, fire-clay, marble, granite, and, as the auctioneer says, many other things too numerous to mention. The iron beds of the Island have been, to a limited degree, opened up, and the raw material converted into the manufactured article. It is an apparent fact that the Island of Texada, like the opposite portion of Vancouver Island, is permeated with extensive beds of iron ore of the finest quality and containing a high percentage of iron. The departure to-day of E. Prest, C.E., and a party of men to prospect the ground of Texada Gold and Silver Mining Company, is an indication of the faith that still exists in the quartz ledges of Texada. This Company will prospect on their own ground; and it is sincerely to be hoped that their enterprising efforts will be crowned with ultimate success. Although the sensational excitement of last year has died out in regard to the quartz ledges of Texada, still there is in the hearts of many conversant with the Island an abiding faith that it will yet turn out well, and with proper appliances will make a good return on any investment made. The result of this prospecting will be awaited with eager interest by many of our citizens.—Nanaimo, B.C., *Free Press.*

MR. JOHN FARRAR, superintendent of the iron's company's foundry at Roxbury, has been experimenting with the transfer of writing from paper to cast iron, with interesting results. Some specimens of this metal decalcomania have been described in the *Herald*, but the story of the accidental discovery of the process is new. It was in the casting of the columns for the Crystal Palace, some years ago, that it was discovered what might be done in this way. The mould used was eighteen feet long, and it contains two lengths of cores, about which the metal was to run. Under the juncture of these cores a piece of paper was laid, that the dry sand, falling from the core and forming a scar on the surface of the casting, might be swept off the paper and the paper itself burned. On this particular occasion a handbill advertising boots and shoes was used, and when the column was exposed to the sunlight the letters of the words "boots and shoes" were seen delicately printed in the iron in reverse order. Superintendent Farrar was at once interested in this chance discovery, and found that, by writing backwards upon the ordinary paper with copying ink mixed with a little powdered graphite and running very hot melted iron upon it, the plate bore the writing indented upon its surface. By writing them backward he has in this way printed the Ten Commandments on a metal paste about 8x14 inches, the writing being of ordinary size, showing with perfect distinctness. Mr. Farrar says he does not intend to protect his invention in any way, but would be glad to see it developed and made useful to the public.—*Boston Herald.*

#### CANADA'S MINERAL WEALTH.

MR. W. H. AHN, Secretary of the Dominion Gold and Silver Reduction Company of Algoma, has just returned from the Sudbury District, where he has been engaged in the establishment of works for the reduction of ores. He has brought with him some remarkably fine specimens of minerals. These include samples of auriferous quartz of surpassing richness. The precious metal is to be seen clustering all over the stone, the veins sparkling with dazzling brilliance. The Sudbury District, where the minerals abound, is about 300 miles northwest of this city, on the "Soo" branch of the Canadian Pacific. The mineral belt starts almost at Nipissing, runs through Algoma, and contains some of the richest nickel in the world, and vast deposits of platinum, copper and metallic silver.

"Canada will," says Mr. Ahn, "develop in the course of the next year or two, into a great mining country. The mineral belt starts at Nova Scotia, traverses the Quebec district, where there are numerous phosphates, and then continues its course to the silver belt at Port Arthur, where there is more hidden wealth than was ever dreamt of in Old Mexico. Going westward still you get to the gold-bearing lode in the neighborhood of the Lake of the Woods. Then it seems to break off, and northward, near Winnipeg, you get into the argentiferous galena.

"In Sudbury," added Mr. Ahn, "there is, I believe, a greater combination of metals than there is in any part of the world. The quantity of platinum there is absolutely fabulous, and that is a mineral of great value now, for it has more than doubled itself within the past few years. There are auriferous deposits at Thessalon, forty or fifty miles west of Sudbury, worth thousands of dollars to the ton. New finds are being continually reported, and copper is to be found in great abundance.

"The Dominion Gold and Silver Reduction Company is formed for the purpose of affording the owners of property in the district an opportunity of testing the richness of their properties. The reduction of ores, examination and reports on mines and assay work are undertaken. In this way it is hoped the development of the mineral resources will be promoted."—*Toronto Globe.*

#### IRON AND THE TARIFF.

With an increase of only about one-seventh, or 1,000,000 tons, in the demand for pig iron in Great Britain, the price had been advanced in January more than sixty per cent. since February of last year, and to such figures that there were recently bids for American iron to be exported to England. Then came a slackening in the demand, and the price has fallen fourteen shillings in less than one month, having risen twenty-five shillings in the previous eleven months.

This experience has its lessons for Americans. There are persons in this country, who control the actions of one of the great political parties in and out of Congress, who propose that the duties on pig iron shall be removed. They reason that American consumers would thus secure cheaper raw materials. A year ago the price of Scotch warrants in England was about \$10 per ton, so that, with freight and commissions paid, the iron could be delivered in this country at not more than \$14 per ton; nor was this the lowest mark, for the year before the price had been \$1 lower. But there are comparatively few furnaces in the United States which could compete with foreign iron deliverable at \$14 a ton in Atlantic seaports, and it is far within the truth to say that furnaces yielding about half the American production, or 4,000,000 tons, would have to stop, if iron were selling at that price.

The Free Traders answer here, "The price could not be so low with an American demand to sustain the foreign market." But that is an evasion. The American demand would not exist nor influence the foreign market until American furnaces had been stopped. For the furnaces in this country are now producing at the rate of about 9,000,000 tons yearly, while the consumption here has never been as great. The British ironmasters would, at the outset, have to undersell American producers long enough to stop the production by many of them. With the powerful organization they possess, and the enormous stocks they have on hand, they could do this with ease, certain of an immense profit later. By selling, for a few months, at prices not lower than those made last year in February, the British makers could shut up at least half the furnaces of his country, and then could sell their iron at whatever price they please. The rise in January to more than sixty-six shillings per ton is only a faint indication of the advance which might, in that case, be effected, and with perfect impunity, for when an iron furnace has once gone out of blast it cannot be started again immediately, and will not, unless the conditions promise some permanence of profit.

The result would be a peculiarly artificial market, in which the British iron makers would have all the advantage. They could control the price on both sides of the ocean. British manufacturers in league with them could buy largely at a period of sudden and temporary weakness, knowing that the price would advance whenever their demand had been supplied. They could effectually shut out competition of American manufacturers by putting up the price of raw iron at their convenience. With no certainty that the foreign price would be maintained, or would not at any time be intentionally depressed in order to accomplish their ruin, the American producers of pig iron would hardly venture to enter the unequal race. Higher prices than are now paid would probably rule most of the time. Lower prices would be obtained only in spasmodic depressions, contrived to ruin American producers.

This is the Free Trade programme, to shut up American furnaces and bankrupt American manufacturers. It offers seductive hope of cheaper raw materials. In all probability it would force American consumers to pay more for their pig iron than they now do. If an increased demand of only 1,000,000 tons has enabled British makers to lift the price to about the present American level, an increased demand four or five times as great would put it into their power to exact far higher prices.—*New York Tribune.*



# 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.

THE Globe Spice Works, Windsor, Ont., were damaged by fire May 7th, to the extent of about \$10,000.

THE new iron foundry of Messrs. Butterworth & Co., at Ottawa, was damaged by fire about \$500 worth on May 3rd.

THE factory of the Alexandria Furniture Company, at Alexandria, Ont., was destroyed by fire May 10th, loss about \$20,000.

THE Rodwell Manufacturing Company, Toronto, has been incorporated with a capital stock of \$50,000 for the purpose of manufacturing rubber stamps, etc.

THE Ottawa Canning Company, of Ottawa, will be incorporated with \$20,000 capital stock for conducting the business of canning fruits, vegetables, fish, etc.

THE moulding shop and blacksmith shop attached to the foundry of Messrs. Cowan & Co., Galt, Ont., were scorched by fire May 6th, to the extent of about \$2,000.

THE Brompton Lake Asbestos Company has been incorporated at the city of Quebec with a capital stock of \$60,000 for the purpose of mining for asbestos, mica, etc.

THE M. Langmuir Manufacturing Company, Toronto, have succeeded to the trunk manufacturing business heretofore conducted by Messrs. H. E. Clarke & Co.

THE Hercules Manufacturing Company, Petrolia, Ont., will supply the machinery for the new roller flour mill being built at Russell, Man., by Mr. J. G. Bolton.

THE new sash and door factory being built by Mr. A. Haslam, Nanaimo, B.C., will be 70x36 feet, two stories high. Employment will be given to about sixty hands.

THE Wilson Manufacturing Company, Hamilton, Ont., has been incorporated with a capital stock of \$30,000 for the purpose of manufacturing agricultural implements.

THE Sicily Asphaltum Paving Company, with headquarters at Montreal, are seeking incorporation with a capital stock of \$30,000 for establishing works for the preparation of asphaltum for paving streets, roads, etc.

THE foundry and machine shop of Mr. Robt. Law, of New Westminster, B.C., has been purchased by a syndicate of local men, who will at once extend and improve it. It is the intention of the new company to build a boiler shop in connection with the foundry.

MESSRS. JOHN TAYLOR & Co., proprietors of the Dominion Dye-wood and Chemical Company, Toronto, importers and manufacturers of aniline dyes, dye stuffs, chemicals, soaps, oils, etc., have admitted Mr. M. J. Taylor to partnership in the concern, the name and style of which remains unchanged.

THE Canadian Interior Conduit Company, of Toronto, will be incorporated with \$150,000 capital stock, to manufacture conduits and tubes for containing electric wires, etc. The Toronto provisional director of the Company will be Mr. H. P. Dwight, manager of the great North-Western Telegraph Company.

THE new saw and planing mill and sash and door factory lately erected by Ackerman Bros., at New Westminster, B.C., on the water front, is all but complete, and will commence active manufacturing operations next week. The enterprise is controlled by Ackerman Bros. and E. Knight and has been incorporated under the title of Mechanics Mill Company.—*Columbian*.

THE Consumers' Cordage Company, with headquarters at Montreal, are seeking incorporation with a capital stock of \$1,000,000, to manufacture rope, cordage, twine, rigging, oakum, etc. The Canadian incorporators are Messrs. John and George Stairs, of Halifax, N.S., and A. W. Muir, of Montreal, and the foreign incorporators being Messrs. E. M. Fulton and W. P. Whitlock, of Elizabeth, N.J.

MESSRS. CLARRY & Co., Toronto, manufacturers of Mirfield's patent thrill coupling, describe it as being absolutely noiseless and

perfectly safe in use. There are no rubbers or springs employed in its construction, because none are required. All rattling is prevented, and it is claimed to be "the nicest thing ever invented," a boon alike to the manufacturer and the purchaser of carriages, buggies, etc.

THE Dominion Cordage Company, with headquarters at Montreal, are seeking incorporation with a capital stock of \$1,000,000, to manufacture rope, binder-twine, cordage, oakum, etc. The Canadian incorporators are Messrs. E. H. Henry, R. C. Nelles and A. G. Cunningham, of Montreal, the foreign incorporators being Messrs. L. O. Ivey, of New York City and Francis Gilbert, of Orange, N.J.

THE Alliance Manufacturing Company, Toronto, the organization of which was recently mentioned in these pages, have fitted up their factory at 14-16-18 Bay Street with a full outfit of machinery, tools, etc., and have begun the manufacture of Roddin Electric Security tubular lantern; Climax patent can top and can; Peerless mucilage bottle and other specialties. Mr. Carl W. Conner is mechanical superintendent of the works.

THE Collingwood Dry Dock, Collingwood, Ont., successfully launched from their ship-yards on May 5th, the steamer Fred. A. Hodgson, built by them for Messrs. Noble, Davis & Co., of that place. This vessel is 100 feet long, nineteen feet beam and nine feet depth of hold, and is to be employed for the rapid transit of fresh fish. The engines and machinery were built by the Killey-Becket Engine Co., Hamilton, Ont.

A CHICAGO Company is negotiating for the purchase of the Carleton County Iron Works, near Woodstock, N.B. These works were operated for some years by a Company, of which the late James Harris, the car builder, of St. John, was the principal member. They never paid and were discontinued; but it is believed that the character of the ore is such that under modern methods of treatment working would be profitable.

MESSRS. C. C. RICHARDS & Co., druggists, etc., of Yarmouth, have recently put into their convenient store an \$800 soda apparatus. Their laboratory for the manufacture of Minard's Liniment is a building 60x30 feet. They employ twelve hands continually in this branch of their business, and keep two double teams on the road all the year. Their weekly output is stated to be about 10,000 bottles, including an Ontario business they began last year.—*Annapolis, N.S., Spectator*.

THE New Glasgow glass works have been bought by the Diamond Glass Company, under the management of Mr. W. C. Beach, who will carry on the business in future. Necessary repairs and alterations will be made; new moulds and patterns have been ordered; and as soon as everything is ready the fire will be started. A number of the employees of the glass factory intend starting a factory for the manufacture of pressed ware. The business will be conducted on the basis of mutual emolument.—*New Glasgow, N.S., Chronicle*.

MR. M. McDONALD, carriage trimmer, of this town, is about starting a new enterprise that gives promise of good returns. He purchased in the United States a machine for the manufacture of carriage dashers, wings and fenders. This is the second of these machines in the Dominion of Canada, the other being in use at St. Catharines, Ont. There will be a large market in these Provinces, as all work of this kind was formerly done by hand. The machine made dashes are much cheaper and neater. Mr. McDonald has secured for his use a portion of Mr. Holmes' carriage factory and will run his machine by an electric motor. He is one of the pushing enterprising class of young men who have faith in the future of the manufacturing industries of our country and we look for his complete success.—*Amherst, N.B., Weekly Press*.

ALUMINUM, one of the most valuable and useful metals, and at the same time one of the most plentiful in its crude state, is now being produced, by different processes, at a comparatively low price. When the metal was first shown in Paris, by Denille, in 1855, it was priced at \$15 per ounce. In 1857 it was sold at \$2 per ounce, and in 1884 its production had been so cheapened that the metal for the tip of the Washington monument was bought for \$15 per pound. At the close of last year it was for sale at \$4 per pound, and developments are now being made which still further reduce its cost. There are few of the metals that are of such intrinsic value, or that can be put to such a variety of uses as aluminum, and if its production can be cheapened to correspond with that of other metals, it will become one of the most extensively used and easily obtained articles of manufacture.

THE new brand of Fenerty's Patent Shovels, manufactured by the Halifax Shovel Co., limited, are finding great favor with consumers. They are shipping their goods to all parts of the Dominion.

ion, and running over time to fill orders. They are receiving the most flattering testimonials from users in all kinds of work. This is one of the most promising industries in the Maritime Provinces, making a greater variety of shovels than any other concern in Canada. They can fill orders for shovels, scoops, etc., for any possible use. It is the only manufactory on the continent, we believe, that makes the shovel from the rough, their equipment enabling them to make all kinds of handles, long and D, from the log, and the pans and sockets from the sheet. They have contracts for an ample supply of best white ash, and until the steel they require is made in Canada, have special rolls with one of the best steel makers in Great Britain, for rolling their taper section, or thick centre steel for shovel pans.—*Amherst, N.S., Press.*

THE large McLaren-Ross saw mill on the Fraser River at New Westminster, B C, is described as follows by *Truth* of that place:—"These mills, when running to their full capacity, will be the largest in the Province, if not in the north-west portion of the continent, where big mills are the rule. The average daily output is estimated at a quarter of a million feet, and possibly this may be exceeded if the machinery works satisfactorily. The mill will not be entirely in working order before July, but steam will be got up and a portion of the huge machinery put in motion next week, and in about ten days one circular saw and the huge 32-saw gang will commence work. The enormous band saws will not be ready for some time yet, owing to a delay in getting them from the East. One striking peculiarity about the mill is that nearly everything is done by steam or compressed air, all under the immediate supervision of the head sawyer. Even the turning of the logs, the off-bearing, screw setting, etc., will be done by steam."

THE output of the Steel Harrow Company of New Glasgow since the first of the present year amounts, we are informed, well up to 1,000 harrows. Their business extends into Quebec and Ontario, and as far west as Port Arthur. They manufacture the teeth of their harrows themselves, and these are, of course, the most important part of the implement. This Company reports an increasing trade which obliges them to make considerable additions to their plant. They make in all four different kinds of arrows, but there are two which are in especial demand, the "Bluenose" and the "Eclipse," the former for two horses and the latter for one. Of the others one is a more expensive implement, and is chiefly sold in some parts of Quebec and in Ontario, while the other is a cheaper implement which has as good teeth as the others but a lighter frame. This one is usually sold to farmers who cannot easily pay the difference in price for the others. Outside of their own county they sell to the wholesale trade only. They use altogether the best of Nova Scotia steel for the purpose.—*Halifax, N.S., Critic.*

IN one of his recent reports Dr. G. M. Dawson states that most of the ores hitherto discovered are magnetites, which occur in association with the older metamorphic rocks of British Columbia. Clay ironstone, however, is of frequent occurrence in the coal series of Vancouver and Queen Charlotte Island, as well as in the tertiary rocks of the interior. The only iron ore deposits which have yet been worked are those of the south-west side of Texada Island, the largest exposures of ore occurring about three miles north-west of Gillies Bay. Here the ore mass is from twenty to twenty-five feet in thickness. It constitutes an irregular contact deposit between limestone and granite. The ore is magnetite of excellent quality, containing nearly seventy per cent. of iron. At the principal deposit of the ore a wharf has been built. The ore is brought down from the quarry to the wharf by an incline, the height of the quarry above sea level being 250 feet, and the length of the incline a quarter of a mile. The shipments in 1885 amounted to 190 tons; in 1888 the quantity shipped was 7,300 tons, valued at £3,680. Magnetite is also found at the Queen Charlotte Island, the ore being, as a rule, very pure, an exceptionally good specimen yielding on assay 69.88 per cent. of iron. Very pure ore containing 71.57 per cent. of iron was also found at an island in the Walker Group, Queen Charlotte Sound. Other deposits exist at Sooke Harbor, Vancouver Island, and a number of other places.

THERE are now thirty-one roller mills in the hard wheat region of Canada. There are two mills at Winnipeg, with an aggregate capacity of 1,400 barrels daily; on the line of the Pacific, east of Winnipeg, one mill at Keewatin, with a capacity of 1,600 barrels daily; on the same line, west of Winnipeg, roller mills (one each) at Portage la Prairie, Carberry, Brandon, Oak Lake, Virden, Moosomin; Wolsley, Indian Head, Qu'Appelle station and Regina; on the Manitoba and North-Western line, one mill at Minnedosa, one at Shoal Lake, one at Birtle, one at Milford and one at Rapid City, on the Pembroke branch of the C.P.R., one mill at Gretna, one at Morden, one at Boissevain and one at Crystal City; on the South-western branch of the same railway, one mill each at Treherne, one

at Stonewall on the branch so called; one at Plum Creek, on the Souris branch; and mills (one each) at Balmoral, north of Stonewall; at Assessippi, Russell county, Man., at Fort Qu'Appelle, north of the station of that name; at Moose Mountain, south of Moosomin; and at Prince Albert, in Saskatchewan territory—this last being the most northerly roller mill on this continent.—*Winnipeg Commercial.*

THE Hantsport Foundry and Machine Co. is now fully equipped, and machinery is rapidly being turned out. The works are quite extensive, the buildings cover 150x55 feet, divided into five compartments, viz.: foundry, machine shop, blacksmith shop, wood and pattern shop and finishing and paint shop, all most commodious. The pattern and machine shop are fitted up equal to anything of the size in the country, and they claim to have as fine if not finer set of circular saw-mills, cylinder stave sawing machine, self-feed lath machine, shingle and heading sawing machine, and heading turner patterns as can be found in the Dominion. The machine shop is filled with the best and latest improved tools that can be found, and is prepared for heavy work. The foundry will be at work very soon. They are making specialties of Mumford's improved shingle machine and circular saw mill. The shingle machine has been upon the market for some years, and they are now selling on the fifth hundred; the machine has so often been improved that they are now working off the fifth set of patterns. The increase of manufacturing interests in this valley is as it should be, for where there are numbers there are patrons drawn to look for advantages in purchasing. We learn that all our foundries and machine shops are doing well.—*Critic.*

MR. JOHN SIMPSON, Owen Sound, Ont., launched a fine steamer from his ship-yard, May 4th, which was called the City of Midland. She is 160 feet long, twenty-eight feet beam and eleven feet hold, hull built of white oak with diagonal steel braces. The Doty Engine Company of Toronto, are putting in a 400 horse power compound engine and a Scott return tubular boiler twelve feet in diameter by twelve feet in length. This, it is claimed, will be the most powerful engine outside the C.P.R. vessels, and it is calculated will drive the steamer at a speed of fifteen miles an hour. Mr. F. H. Doty is overseeing this department. Her boilers are being put together in the hold, instead of the customary way of lifting them bodily over the side of the vessel before the upper works are put on. Her propeller is nine feet four inches in diameter. She will be lighted throughout, the state-rooms included, with electric light, the Ball system being used, a special engine being provided to run the dynamo. Her owners claim that her appointments for first-class passenger traffic will be unequalled, even by the C.P.R. steamers. She will be provided with a powerful search light, whose rays will make any object visible at a distance of two miles, an arc electric light providing the illuminating power. This is rendered necessary by the route the vessel intends running on the eastern side of Georgian Bay between Collingwood, Midland, Parry Sound, Byng Inlet and French River, the most picturesque route on inland waters. The vessel when completed will cost in the neighborhood of \$50,000.

THE Oxford Manufacturing Company, Woolen Manufacturers, Oxford, employ about fifty hands. They have recently made several improvements, mainly in the line of excellence of productions. Their patterns are more attractive than ever, while the quality of the cloths, if anything, is an improvement over past years, in which—covering nearly a quarter of a century—the Oxford goods have earned and maintained their high reputation. Inside the mill, however, may be seen some late additions in machinery, viz., automatic feeding machines in the carding rooms, the object of these being to give an evenness of texture to the cloth which cannot be had by the old method of hand-feeding of wool on to the cards. In the finishing mill is a handsome steam press, the use of which effects a saving of some thirty-six hours in the finishing of a piece of cloth, the work being done now in one hour which occupied 1½ days formerly. The output of the mills runs up to about 120,000 yards annually, besides a large quantity of yarn. The quantity of wool consumed is about 125,000 lbs., and no shoddy is used. The waste from the mill is exported, and no doubt often returns in imported shoddy clothing. They have shipped several lots of cloths recently to the Pacific Coast. The bulk of the demand, therefore, is imported goods of finer grades of wool than this country produces. They have lately introduced some styles containing small proportions of imported wools which have been favorably received, but consider it more to the interest of our own country to use the wool we produce than to send their money abroad for foreign wools, which give, perhaps, a finer effect, but not the same durability and satisfaction to the consumer who wants his clothing to stand hard wear and be within the reach of moderate means.

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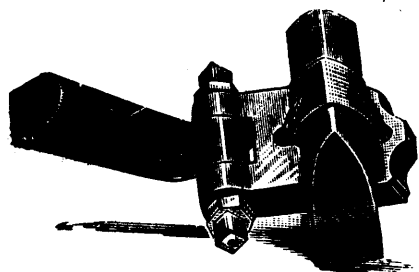
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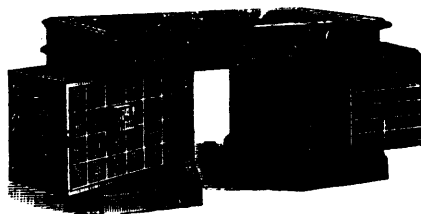
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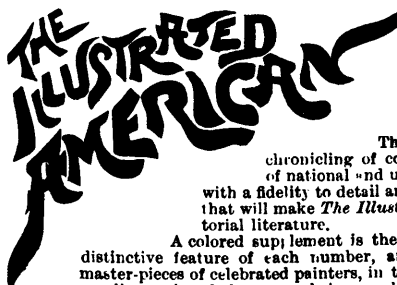
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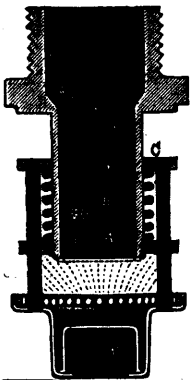
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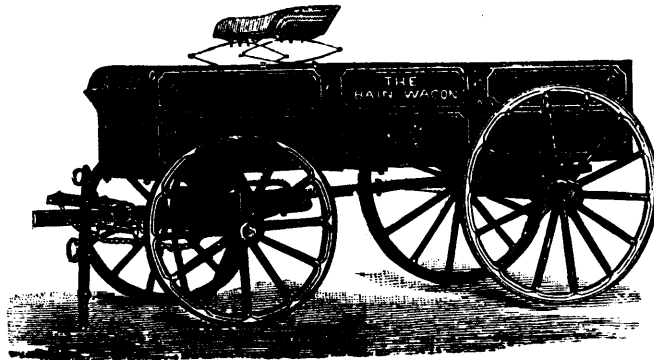
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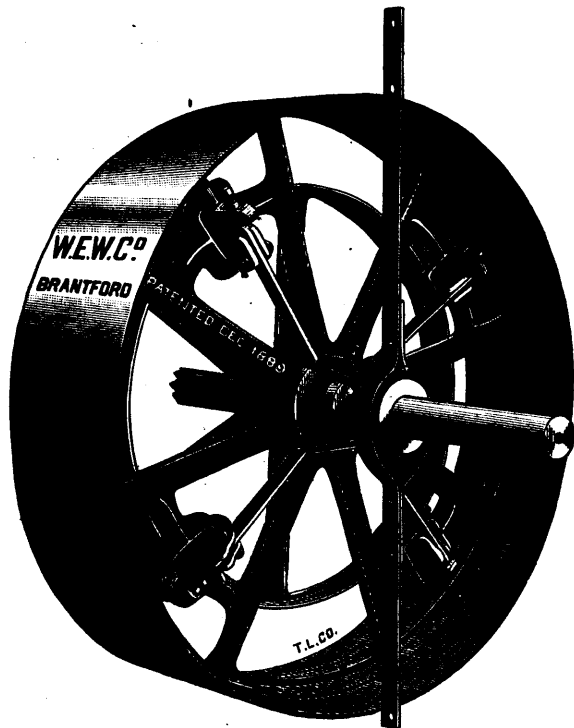
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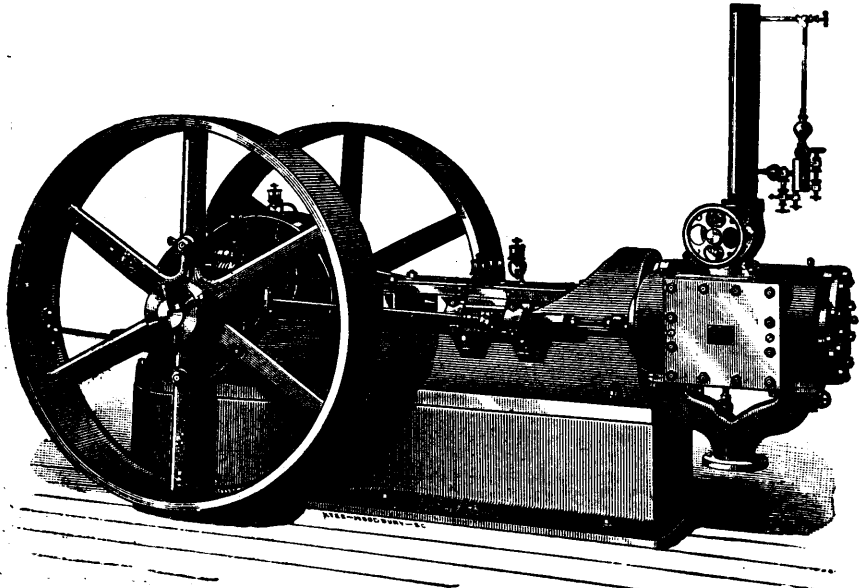
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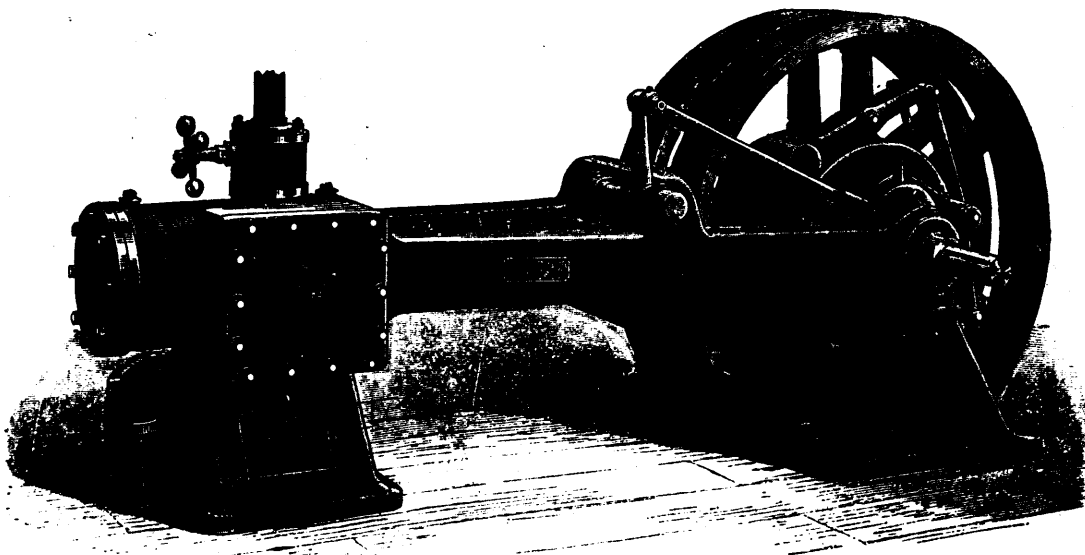
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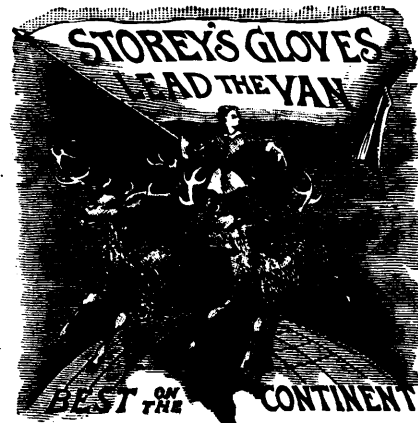
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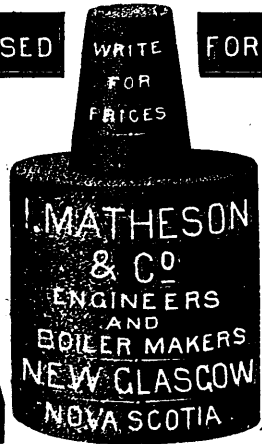
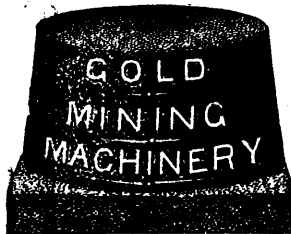
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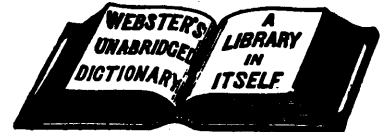
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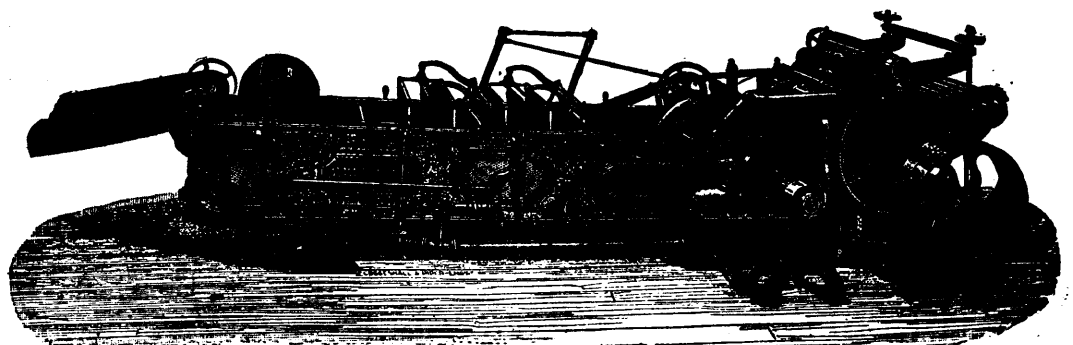
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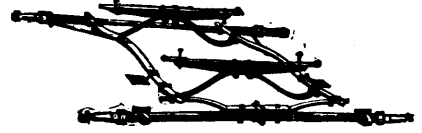
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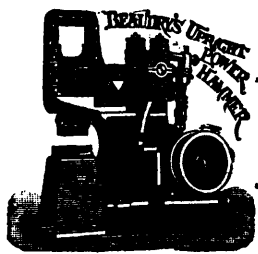
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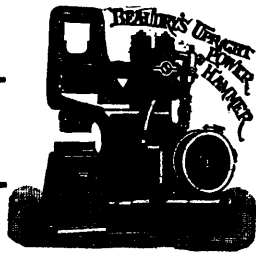
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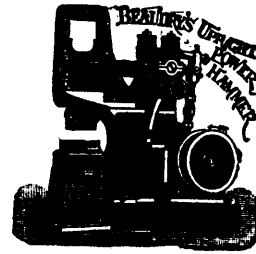
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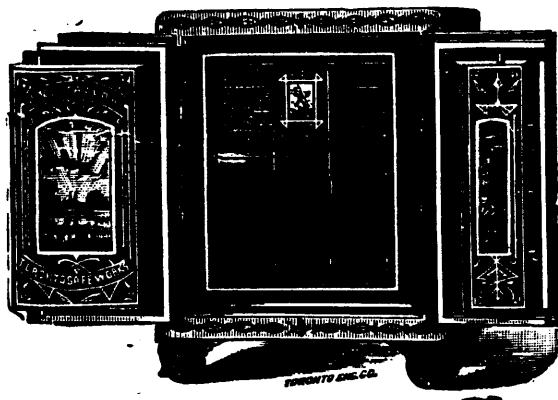


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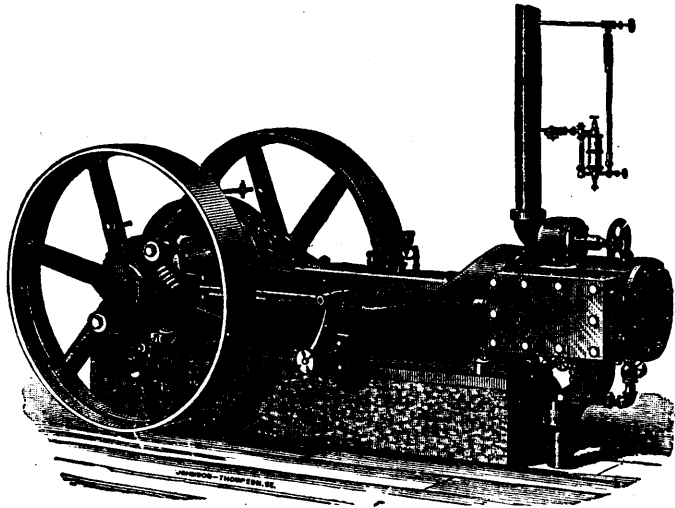
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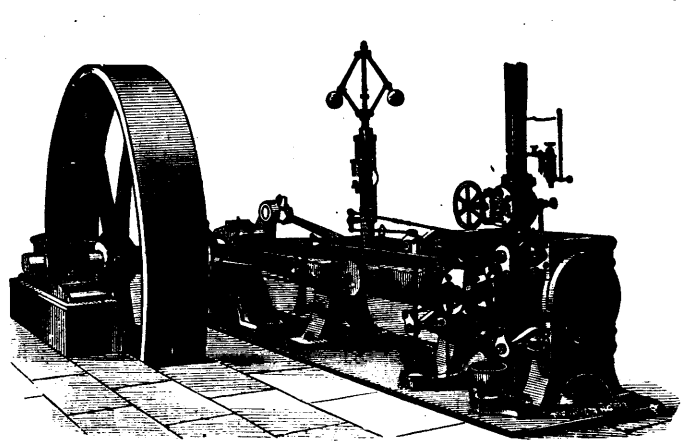
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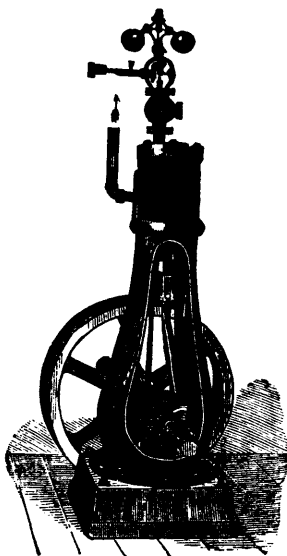
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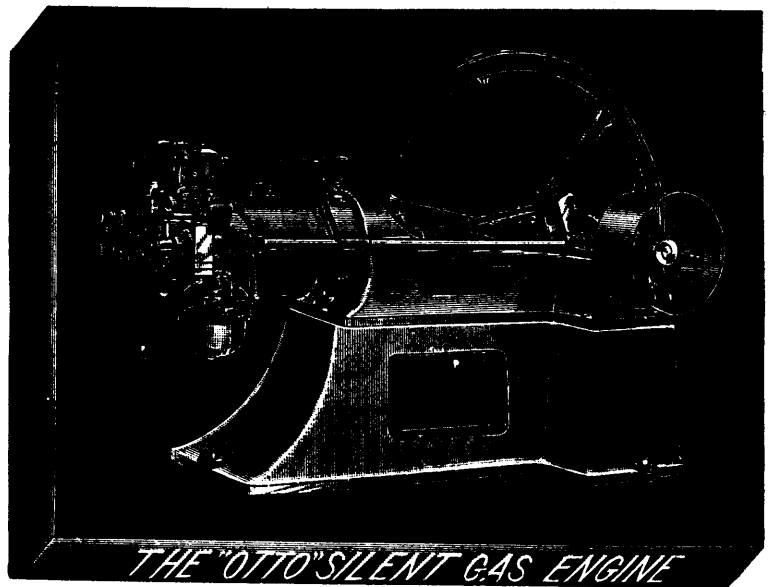
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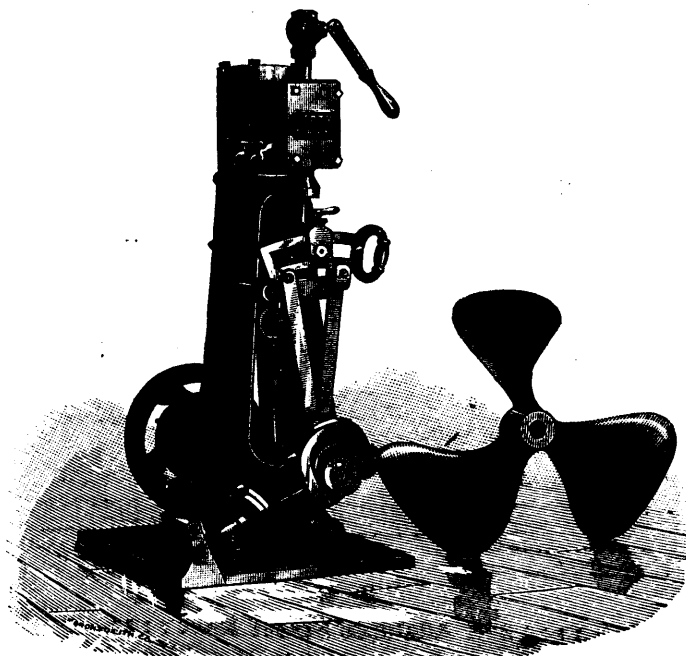
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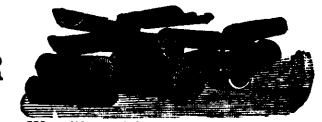
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Dear Sir: I have a number of your Patent Wood Split Pulleys in use here at the Worlds Fair and Cotton Centennial Exposition, driving Dynamos for Electric Lighting. They are doing heavy work, and are held upon the shaft by the compression of wood on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

## Waste of Power.

According to the best scientific authority it costs one horse power to keep in motion one ton of metal or weight; thus for every unnecessary 2,000 pounds weight on your line shaft, cost you one horse power. To maintain a horse power costs from \$25 to \$125 per year. Any manufacturer who will take the pains to investigate the unnecessary weight by Heavy Iron Pulleys, too tight belts, etc., will be surprised to find the enormous waste of power consumed in this manner. 60,000 Dodge Patent Wood Split Pulleys now in stock. Our capacity being now equal to 100 Pulleys per day, we shall hereafter keep in use for immediate shipment all sizes.

*Send for Illustrated Circular and Reference List.*

**THE DODGE WOOD SPLIT PULLEY CO.,**  
**TORONTO.**

P. O. BOX 333.

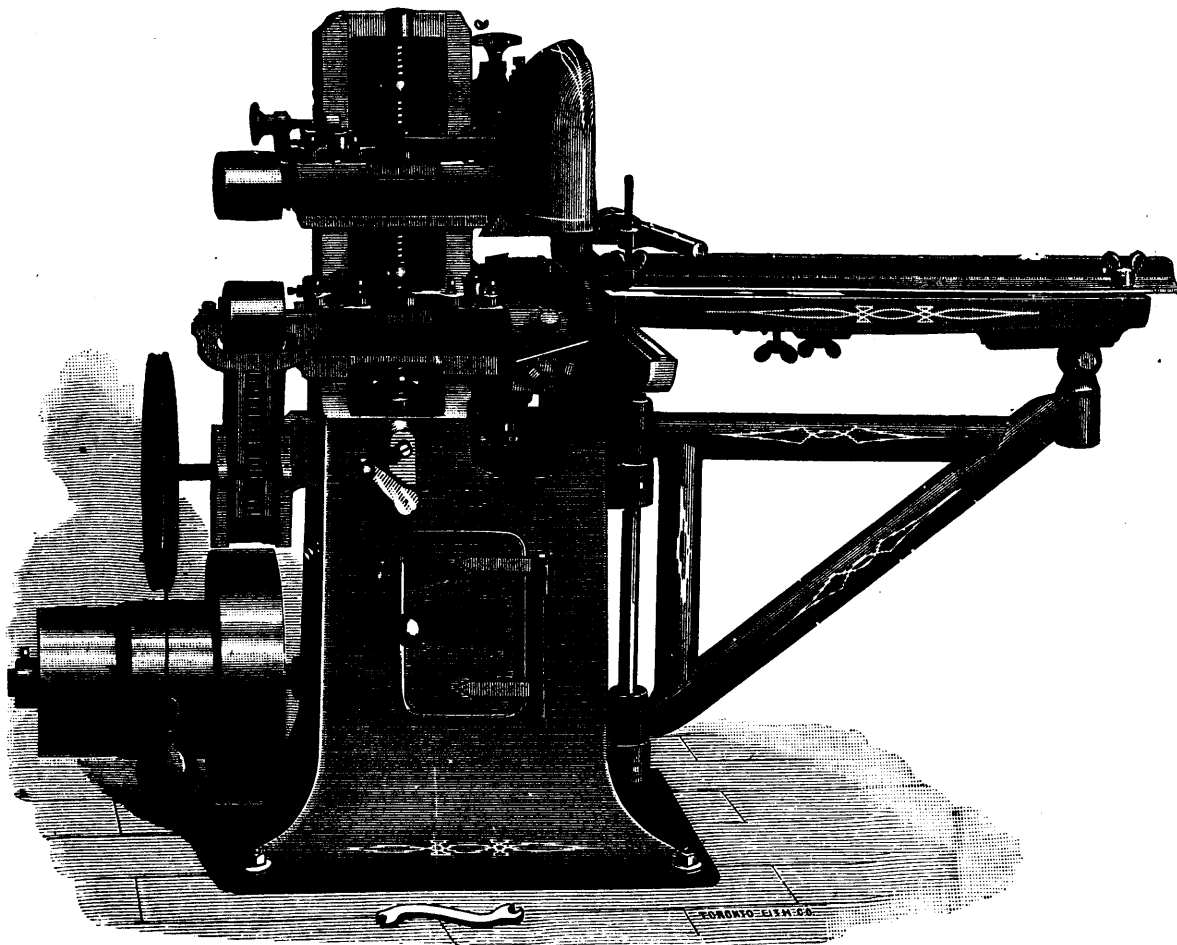
TELEPHONE 2080.

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

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



# NEW AND IMPROVED *Pedestal Tenon Machine.*



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

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

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

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

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

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

## COWAN & CO.

**"Galt Foundry" Engine and Machine Works, GALT, ONTARIO, CANADA.**

*Curtis and Slide Valve Engines, Boilers, and Wood-Working Machinery, all kinds New Patterns, Highly Finished.*

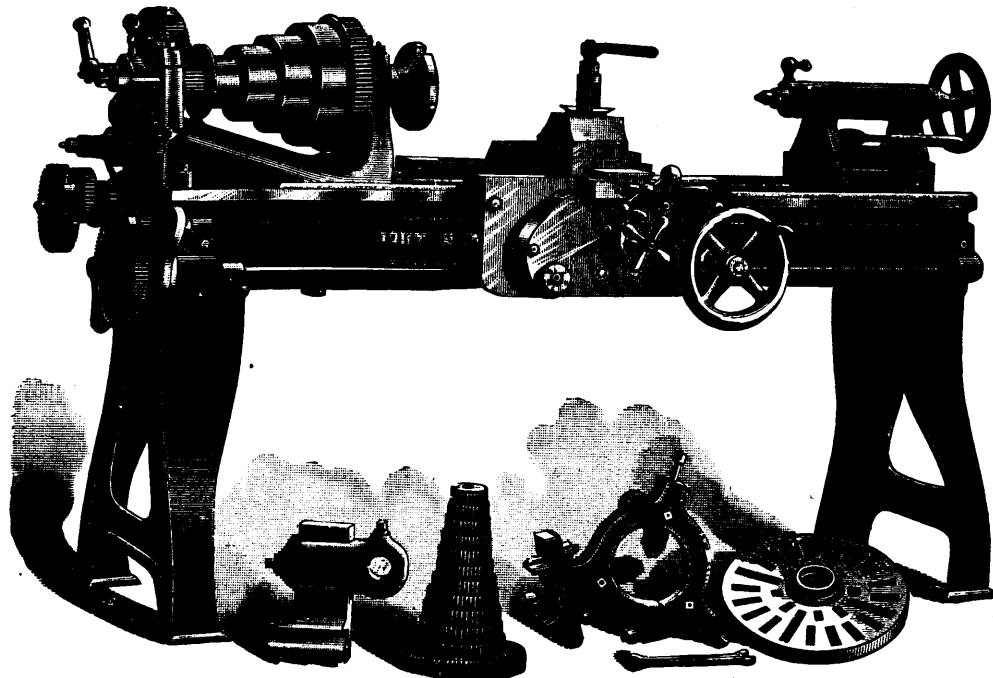
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Manufacturers of  
**Machinists' Tools**  
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TENONERS  
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16-in. LATHE.

Locomotive and Car Machinery, Special Machinery, Price List and Photographs on application.

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

## Geo. F. Blake Manufacturing Co.,

BUILDERS OF

SINGLE AND DUPLEX

Steam and Power

### Pumping Machinery



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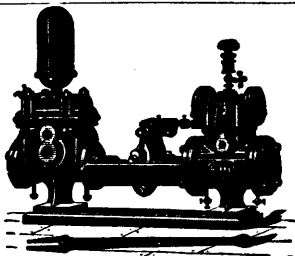
FEDERAL STREET

NEW YORK

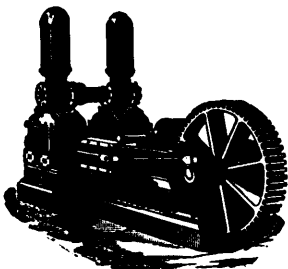
95 & 97 LIBERTY STREET.

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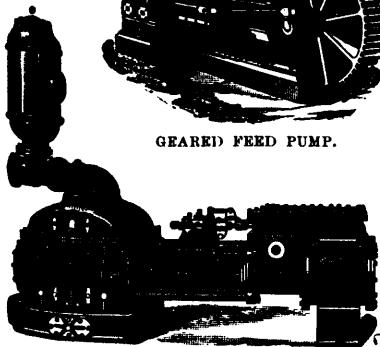
These goods may be seen at the Permanent Exhibition 63 to 69 Front Street West, Toronto.



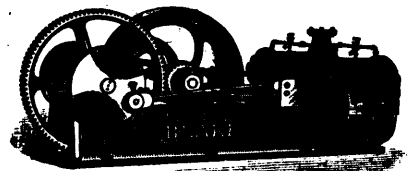
BOILER FEED PUMP.



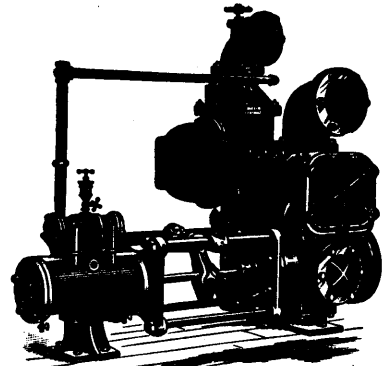
GEARED FEED PUMP.



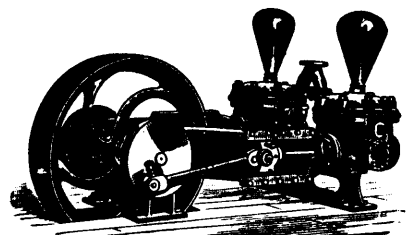
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AIR COMPRESSOR.



AIR PUMP AND CONDENSER.



BELT PUMP.

# *Nova Scotia Steel Co., Limited,*

NEW GLASGOW, NOVA SCOTIA

(Only Steel Works in Canada),

MANUFACTURERS OF

## **Hammered *and* Rolled Steel**

MADE BY THE

SIEMENS-MARTIN (OPEN HEARTH) PROCESS.

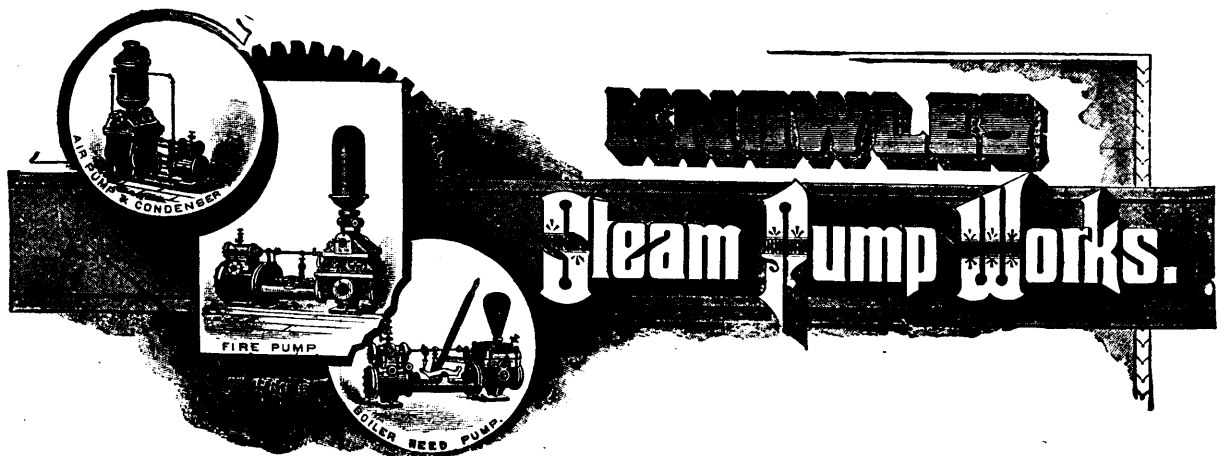
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Particular attention given to the manufacture of Rake, Cultivator and Harrow Teeth, and other  
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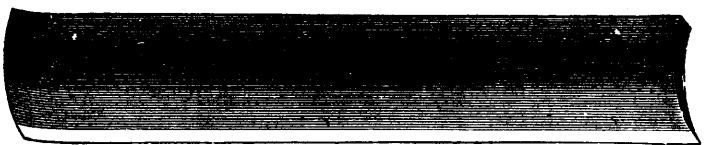


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 Mantles, Over Mantles and Mirrors in Finest Hardwoods. Mouldings, Picture  
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**CLOSE PRICES. LIBERAL TERMS.**  
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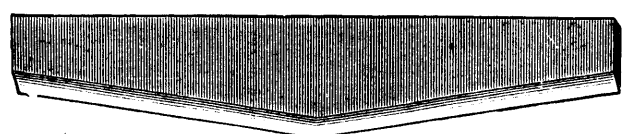
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PLANING MACHINE  
 KNIVES. 

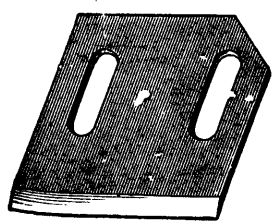
STAVE CUTTER KNIVES.



STAVE JOINTER KNIVES.



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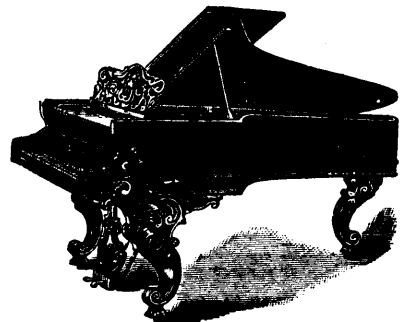
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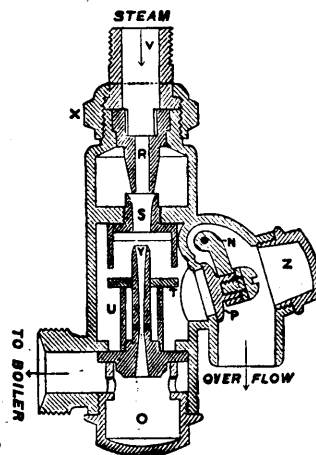
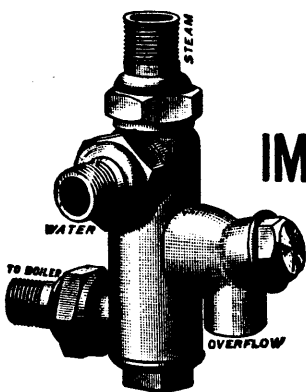


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