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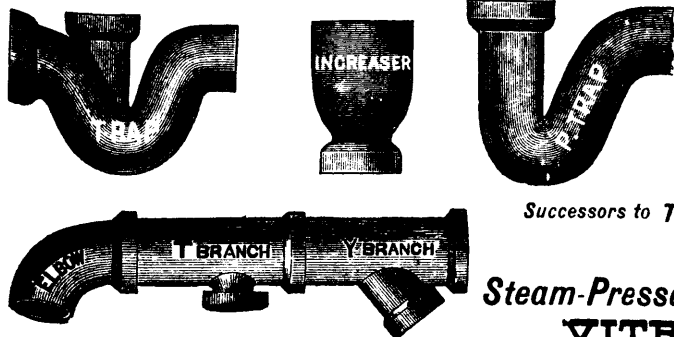
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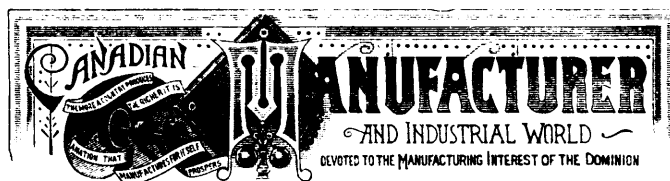
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CANADIAN MANUFACTURER,  
63 Front Street West, Toronto.

### IMPOSE THE DUTY.

THE question of the degree of refinement to which nickel ore should be subjected before leaving Canada is being discussed by some Conservative journals, and an export duty upon the ore has been suggested. It is to be observed that the owners of the Sudbury mines are not now in the habit of shipping the ore without any preparation whatever. Dr. Edward Peters, jun., manager of the works of the Canadian Copper Company, described its *modus operandi* to the mining commissioners. The ore is reduced by a process which he described, to a "matte" containing about thirty per cent. of sulphur, twenty per cent. of nickel, and twenty to twenty five per cent. of copper. As it requires six tons of ore to make one ton of matte, the difference in the cost of carriage is probably sufficient, without legislative interference, to ensure the conversion of the ore into matte in Canada. At that time he considered that it would be necessary that the refining of the matte should be done elsewhere. Some of the Conservative journals speak guardedly of the proposal to interfere with this arrangement by export duties; the reason being the apprehension that an attempt to force the manufacture of the metal in Canada might drive the capitalists elsewhere, and thus "kill the goose that lays the golden egg."—*Toronto Globe*.

In providing for the construction of its new navy the American Congress specially stipulated that all of the material entering into the construction of the ships should be of American production. Later, and when it was discovered that nickel was to enter largely into the construction of the armor plates for these ships, and that the United States could not supply the demand for nickel for this purpose, the duty upon nickel ore and nickel matte was removed, and these forms of nickel placed on the free list. This was to enable the importation of these forms, and to enable compliance with the restrictive law regarding the materials going into the construction of the war vessels. But while the American Government consented to the free importation of nickel ore and matte, it did not consent to the free importation of nickel metal; and

this was evidently intended to encourage the importation of the cruder forms and their refining in the United States. This refining process at home would divest the metal of its foreign character, and enable its use in the manufacture of armor plates.

The plea that "as it requires six tons of ore to make one ton of matte, the difference in the cost of carriage is probably sufficient, without legislative interference, to ensure the conversion of the ore into matte in Canada," is an attempt at blinding the eyes of Canadians. We know that the Canada Copper Company, who have been working their Sudbury mines for about two years, sent but very little of their products into the United States, and this because until recently the duty there was fifteen cents per pound upon the contained nickel.

We know that Mr. Ritchie, early in the late session of Congress, made a strong effort to have nickel ore and matte placed upon the free list, and that he was unsuccessful in his efforts. We know that his company found it convenient in their business to smelt the ore and pile up the matte at the mines, and that at this time there is probably two or three million dollars worth of matte thus piled up there. If Mr. Ritchie had been able to induce Congress to place nickel ore on the free list at the time he was endeavoring to get it to do so, that large accumulation of matte would not now be seen at Sudbury. The ore would not even have been smelted into matte there, but would have been sent into Ohio to be treated. This is not a guess or surmise; for while giving evidence before the Ways and Means Committee of the House of Representatives, Mr. Ritchie swore as follows regarding his Canadian nickel property:—

To transfer our smelting works to this side, say to Findlay, Ohio, would require the erection of a very extensive plant, the expenditure of a large amount of capital, and the employment of a great number of men; and unless these ores are admitted free all this expenditure of capital and employment of men must be done in Canada, and the products go to foreign governments. We do not want to spend three or four millions in a plant over in Canada, because I should prefer to put it in our own country.

It is quite evident from this that the bulkiness of the ore was no great objection with Mr. Ritchie to the removal of his smelting works from Sudbury to Ohio; and it is equally evident that it is his intention now to do so, and that he will do so if not prevented by an export duty. But export duty or not, it is certain that the nickel contained in the armor plates for the United States navy must be made in that country. It is evident, therefore, that the difference in the cost of carriage is not sufficient without legislative interference, to ensure the conversion of the Sudbury nickel ores into matte in Canada.

This journal was the first to suggest that an export duty be laid upon nickel ore and matte going out of Canada; and the discussion of the question seems to have brought Mr. Ritchie to the conclusion that it would be to his interest to erect his refining works here, and also to engage in the manufacture of nickel steel for export. We sincerely hope that his scheme or some modification of it, may be materialized, and that we may soon see his proposed works in active operation. If carried out the result would be highly beneficial to Canada. The imposition of the export duty cannot injuriously affect the

proposed enterprises; and without doubt the duty should be laid. It might be made differential and applicable only to such nations as impose onerous and prohibitive duties upon Canadian produce; and whatever moneys that might be derived from this source might be devoted to the encouragement of such enterprises as those suggested by Mr. Ritchie.

Impose the duty.

#### ABUSE VS. ARGUMENT.

THE CANADIAN MANUFACTURER is going for an export duty upon nickel ore with tooth and claw. It is ravenous for an export duty, and should Sir John and Mr. Bowell fail to respond we may expect to see the tooth and claws of the MANUFACTURER inserted into their vitals. The mouthpiece of the gentlemen of the Red Parlor has worked itself into a state of greater excitement over this matter than over any other it has taken up in all the years of its life.

It has been wild enough when dealing with the question of Free Trade between Canada and the United States, but its discussion of that matter has been moderation itself compared with its manner of urging upon the Government the duty of putting an export duty upon nickel.

Four leading articles and nine editorial paragraphs in the last number of the MANUFACTURER, show how much the great editor knows, or, perhaps we should say, they give an intimation of what he knows of the way in which a nickel industry is to be built up in Ontario. But everything is seen from a restrictionist point of view, and until the editor has broken his shell he cannot be expected to see beyond the end of his nose. We do not hope to find Sir John or Mr. Bowell displaying much liberality of opinion when any subject affecting the trade of the country is under consideration, but after the experience they have had with the export duties upon timber they are not likely to be forced to place an export duty upon nickel at the bidding of the MANUFACTURER.—*London Advertiser*.

It is the opinion of Mr. S. J. Ritchie, who is largely interested in probably the largest nickel mine in the Sudbury district, that with some assistance from the Dominion Government refined nickel could be manufactured to advantage in Canada; and not only refined nickel, but nickel steel such as is now growing into large demand for armor plates for war vessels, and other forms and combinations of nickel, iron, steel, etc. Without an unqualified endorsement of Mr. Ritchie's scheme, we hope that the Government may see its way clear to make an offer to Mr. Ritchie that will result in the erection of the works he suggests. Possessing five sixths or more of all the known deposits of nickel ore in the world, and with the certainty of a demand for the metal infinitely larger than ever before existed, it would be a grand era for Canada if the nickel ores to be taken from her mines were manufactured at home. It would mean the investment of millions of capital, the employment of thousands of men, and immense traffic for railways in Canada. Canada has the ability to bring about this situation. It can be done on the one hand by restricting the export of the crude material, and on the other hand by affording some such aid as that asked for by Mr. Ritchie.

In asking the Dominion Government to restrict the export of nickel ore and matte we would suggest that it be done in such manner as to conserve the best interests of the country. It is not at all likely that the ore would be exported to any country other than the United States because of its bulkiness,

the long distance it would have to be transported, and the great cost of transportation; as it is all the shipments that are being made to Europe are of the matte smelted at the mines. This is a comparatively inexpensive process, the valuable metals contained in the ore being reduced to about one-sixth of the original weight. As is well known recent legislation in the United States was passed for the avowed purpose of forcing the manufacture of the refined metal in that country. Until the recent discovery of the great value of nickel, the few small mines in the United States produced about enough nickel to supply the current demand there, and to protect these mines against the importation of foreign nickel, a duty of fifteen cents per pound was levied against all forms of the article—in the ore, the matte and refined. The United States has great need of nickel, and this need must of necessity be met from Canadian mines. But great as this need is, a heavy duty is laid on imports of nickel metal, while the ore has been transferred to the free list. No other country could afford to import Canadian ore; and the object of the legislation was to force the ore into that country for refinement, and to exclude the metal that might be refined in Canada.

Canada has the opportunity to block this exceedingly selfish game, and it can be done by imposing an export duty upon ore and matte.

This was not the only legislation passed by the American Congress aimed directly and in an unfriendly spirit against Canadian interests. With a meanness not at all becoming to a great nation, it endeavored to coerce Canada into a commercial union, and later into a political union that is distasteful and against the best interests of the country. In furtherance of this the screws have been applied, but, thank God, Canada can stand it. She will stand it; and in the same spirit she can resent what is being forced upon her. If the United States desires Canadian nickel and don't want to pay Canada liberally for it, the removal of prohibitory duties upon Canadian produce might possibly have that effect. As long as these American prohibitory duties prevail—as long as a heavy duty is imposed upon Canadian nickel, it would be only fair that these duties be met with an export duty on nickel ore.

There is no need for the *Advertiser* or any other Grit journals raving and ranting over the proposition. Abuse is not argument. Making mean insinuations, and hurling inuendoes betray weakness. This journal does not propose framing or passing laws. It has a right to suggest such legislation as it thinks will be for the benefit of Canada, and to discuss the question in its different bearings. We would be pleased to see other journals pursue the same course. And we are willing to leave the matter finally in the hands of such great statesmen as our revered and beloved leader, Sir John A. Macdonald.

Impose the duty.

#### COMBINES.

THE *London Advertiser* in an editorial "Combines, Farmers and Manufacturers," calls attention to the fact that, at a recent meeting of the Farmers' Institute of East Middlesex, a discussion was had on the "best means for abolishing the combines under which Canadian farmers are mulcted for the benefit of a

few wealthy men." Of course the *Advertiser's* remedy for all the ill other people bear consists in "perfect freedom of intercourse with the United States." We are told that this is a reasonable view that should commend itself not only to the farmers, but to the "independent manufacturers." "We have always held," says the *Advertiser*, "that the better class of manufacturers in Canada desire no special privileges as against their competitors in the United States, and this view is being confirmed every day. It is only a few monopolists in Montreal, Toronto and Hamilton, with perhaps a stray representative in London and other cities; but there are hundreds of manufacturers throughout Canada who do not wish to join rings or to be the subjects of special legislation. What they desire is a fair field and no favor." It mentions the names of several manufacturers, and says there are many others "who would not be averse to seeing the United States opened to them on fair terms. All that they need is freedom to buy their raw materials as cheaply as the makers over the border." In proof of this contention, the testimony of several manufacturers is referred to, as see the interviews with them being published in the *Globe*.

There is this to be said regarding many of the manufacturers alluded to; they enjoy a protection in their business that is much more exclusive of competition than any that the most ardent upholders of the National Policy could hope for. We mention the name of Mr. J. B. Armstrong, manufacturer of carriage springs, gear, etc., as a representative of this class. This gentleman is one of the most enterprising and successful manufacturers in Canada. He began business some years ago in a small way in Guelph, Ont. As a result of his genius he invented quite a number of specialties in his line, which he caused to be patented both in Canada and the United States. These patents give him the exclusive right to manufacture in both countries. The *Advertiser* knows, and any who think know that Mr. Armstrong never required the interference or protection of the N.P. to give him the entire and exclusive right to manufacture these specialties; and it goes without the saying that no other manufacturer ever made or sold any specialty, the patent on which is owned by Mr. Armstrong. He has a good thing, and he absolutely controls the Canadian market for it. This good thing is also in demand in the United States, and to meet that demand Mr. Armstrong has established a factory at Flint, Michigan. Similarly as in Canada, he absolutely controls the American trade, and no American manufacturer can make or sell any of these patented articles. What need, then, has Mr. Armstrong for the N.P.? Absolutely none. But here is a feature that should be remembered:—Mr. Armstrong established his factory in Michigan so as to escape the payment of the American duty. The Canadian trade is supplied from Guelph and the American trade from Flint. But it is proclaimed that Mr. Armstrong is in favor of unrestricted Reciprocity—of "that perfect freedom of intercourse with the United States," as stated by the *Advertiser*. Undoubtedly. And for why? He already has access to that wonderful sixty million market, for he has a factory there, and he has access to the Canadian market also. Does any one suppose that, with the N.P. barrier removed, Mr. Armstrong would maintain these two factories when the combined demand could be supplied from one? And could there be any doubt as

to which of these would be abandoned? It would be safe to say that the day that Reciprocity was proclaimed would be the day that would witness the closing of his Guelph factory.

These conditions apply to many of those to whom the *Advertiser* alludes. The patents they own are all the protection they require. Under Reciprocity their works in Canada would be abandoned and their enterprises transferred to a foreign soil. This sort of high fatutin talk about "freedom of intercourse" is cheap, very cheap.

It is sought to antagonize the farmer by telling him that under Reciprocity he would, among other things, get his threshing machines and other agricultural implements much cheaper than he now does; and, strange as it may appear, certain Canadian manufacturers of such implements are reported as being exceedingly anxious to have access to the American market. There may be some of those who are circumstanced as Mr. Armstrong is, i.e., own valuable American and Canadian patents, and desire to abandon their Canadian works, establishing them further south. But of some of those who are said to be so anxious for "freedom of intercourse" it is suspected that they are somewhat flatulent and windy. Do they observe the course of their competitors in the United States? It would not seem so. We commend to their study the following items that recently appeared in the *Toronto Mail*:—

Twenty-five mower and reaper factories, all the cutter-bar factories, and many twine and cordage works in the United States have just been united in one concern, styled the American Harvester Company, with a capital stock of \$35,000,000. This is an actual consolidation, it is alleged, and not a trust, every member of the concern losing its identity and working as part of one gigantic corporation. The output of the company will be about 150,000 mowers and binders annually, and an army of 50,000 men and 10,000 agents will be employed. It is expected that Cyrus H. McCormick will be president of the concern.

The farming community across the border will view with anything but pleasure the formation of the largest combination known in the history of industrial manufacturing enterprises, the gigantic mower and reaper combine. This concern will monopolize the whole industry, and will be at liberty to fix prices to suit itself. In short, it will have the farmer completely at its mercy.

Perhaps the Canadian manufacturers of agricultural implements who have been having themselves interviewed by the *Globe*, declaring themselves anxious for "freedom of intercourse with the United States," could successfully compete with this \$35,000,000 octopus—and perhaps not.

#### TIN PLATES.

CANADA imposes no duty upon tinned plates—the article comes in free—but it is to be noticed that the importation is not as large per capita as into the United States where the duty is one cent per pound, and where manufactures of tin are as cheap, or cheaper, than in Canada. The McKinley tariff imposes a duty of 2½ cents per pound upon tin plates, but this is not to go into effect until July 1, 1891. The Free Traders, both in the United States and in Canada, are using the fact of this increase of duty to prejudice the minds of the unthinking against a system that they erroneously say increases the cost of tinware to consumers. The *American Artisan* says that "the



tin tax will fall with greatest force on the poor and middle classes, as proportionately much more tinware is used in their households than in the houses of the rich." It enumerates "tin pails, tin cups, tin plates, tin dippers and tin pans," and says that the poor man "must continue to use these tin articles; and the Protection party has decreed that he shall pay all the way from twenty to fifty per cent. more for these necessities than he did before the bill was passed. The advance will not be much on a five cent tin cup or a ten cent tin pan, but on a complete outfit of tinware for housekeeping the young working man will find the difference quite an item." An importer of tin plates is reported as saying that "in all probability there will not be as much tin used in the United States as there has been in the past. Tin has been so cheap that it has been put to a variety of uses on that account, and the field has been steadily increasing, much to the benefit of the whole tin trade of the country." Allusion is made to the fact that the canning industries "have been able to sell their goods in foreign markets," but that now the McKinley bill has added a fraction of a cent to the cost of their cans, they must get higher prices in order to sustain the extra expense thus put upon them. "Some kinds of business," we are told, "can put this additional price on their products, but there are some which have been obliged to sell so close to meet foreign competition that the least rise in their goods will drive them out of the foreign markets." A member of the firm of Armour & Co. is reported as saying that the increase of duty would make a difference of \$200,000 a year to his concern. Speaking of the effect the increased duty will have on the canning industry, the *American Artisan* says that "the difference in the old and the new price of cans will make such a difference in the profits that the canners will be obliged to raise the price of goods or close the doors of their factories," and that "the people who buy canned goods will have to pay the tin tax that McKinley has imposed."

A greater mess of balderdash was never printed. It is not probable that the tinware of every description in use in the average family of "the poor and middle classes" would weigh as much as a hundred pounds; perhaps not exceeding fifty pounds. No family buys an entire new outfit of tinware every year, and a fair estimate of purchases would not exceed twenty-five per cent. of the entire outfit—perhaps not more than ten per cent. But if the outfit were entirely renewed every year, and if there were a hundred pounds of it, the increase of duty from one cent a pound to  $2\frac{1}{2}$  cents would mean an additional cost of only \$1.20 a year; while if the outfit weighed fifty pounds, and the renewals amounted to twenty-five per cent. the additional cost because of the increased duty would be but fifteen cents a year. Emphasis is laid upon the fact that the increased duty on tin plates will double the cost of the poor man's tin dinner kettle. A good dinner kettle can be bought for twenty-five cents; and if this sum is to be doubled it would indicate that the kettle weighed about twenty pounds: for if it did, the increased duty of  $1\frac{1}{2}$  cents per pound on the twenty pounds of tin would amount to the difference. But no working man carries a dinner kettle containing twenty pounds of tin; and if there are two pounds of tin in it it is as much; and as with ordinary care a dinner kettle should last say four years, the increased cost, say  $2\frac{2}{3}$  cents, would be spread out over that period. As to the can-

ners of fruit, vegetables, etc., selling their goods in foreign markets, it is well known that when such goods are exported the Government remits ninety per cent. of the duty collected on the tin used in the manufacture of the cans; and that the difference in cost of cans under the higher duty is inconsiderable. When these facts are considered, the ridiculousness of the objection to the higher duty in tin plates is apparent. "The young workingman" just going to housekeeping will not object to paying fifteen cents a year additional duty on his tinware, particularly if he is employed in any of the many branches of industry connected with the production of tin plate; neither would he object if every four years when he bought a dinner kettle he had to pay two, or three, or even five cents more for it than before. As to the increased cost of tin cans, it is not even probable that there would be any perceptible increase in the cost to canners, for the foreign producers of tin plates would bear the burden. But if they did not, the additional cost of each can would be so small—not more than a small fraction of a cent—that there could not be any addition made to the price to the consumer. It would be ridiculous to suppose that a family would be charged more than ten cents for an ordinary ten cent can of fruit or vegetables.

#### WHY NOT?

WHY not have a tin plate industry in Canada? Why should not Canada have works in which would be manufactured all the tin plate we consume? The Dominion Government has never yet thought it desirable to encourage the establishment of this industry, and tin plates, like steel rails, are, and always have been, on the free list. Having always been admitted duty free, no efforts have ever been made to manufacture these articles in this country, and we are now quite as dependent upon other countries for them as we were at the time of Confederation. It is true that the consumption of tin plates in Canada is not very large, but it is large enough to support one or more works for its production; and there is no doubt but if such works were in existence, the consumption would be much larger than what it now is. As far as this article is concerned, we have always had the freest kind of Free Trade: but this Free Trade in the nature of things never can or will result in the establishment of tin plate works in Canada; and if it is desirable that we have such an industry it is evident that it can only be established under the auspices of Protection.

Do we need such works? The importations of tin plates into Canada in 1889 was 259,448 hundredweights, valued at \$871,856: and this does not include the considerable importations of tinware, coming chiefly from the United States. The canning industry in Canada is very small compared with that in the United States; but there are no sufficient reasons why it should not grow to proportionately large dimensions: if it has not already done so the fact cannot be charged to "Protection." It has been demonstrated that such fruits, vegetables, fish, meats, etc. as are now canned in Canada are equal in quality, if not superior, to similar articles canned in the United States; and there are no good reasons why the consumption of such goods here should not be entirely of Canadian production: and there are no good reasons why Canada should not do an extensive export trade in canned goods. With the expansion



of the canning industry, and the constantly enlarging demands of the country, the consumption of tin plates must be greatly accelerated: and it would seem that there will never be any better time than the present in which to take steps, looking to the commercial independence of Canada in this direction.

Regarding this matter the experience of the United States should teach Canada a lesson which it would be well to heed. That country consumes more tin plates than all the other countries of the world together: and yet it does not produce a pound of the article. Its dependence is entirely upon Great Britain: and more than three-fourths of all the tin plates that country produces is consumed in the United States. Never until the passage of the McKinley bill has that country imposed a duty high enough to cause the successful establishment of the industry there; and every dollar that has ever been covered into its treasury from that source has been through a tariff "for revenue only." Last year Great Britain sold the United States 742,136,640 pounds of tin plates at a cost of \$21,726,707: and in the last twenty-five years Great Britain has received from the United States the enormous sum of \$320,037,362 for tin plates, every dollar of which might as well as not have been kept at home and contributed to the enrichment of American capital and American labor. It is true that American enterprise has attempted time and again to establish tin plate works at home; but the foreign manufacturers have always succeeded in thwarting the undertakings by flooding the American market with goods sold far below cost, thus preventing their would-be American competitors from continuing in the business; recouping themselves for these temporary losses by increased prices as soon as they had again obtained full control of the American market. The general result of this condition has been that although American consumers have been forced to pay higher prices for tinware, their money has gone to reward British capital and give employment to British workmen. The drain from the United States to pay for British tin plates averages about \$60,000 a day. The Americans have become exceedingly weary of doing this: and to stop it they have raised the duty to a figure that will certainly result in the successful manufacture of the article in their own country. Although this increased duty does not go into effect until July of next year, we already hear of the proposed establishment of quite a number of tin plate works: and from what we all know of American ingenuity and enterprise, and the keen competition that will exist between the manufacturers, there can be no doubt that while British tin plates may to a considerable extent be kept out of the American market, there will be no increase in the price of the article.

The manufacture of all its own tin plates means the investment of immense capital and the employment of armies of workmen that do not exist. The manufacture of 750,000,000 pounds of tin plates a year means the consumption of 1,000,000 tons of iron ore, 300,000 tons of limestone, 2,000,000 tons of coal and coke, 400,000 tons of pig iron, 5,000,000 pounds of lead, 13,000,000 pounds of tallow and oil, 40,000,000 pounds of sulphuric acid, 12,000,000 feet of lumber, the employment of 35,000 workmen, and the payment of \$23,000,000 in wages. All this means just that much more expended at home: and it also means the rapid development of American tin mines.

Why should not Canada also establish tin plate works?

## CANADIAN SHIPBUILDING.

SOME time ago the Dominion Government called for tenders for the construction of a boat for lighthouse and buoy supplies at British Columbia. The Polson Ironworks Company, which is endeavoring to build up a native shipyard at Owen Sound, and which has already turned out a number of boats equal to many of those built on the Clyde, tendered for the work. In doing so they were under the disadvantage of having to include in their tender \$3,500 for duty on material imported. The Government, however, awarded the contract to a Glasgow firm, and the boat when built will be admitted free of duty. This the Polson Company feel to be a great injustice to them. In conversation with a *Globe* representative Mr. F. B. Polson, managing director, protested that the action of the Government was not in harmony with its National Policy theories. Their firm was endeavoring to establish a new Canadian industry in the face of keen outside competition, and he thought this circumstance ought to have been taken into consideration. They had not been in any way consulted, and had not been given any opportunity to amend their tender so that the work might be kept in Canada. Not only does the company feel that they have been slighted, but the residents of Owen Sound, with the progress of which the shipyard is largely identified, also consider that they have a grievance.—*Toronto Globe*.

This item is calculated to deceive and mislead. If the Polson Company had been awarded the contract for building the steamer alluded to, and if they had been permitted to import all the material necessary in its construction and equipment free of duty, it is not at all probable that they could have built the vessel for as little money as the Scotch concern to whom were awarded the contract. An important feature of the matter is that the vessel is intended for use on the Pacific coast. If it had been constructed at Owen Sound it would not have been materially nearer its destination than from the Clyde. It could not be carried across the continent by rail, and it would have had to have gone around Cape Horn as all other vessels do when proceeding to the West Coast from Atlantic ports. No doubt the Polson people would have liked to build such a vessel, and no doubt of their ability to build as staunch and good a one as that contracted for by the Scotch concern, but it is ridiculous to charge the National Policy with their failure to obtain the job. We do not know whether the Albion Iron Works of Victoria, B.C., put in a bid, but from what is known of that concern there is no doubt that they could have built a vessel that would have been satisfactory in every respect, with this to be said in their favor—that they have a fine ironworking plant, and that they are a Canadian company doing business right where the services of this steamer are required.

Allusion is made to the fact that this Scotch-built vessel is to be admitted to Canada duty free. The impression prevails that the existing connection between Canada and Great Britain does not allow of any discrimination being made against the free access of British vessels to Canadian waters, nor against their engaging in business therein on equal terms with Canadian vessels. If this is so; and if Canada has no right thus to discriminate, then it is folly to blame the N.P. for what cannot be helped. But if such entanglement does not exist, then the Dominion Government should make haste to rectify an evil that has always worked great harm to Canadian maritime interests, and that has prevented the development of a vast and grand Canadian ship building industry.

What Canada needs, and that very badly, is just such a law as that of the United States by which none but American vessels are permitted to engage in domestic commerce. That country has been taunted time and again with the fact that less than fifteen per cent. of its foreign trade was carried in vessels sailing under the American flag. The reasons for this need not now be discussed; but it is a fact that the tonnage of American crafts engaged wholly in domestic commerce, is second only to the tonnage of Great Britain, and much larger than that of any other nation. An illustration of the extent of this domestic maritime commerce is seen in the fact that last year the tonnage passing through the Sault Ste Marie canal was considerably greater than that passing through the Suez canal but a very small portion of which was other than American.

If Canada had such a law there is no reason why the Canadian shipbuilding industry should not flourish with the vim if not to the extent that characterizes that of the United States. With such a law Toronto, Owen Sound, Collingwood and other lake ports would show somewhat of the shipbuilding activity that has made Cleveland, Detroit and Bay City so renowned.

#### EDITORIAL NOTES.

The facetiousness of the *American Artisan* is exceeding excruciating. P.S.—A diagram and explanatory notes should always accompany the facetious emanations of our esteemed contemporary.

It has, indeed, always appeared strange to us that the Liberal party of Canada should put itself in the attitude of antagonizing Canadian interests; and whatever our opinions of the Tory party as such, we cannot but admire its vigor, its consistency, and its far-seeing wisdom in adopting and defending the system of Protection to Canadian Industries.—Cleveland, Ohio, *Iron Trade Review*.

No one who wants to look at the business side of the present agitation for Free Trade can afford to go without the CANADIAN MANUFACTURER.—Sault Ste. Marie *Pioneer*. Thanks. A feature constantly kept in view by this journal is the teaching that the interests of Canada and of Canadians are of more importance and consideration than those of any other nation and people under the sun. Canada First.

A FEW days ago the employees of the Toronto Railway Company in saying farewell to Mr. J. J. Franklin, their Superintendent before his departure for Paris, France, presented him with a substantial token of their esteem for him their sentiments finding expression in a most beautifully engrossed and illuminated album, the work of Mr. A. H. Howard of this city. Mr. Howard is a young man whose artistic skill and taste has been displayed in many such souvenirs.

No more vigorous business organization exists in Canada than the Canadian Manufacturers' Association. With Mr. Bennett Rosamond at the head and Messrs. Frederic Nicholls and J. J. Cassidey as secretaries, and with the able backing of the enterprising CANADIAN MANUFACTURER (which, by the way, ought to be published weekly rather than fortnightly), the

Association has been doing yeoman's service in behalf of Protection in the Dominion.—Cleveland, Ohio, *Iron Trade Review*.

At a meeting of railway workers held in London a few days ago, it was stated that the union, since its formation, had succeeded in obtaining about £200,000 increase in wages for the railway men, but that the average pay of railway workers was still only four pence—only about seven and a half cents—an hour. This is in Free Trade Britain where the laboring classes enjoy all the blessings of selling their labor and buying their supplies untrammelled by 'trade restrictions.' There is no unskilled laborer working on the streets of Toronto who is paid less than twice as much as the railway workers of Great Britain.

MENTION is made in the President's message of the proposed United States navy and of its intended armor plates, but there is not a word said as to the desire at Washington to secure our nickel at a cheap rate for this purpose.—*Empire*.

Mistaken again. The desire at Washington to secure our nickel at a cheap rate was very forcibly shown when Congress removed the fifteen cents a pound duty on nickel ore and matte, placing them on the free list. Our American friends do not want cheap refined nickel except that which they themselves manufacture from Canadian ore. Impose the duty.

THE CANADIAN MANUFACTURER has always been a wide-awake journal, but of late it is surpassing itself in the demolition of the Free Trade and Commercial Union theories as applied to Canada. We venture to say that if every Canadian farmer could have a chance to peruse the CANADIAN MANUFACTURER as they do *The Globe* and other organs of annexation and despair, we would have to use a microscope in order to find a Free Trader or Commercial Unionist amongst them, before a twelve-month had gone past. The MANUFACTURER rightly believes that the best way to kill error is, to let in the daylight of truth. Long may it flourish.—*Toronto Trader*.

It is stated that there are only two good nickel mines in North America, one in Canada, the other in Nevada. The Congress of the United States has appropriated a million dollars for the purchase of nickel for armor plates, and it is likely that the bulk of the material will come from the Canadian mine. The Krupps, whose patronage represents almost every European naval power, are attempting to secure the output from the same mine. The market for nickel is, therefore, likely to be good, unless the Canadian Government should take the advice of some of the Tory papers and clap an export duty on the ore.—*Globe*.

There being only two good nickel mines in North America, the best one being in Canada, Canada should allow the United States, the Krupps and "almost every European naval power," to contribute about fifteen cents a pound for all the nickel they take from Canada in either ore or matte. Impose the duty.

A MODEST plumber boy opened a \$10,000 guaranteed burglar proof safe a few days ago, on a wager, in three minutes. Then they turned him out, set a new combination and invited him to try it again. This time he got the big doors open in two minutes, without defacing the lock. The county authorities up in Dakota, who own the safe, now refuse to pay for it, and the manufacturers have taken a dislike to the plumber boy.—*Stoves and Hardware*.

Is this the style of burglar proof safes they make and use in

Yankeeland? But the question arises, considering the condition of blizzard and drouth-stricken Dakota, what use have county authorities there for "safes?" We would suggest to our American friends that when they have use for burglar proof safes that are safe, and which neither modest plumber boys nor even expert burglars can open, they come to Canada for them. We refer to our advertising pages for further information.

OF course the *Cleveland Marine Review* is to be indulged in entertaining the idea if it desires to do so that Canada discriminates in the matter of tolls on vessels passing through the Welland canal; and it seems, according to our contemporary, that Secretary Windom is to officially investigate it. Our opinion is that when the investigation is had it will be found that Canada is acting within her rights, and that there is no violation of the treaty of Washington of 1871. Regarding the St. Clair canal, we would remind the *Review* that both Canadian and American authorities agree that this canal is not entirely within American waters, but is partly in Canadian territory. This being the case, if that canal is "free" to Canadian commerce, it is free because we have an inherent right to it—a right which is not and cannot be affected by the treaty of Washington. Speaking about the terms of that treaty, we again ask the *Review*: How about the Erie Canal?

SOME Tory journals have proposed that an export duty should be imposed on crude nickel so as to prevent that mineral being taken from Sudbury into the United States, and compel the establishment of smelting and refining works in Canada. The *Ottawa Journal*, Conservative, tells these people they are "protection-mad," and says, "if the great cost of transportation of cumbrous raw ore is not sufficient to encourage refining works near the mines, an export duty will not do it.—*Montreal Herald*."

Like many other newspapers when pretending to discuss important questions, neither the *Ottawa Journal* nor the *Montreal Herald* seem to know what they talk about. Because of "the great cost of transportation" of these cumbrous raw ores, nearly all mined at Sudbury are subjected to a smelting process which results in the production of matte in which condition the nickel is exported. We are not aware that even as much as a pound of nickel was ever refined in Canada, nor is there any probability of any refining works being established here unless it be by and through protection. Canada can produce nine tenths of the world's demand for nickel, but the refined metal will never be made in Canada unless under protection. Therefore let the industry be encouraged by imposing an export duty upon all unrefined nickel taken out of this country. Impose the duty.

WE notice that some of our city daily contemporaries are offering special inducements to those who may desire to earn some of the premiums which they offer for new subscribers. The premium list includes a large variety of articles which may be all that is said of them, but a shadow of doubt is cast over them when it is seen that what is called a "valuable work, well bound and printed on good paper with clear type," is nothing more or less than a spurious edition of Webster's Unabridged Dictionary. "We are giving this valuable work,"

one of these daily papers says, "together with the weekly issue, for three dollars;" that "the regular selling price of Webster's Dictionary has heretofore been \$12." This is an outrageous imposition upon the ignorance of those whom it is sought to inveigh into putting up good money for a spurious edition of an antiquated book. The Dictionary thus offered is most shabbily and cheaply bound, is printed on very poor paper, and is not printed with clear type or any other sort of type, but by a very cheap and unsatisfactory photographic process. Furthermore the selling price of a genuine Webster's Unabridged Dictionary was never \$12, the highest ever charged for it in the regular trade being \$10. The genuine book is not now being printed, having been superceded by the larger, better and more modern Webster's International Dictionary. The public should be on their guard against imposition.

PRESIDENT HARRISON in his message to Congress, speaking of the McKinley tariff, suggests that it be let alone for a while and see how it will work. The hopeful view he takes of the situation reminds us of a story. Some years ago in Edinburgh a tenement building collapsed and many unfortunate people were buried in the ruins. Willing hands were at work removing the dead and caring for the wounded, when a feeble voice was heard issuing from amid the wreck, "Heave awa', lads, I'm no deid yet." Soon afterwards a fine, large building was erected on the site and above the arched entrance was placed the carved image of the rescued one, and the memorable inscription, "Heave awa', lads, I'm no deid yet." This monumental building is still to be seen in Edinburgh. The recent political land slide in the United States looks as though it had collapsed the Republican party, but the voice of Mr. Harrison coming from amid the wreck, speaks words of hope and cheerfulness for that spirit of Protection that has done so much for that country. There may be many objectionable features about the McKinley bill, but these will probably soon be cleared away, and instead of the incongruous affair with which the American people seem to be so dissatisfied, there will be erected a more glorious temple dedicated to American enterprise and industry, above the arched portals of which will be placed the image of the spirit of Protection and the inscription, "Heave awa', lads, I'm no deid yet."

MR. A. O. BEATTY, of the firm of M. Beatty & Sons, Welland, manufacturers of dredging machinery, etc., told a reporter of the *Victoria (B.C.) Times* that the firm now employ 150 men, but if they had an opportunity to trade with the United States they would increase their staff of workman to 1,000. Mr. Beatty must have a care. Does he not know that all such sentiments as he utters in favor of Unrestricted Reciprocity in manufactures are treasonable declarations? Has he not the home market?—*London Advertiser*.

Supposing Mr. Beatty to be a sensible business man it is doubtful if he ever made the statement here attributed to him. It is only about twenty miles from Welland, where Mr. Beatty does business, across the Niagara River into the State of New York. If he is very anxious to employ a thousand men instead of 150, and to enjoy the sixty million American market, why don't he do it? Mr. Beatty has little or no competition in the five million Canadian market; but he would have a lively time of it with probably a score or two of Yankee competitors on the other side. This sort of talk is cheap—very cheap. We

believe his dredging machinery is well protected by patents, which prevents duplication by others in Canada. If he holds American patents on it also; and it is as desirable as any other such machinery, it is surprising he does not start a branch factory on the other side, giving employment to the thousand workmen spoken of. If he does not hold such American patents he probably would not be quite as anxious to trade with the United States as he is represented as being.

OUR usually level-headed contemporary the *Cleveland Iron Trade Review* thinks that certain Canadian papers are like sitting hens in demanding that an export duty be laid on nickel ore going out of the country. It tells that the Sudbury nickel deposits have been there from time immemorial; that Canadian prospectors have been there also and had the opportunity to secure and profit by them, and that it was left for American capital to discover their extent and value, and to purchase and develop them. "No sooner," it says, "does the great commercial value of the district appear, (thanks to the shrewdness and enterprise of these same Americans), than some of the Canadian journals ruffle up their feathers, spread themselves over the nest which no longer belongs to them, and viciously peck at the American company in true old hen style." The *Review* allows itself to become excited. It should keep cool. A demand is made for the imposition of an export duty; but the object of this is not to shut off the establishment of nickel refining works in Ohio, as our contemporary charges, but to encourage the erection of such works in Canada. Without the duty, all that Canada would have to show for its immense wealth of nickel would be the holes in the ground from which it was taken. An export duty of \$300 per ton would only be equivalent to the American import duty existing at the time Mr. Ritchie and his friends acquired the Sudbury mines. Self-preservation is as good a law for Canada as for the United States. Impose the duty.

Can anyone imagine that Mr. Snelus would invest capital in a nickel mine in Ontario if the Canadian Government seriously contemplated the placing of an export duty on the ore. He assuredly would not. Yet THE CANADIAN MANUFACTURER is urging such a duty; and it is the organ of Sir John Macdonald's particular friends, the gentlemen of the Red Parlor. We sincerely trust so insane a proposal will never receive countenance at Ottawa — *London Advertiser*.

Gently, friend. Don't fly off the handle. If Mr. Snelus, who is a vice-president of the British Iron and Steel Institute, and a man of business withal, should invest capital in a Canadian nickel mine it is certain he would not ship a ton of the ore to England to be treated, but would at least reduce it to matte at or near the mine. There is this difference between nickel and other metals: at least five-sixths of all the known nickel deposits of the world are in Canada, and the world's demand for the article must of necessity be drawn chiefly from Canada; while such is not the fact as regards any other metal. Mr. Snelus can but admit Canada's right to profit by the situation; and the imposition of an export duty upon the ore or matte would not deter him from the suggested investment. There being no export duty upon the refined metal it would be made here; and, according to Mr. Ritchie, to do this would not be as expensive as in the United States. There are but few intelligent men in Canada who do not believe that the establishment of nickel refining works here would add greatly

to Canada's prosperity; and that this should be encouraged by the imposition of an export duty upon ore and matte if necessary. Impose the duty.

A FREE TRADE writer, John E. Russell, speaking at a farmers' meeting in New York State the other day, said: "Commerce and agriculture go hand in hand. When commerce flourishes land increases in value. Our Protectionists friends having killed commerce with taxes and restrictions, propose to restore it by taxing farmers to subsidize ships." England leads the world in commerce and in her adherence to Free Trade theories, and agriculture in the British Islands is to day in a condition of greater depression than in any other civilized country upon the globe. British soil is going out of cultivation at the rate of 100,000 acres a year. Rental values have fallen off within a few years from 30 to 40 per cent. It was asserted in the House of Representatives the other day that "the depreciation in the rental of British lands from 1875 to 1885 was \$150,000,000, representing a loss in the selling value of \$4,500,000,000." In the County of Kent alone, right at the edge of London, there are said to be 25,000 acres of arable land uncultivated. In Ireland three-fourths of the island are out of cultivation. England just now has no more serious question to deal with than that of the depression in agriculture, which is destroying the business of the farmers and sending the agricultural laborers who are thrown out of work swarming into the cities to swell the already great mass of idlers and paupers. This is the plain truth about "commerce and agriculture." The worst suffering among agriculturists appears in the nation having the greatest foreign commerce. The most alarming depreciation in land values occurs in the country which makes the closest approximation to free trade. Mr. Russell sailed as close to the truth, however, as most men of his faith do, and the chief matter for regret is that few of his hearers, probably, were aware that his whole argument was based upon misrepresentation. — *The Manufacturer*.

MR. RITCHIE is doing more to develop the mineral resources of Canada than any other man, though he finds his efforts seriously hampered by the trade restriction policy of the Tory party. He has directed the attention of the world to the valuable copper and nickel deposits of the Sudbury region, and has caused thriving towns to spring up where before there was nothing but rock and forest. It is unfortunate that we have not more American capitalists like Mr. Ritchie engaged in working our mines. If the restrictions upon trade between this country and the United States were abolished, the iron mines in the neighborhood of Ottawa would quickly furnish employment for hundreds of workingmen. But perhaps the stick-in-the-mud who advocates trade restriction thinks that all the ores found in Canada should be left where discovered. — *Ottawa Free Press*.

When one goes to Rome he should do as the Romans do. Mr. Ritchie and his money is gladly welcomed in Canada, but no one supposes that Mr. Ritchie is engaged in developing the mineral resources of Canada for any other purpose than to enrich and benefit Mr. Ritchie. If he cannot benefit himself because of being hampered by the policy of the country, he has the privilege of returning to Ohio. He found that policy in force when he came to Canada, and he need not expect to have it changed for his especial benefit. We cordially invite other American capitalists, and capitalists from all other quarters of the globe, to come to Canada and engage in developing her resources, but they should become Canadians when they get here, and acquire the rights and privileges of Canadian citizens. When they do this it will be time enough for them to attempt to shape and influence the trade policy of the country. Impose the duty upon nickel ore and matte.

ABOUT a year ago we mentioned that Messrs. H. Shorey & Co., clothing manufacturers of Montreal, along with some other firms, sent a consignment of their goods to the West Indies. The shipment seemed like "drawing the bow at a venture," and little was expected from the experiment by those who participated. The goods sent there by Shorey & Co. were quickly taken up by the West India Merchants, and the first shipment was followed by others, until now the goods of this firm have been sold in greater or less quantities in eight or nine islands. About \$11,000 worth of ready made clothing have been sold already by the firm. Considering the difference in the cost of cloth in the Yorkshire district of England compared with Canada and the great facilities in the way of cheap labor, cheap power, low rent and low interest possessed by the large clothing firms of Leeds, one would at first be inclined to doubt the possibility of Canada competing with England in any outside market, especially when it is remembered that large quantities of cheap ready-made garments find their way to Canada from Great Britain, Germany and other countries. But the fact appears to be fully proved, that in style, appearance and finish the Canadian "ready mades" are far superior to the slop goods of England and other countries, at least in men's wear, and the goods sent out by Messrs. Shorey & Co., have been accepted by the West India dealers as practically equal to ordered clothing. The result of this experiment shows two things: first, that those who belittle the efforts made to extend our trade with the West Indies do so upon mere assumption and without actual knowledge of the case; and second, the small openings that have already been made for Canadian manufactures and produce in China and Japan, Australia and the West Indies prove that our attention has been fixed too exclusively upon the United States instead of countries beyond this continent. Let us steer for the open sea.—*Journal of Fabrics.*

ONE of the favorite theories of the Free Traders is that the Protective system "robs" the American people. This notion is vigorously expressed in a statement, widely circulated of late in the Free Trade journals, from a certain Scotchman who has been travelling in this country, and who declares that the system "fleeces, skins and scalps" its victims. This process of robbery has been going on here almost without cessation for a hundred years and the following are some of the results: We have become the richest nation in the world. Our internal commerce surpasses in volume and in value the imports of all other nations. We are the greatest manufacturing nation. We have half the railway mileage of the world. We consume nearly half the iron and steel product of the world. We consume one third the total wool product. We consume two-thirds of all the tin plate made. We grow more than half the cotton. We are the only nation that has a surplus in its Treasury. We are the only nation that ever paid \$1 000,000, 000 of debt in twenty five years. We pay higher wages than any other nation. Our people consume more good things per capita than those of any other country. Wages have steadily advanced, under this process of robbery, and prices have steadily gone down. Half a million people from other countries come here every year to be robbed, and so eager are they to come that when we pass laws to keep them out they sneak in by way of Canada and Mexico. Strange to say, more of them come from the British Islands, where there is Free Trade, than from any other part of the globe. These are odd results of persistence in robbery. The more we rob ourselves the ric'er we get; and the more resolute other people are to flock hither to subject themselves to the consequences of this kind of outrage. If such are the issues of theft, then the eighth commandment is a mistake, and the profession of the bandit is useful to society. In truth, however this theory of robbery is like a good many other theories advanced by Free Traders; it will not dovetail with the facts. The American people, happily, have sense enough to perceive that a system which produces such fruits

deserves their support, and that is just why they have supported it for a century.—*The Manufacturer.*

AN interesting paper on the magnetite iron ores of Ontario was recently read by Mr. T. D. Ledyard, of Toronto, before the American Institute of Mining Engineers. The Belmont mine in the County of Peterboro' is estimated to contain a million tons of magnetic ore within 100 feet of the surface. Capable of producing 400 or 500 tons of ore a day. The ore is high in metallic iron. It possesses a fine texture, with but little phosphorus or sulphur, and in Mr. Ledyard's judgment constitutes an almost ideal ore for the Bessemer steel process. Four miles from the Belmont the Blairton mines are found. The Belmont are six miles and the Blairton two miles from the Canadian Pacific Railway and about 110 miles from Toronto. The Blairton, which was originally known as the "Big Ore Bed," contains an immense mass of magnetic iron ore averaging fifty or fifty-five per cent. of metallic iron. The Hastings mines on the Central Ontario Railway furnish ores of Bessemer quality. There is sulphur in the ore, but not a larger proportion than is found in ores in Pennsylvania, New Jersey and New York, which are used in large quantities in the United States. The townships of Snowdon, Galway and Glamorgan in the County of Haliburton, forty miles from Lindsay, contain several valuable deposits of magnetic ore. Limestone suitable for flux is found near by and there is an abundance of hardwood for charcoal. The district is 200 miles from Buffalo, to which point the ores could be delivered cheaply in returning coal cars; and 100 miles from Midland, whence it could be shipped to Chicago by vessel. Magnetic ores also abound in the region traversed by the Kingston and Pembroke Railway. Some of these contain titanium, a substance which depreciates their economic value. The deposits in the other parts of Ontario just mentioned are perfectly free from it.

HON. DAVID MILLS is now a pessimist who declares that Canada will go to the demerit bow-wows if we do not have Unrestricted Reciprocity with the United States. But his views were not always thus. Under the Mackenzie Government he was Minister of the Interior; and from his place in the House of Commons, in 1877, discussing our trade relations with the United States, alluding to the duties imposed by the American tariff, said:—

The doctrine laid down in England was that taxation imposed on imports was paid by the consumers of these imports; and if that was the case, the taxes imposed by the Government of the United States on Canadian products was paid by the consumers of these articles in the United States. In 1875 we sold to the United States 5,400,000 bushels of barley for \$5,359,000. This barley was taxed by the American Government thirty cents per hundred pounds. Who paid this tax—the brewers of the United States or the farmers of Canada? Beyond question it was paid by the brewers. The very object of imposing this tax was to increase the price of barley produced in the United States; and how did it increase the price except by generally increasing the price not only of what was grown at home, but also of that which was imported from abroad.

During that same speech Mr. Mills also said:—

We had sold to the United States 100,000 bushels of malt for \$109,000, and the tax levied on it only increased the price to the American consumer. It made no difference to the Canadian exporter. We sold to Great Britain in 1875, 2,247,000 bushels of peas for \$2,138,675, and we sold to the United

States 579,000 bushels of peas for \$502,176; and we got to a cent from the American purchaser the price we received from the English purchaser. Peas entered free into England, and they were taxed fifteen cents in the United States. Who paid the duty? If the duty was paid by Canadians, then peas would be fifteen cents lower when sold to Americans than when sold to England. It was the consumer and not the producer who paid taxation.

THE Sault Ste. Marie *Express* propounds a problem in reciprocity: An Algoma farmer hauled eighty bags of potatoes to that place, for which he was offered sixty-five cents per bushel delivered on the American side, and forty-two cents on the Canadian side. The American duty, under the McKinley Bill is twenty-five cents per bushel. He wanted to buy coal oil and barrelled pork, both of American production. The Canadian duty upon coal oil is seven and one-fifth cents per Imperial gallon, and upon pork \$3 per barrel of 200 pounds. The standard American gallon is twenty per cent. less than the Canadian Imperial gallon. The price of coal oil on the American side was eleven and a-half cents per standard gallon, and of pork \$11.50 per barrel, while on the Canadian side it was twenty-one cents per standard gallon for oil and \$15 per barrel for pork. The farmer, according to this voracious Grit paper, became alarmed at the idea of paying duties both ways, and did his trading on the Canadian side. He bought one hundred standard gallons of oil and four barrels of pork, which at the prices named amounted to \$81; and this amount was just what he realized for his potatoes at forty-two cents per bushel. At this price he must have sold 192 $\frac{2}{3}$  bushels. The Canadian duty upon this coal oil—the equivalent of eighty Imperial gallons was \$5.76, and upon the pork, \$12; total \$17.76. Now if this farmer had not been so alarmed at the idea of paying duties, and had transacted his business on the American side, the result would have been as follows: He would have sold his 192 $\frac{2}{3}$  bushels of potatoes at sixty-five cents per bushel which would have produced to him \$145.35, but from which the American duty of twenty-five cents per bushel, say, \$48.21, would be deducted leaving \$97.14 net. The oil would have cost \$11.50, and the pork \$46,—total \$57.50 and the Canadian duty thereon, as before shown \$17.76, making the purchases cost, duty paid, \$75.26. The scare cost the farmer just \$16.14.

Our esteemed contemporary, the London *Advertiser*, hysterically endorses the impertinent suggestion of Dr. Bell, of the Dominion Geological Survey, that "no one but an idiot would propose to put an export duty upon nickel ore." It says:

There is now an opportunity of establishing an important mining industry in Ontario, and whether the ore is admitted free into the United States and elsewhere or not, there is little doubt but the great bulk of what is raised at the mines will be roasted and smelted there, and so continue to give employment to a large number of men, of the skilled and unskilled classes. But let an export duty be placed on the ore or the matte, and the industry may be seriously crippled for many years.

This is ridiculous. In chiding this journal for advocating the export duty the *Advertiser* tells us what we all know, that "there seems to be little doubt that in this Province there are vast ranges of ore, rich in nickel and copper, and that no other country on the face of the globe possesses a supply at all approaching ours. The members of the Iron and Steel Institute who visited Sudbury a few days ago spoke of nickel as a rare

metal, and they were greatly surprised at the vast bodies of it which they saw opened up at the Sudbury mines. Some of their number also, it has been intimated, have become interested in properties there, and it is more than probable that mining operations will be commenced under their direction in the course of a few months. One of these men is Mr. Snelus, a vice-president of the institute, and a man of world-wide reputation as a metallurgist." Having this great and almost exclusive store of a valuable metal Canada would be untrue to herself if she did not profit by it to a greater extent than the employment given to unskilled labor in mining, roasting and smelting into matte. According to Mr. Ritchie, Canada should stimulate not only the production of the refined metal, but should also manufacture the nickel-steel with which the navies of the world are to be armored. This can only be done by taxing the export of ore and matte, and encouraging the erection of steel works. Impose the duty.

THE proverb "Evil communications corrupt good manners" is forcibly and painfully exemplified in the case of Mr. Goldwin Smith, who, from association with blatherskite politicians, has descended from the unexceptional style of writing usually observed by him, and ranges himself along with the *Globe*, the *Mail*, Sir Richard Cartwright, *et id genus omne*, in using innuendoes and mean insinuations when facts to suit do not present themselves, and sensible arguments fail to materialize. Thus, in a recent letter to the *Mail*, Mr. Smith, in speaking of "Canada and the McKinley Act," says that the object of the framers of that Act, like those of the Canadian Government, "is simply to secure votes." He says that the result of the then pending Congressional elections in the United States will show, "so far as Protectionist corruption will allow free voting," what is the real tendency of American opinion; and, speaking of the ignorance of "the English" regarding Canadian affairs, this Professor of Belles lettres says "they have heard much of the burning loyalty of Canadian Tories, but they have never heard of the Red Parlor." This gentleman whose reputation has been built largely upon the politeness and elegance of the literature that has been given to the world by him surely forgets himself. He is at liberty, of course, to think that the American tariff was not leveled against Canada—this is his privilege—but why should he impute corrupt motives to the Canadian Government by saying that they "anticipated the passing of the McKinley Act by a declaration of tariff war," and that this was done "simply to secure votes?" Does the Annexation party to which Mr. Smith belongs possess all the purity of the country? And does he pretend to say that the Protectionists of Canada are corrupt because of their politics? He is as liberal, too, in his insinuations, for he hurls them at Protectionists in the United States as well as in Canada, even going so far as to suggest that the Protectionists there are so corrupt as to prevent free voting. These insinuations consist in artfully winding into the mind of his readers imputations of a scurrilous and injurious character without making a direct charge: and they may therefore justly be regarded as one of the basest sorts of malice and falsehood.

UNDER the benign auspices of the N.P. Canada is fast assuming a most enviable position as a manufacturer of cheese. A gentleman who recently traveled with his eyes open through



one of the grazing districts of Ontario, visited the cheese factory of Messrs. Ballantyne & Bell, at Tavistock, and this is what he says of what he saw and learned there:

"A fine, uniform lot of cheese is made at this factory, as one might expect from the high prices obtained, the average for last season being 10-24 100c, and the price received for their August-make this year was 10-50c. Last season there were made 125 tons, which brought the handsome sum of \$25,522.85. This year they will make about 130 tons, although Mr. Bell informed me that there were cows enough to make 250 tons if the patrons would properly feed and care for them."

This is said of the factory of Mr. John Hannah, at Seaforth:

"I found Mr. Hannah busily engaged in preparing to ship a car load of eggs and butter to British Columbia. This creamery has made about 40,000 pounds of butter this season, which has found a market in Edinburgh during the early part of the season, and now it is being shipped to the Far West. An excellent quality of butter is made, and reflects great credit on Mrs. McTavish, the maker, who proudly exhibits a medal awarded her at the Colonial. The butter milk is disposed of to town customers and farmers."

In one field near Londesboro' this gentleman noticed about a hundred steers; there were numbers of these animals on every farm he passed; and he was informed by a prominent farmer near there that it was a general practice in that section to send the cream to a creamery, and feed the skim milk to steers, which are fattened at from two to three years old. The Londesboro' creamery is owned by a company of farmers. The output up to September 20th was 43,400 pounds.

"At Bluevale," he says, "I found the finest building for the manufacture of cheese which it has been my fortune to see. The walls are brick, and the inside is finished in first-class style. Everything betokened neatness and good work. Mr. T. J. Dillon has long made here and given the factory its good reputation. The good work is being continued under the supervision of Mr. George McDonald. There is neither engine nor machinery in the building, hence the amount of manual labor is much greater than at Tavistock. About 135 tons will be made this season. This factory has the reputation of being the best in Canada, and numbers go there from the States as well as from Canada to study methods. Among those this year was Mr. J. W. Decker, of Wisconsin, who was sent out by the State to inquire into the methods of Canadian manufacture."

## SPECIAL ADVERTISEMENTS.

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

**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.

**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.

**TO MANUFACTURERS.**—The most desirable factory site in vicinity of Toronto, or equivalent cash bonus will be given free to suitable parties who will erect a factory thereon. Correspondence invited. Address GEO. F. COOK, 92 Church Street, Toronto.

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

The Christmas number of *Dominion Illustrated* has been published and is being circulated. It is claimed for it that it is the finest and most attractive publication of that character ever issued from the Canadian press. It contains forty-eight pages of delightful reading matter of the highest class, has innumerable and beautiful illustrations of persons, places and things characteristically Canadian, and has five grand colored supplements. It will be for sale everywhere, and everybody will want it. Published by Sabiston Lithographic and Publishing Company, Montreal.

*Printer's Ink* is the name of a paper that comes to our desk regularly every week the size of which is 5½ x 8¼ inches. It is published by Messrs. George P. Rowell & Co., New York city, and it is a little dandy. The charge for a quarter page of *Printer's Ink* for a year is \$650. The *Ladies' Home Journal* of Philadelphia, pays \$3,900 for the second page for a year, N. W. Ayer & Son, newspaper advertisers of Philadelphia, are to pay \$4,000. for one page in forty issues; Mr. A. F. Richardson of New York, who deals with newspapers "of known circulation" is to pay \$5,200 for the last page of this little paper for 1891. When speaking of the merits of his paper, Mr. Rowell says:—"Of the characteristics of *Printers Ink* one that is most valued is its small size. It must be kept small!"

The twelfth annual issue of *Grip's Comic Almanac* has been issued, and is serving a good purpose in aiding the digestion of its readers by causing them to shake their sides at its comicalities, sallies, wit and caricature. Mr. Bengough has wielded his imitable pencil with good and unsurpassed effect in the cartoons and illustrations, and about every figure in the Almanac is a recognizable likeness of characters well known and familiar in Canadian every day life. The calendar of remarkable events displays a wealth of hindsight and foresight that would bring a ripple of mirth across the stony face of the Egyptian Sphinx if it was read in soft whispers to it. The Almanac contains 32 pages and is sold at ten cents.

SINCE the meeting of the General Conference in Montreal last September, the Methodist Book and Publishing House makes another stride forward in its popular periodicals. A new paper for young people, with the progressive name "*Onward*," an eight-page,



well illustrated weekly, is issued at the low price of 60 cents a year, singly—over five copies, 50 cents a year. It is edited by the Rev. Dr. Withrow, whose management of the *Methodist Magazine* and Sunday school periodicals of the Methodist Church has been so successful. The popular *Methodist Magazine* (\$2.00 per annum) and the *Sunday School Banner* (60 cents per annum) will also be considerably enlarged and improved. The Rev. William Briggs, Toronto, is the publisher of these periodicals.

THANKSGIVING in the United States occurred on November 27, and, as was promised, *Good House-Keeping* of November 22 devoted its pages largely to such subjects as related to that pleasant event. Among other things it reproduced the first thanksgiving proclamation ever issued by a president of the United States. "The Romance of a Thanksgiving Turkey" is an exceedingly pleasant and appropriate story. It is announced that Miss Parloa, who is a regular contributor to *Good House-Keeping* and who is so well and widely known both in Canada and United States in preparing a "Christmas Dinner" for the next number, which is to be accompanied by "the best Christmas stories ever published." *Good House-Keeping*, which is to be issued monthly with the beginning of next year, would be an appropriate and acceptable gift to any house-wife, as the twelve numbers of a yearly subscription would be so many reminders of the giver and the gift. Clark W. Bryan & Co., publishers, Springfield Mass.

FROM a practical standpoint alone photography does not rank highly compared with other inventions and improvements of this prolific period, the past five decades. The telephone, telegraph, phonograph and other inventions have a far greater value from an economic view, but scientifically photography stands foremost. For five years new ideas, methods and improvements have been constantly introduced, and it is safe to say that as much progress has been made during this time as has been during the forty-five preceding years, since Daguerre produced the first daguerreotype. The amateur is entitled to most of the credit of this, for he has not only produced many of the results directly but his presence has served as an impetus to the professional. The flash light is one of the most recent and important improvements to photography. Mr. W. I. Lincoln Adams has an interesting article on Flash-light Photography in the December *Outing*. Mr. Adams says in the opening of his article: "Flash-light photography, as it is popularly called, is actually less than five years old, but in that short time it has had a truly wonderful growth. Five years ago the popular "flash" picture was an impossibility, now it is one of the commonest of photographs. The amateur is no longer dependent upon sunlight alone for his instantaneous "shots" with the hand or detective camera. Thanks to magnesium, he can now photograph at night, indoors, under the open sky, or in the recesses of the earth where the sun's rays never penetrate."

#### CANADIAN COAL IN SOUTH AMERICA.

Two years ago the Canadian government despatched a commissioner to the Argentine Republic, Brazil and Uruguay, with a view of ascertaining in what manner an interchange of products could be best secured between the Dominion and the countries referred to. In reporting to his government the commissioner assigns the first place to lumber to as an article of export to the countries of South America, and next to this he places coal. At present South America gets substantially all its coal from Great Britain. In the year 1888 the Brazilian Republic took from England over 590,000 tons of mineral fuel, Uruguay 291,000 tons, and the Argentine Republic 467,000 tons, representing an aggregate value of £714,000. At Sydney, Spring Hill, the Joggins and Cape Breton coal can be put on board ships cheaper than can be done in England, and coal can be carried from the mines in those places to ports in South America at a lower rate of freight than from British ports. The imports of mineral fuel into the Argentine Republic appear to have more than doubled during the last few years, and from this important circumstance, as well from the fact that Montevideo is about to make an effort to develop her great resources, the commissioner concludes that the colliery owners of Canada will find in those countries an excellent market for their fuel in the near future. Brazil also requires a large supply of coal, and for years past her imports have shown a steady expansion. As an illustration of the fact that Canada can successfully compete with Great Britain in the supply of coal to the ports of South America, the commissioner mentions that last year no fewer than 350 steamers coaled at Sydney Cape Breton. In Nova Scotia preparations have been made for shipping coal from that part of the Dominion to South America.—London Eng. *Iron and Coal Trade Review*.

## Manufacturing.

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

MR. JAMES McLEAN has started an oatmeal mill at Pakenham, Que.

THE cars of the street railway in Kingston, Ont., are to be propelled by electricity.

THE tannery of Messrs Primrose Bros., at Pictou, N.S., was destroyed by fire Nov. 25th.

SIX hundred men will be kept employed all winter in the construction of the Chignecto ship railway.

THE Interior Wood Decorating Co., of Toronto, has been incorporated with a capital stock of \$25,000.

THE Standard Asbestos Company of Ontario has been incorporated at Toronto with a capital stock of \$100,000.

THE capital stock of the Canada Meat Packing Company, Montreal, has been increased from \$100,000 to \$250,000.

THE fruit evaporating works of Messrs McAuley & Miller, at Pictou, Ont., were destroyed by fire Nov. 24th; loss about \$2,500.

THE Vermilyea Corset Company of Toronto, have erected a new factory at West Toronto Junction which will have capacity for 100 machines.

THE Montreal Cotton Company, whose mills are at Valleyfield, Que., have recently placed considerable new machinery imported from England.

MR. J. B. A. LANCTOT, glove manufacturer, Montreal, has begun the manufacture of summer gloves, which he claims, is an entirely new industry in Canada.

LETTERS patent of incorporation have been issued to the Edward Best Car Axle Box and Lubricator Company of Ottawa, the capital stock of which is \$25,000.

THE Guarantee Carriage Manufacturing Company, of Montreal, which was incorporated with a capital stock of \$50,000, has been dissolved by voluntary liquidation.

THE Bain Wagon Company, of Woodstock, Ont., will remove their works to Brantford, Ont., occupying the buildings recently vacated by Messrs. Harris, Sons & Co.

THE Globe Tobacco Works Company, of London, Ont., has been incorporated with a capital stock of \$50,000, to purchase and operate the Globe Tobacco Works, of Windsor, Ont.

THE authorities of the town of Port Arthur, Ont., propose to bonus the first 50-ton iron blast furnace that may be erected there to the extent of \$25,000 and to the first ore dock \$15,000.

THE Canadian Smelting and Refining Company, with headquarters at Yarmouth, N.S., will be incorporated with a capital stock of \$100,000 for the purpose of mining and manufacturing mineral paint.

THE L. P. Trottier Axe and Edge Tool Manufacturing Company has been incorporated at Three Rivers, Que., with a capital stock of \$40,000 for the purpose of manufacturing axes, hatchets, hammers, etc.

MESSRS. E. LEONARD & SONS, London, Ont., have furnished all the steam plant for the new electric light works at Three Rivers, Que., including battery of boilers, compound condensing steam engines, etc.

THE Toronto and Mimico Electric Railway and Light Company, with headquarters at Toronto, has been incorporated with a capital stock of \$100,000, to build an electric railway connecting Toronto and Mimico, etc.

THE capital stock of the Barnum Wire and Iron Works Company of Ontario, has been increased from \$45,000 to \$100,000. It is understood that the works of this company are to be removed from Windsor, Ont., to West Toronto Junction.

MESSRS. ROBIN & SADLER, manufacturers of leather belting, etc., Montreal and Toronto, have just placed a three-ply leather belt in the east end electric light station of the Royal Electric Light Company at Montreal, 112 feet long and 32 inches wide.

MESSRS. HEINTZMAN & Co., Toronto, have been making some very large shipments of pianos, including towns and cities from Halifax to Vancouver. This, we suppose, is in anticipation of the holiday trade. They inform us that their city business is remarkably brisk.

THE Brosius Motor Sewing Machine Company has been incorporated with a capital stock of \$300,000. This is the company which is said to have made a deal with the Wanzer Sewing Machine Company, of Hamilton, Ont., and are to take over their extensive works.

A COMPANY is being formed at Vancouver, B.C., for the purpose of carrying on a general ship-building business at that city. The company will have a capital stock of \$100,000. Vessels up to 1,000 tons burden will be built. Property for the site of the yard has already been purchased.

THE planing mill of Mr. R. F. Beamish, and the fanning mill factory of Mr. C. H. Merrick, at Pembroke, Ont., were destroyed by fire Nov. 20th. The planing mill, the loss on which was about \$2,500, was operated by Mr. W. H. Sparling. The loss on the fanning mill factory was about \$1,000.

MR. WILSON, of Pugwash, has forwarded a second shipment of butter to Hamburg, Germany, by steamer *Damara*, which sailed recently. The butter is packed in oak casks, each holding from 300 to 350 pounds. Such a venture evidences a large amount of enterprise and deserves to succeed.—Moncton, N.B., *Times*.

THE manager of the Wellesley flax mill has finished housing the flax crops of that neighborhood. There is a good winter's work in prospect for the flax mill hands. Mr. Albrecht, of New Hamburg, has been engaged as foreman of the knitting department, in place of Mr. Roeder, who has moved to Milverton.—Waterloo, Que., *Chronicle*.

THE Barnum Wire and Iron Works have received an order from Toronto Board of Trade for iron railings, etc., to the value of \$2,500. Also other orders from Toronto. They have completed their contract for the Royal Insurance Company's buildings of Montreal; and it is considered the finest work of its kind in Canada.—Walker-ville, Ont., *Mercury*.

AFTER a tedious delay caused by a lawsuit with the insurance company, in which Mr. W. J. Robinson came out victorious, operations have been resumed by the Robinson Wool Mat Company. The old Gorham Woolen mills have been leased for a term of years, and changes are now being made to meet the requirements of the business.—Newmarket, Ont., *Era*.

THE Farbenfabriken, vorm Friedr Bayer & Co., Elberfeld, Germany, who have given the Dominion Dyewood & Chemical Co., Toronto, the Sole Agency in Canada for their Anilines and Alizarines and have given them the sole control of their well known Pharmaceutical drugs, "Phenacetine-Bayer," "Sulfonal-Bayer" and Aristol to supply the Wholesale Drug trade.

PROSPECTORS in the mountains along the North Thompson river, B.C., have located a ledge of mica which shows forty feet wide and fifty feet high on the side of a mountain. Some samples taken to Victoria, B.C., were very fine, the largest of which was 10x8 inches and exceedingly clear. Some cubes were exposed showing about twenty-four inches clear, and which split readily to any thickness.

THE Menasha Wood Split Pulley Company, of Menasha, Wis., have recently received orders for their Hickory Pulleys from Hartman & Pulfer Trunk Co., of Racine, Wis., have placed their order with M. W. S. P. Co., for their full outfit of pulleys for new factory; Chatfield & Woods' Paper Co., Cincinnati, cone pulleys; Neenah Wall Paper Co., cone pulleys; Gerry Lumber Co., Eagle River, Wisconsin.

THE primary battery has been applied to the propulsion of invalid chairs in England. A strong chair, weighing about two cwt., is fitted with a battery at the back of the seat, and can be speeded up to about five miles an hour. As it is calculated that the cost of maintenance of the battery does not exceed four cents per hour, and as no renewal would be required during an ordinary day's use, the economy of this mode of propulsion for invalids is apparent.

THE Dominion Office Supply Company, of Windsor, Ont., are making a speciality of the "Rival" letter file cabinet manufactured by them, and for which they claim many valuable features not possessed by other cabinets. Each cabinet is a combination of smaller letter files, systematically arranged as one large subdivided file, each separate filing tray being provided with a subdivision label to denote its contents, and containing an index, by the aid of which the papers belonging to each particular tray are again subdivided and separated, thus classifying all papers into small alphabetical groups. These cabinets are made in different woods as desired, and are guaranteed to be perfect in construction and to give entire satisfaction.

THE Jenckes Machine Company, who already have a large establishment at Sherbrooke, Que., are asking the authorities of that town to assist them in the erection of additional works by the exemption of their plant from municipal taxation for twenty-five years and a loan of \$50,000. They state that they are already largely engaged in the manufacture of mining machinery, outfits of which they have sent to Sudbury, Ont., to British Columbia and to Cape Breton; and that there is an increasing demand for such machinery in nearly all parts of Canada. They propose to erect a large machine shop, a large foundry, a boiler shop and a pattern shop, equipping the same with all modern improved machinery and appliances.

MR. D. S. McDONALD, of McDonald Bros., Glendyer, has just returned from an extended trip through the New England States and the Upper Provinces. He has visited many of the woollen mills on his route, and made a study of the various improvements in woollen manufacturing, and to carry out some of these improvements at home they have had made to order, besides some minor pieces of machinery, three hundred spindle mules and a broad loom. By this addition to their plant they expect to increase their output by fifty per cent., and at the same time be able to supply the growing demand for home-manufactured blankets. This lot of machinery will be the best of its kind in the Maritime Provinces. It is expected to have it in operation before the end of November.—North Sydney (N.S.) *Herald*.

THE Excelsior Boiler Cleaner and Lubricant Manufacturing Company, Toronto, inform us that they are meeting with a large demand for their boiler cleanser. This article is a chemical preparation which the company guarantee will dissolve and remove old scales, leaving the boiler plate and flues perfectly clean and without injury to the iron; and it will prevent the formation of any new scale and rust, will save fuel and lessen danger of explosion. The company show a list of a large number of steam users who use this cleanser, and to whom are referred those who wish to learn of its value. Included in this list are the names of many parties in Toronto, Montreal, Hamilton and other manufacturing centres. The office of the company is at 42 Victoria Street. Mr. Thomas Harris, manager.

AN improved means for cleaning files, which is claimed to restore them to the condition of new files, is described as follows: After being cleaned and wetted, the files are dipped between two carbons into acidified water and the circuit of an electric current is established between two carbons and the file by means of a piece of metal serving as a support to the file, by which the latter is suspended. The water is then decomposed by the current, the oxygen acting upon the cuttings of the file, while the hydrogen bubbles settle in the teeth and protect them against the action of the acidified water. After immersion for a few minutes the file is withdrawn and brushed in clear water to remove the oxide of iron, and then replaced in the bath. When the cuttings are entirely cleared the file should be immersed in an alkaline bath to remove all traces of the acid, then dried and brushed.

THE manner in which celluloid is made is as follows: A huge roll of paper is unwound slowly, and while unwinding is saturated with a mixture of five parts of sulphuric and two parts of nitric acid, which is carefully sprayed upon the paper. The effect of this bath is to change the cellulose in the paper into pyroxyline. The next process is the expelling of the excess of acid in the paper by pressure and its washing with plenty of water. It is then reduced to a pulp and bleached, after which it is strained and then mixed with from twenty to forty per cent. of its weight in water. Then follows another mixing and grinding, after which the pulp is spread in thin sheets, which are put under enormous hydraulic pressure and squeezed until it is as dry as tinder. These sheets are then put between heated rollers and come out in quite elastic strips, which are worked up into the various forms in which celluloid is made.

A FEW months ago the Mimico Real Estate Security Company, of Toronto, was organized to develop the proposed new manufacturing town of Mimico, a few miles west of this city, and situated on the border of Lake Ontario. It was arranged to build nine large factories for different purposes. Four of these have been completed and were formally put in operation this week. These are those of the J. F. Pease Furnace Co.; James Morrison, manufacturer of copper, brass and silver-plated goods; Thomas Macdonald, tinwork and stamping machines; and the Interior Decorating Co. The Security Co. are pushing to completion the spur from the main line of the Grand Trunk to the Lake Shore-road, half mile distance while the electric railway between the city and Long Branch will be carrying both passengers and freight, it is anticipated, next fall. Ground is broken for the Ontario Steel Sink and Range Boiler Stamping Manufacturing Co.

EITHER to-day or to-morrow the ship *Titian*, now lying in Royal Roads, will be taken to Burrard Inlet, where she loads a lumber cargo for Wilmington, Delaware. Hers will be the first British Columbian lumber ever shipped direct to an American port on the Atlantic seaboard, and as it is for use in the U.S. naval yard, it will be seen that the quality of British Columbia timber is appreciated by the Government of the United States. In fact, the decision of the Mare Island naval yard was that British Columbia timber for masts, spars, etc., could not be surpassed in excellence, while Washington timber was refused. The export duty on lumber for the United States having been reduced, it is thought that a large and profitable trade to the eastern coast of the American continent can be established, and the *Titian* will only be the first in a procession of lumber-laden ships sailing toward the same destination.—Victoria, B.C., *Colonist*.

THE Royal Electric Company, Montreal, have recently supplied electric plants and appliances as follows:—A 50-light arc dynamo and fifty arc lamps, and a 650-light incandescent plant to the city of New Westminster, B.C.; 100-light incandescent plant to Joseph Paquette, Montreal; two 40-light arc dynamos and lamps to Messrs. Hunt Bros., London, Ont.; 650-light incandescent plant to Peterborough Light and Power Company, Peterborough, Ont.; 50-light incandescent plant to Ingeroll Rock Drill Company, Montreal; 2,000-incandescent light plant and 80-arc light plant to Three Rivers, Que.; 350-light incandescent plant and 15-light arc plant to Richmond, Que.; an additional 30-light arc plant to St. John, N.B.; 650-light incandescent plant to Chatham, Ont.; a new 1,500-light alternating dynamo to Quebec and Levis Electric Light Company, Quebec; 1,200-light alternating dynamo to Illuminating and Motor Company, Halifax, N.S.

MESSRS. GOLDIE & McCULLOCH, Galt, Ont., have recently made sales of their celebrated Wheelock steam engines as follows:—To Messrs. Lamb, Mason & Co., Ottawa; Kincardine Electric Light Company, Kincardine, Ont.; Messrs. Robertson & Stewart, Milton, Ont.; Mr. W. H. Comstock, Brockville, Ont.; Messrs. J. & P. McDougall, Maxville, Ont.; English Portland Cement Company, Montreal; British American Starch Company, Brantford, Ont.; Mr. A. D. Hermeton, Belmore, Ont.; Mr. T. Waterhouse, Palmerston; Don Paper Mills (Messrs. Taylor Bros.), Toronto; Strathroy Electric Light Company, Strathroy, Ont.; Messrs. Scott & Cross, Toronto; Berlin Piano Company, Berlin, Ont.; Austin Manufacturing Company, West Toronto Junction; Mr. W. H. Fowler, St. John, N.B.; Consumers' Gas Company, Toronto; Messrs. Geo. E. Tuckett & Son, Hamilton; Portage la Prairie Electric Light Company, Portage la Prairie, Man.

THE Waderlow Split Pulley Company, Brantford, Ont., claim to have an exceptionally good thing in the split pulley manufactured by them. It is constructed of wood and iron. The rim is strongly made of hard wood, put together in the most substantial manner. The arms are of gas pipe and the hub of cast iron. The use of gas pipe gives a light and strong arm, which, no matter how rapidly the pulley is driven, the company say gives off no wind and reduces the air resistance to almost nothing. Its weight is from fifty to seventy per cent. less than cast iron. It is separable, thereby saving much time and frequently many dollars in adjusting them to the shaft. It has compression fastening, thus dispensing with keys and set screws. The arms are bracing to the rim in all directions. The ends are bolted in the rim, and at the hub they are screwed in, thus making a solid and durable structure. The bushing for these pulleys is made of soft metal, which, when squeezed against the shaft tightly, grips very firmly.

It is rather unusual to find a manufacturing firm suffering as complete devastation by fire as A. Robb and Sons of Amherst, recovering their feet as quickly as they are doing, and even regarding their heavy loss, and the complete destruction of buildings, patterns, machines and tools, which it has taken years to accumulate, as a necessary although rather severe measure to enable them to build more safely and conveniently, so that their business will eventually be on a more permanent basis. They have erected temporary buildings which enable them to employ about two-thirds the number of hands originally employed, and to fill orders without much interruption. Their boiler shop was not destroyed; and as it was fitted with travelling cranes and several new and expensive machines, they are enabled to keep pace with that important and increasing branch of their work. They have a large force of pattern-makers at work, and by the time their new brick machine shop and foundry are complete, next year, they will have improved patterns in all their various departments, which will place them in advance of those who are still using old and defunct patterns.—Halifax (N.S.) *Critic*.

WE have at different times given lists of the new uses to which asbestos has recently been put. Some of these applications of the

wonderful mineral fibre—in which, by the way, Canada has almost monopoly—have not been so practical or valuable as experimenters at first supposed, but a sufficient percentage of these experiments has proved successful to greatly extend the trade. The consequence is that prices of Canadian asbestos remain firm, which mines yielding good fibre are very valuable. No. 1 rock asbestos from the mines at Thetford and neighboring places in Quebec is higher this year than ever, ranging from \$150 to \$175 per ton. This is an advance of about \$50 per ton on first quality. A Quebec contemporary reports sales at \$180 to over \$200 per ton at Templeton, which is a new field for this mineral. For one mine at Thetford a New York company have offered \$500,000, which has been refused. The adoption of asbestos for fire-proof curtain and other fabrics in theatres and public buildings is becoming general, as is also asbestos cloth for clothing by firemen and in factories where workmen have to contend with great heat. For fireproof packing and similar uses it has long been in extensive use. The question occurs whether factories for making asbestos fabrics could not be established in Canada, and the product exported in the shape of cloth instead of in the crude form only as at present.—*Journal of Fabrics*

THE Yarmouth *Times* rises to remark: "Notwithstanding efforts to discourage, we see on every side of us evidence of the substantial progress of this country in manufactures." The *Times* must have extra good organs of vision. Where does it see all this? Does it mean the manufactures started in Nova Scotia under the fostering influence of the National Policy? Will it be good enough to be specific? Let it talk about our cotton factories and sugar refineries. The above appeared in a recent issue of the *Halifax Chronicle*. The Yarmouth paper in reply says: The amount of capital invested in manufacturing in Nova Scotia is more than three times as much as it was in 1878, and the number of hands employed in factories has increased even more than that. Yarmouth has a dozen factories we did not have before 1878, and fully five times as many hands employed in manufacturing. The industries may be losing money, but Yarmouth people are not given to running business for fun, and the employes manage to spend wages, running into the thousands of dollars every week (where the amount formerly was hundreds), among our retail dealers. While we give Yarmouth as an instance, the *Chronicle* knows that we could give many other towns in the Province which, in manufacturing, have made even a greater ratio of progress. Yet it can find in its heart to stand up on its hind legs now and howl against the claim that Canada is making substantial progress in manufactures.—Moncton, N.B., *Times*.

THE King street subway, in this city, which is now almost completed, is a credit to all who have been concerned in its production. Commencing a few yards west of Strachan avenue, the work extends westwardly 1800 feet, the bridge proper covering 580 feet. The street is sixty-six feet wide, and the subway occupies all of this space. A line of heavy stone masonry five feet thick extends along the middle of the street, the supporting walls on either side being eight feet thick. The spaces between the middle and sides are divided with foot ways, car tracks and roadways for vehicles—on one side for traffic going in one direction only and on the other side for traffic going in the other direction; there being upward of 9,000 cubic yards of masonry built at a cost of about \$92,000. The superstructure resting on the retaining walls and central pillars is constructed entirely of steel girders, surmounted by timber ties for the rails. The weight of girders and bolts is estimated at 1,000 tons. The eastern main girder is itself a monster piece of work, spanning the street diagonally a distance of 223½ feet and weighing seventy-eight tons. The cost of the 1,000 tons of steel and 550,000 feet of timber complete was \$90,000. It was necessary to excavate some 75,000 cubic yards of earth and rock for the subway proper and approaches, at a cost of \$35,000, and the total cost of the work was about \$225,000. The purpose of this subway is to allow of the passage of the trains of the Grand Trunk and the Canadian Pacific railways overhead of the traffic on King street. The steel and iron work in its construction were furnished by the Hamilton Bridge Company of Hamilton, Ont.

WE have at various times given items showing the many new uses to which indurated wood fibre has been put in making goods for use and ornament. During the past three years the E. B. Eddy Co., of Hull, Que., have gone extensively into this branch of manufacture, and like everything they have hitherto undertaken they have made an unequivocal success of it. By a chemical process of preparing the wood fibre from the pulp, they have succeeded in turning out in an extensive scale a great variety of vessels and implements, which are found to be far superior to ordinary wood for every purpose to which they are applied. Among a catalogue of over a hundred different articles we notice pails of all kinds for

factory or domestic use, roving cans for factory use, fire buckets, umbrella stands, acid tubs and pails, hatters' finishing tubs, water coolers, vases, fire casks, measures, pots, and receptacles of many kinds for factory and domestic use. In the cotton and woolen mill the indurated fibre buckets, cans and receptacles have been found to be of special use, having many points that make them better than all other wooden or metal appliances. Such pails and utensils do not swell or shrink, they do not leak, they are not affected by hot or cold water or steam, they are proof against oils, such as naphtha, kerosene, etc., and even resist the action of many acids. They are lighter than almost any kind of wood, and are practically indestructible. All these points have been abundantly proved by their use, and they are rapidly becoming indispensable in all textile mills. A leading cotton mill company who have used these goods in the United States writes of them: "We have used your pails for two years about the mill for any and all purposes that we have for pails. We have also used them in our dye-house. We can recommend them to be far superior to any other pail we have ever used. We believe that they are all that is claimed for them." Another mill writes that they have given up the use of all other pails for any purpose whatever. We shall be interested in giving the results of further tests of these pails, a sample of which can be seen in this office.—*Canadian Journal of Fabrics.*

#### LATEST DISCOVERIES IN DYESTUFFS.

**ALIZARINE-CYANINE BLUE R.**—This new Alizarine Blue dyestuff comes to the dyer in the form of a paste containing twenty coloring matter. It has the advantage over Alizarine Blue of dyeing even, faster shades (especially in light tints, slates, greys, etc.) Although the cost per pound of this color is more than Alizarine Blue, it is in reality a cheaper coloring matter on account of its productiveness (less color being required to produce the same depth of shade). Besides being both cheaper and faster than the ordinary Alizarine Blue, it is more valuable for dyeing full Navy shades on account of possessing a bloomy appearance, without the addition of any other dye that is commonly used, such as Cudbear, Alizarine Red, etc.

Alizarine-Cyanine R. is dyed as follows:—100 pounds clean wool is previously mordanted by boiling for 1½ hours in 3 lbs. Bichromate Potash (or Soda), 1 lb. Oxalic Acid; rinse and enter dye-bath containing 5 to 10 lbs. Alizarine-Cyanine R., 2 lbs. Acetic Acid, (or ½ lb. Sulphuric Acid, according to shade of Navy required); for light Greyish Blues 8 oz. is sufficient. Enter dye-bath cold and leave wool underneath water for about twenty minutes, then turn on steam and gradually raise temperature to boil and boil for one hour; while only poling the wool sufficient to keep the dye from taking on uneven, rinse.

**ANTHRACENE YELLOW.**—This new Alizarine color, while having the advantage of being faster than the yellow dyestuffs now in use, such as Fustic, Fustic Extract, Quercitron, etc., but has not yet come into general use for this market on account of the cost. It is specially adapted for dyeing silk.

**DIAMOND-GREEN (Patented).**—This new Aniline Color has just been discovered, and dyes wool a dark so-called Russian Green shade. Diamond-Green is very fast, and will withstand scouring, milling, light, stoving and acid. What is of special importance, however, is that Diamond-Green will dye well in one bath in combination with Diamond-Black, being of same constitution, and by such a combination a fine coal black is obtained superior to Log-wood Black.

Alizarine-Cyanine R., Anthracene-Yellow, Diamond Green, have all been discovered by the Farbenfabriken vorm Friedr Bayer & Co., Elberfeld, Germany.

The Dominion Dyewood & Chemical Co., Toronto, are sole agents for Canada, who will be pleased to furnish further particulars, prices, etc.

#### PETERBOROUGH, ONT.

**SPEAKING** of the manufacturing industries of Peterborough, the *Review* has the following to say regarding some of them:—

We have the Auburn Woollen Mills, which have been in operation nearly thirty years—turn out vast quantities of splendid clothes, and employ a large number of hands. The goods of this Company are of a high order, and find a ready market in the wholesale centres.

The William Hamilton Manufacturing Company has been in business thirty-three years, employ 150 hands, pay out \$60,000 a year in wages, and are in a very flourishing condition. This company

makes a specialty of saw-mill machinery. Their works are very extensive, and this year have been largely increased to meet the demands of a trade which is constantly growing. Their mills are famed from Newfoundland to Vancouver. Saw-mills are frequently built in out-of-the-way places, and it is of the first consequence that the machinery should not break down, for a break means idle hands and a great loss. And here it is that the Hamilton company's machinery has made its repute.

Then there is the well-known agricultural implement manufactory of Mr. Peter Hamilton to make good wares. This establishment has been here many years, steadily growing and extending its manufactures—plows, seeders, mowers, self-binders, threshing machines—everything for the farmer. Mr. Peter Hamilton's goods are like himself—built on the "square," doing all they promise, and wearing well. Our own people know the merits of his machines, know how readily and cheerfully they can get repairs, and know they will be fairly and kindly dealt with; and so this business keeps growing year by year. This firm employs from 100 to 125 hands, pays out yearly the sum of \$45,000 in wages, and is one of our best establishments.

The Peterborough Bridge Works is an establishment we are all very proud of. Starting modestly, it has become an extensive and fast growing concern. Mr. Law, the proprietor, employs 120 hands, and pays about \$50,000 in wages in a year. His expenses in freight alone this month will amount to \$3,500. He turned out about 1,500 tons of iron and steel last year, and expects to do more this year. Mr. Law has erected a large number of bridges, has done extensive work for the various railway companies and for the city of Toronto. The great six-foot mains built in fifty feet lengths with socket joints for the Toronto Water Works, were turned out of this shop. Here may be seen riveting with compressed air, and with steam, sawing iron bars as if they were made of cheese, and huge hydraulic trip hammers which will crack a nut or mould the hugest bolts and bars.

We have saw mills that turn out lumber by the millions of feet. Peterborough is the headquarters of the Dickson Company, who turn out about 20,000,000 feet of lumber per annum and employ about one hundred hands.

Of flour mills, where will you find better than Mulhern & Davidson's, with 200 barrels a day, and Hilliard & Peplow's 100 barrels a day?

Then comes our Lock Factory. Our people speak with pride of this establishment. It is comparatively new, but it is ever expanding and occupying new buildings and embarking in new lines of work. A few days ago it sent to the Jamaica Exhibition 600 specimens of its manufacture, every piece a distinct pattern. The goods of this company are found in every Canadian city, town and village, and of a quality such that the verdict is—no American need apply. The other day the well known wholesale firm, J. H. Ashdown, of Winnipeg, received from the Peterborough Lock Company an entire car load of locks. This company employs 140 hands and pays out \$50,000 a year in wages.

The Carbon Works are new. This establishment is a success—the carbons are accepted all over the province as equal to the best American, and being Canadian and cheap, they find a ready market. It employs 40 hands and is about to branch out into other lines.

And now what shall we say of the Edison Electric Company? After examining all Canada this town commended itself to the astute Edison, as the very best place for his extensive establishment. Here the Company has twenty-seven acres of land in which they are now putting sidings, drains and foundations for ten huge buildings. This company expects to employ many hundreds of men, and we hope by this time next year that our population will be increased by at least 1,000 souls, and in two years by three thousand.



**SEALED TENDERS** addressed to the undersigned, and endorsed "Tender for Caisson," will be received at this office until Friday, the 5th day of December next, inclusively, for supplying, erecting and completing in place, a Wrought Iron Caisson for the Dry Dock now in course of construction at Kingston, Ont., in accordance with the plans on exhibition at this office, and at the Engineer's office, 30 Union Street, Kingston, and with the conditions and stipulations contained in a Form of Tender, copies of which can be obtained on application to the undersigned and W. O. Strong, Esq., Resident Engineer, 30 Union Street, Kingston, Ont.

Tenders will not be considered unless made on form supplied, and signed with the actual signatures of tenderers.

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

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

Department of Public Works,  
Ottawa, Nov. 19, 1890.

By order,

A. GOBEL,  
Secretary.

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### THE SOURCES OF SUPPLY OF NICKLE ORE.

Now that the Annapolis trials have demonstrated the value of nickle as an alloy of steel for armour plates, great interest is manifested in the sources of the world's supply of this metal. It has been stated by the daily papers that the world's known sources of nickle ore are limited almost entirely to the deposits at Sudbury, Canada, and to those in New Caledonia. Apprehensions have consequently been expressed concerning the adequacy of these deposits for supplying the demand for nickle if this metal should be largely called into use as an alloy of steel. The facts concerning the supplies of nickle ore show that there is no present ground for these apprehensions.

All the mines which used to yield nickle enough for all the world before those of New Caledonia and Sudbury were discovered still exist, and several of them, including the mine in Lancaster county, Pa., are still in operation, and are supplying a considerable part of the world's present demand.

When the mines of New Caledonia were first worked upon a large scale the owners expected to close all other mines throughout the world. They did succeed in so depressing the price of nickle as to cause nickle making everything to be unremunerative, but the company has greatly reduced its supplies of ore and, it is said, has made little money for itself.

The mines of Sudbury now command attention, being fresh and large, and they will doubtless yield freely for some years to come. The mines of Norway and Sweden, similar in character to those of Sudbury, and but partially developed, will also continue to yield nickle, while other nickle deposits are sure to be discovered.

It is, of course, the history of all mines that sooner or later they are exhausted. The nickle mine in Lancaster county, Pa., has had several periods of comparative poverty followed by new discoveries within its boundaries. At the present time it is yielding about as much nickle as all America used when its present proprietor first opened it.

The ownership of the Sudbury mines is in several hands. One group of the mines is owned by Americans; another group of equal value is owned by Canadians; another by Englishmen; and still other mines by various persons. The New Caledonia mines are mostly owned in France.—*The Bulletin.*

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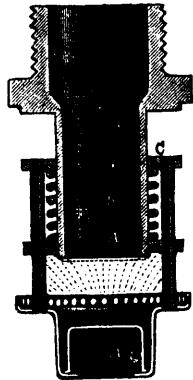
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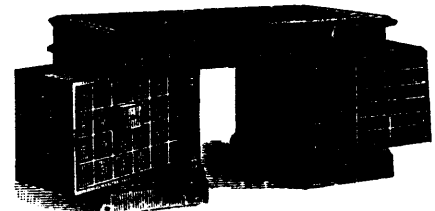
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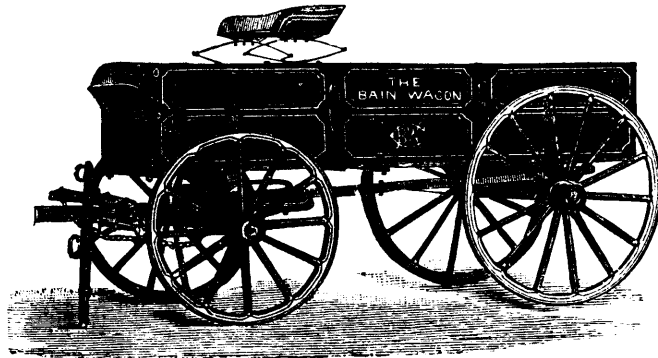
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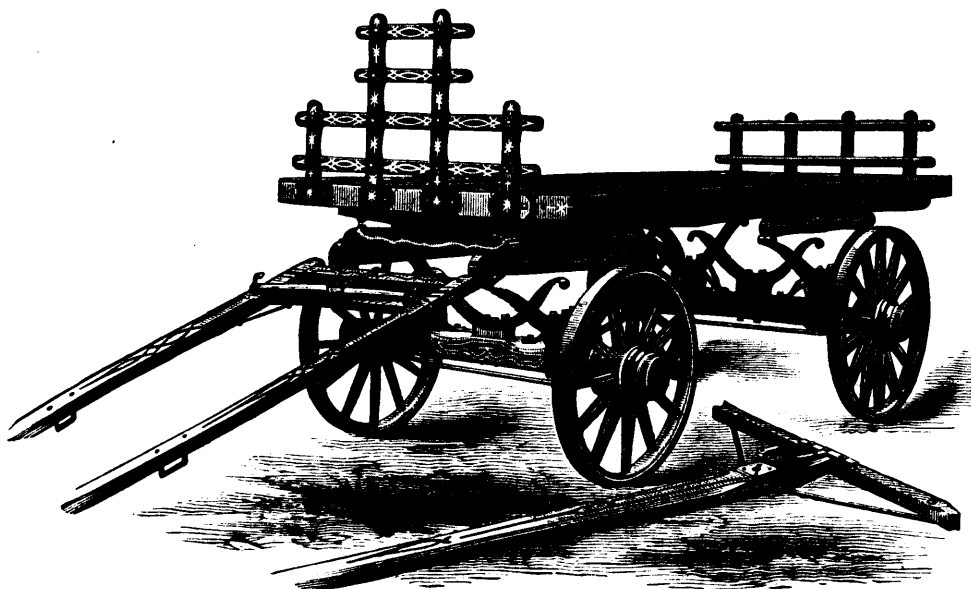
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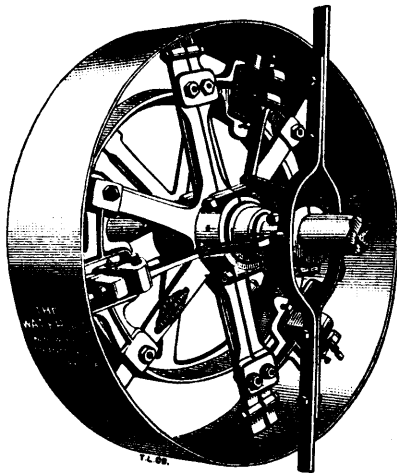
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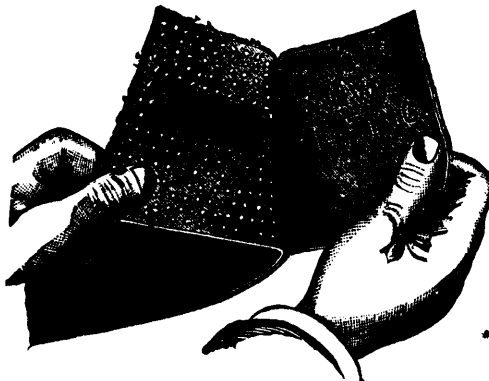
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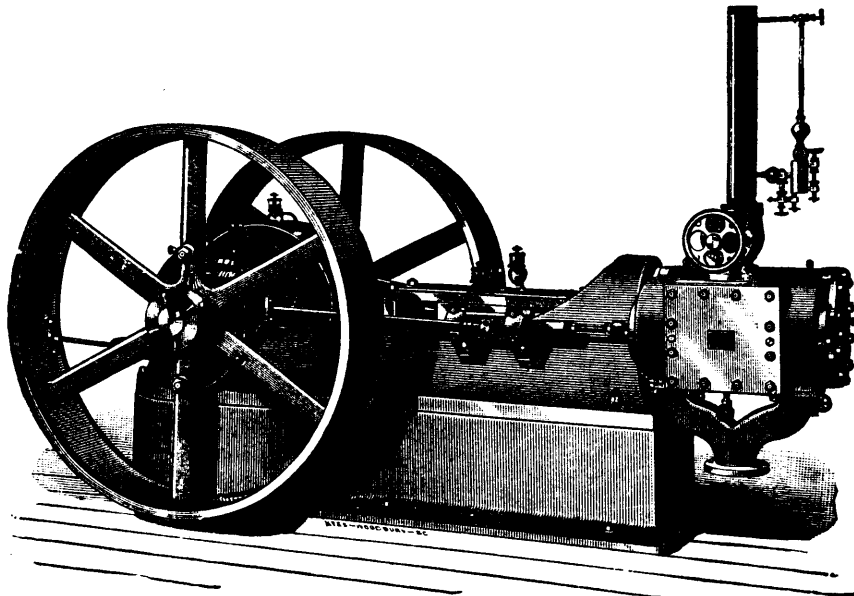
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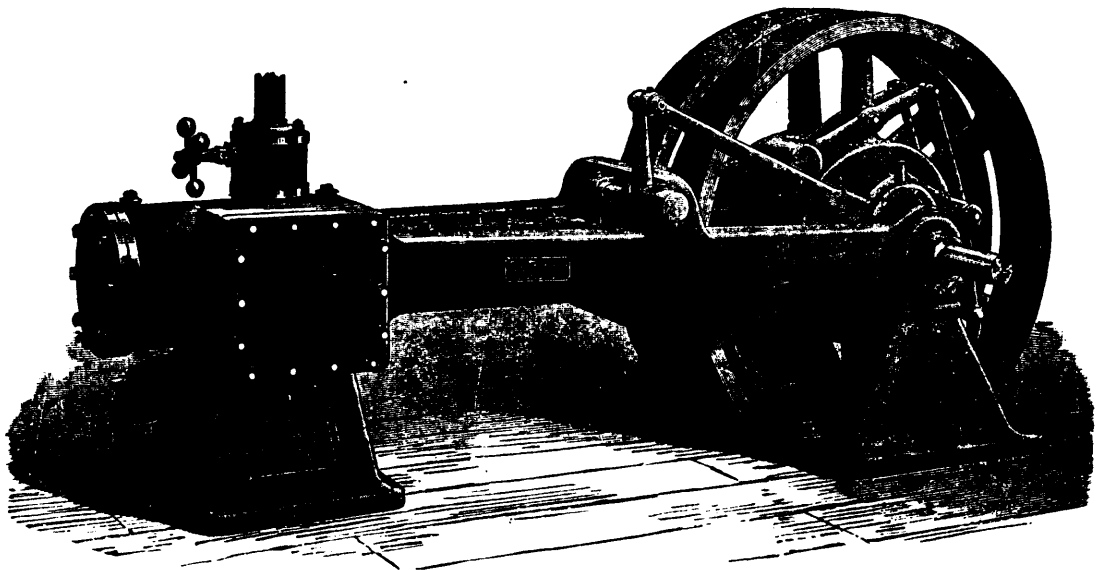
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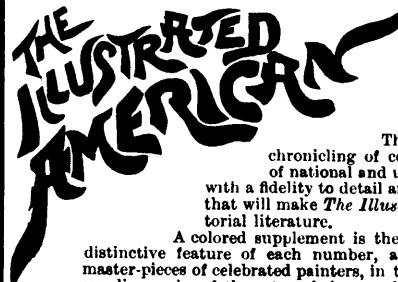
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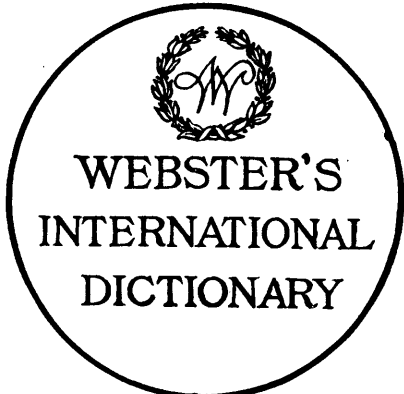
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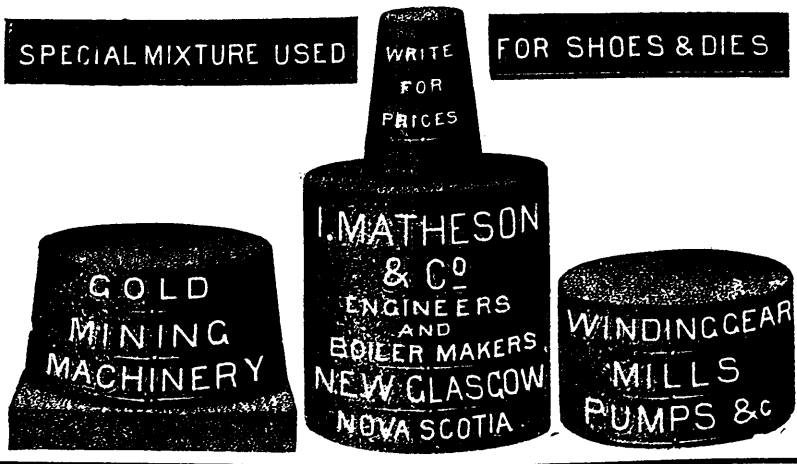
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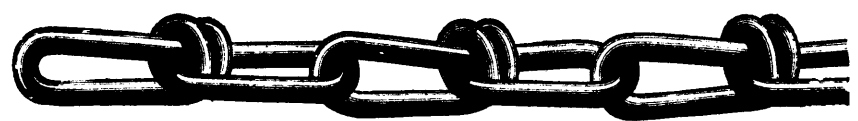
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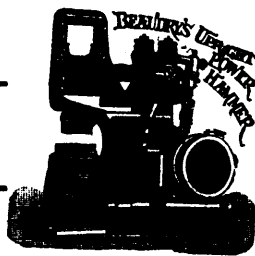
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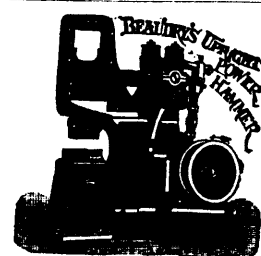




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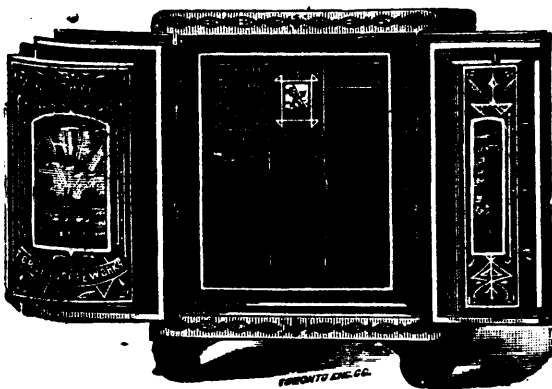


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**TICKETS** may be obtained, and all information about the Route; also **FREIGHT** and **PASSENGER RATES**, on application to

**D. POTTINGER**

Chief Superintendent.

**N. WEATHERSTON,**

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York Street, TORONTO

RAILWAY OFFICE, MONCTON, N.B., Nov. 24, 1890.

## IMPROVED WOOL WASHER

BUILT BY  
**C. G. Sargent's Sons**

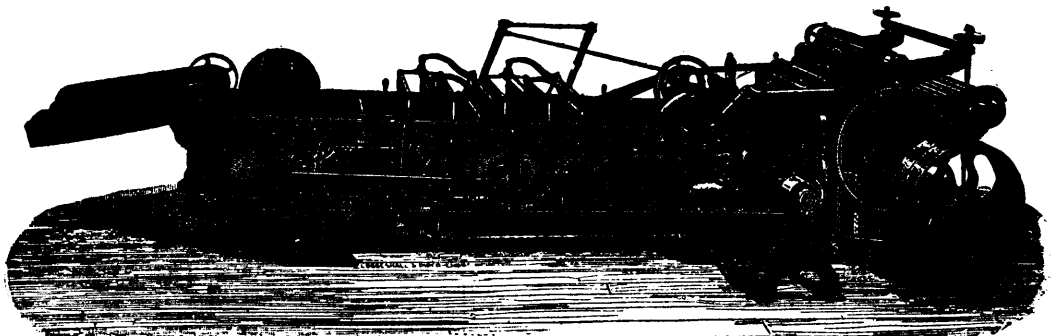
Graniteville, Mass.,

U.S.A.

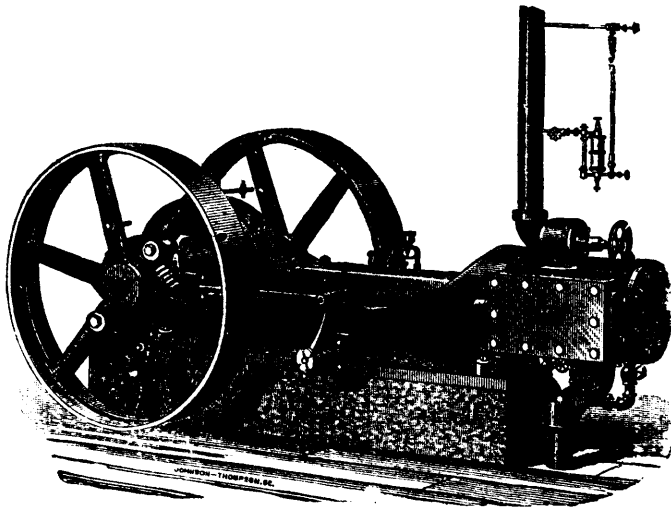
Builders of Wool Washers,

Burr Pickers, Wool

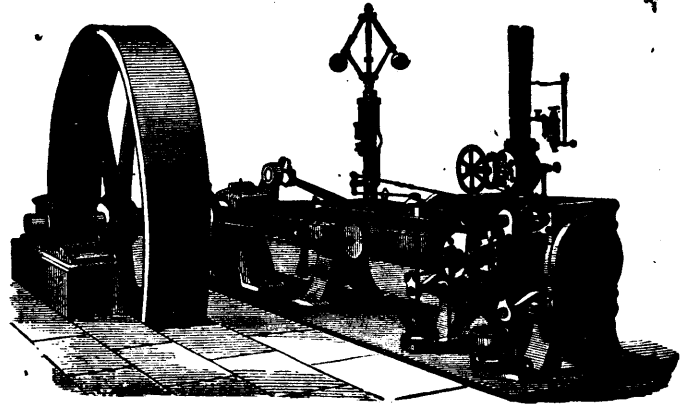
Dryers, etc.



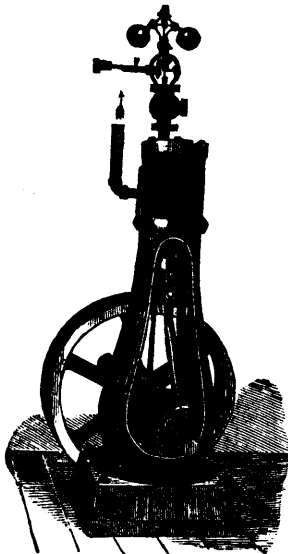
The above represents our New Hydraulic Wool Washer, superior to Rake Machine. Send for Illustrated Catalogue.



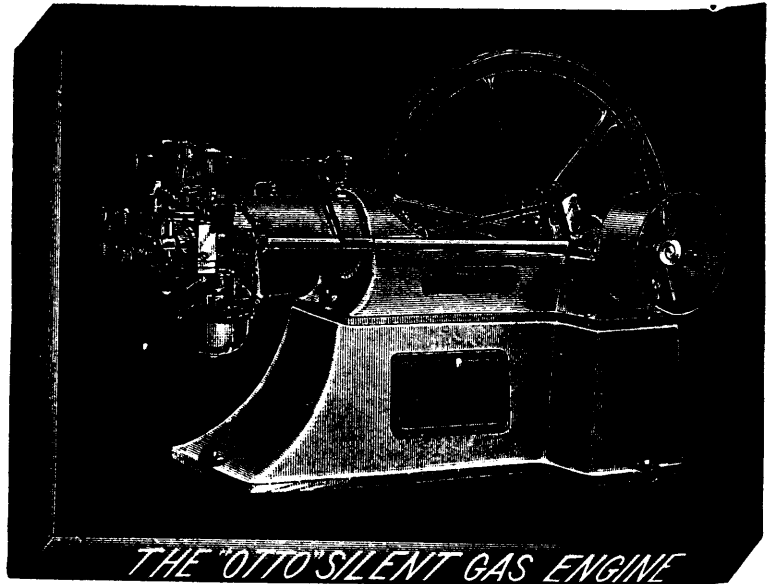
Armington & Sims Electric Light Engines.



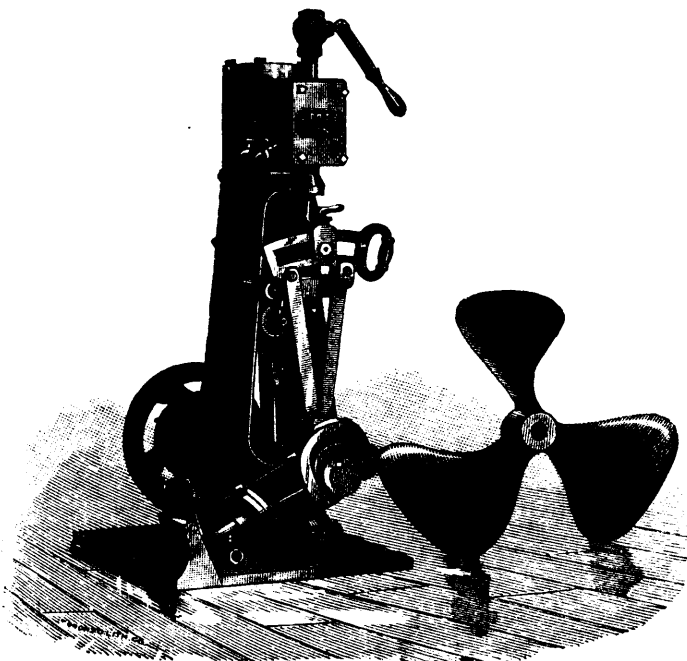
Reynolds-Corliss Engine.



Vertical Engines.



THE "OTTO" SILENT GAS ENGINE



Yacht Engines.

# John Doty Engine Co.

TORONTO, ONT.

MANUFACTURERS OF

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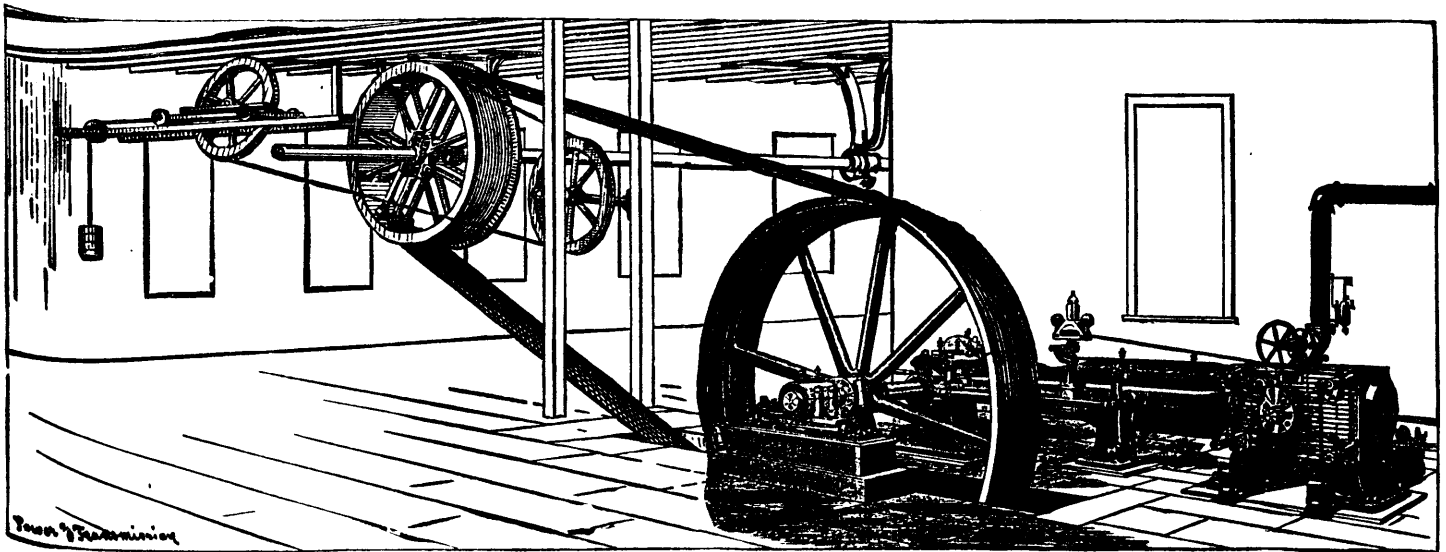
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# DODGE "PATENT" SYSTEM

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# ROPE TRANSMISSION OF POWER



The above cut represents one of our "Engine" Drives, a great many of which are now in use throughout the Dominion. (Letters of endorsement sent on application.)

In this case the iron fly-wheel has been grooved by builder, and the balance of the Drive, consisting of driven pulley, carriage and winder pulleys, also carriage track and rope, have been furnished by ourselves.

**To all intending putting in New Engines, or overhauling present Main Drives,** we would recommend them to investigate the merits of the Dodge Rope Drive System. Thousands in use throughout the largest plants in the United States, and many in Canada.

For full information and illustrated treatise, apply to

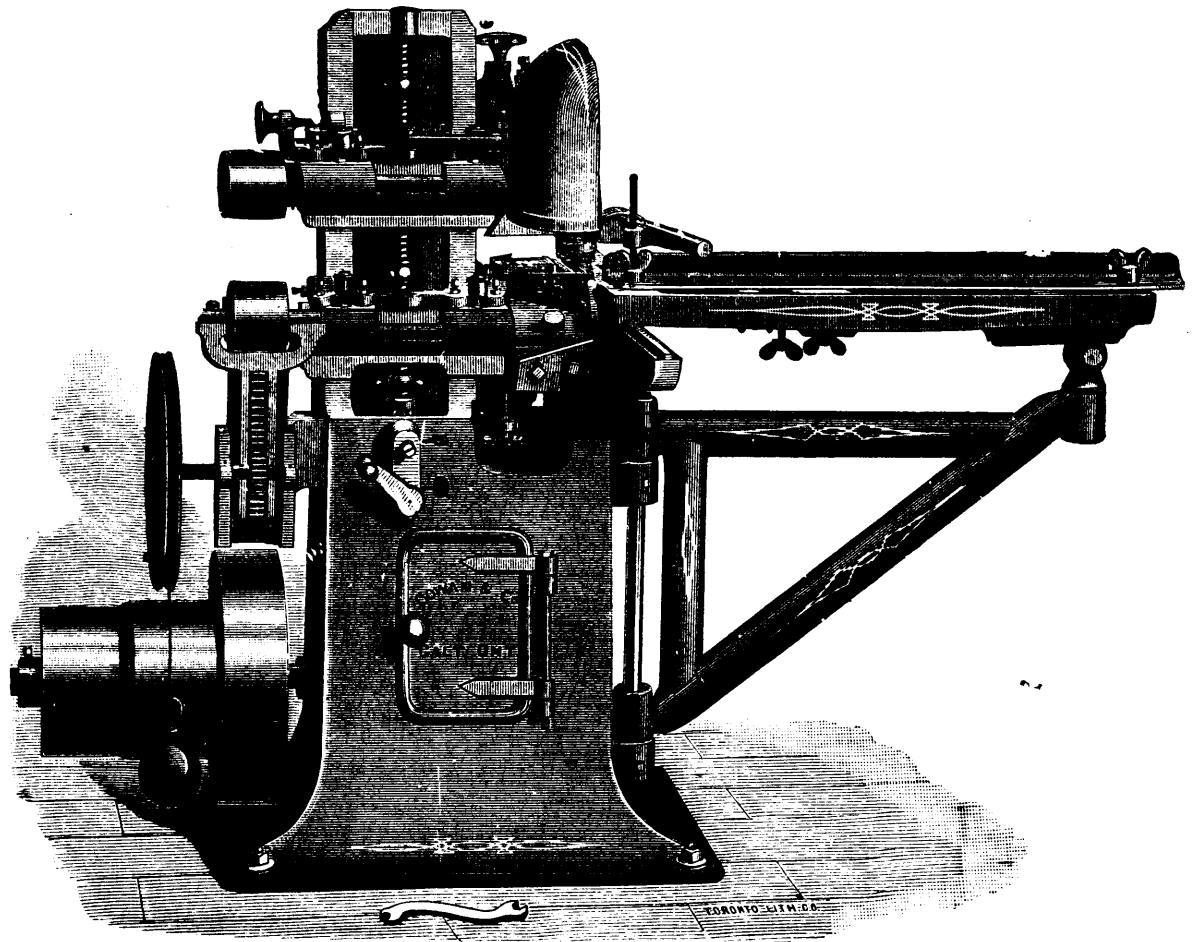
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OFFICE,  
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TORONTO, CANADA.

Telephone  
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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.

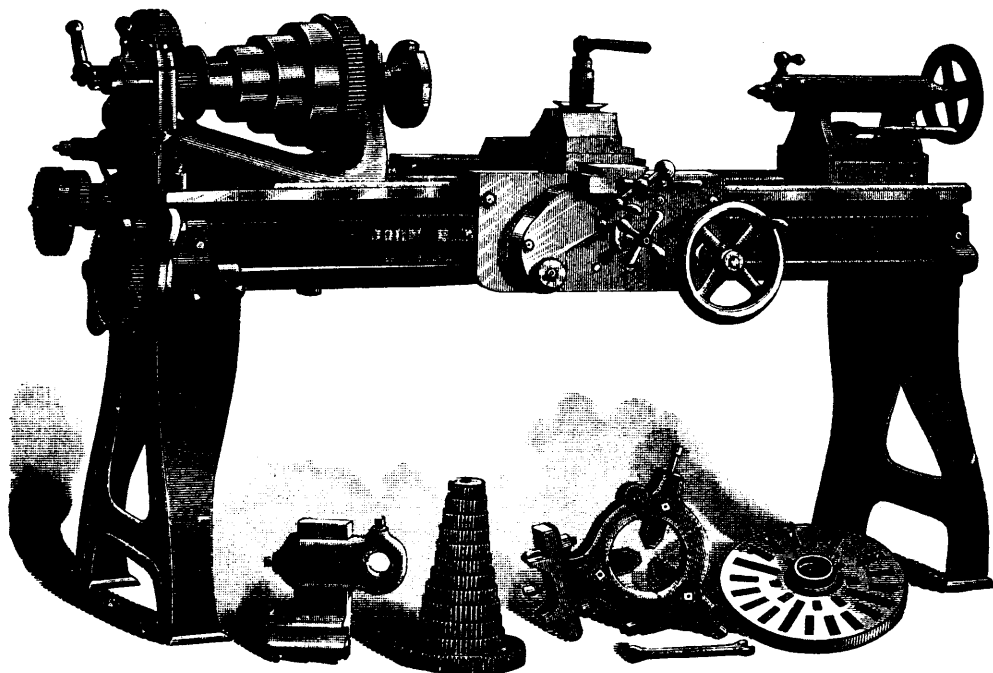
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*Curtiss and Slide Valve Engines, Boilers, and Wood-Working Machinery, all kinds New Patterns, Highly Finished.*

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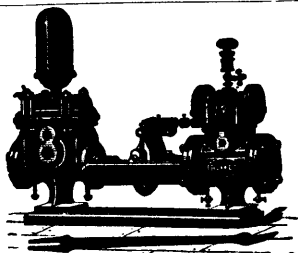
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**Machinists' Tools**  
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BOLT  
CUTTERS,  
SLOTING  
MACHINES,  
MATCHERS  
MOULDERS,  
TENONERS  
BAND SAWS,  
MORTICERS,  
SAW BENCHES

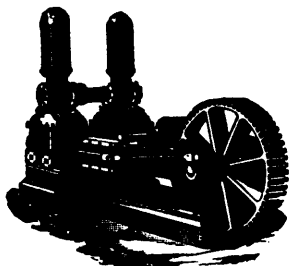
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Warerooms: Permanent Exhibition, Toronto; Polson Engine Co., 38 Yonge St.; Machinery Supply Ass'n, Montreal.

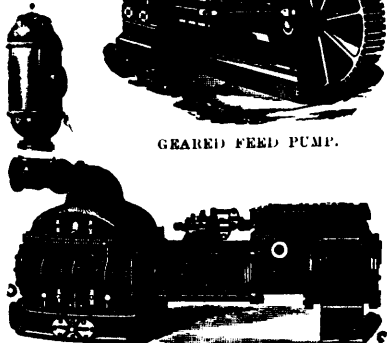
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BOILER FEED PUMP.



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DUPLEX COMPOUND ENGINE

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Steam and Power

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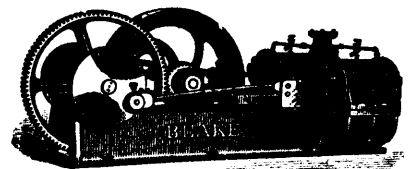


NEW YORK

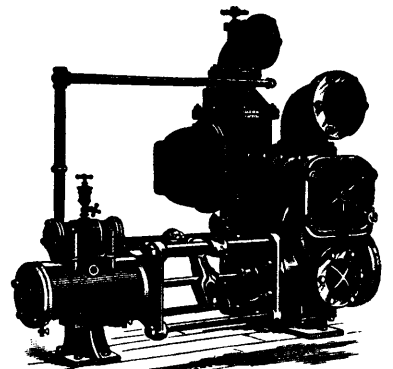
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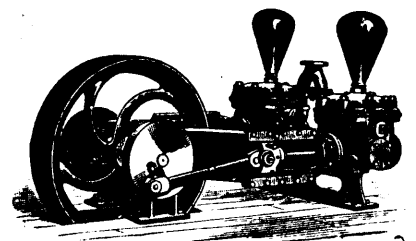
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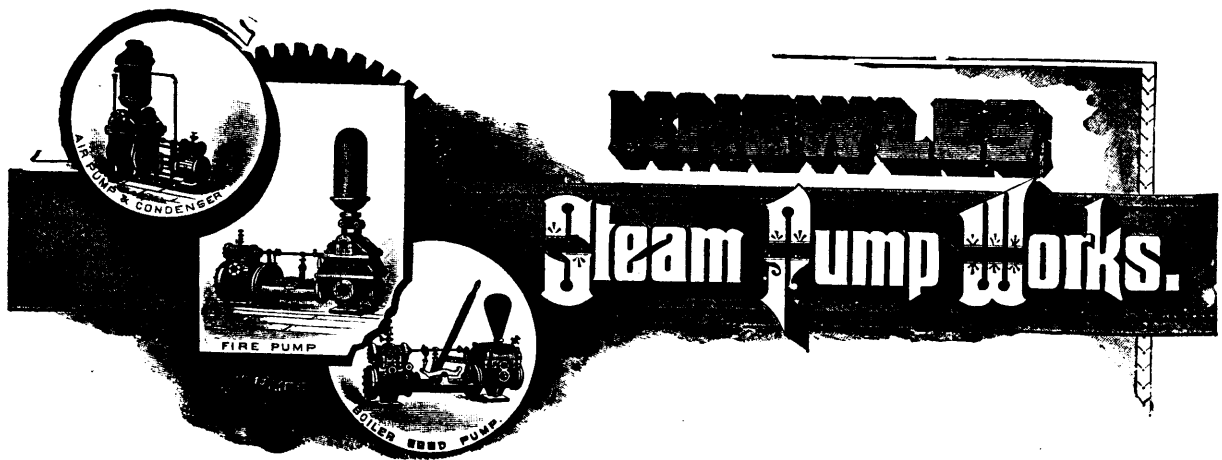
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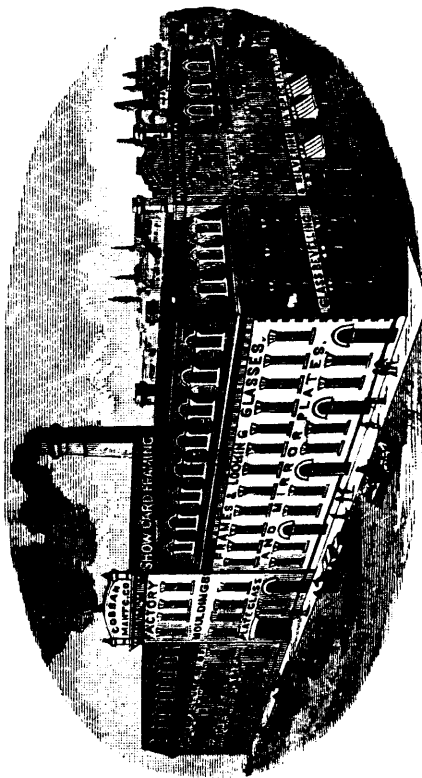
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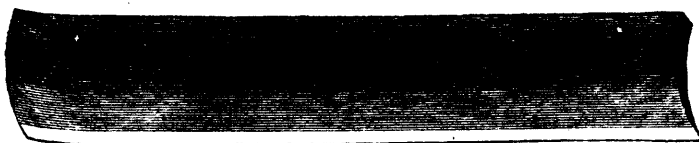
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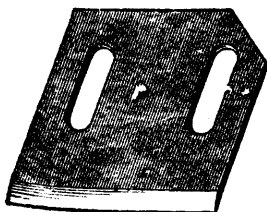


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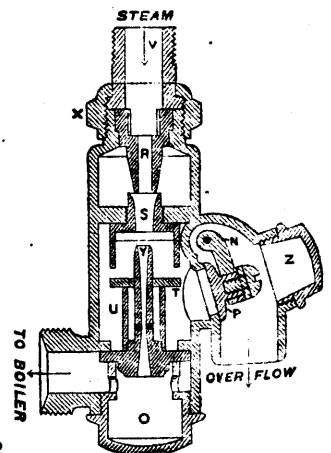
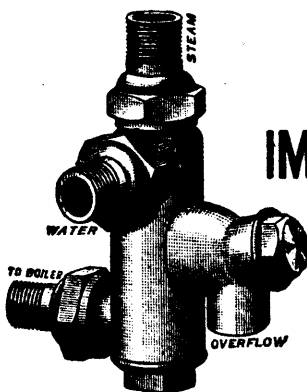
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