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THE CANADIAN MANUFACTURER

DEVOTED TO THE MANUFACTURING & MINING INDUSTRIES, OF THE DOMINION.

INDUSTRIAL WORLD.

Vol. 6.

TORONTO, JUNE 17, 1887.

No. 12.

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THE CANADIAN MANUFACTURER

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THE
MANUFACTURING & MINING INDUSTRIES,
OF THE
DOMINION. * AND INDUSTRIAL WORLD.

VOL. VI.

TORONTO, ONT., JUNE 17, 1887.

No. 12.

FARMING VERSUS MERCANTILE PURSUITS.

THE capital of the farmer is invested in the land which he works, and the improvements which he places upon it, such as in clearings, ditching, fencing, buildings, etc. Even after all these improvements are made the land is unproductive until it is planted, tilled, and the crops gathered. The net results obtained from the crops represent and are the interest the farmer obtains for the use of his thus invested capital, and as a general thing his capital is "turned over" and the interest upon it realized but once a year; that is, when the crops are gathered and sold. If the farmer does not obtain a very large return or interest for the use of his invested capital, the capital usually remains intact, and it is also added to in the way of newly cleared lands, ditching, fencing, buildings, etc., which increase the original value of the farm. He also obtains a large proportion of his living from his farm, and he spends but very little of the money he obtains from the sale of his produce for sustenance. In addition to his returns from sales of crop products, the increase of stock and live animals and the sales of horses, cattle, sheep, hogs, poultry, eggs, fruit, etc., raised on the farm are always a source of considerable revenue to him. It is estimated that in an average family of five persons a farmer does not have occasion to spend more than five or six hundred dollars a year, for articles of household necessity or personal comfort not obtainable from the farm.

The capital of the merchant or manufacturer on the other hand, is not necessarily invested in houses or lands, for they may own neither, but in merchandise or machinery and articles under process of manufacture on these representatives of capital municipal and other taxes, insurance, etc. are to be paid, also rents and an army of clerks, attaches, workmen, etc., all have to be paid wages at stated and short intervals; and those dependent upon such attaches—the families of the clerks, workmen, etc.—multiply the original number several times over. A merchant or manufacturer turns his capital over—not once a year only as the farmer does—but as often or oftener than once a month. His aggregate gross sales for a year amount probably to ten or a dozen or more times as much as his capital invested, but he is fortunate indeed if at the end of the year he has increased his capital as much as the farmer. The farmer may keep his over capital in the bank, and obtain a small premium for the use of it, but the merchant makes his bank deposits every day, and the money is never idle. It is being turned over and over constantly. When the weekly pay day comes and the clerks and employes are paid off, the large amount of money required is quickly distributed to the retail

merchants for supplies, and this money soon again finds its way into the bank to be again turned over; and it is in this way, and by these means, that business is kept alive and times made prosperous.

The fact is not denied that agriculture is the foundation and base of the nation's prosperity, and that without the farmer no other business could thrive. It is a further fact that the net results to the farmer from his business average quite as much in dollars and other tangible values, on a given capital, as the net results to merchants, manufacturers and other classes. But the farmer may keep all the ready money he handles in the course of a year in an old stocking if he don't want to trust it to a bank, or if the bank is not convenient, and not be overburthened with the load, while on a similar investment of capital the merchant would of necessity have to make daily deposits in bank. His is the nimble sixpence, while the farmer's is the slow shilling. The farmer buys a few hundred dollars worth of goods a year from the merchants, and supplies the wants of a half dozen persons only, while the merchant disburses the money to feed, clothe, and shelter a hundred or more persons, to educate children, and to support Government. If the merchant and the manufacturer are successful in their business, and continue to give employment to large numbers of clerks and employes, these and their families and dependents, and the smaller dealers dependent upon them for trade, constitute an army of consumers who require all the flour that can be ground from the farmers wheat, and who are near-by and ready purchasers for all his vegetables, chickens, eggs, butter and other farm truck. The prosperous merchant and the busy manufacturer and the inhabitants of a thriving town are the best and most reliable friends the farmer can have. Without them fertile lands and prolific stock, would be of little value. Large numbers of consumers near at hand able to pay liberally for what they buy, are what the farmer must depend upon for his own prosperity and success.

A FAVORABLE CONTRAST.

THE commercial unionists, despairing of making any considerable number of converts to their views from other classes of the community, are using their arguments to influence and convince the farmers. They tell them that they are poor, hopeless and helpless, and that their only salvation lies in the commercial union of Canada and the United States. In reaching the granger element use is made of such old and weather-beaten farmers as Mr. Valency Fuller, a lawyer by profession, who probably never ploughed a furrow in his life or knows a hay tedder from a buck saw, and Mr. Erastus Wiman, a far-

mer with similar experience, who operates an extensive farm at 314 Broadway, New York. These gentlemen amuse themselves, one by writing letters from his New York ranch to the other in Hamilton, Ont., who reads them to farmer's clubs around the neighborhood. Mr. Fuller also amuses himself by writing letters to the newspapers, in which, in imitation of old Horace Greeley who some years also operated a large ranch in New York city, tells what he knows about farming, and farmers troubles and wrongs. Of course Mr. Winman, who likes to see his name in print, finds time to make lengthy speeches before his New York club, the speeches being usually telegraphed ahead of delivery to the American newspapers in Canada and the United States, in which they are printed in full the next morning.

The excessive zeal displayed by these embryo farmers in behalf of their poor, hopeless and helpless brothers usually leads them to make many ridiculous statements, leading to false conclusions. It is emphatically not true that the condition of Canadian farmers is worse than that of American farmers living contiguous to the border. If there is any difference it is in favor of Canadian farmers. In a recent issue of the *Toronto World*, a correspondent drew a vivid comparison between the Province of Ontario and the State of Michigan, the data being official. These two sections are of similar age in regard to settlement, similar climate, similar timber, and similar water communication and railway advantages, the dividing line between them having been placed there by nature. Michigan has always enjoyed full, free and unrestricted intercourse with all the other States of American Union, and whatever Mr. Winman and other annexationists may claim for Canada in the way of benefits to arise from Commercial Union are and have always been enjoyed by Michigan.

What, then, are the parallel facts regarding these two sections? We reproduce them as follows:—

	Ontario.	Michigan.
Number of families of five each...	360,776	327,387
Acres improved.....	10,172,712	8,285,862
Number of farms.....	179,000	154,000
Number of acres improved per farm.....	66	53
Value of farms and buildings.....	\$ 765,054,075	\$499,103,181
Value of farm implements.....	37,029,815	19,419,360
Value of live stock.....	80,540,720	55,720,113
Value of products for the year.....	130,044,065	91,159,858
Number of horses.....	558,809	378,778
Number of work oxen.....	14,516	40,398
Number of milk cows.....	665,382	384,578
“ other cattle.....	882,732	466,660
“ sheep.....	1,915,303	2,189,389
“ swine.....	890,226	964,071
Pounds of butter.....	34,335,538	38,821,890
“ cheese.....	57,752,105	440,540
Bushels of wheat.....	40,921,101	35,332,543
Tons of hay.....	3,094,912	1,303,889
Value of product per acre.....	\$11.50	\$10.70

This is certainly a favorable showing for Canada, for it must be remembered that Michigan is one of the most prosperous of the American States. Ontario, as will be seen, has a larger number of families, a larger average of improved lands, a larger number of farms, a larger number of improved acres per farm, a much higher aggregate valuation of farms and buildings, nearly double the value of farm implements, a much larger valuation of live stock, a much greater value of farm products grown during the year, a larger number of horses, milk cows

and other cattle, and made more cheese, wheat and hay. The only things in which superiority is accorded to Michigan is in work oxen, sheep, swine and butter.

As regards the great State of New York—the Empire State of the Union, and quite as contiguous to Ontario as Michigan, the condition of the farming interests there are bad and constantly becoming worse. That is, if the reports of the United States Department of Agriculture are correct. The last issue of those reports states that the farmers of that State are more deeply in debt than they were ten years ago; that a large proportion of the farms which were purchased ten years ago, and mortgaged, will not now sell for more than enough to pay the mortgages; that the depreciation in the value of the farming lands of the State within the last ten years is at least 33½ per cent., and that probably one third of the farms in the State would not at this time sell for more than the cost of the buildings and other improvements.

Are such facts applicable to Ontario? They are not, for the latest official statistics show that the value of farm lands, buildings, live stock and agriculture and farming implements, have increased in value about 12 per cent. within the last four years.

Why, then, should Canadian farmers desire the privilege of unrestricted intercourse with Michigan and New York when those States are relatively much poorer than we are? Neither Michigan nor New York nor any other American State wants to buy anything that Canadian farmers have to sell. They are competitors with Canada in identically the same line of business, and there never can or will be any considerable interchange of agricultural commodities between them. Whatever excess of live stock, horses, sheep, swine, butter, cheese or wheat either side may have to sell, must seek a market beyond the ocean. The United States Bureau of Statistics report that during the ten months ending April 30, that country exported no less than \$132,205,970 worth of breadstuffs; why should Canada desire the privilege of sending breadstuff to the United States? If there is any shortage on either side it certainly is not on the side of the United States, and if any importations are to be made, it must be from that country to Canada. Do Canadian farmers desire to have American grain admitted free to this country? In the face of the fierce competition of India in producing wheat for the world's consumption, the United States are rapidly reducing their area planted to that grain, and depending more and more upon home demand to consume the product. In 1880 nearly 38,000,000 acres in that country were planted to wheat, while in 1886 there were less than 37,000,000 acres, although in the meantime the population increased over 10,000,000 souls. Certainly British Columbia does not want to send wheat to California, nor does Manitoba want to send wheat to Dakota, which territory last year raised 30,700,000 bushels of wheat, 20,650,000 bushels of oats, 15,800,000 of corn, and 2,500,000 bushels of flax seed—more wheat than Wisconsin, Illinois, Michigan, Ohio, Kansas, Nebraska or Missouri, and more than thirty other States and territories. Does Manitoba desire to send its surplus grain to Dakota?

Canada finds her best and most profitable customer for her surplus breadstuff and food products in Great Britain, not in the United States.

"COMMERCIAL UNION IN NORTH AMERICA."

MR. ERASTUS WIMAN, publisher, has issued a pamphlet bearing the above title, in which is grouped together some letters, papers and speeches on the subject of Commercial Union between the United States and Canada. We are told that no attempt is made to include anything like a complete list of publications on this topic, the object being simply to rescue from oblivion some productions which might otherwise be difficult of access. We are also told that the compilation will be added to from time to time. If Mr. Wiman had said that the object of the publication was to rescue from oblivion Mr. Wiman's views on the subject he would, in our mind, have hit very near the mark, though there are some other "productions" than his given. An inspection of the pamphlet shows that Mr. Wiman furnishes just about half of all the matter contained in it, which includes his speech delivered before the Wiman Canadian Club in New York; his open letter to Mr. Valancy E. Fuller, read before the recent meeting of the Farmers' Institute Convention in Toronto, and a second letter to the same Mr. Fuller. With these views the readers of this journal are already quite familiar. That Mr. Wiman thinks his views on this matter are full and exhaustive, and cover all that can be said regarding the matter is evident by his apologies for permitting so large a space to be filled with his own productions; the explanation being very modestly given that they are printed in default of something better.

The first letter published in the pamphlet is from Hon. Robert R. Hitt, member of Congress from Illinois, in which he expresses the belief that the "troubles" existing between the United States and Canada "will never be permanently and satisfactorily settled by any measure short of Commercial Union." He says that active and profitable intercourse will always exist between the two countries; but that "restrictions irritate and are always liable to breed troubles," just as though the time had ever been when there were not greater or less restrictions on commerce between different countries, and that such differences had not always been modified in the interests of peace and good-will. Mr. Hitt says that the treaty of 1854 proved one-sided and unfavorable to the United States; that they had been outwitted in negotiation, and that while they gave Canada a free market for \$229,000,000, they enjoyed a free market for scarce half as much. "It admitted into the United States free of duty 94 per cent. of all Canada sold to us, while they collected duties on 42 per cent. of all we sold to them. It gave them our great market free for their crops, and it excluded our manufactures." American statesmen are not usually considered fools, and in making the treaty they had or should have had their eyes open. There was no sharp practice used, and Mr. Hitt is insulting in intimating as much. The United States did what they had the privilege of doing in abrogating that treaty. Mr. Hitt is exceedingly gracious in saying that the United States would "probably" accept Commercial Union "with unrestricted trade, common fishing rights and coast trade privileges. Pennsylvania could supply Upper Canada with coal; Manitoba farmers could sell their crops in St. Paul; it would give western farmers free lumber, and it would open a wide market for the products of the Canadian forests." This is very kind of Mr. Hitt, considering that Penn-

sylvania can now supply us with free coal, and if Manitoba farm products and Canadian lumber are not imported into the United States free of duty it is only because that country will not accept Canada's offer to exchange such products free of duty on either side. Canada would have to conform her tariff and internal revenue laws to those of the United States, and the "receipts from revenue might be fairly divided between the two countries according to population." Mr. Hitt does not trouble himself much in explaining wherein Canada would be benefited by Commercial Union, but he is very careful to show that there would be vast advantages accruing to the other side. It is true he tells us we would save the cost of maintaining our line of international custom houses, and that our farmers would have the privilege of selling their products in American markets free of duty, but against these we would have to "accord to American fishermen the right to fish on every shore clear to the north pole"; to surrender our right and privilege of making our own tariff and excise laws, and to forego even any voice in forming such laws, or of changing or abrogating them under any circumstances; to surrender our home markets to American manufacturers, to the destruction and extinction of our own similar industries; to allow American lumbermen to denude our valuable forests and carry away into a foreign country timber that otherwise would be manufactured in Canada, giving employment to Canadian capital and labor, or remain standing in primeval verdure on our own soil, and to permit our rich deposits of ores to be taken away and smelted in American furnaces and manufactured into the thousand forms of iron essential to trade, keeping up and in profitable operation vast industrial establishments on the other side of the line, no more employment of either capital or labor in Canada being afforded than barely sufficient to fell our timber and dig our ores, and transport them across the border. Mr. Hitt exposes the true inwardness of the situation when he tells Americans, "Every one would see the benefits of a wider market for our manufactures, and an ample supply of raw materials. Our rapidly-disappearing forests, which will be all gone in twenty-five years at the present rate of destruction, would be reinforced by the vast woods of Canada."

Mr. Goldwin Smith, from the standpoint of a professional theorist, discusses the matter in a letter addressed to a Philadelphia newspaper, the article being reproduced in Mr. Wiman's pamphlet. Like Mr. Wiman, Congressmen Butterworth and Hitt, and the others of the advocates of Commercial Union, Mr. Smith advances as his strongest argument that this is "the only satisfactory solution of the fisheries question, and of all commercial questions between Canada and the United States," very much after the manner of the settlement of the dispute which the wolf had with the lamb for muddying the water of the brook of which he was drinking, the lamb being on the down-stream side. It will be remembered that that "settlement" was effected by the lamb quietly surrendering and lying quietly inside of the wolf. Mr. Smith's argument suggests that in the "settlement" of outstanding difficulties, no matter what "rights" Canada may have in the premises, they must all be surrendered to the superior brute strength of our American neighbors.

One of the most remarkable dishes served up by Mr. Wiman in his pamphlet is the letter from Hon. J. W. Longley, Attor-

ney-General of Nova Scotia a man whose position implies a better knowledge of both Canadian and American political economy than is exhibited in his letter. Arguing against the necessity of the existence of the interstate lines of custom houses, he says: "If it is a good thing to have custom houses dividing territories, then it would be the correct policy to intersect Ontario with a customs line, and to guard Cincinnati from the dangerous competition of Cleveland by a customs line between Northern and Southern Ohio. If the inhabitants of Canada were Indians or Patagonians, then the United States might be indifferent in regard to all kinds of relationship. But when it is considered that the people of the two countries are identical in race, language, laws and institutions, then these barriers indeed seem absurd and unaccountable." Such stuff might be expected to emanate from a backwoods stump orator addressing an ignorant and inappreciative crowd, but surely not from an educated man, holding a high and responsible position, writing a letter for publication, and intended as an argument in a weighty and most important matter to intelligent readers. Mr. Longley's "argument" is two-edged, and applies with equal or greater force in the case of the United States as against Great Britain, than that of Canada as against the United States. The people of Great Britain and the United States are also identical in race, language, laws and institutions, and yet our Yankee neighbors actually keep up an even more extended and lengthy customs line, embracing both the Atlantic and Pacific coasts of their country, against the admission of British products. If the customs lines between the United States and Canada is a Chinese wall which they want thrown down, why don't they prove the honesty of their convictions by removing their more extended lines of customs maintained along their sea coasts as against Great Britain? Mr. Longley probably understands why a customs line cannot intersect Ontario, and why a similar line cannot be drawn between Northern and Southern Ohio; but if perchance he does not possess that knowledge, why should he pose as a writer on important international questions?

Mr. Wharton Barker, of Philadelphia, furnishes a "Memorandum Concerning Canada." This gentleman is a lawyer of ability, and a writer and authority on maritime and international laws. Like the other contributors to Mr. Wiman's pamphlet, Mr. Barker thinks that "Commercial Union would furnish the best possible solution of the fisheries question - that perennial puzzle of our diplomats." Without showing wherein Canada would be in any manner benefited by such a union, in true Yankee style he enumerates some of the advantages which his people would derive from it. He says: "We should pay no price for the use of Canada's fishing grounds, and American fishermen would have the same advantages and facilities of all kinds as her own. No American interest would be adversely affected. We would begin to draw more freely upon the forests of the Dominion for our supply of lumber. Our forests are rapidly disappearing, and any arrangement that would check the drafts upon them would be a national benefit. The present (American) duty on all lumber but saw logs is a premium on the extinction of our American forests, whose removal would be a measure of national protection. Canada has enough for our use, and a drain which only implies the opening of her area to agriculture, means the detriment of

ours.' It is the same old story - Canada is to surrender her fisheries for which no price is to be paid, and allow American lumbermen to denude our forests, as "the best possible solution of the fisheries question" - that perennial puzzle of American diplomats.

We suppose that the letters, papers and speeches contained in Mr. Wiman's pamphlet, and to some of which allusions are here made, embody about all the arguments that the annexationists have to say regarding the subject, though we are promised that the compilation will be added to from time to time. Considering the importance of the question, the small cost of paper and printing, and Mr. Wiman's excessive zeal in enlightening the "hopeless and helpless" farmers of Canada regarding it, we take it for granted that his supreme effort has been made, and that any further additions to his compilation will consist of cold victuals relished. Changes may be rung, but they will be but variations of the old tune. Canada has absolutely nothing to gain from Commercial Union, and everything to lose. If there is no other possible solution of the fisheries question but an abject and cowardly surrender of all our valuable possessions to the United States, and the sinking of our manhood and honor, it would be more noble and worthy our ultimate destiny, whatever that may be, to accept whatever fate Providence may have in store for us, and do without Commercial Union. If diplomacy fails to settle disputes, and recourse is had to war and violence, Canada will abide the issue. She may eventually be robbed and despoiled, but she will never willingly surrender her honor, or be forced into an alliance both distasteful and unprofitable.

OVER-PRODUCTION IN THE UNITED STATES.

SOME time ago mention was made of the fact that a hosiery manufacturer in England had moved his machinery from that country to the United States. He set up his plant in Providence, Rhode Island, and brought over his old workpeople to operate his machines. Recently the same concern, now known as the British Hosiery Company, posted notice of the probability of a reduction to half of the force, or a possible shut down, the reason assigned being extreme depression of trade and the large stock of unsold goods on hand. Many of the Free Trade and Commercial Union papers in Canada are relating the circumstance with great glee, calling attention to the fact that even under the protective tariff of the United States the concern has met with disaster. The information contained in the fact, however, is self-explanatory - "the large stock of unsold goods on hand," or in other words, over-production. We call attention to the fact that nearly all lines of manufactures in the United States are in similar condition. Even with a population of sixty millions of people their productive capacity is greatly in excess of the consumptive capacity of the country. Large stocks of unsold goods are on hand, and either a curtailment of production at the expense of labor, or an absolute stoppage of operations are the alternatives. The only hope of these concerns is to find new markets for their goods, and to tide over the existing state of things they slaughter prices wherever possible. Canada has been the favorite abattoir grounds, and here these semi-bankrupt American manufacturers have been sending their goods selling them at what

ever they will bring, thereby raising money for pressing present needs, and at the same time maintaining home prices. It was to meet just such transactions that the Dominion Government have found it necessary to revise many of the invoices of American goods seeking entry into Canada, and which has caused such howls from Canadian importers thus seeking to avoid customs duties.

Canada, under our National Policy, is able to supply her people with a great many of the different lines of manufactures for which they have need, and the continuation of that policy will eventuate in the establishment of every sort of manufacture for which Canadians have need. Canadian manufactured products are reasonable in price, and are of a quality that compares favorably with those of the United States.

But these Commercial Union anti-tariff papers, which take such pleasure in pointing to the troubles of a Yankee manufacturer caused by over-production, are clamorous for Canada to do what she can to throw down the barriers which prevents Canada being flooded with the surplussage of Yankee manufactures. With a capacity to produce very largely in excess of the power of that country to consume, what could Canadian manufacturers hope for or how could they expect their industries to survive under a reciprocity treaty which would admit the free importation of the surplussage of Yankee mills and workshops?

FOREIGN TRADE OF THE UNITED STATES.

THE detailed statement of the foreign trade of the United States for the nine months ending March 31st, 1887, contains some interesting figures. The value of all exports of domestic products for the period named was \$567,868,856. The following shows the value of certain agricultural and farm products exported:

Corn.....	\$14,877,170
Wheat.....	64,559,062
Flour.....	39,870,498
Bacon.....	21,509,718
Lard.....	17,602,797
Total.....	\$158,419,245

The following shows the value of certain other similar products:

Cotton, raw.....	\$191,150,602
Cotton, manufactured.....	11,776,277
Tobacco, leaf.....	22,752,999
Total.....	\$225,679,878

The value of all other exports was \$183,769,733, in which is included all manufactures except those of flour, etc., included in food products, and cotton goods. A general classification shows the following:

Farm products, food.....	\$158,419,245
Farm products, cotton and tobacco.....	225,679,878
All others.....	183,769,733
Total.....	\$567,868,856

THE IRON DUTY.

THE apologists of the heavy duty on iron, who pretend that the object is to enrich and strengthen the country, talk pure twaddle, and they know it. The game is to make a few men

millionaires by cheating the masses out of fair value for their labor.—Hamilton Times. There is some confusion in the iron trade, and the prices of all kinds of iron goods have been put up. Bar iron has been placed on a basis of \$2. These enormous increases will press heavily on those who must use large quantities of iron.—Toronto Globe. The proposed Canadian tariff is only about two-thirds as much as that of the United States. The American Manufacturer of last week quotes the price of bar iron in several cities in that country as follows:—Pittsburgh, 2 cents a pound; Philadelphia, 2 cents; Chicago, jobbers are selling at 2.20 @ 2.30 cents rates from store; St. Louis, merchant bars, 2.20 @ 2.30 cents; Cincinnati, bar iron, 2 @ 2.10 cents. Bar iron in Canada, according to the Globe, is sold at an actually lower average, even under the increased duty, than in the commercial and iron manufacturing centres in the United States. Under the circumstances the effect of the duties is not to “make a few men millionaires,” as the Times suggests, and, in the classic language of our Hamilton contemporary, those who so declare, “talk pure twaddle, and they know it.”

OUR CARD BASKET.

THE following is a list of those who have favored us with a call since the date of our last issue:—

Chas. E. Smythe, representing J. & G. Taylor, safe manufacturers, Toronto; W. K. McNaught, Secretary American Watch Case Co., Toronto; Wm. Bell, of Messrs. Wm. Bell & Co., organ manufacturers, Guelph; Ald. Wickett, of Messrs. Bickell & Wickett, tanners, Toronto; Julian Sule, of Julian Sule & Co., pocket-book manufacturers, Toronto; James Morrison, brass founder, Toronto; D. Marshall, of the Hamilton Vinegar Co., Hamilton; H. E. Clarke, M.P.P., of H. E. Clarke & Co., trunk manufacturers, Toronto; F. J. Gibson, of Bryant & Gibson, pickle manufacturers, Toronto; C. Richardson, of C. Richardson & Co., pickle manufacturers, Toronto; W. F. Cowan, of the Oshawa Malleable Iron Co., Oshawa; Edward Gurney, founder, Toronto; John Fensome, of the Fensome Elevator Works, Toronto; P. W. Ellis, of P. W. Ellis & Co., manufacturing jewellers, Toronto; Chas. Boeckh, of C. Boeckh & Sons, woodenware manufacturers, Toronto; Daniel Lamb, of P. R. Lamb & Co., blacking manufacturers, Toronto; R. W. Elliot, manufacturing chemist, Toronto; J. F. Ellis, of the Barber & Ellis Co., manufacturing stationers, Toronto; Samuel May, of Samuel May & Co., billiard table manufacturers, Toronto; Joseph Simpson, knit goods manufacturer, Toronto; Wm. Pender, of C. G. Elrick & Co., comb manufacturers, Toronto; Robert Hay, Esq., ex-M.P., Toronto; Chas. Knees, of the Dominion Cordovan Tannery, Milton; C. A. Birge, of the Canada Screw Co., Dundas; C. Rogers, of Rogers, Sons & Co., furniture manufacturers, Toronto; Mr. Vandewater, of the Stevenson Piano Co., Kingston; W. Stahlschmidt, of Wm. Stahlschmidt & Co., office furniture manufacturers, Preston; E. A. Dalley, of Messrs. F. F. Dalley & Co., blacking manufacturers, Hamilton; J. Mearnes, of the Globe Tobacco Co., Windsor; M. B. Perine, of M. B. Perine & Co., cordage manufacturers, Doon, Ont.; Frank J. Phillips, of the Cobban Manufacturing Co., Toronto; Wm. Christie, of Christie, Brown & Co., biscuit manufacturers, Toronto; Thomas Goldie, miller, Guelph; F. Crompton, of the Crompton Corset Co., Toronto and Berlin, Ont.; F. C. Ireland, of Ireland & Son, proprietors of “Our National Foods,” Lachute, Que.; Jas. S. U. Dougall, of McArthur, Corneille & Co., Montreal.

◆ THE ◆

Canadian Manufacturer.

Published on the first and third Friday of each month, by the
CANADIAN MANUFACTURER PUBLISHING CO., (Limited).
6 WELLINGTON STREET WEST, TORONTO.

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Editorial Notes.

MR. FREDERIC NICHOLLS is Secretary of
The Canadian Manufacturers' Association,
The Woollen Manufacturers' Association, and
The Tanners' Association.

His Office is at the Publication Office of
THE CANADIAN MANUFACTURER,
6 Wellington Street West, Toronto.

Any association of manufacturers who may desire to hold meetings for organization or other purposes, are invited to avail themselves of the meeting room adjoining the office of the CANADIAN MANUFACTURER.

Every business man who receives the CANADIAN MANUFACTURER should carefully observe the business cards displayed therein, and, in correspondence with advertisers, mention this journal. This will be of benefit to both the buyer and the seller, and the medium by which they are brought together will also be made more valuable.

THE attention of Canadian manufacturers and others favoring our N.P., is called to the work being done by the American Protective Tariff League in moulding public opinion in the direction indicated by the name of the league. They should form an association or league for similar purposes, and they should take active and energetic steps to effect similar results.

THE Secretary of the Treasury has issued a call for the outstanding 3 per cent. loan of 1882 of the United States Government, which includes bonds to the value of \$19,717,500. These are the only remaining bonds redeemable at the pleasure of the Government. The other outstanding bonds are the 1½ per cents redeemable in 1899, and the 4 per cents redeemable in 1907.

THE American Protective Tariff League recently made an effort to interest college students in practical political economy which met with great success. The time for receiving essays in competition for the league prizes, closed on May 1st, with responses from more than half the States in the union. It was expected that the judges, in whose hands these essays were placed, would have made their report on June 15. The prizes offered were cash, and a number of discretionary silver medals.


THE Cleveland (Ohio) *Iron Trade Review* says that discussion in Canada on the proposed reciprocity treaty with the United States has been ably conducted on the opposing side by the CANADIAN MANUFACTURER, which has been enlightened by the publication of several excellent cartoons, the latest of which, representing the American Eagle bearing a scroll on which are inscribed the words, "B. B. B., the Great American Remedy," with the accompanying text, it transfers to its columns. It says, "The only amendment we would suggest would be that, inasmuch as Mr. Butterworth does not by any means represent American sentiment on this subject, the legend should be changed to read 'The Great Butterworthian Remedy.'" American newspapers published in Canada please observe that one of the most influential trade papers in the United States says that Mr. Butterworth "does not represent American sentiment" on the reciprocity question.

THE assertion is made that a protective tariff is a tax on consumers because it increases the cost of articles the manu-

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facture of which is protected against injurious foreign competition. Those who make this assertion ignore the benefits of protection, and they ignore price lists and market quotations. Previous to the recent war of the rebellion in the United States—from 1846 to 1857—when that country had a tariff for revenue only, the average price of No. 1 anthracite foundry pig iron at Philadelphia was \$26.25 per ton, and bar iron \$71.52 per ton. Omitting the period when there was an inflation of values caused by the expansion of the currency incident to the war, and taking the period from 1871 to 1885, when the country was under a protective tariff, and the average prices of the above alluded to articles at the same city were for pig iron \$23 per ton and bar iron \$53.09 per ton. These figures show that these articles—pig iron and bar iron—have been and are much cheaper in the United States under a protective than a revenue tariff.

A CERTAIN steel manufacturer in Sheffield, England, according to the *New York Star*, has a standard price in that country for his grade of manufacture. He will make no reduction to any one. He has desk room in a store in New York, where he is represented by a young man who solicits orders, and imports for that purpose only, not carrying stock at all. His expense for rent is \$12 per month only. The steel is invoiced to the young man, who divides it up to fill the various orders he has taken. It is found that the invoice value is less than one-half the price the manufacturer will sell for in Sheffield. Consequently the duty is reduced in the same ratio and amounts to next to nothing. Regarding this matter of defrauding the Government by undervaluation, the *American Manufacturer* says: "There are now very few bona fide importers in the United States. Much the largest part of the business of importing foreign goods into this country is in the hands of foreign agents of foreign houses, these agents not even pretending to be American citizens."

SPEAKING of the new Canadian tariff, the *Cleveland, Ohio, Iron Trade Review* says: "The best possible tribute to the wisdom and efficiency of the present American tariff is the fact that Canada has adopted a system modeled very closely upon it and differing chiefly in the fact that it levies about two-thirds of our duties upon articles entering that country. The readjustment of rates has proceeded upon the theory that Canada has iron ore and coal in close proximity to each other and special facilities for the production of charcoal iron, and that the exclusion of foreign products would be more than compensated by the resulting growth of the Canadian iron and steel industry. The annual Canadian consumption of pig iron is 250,000 tons, not inclusive of steel rails. To make this quantity in Canada, 750,000 tons of iron ore, 120,000 tons of limestone and 750,000 tons of coal would be required, and considering the benefit which would accrue to the country by the development of the iron industry the Government felt that it was justified in losing the coal duty of half a million. The United States has little to lose by the new arrangement, and it certainly would be in bad grace to characterize the present policy otherwise than as pre-eminently politic on the part of our neighbor. May she reap great national and material results from the new system."

RECENTLY while addressing the Canadian Club in New York, Mr. Erastus Winman, speaking of the advantages to be derived by the United States from Commercial Union with Canada, said: "Canadians would no doubt gladly submit to taxation in a different form to make up for the loss of revenue upon imports from the United States." Mr. Butterworth, in addressing the same club, speaking on the same subject said: "Our (American) farmers would in no wise suffer from it (Commercial Union), and our (American) manufacturers would be benefited. There would be better prices for Canadians, and no injury to American farmers." If Mr. Winman's remark means anything it means that as a matter of course with Commercial Union Canada would necessarily have to forego and give up her "revenue upon imports," and "submit to taxation in a different form" to make up for that loss, the "different form" of taxation being a direct tax upon all real and personal property and interests in the Dominion. In thus raising revenue by direct taxation farmers would find that not only would they have to respond to the call of the tax gatherer, and pay specific taxes upon every acre of their lands, but they would also have to account for and pay taxes on every horse, cow, sheep, hog and even the chickens in the barnyard. Are Canadian farmers ready and willing to have taxes collected in that way?

Our bashfulness prevents us making any comment on the following letter except to remark that it is our desire at all times to forward the interests of our friends, and that when they avail themselves of our advertising space they find that they are well dressed, in exceeding good company, and well taken care of:—

OFFICE OF THE CHATHAM MANUFACTURING COMPANY (LIMITED),
CHATHAM, ONT., May 23, 1887.

PUBLISHERS CANADIAN MANUFACTURER, TORONTO.

GENTLEMEN,—As you are aware, we are and for many years have been subscribers for the *MANUFACTURER*, but we desire in addition thereto to mark our appreciation of your effective warfare against Free Trade and the Butterworth proposals, and in favor of the Canadian National Policy, by placing our advertisement in your pages. Enclosed, please find copy—we desire it inserted in every issue. Yours truly,

CHATHAM MANUFACTURING COMPANY (LIM.),

D. R. VAN ALLEN,

President and Manager.

Would Illinois do well to secede from the American Commercial Union? If not, why would Canada be unwise to enter it?—*Toronto Globe*. There is no such thing in existence as the "American Commercial Union," as every school boy knows. The tie that binds the several States into what is known as "the United States" is not a commercial but a political tie, and Illinois is as much a part and parcel of that political body as Wales, Scotland, Ireland or England are of that political body known as Great Britain. Some of the States of the American Union tried secession and failed. "Would a man's arm do well to secede from his body? If not, why would it be unwise for him to allow any foreign thing to enter it. The parallel is similar. Perhaps it might be as impossible for Canada to force herself into the American Union as it was for some of the States to secede therefrom when they tried it. The *Globe's* comparison is very silly and nonsensical.

THE BOARD OF TRADE'S DECISION.

A CALLED meeting of the Toronto Board of Trade was held on Tuesday night of this week, to still further discuss the proposed Commercial Union of Canada and the United States. Owing chiefly to the fact that the result of the previous discussion of this question by the Board of Trade was entirely different from what the annexationists had hoped for, and because of the cry raised by them that full discussion had not been had, it was determined to re-open the matter. The meeting was very largely attended and was exceedingly interesting, the debate being upon the following resolution offered by Mr. John Macdonald, seconded by Mr. D. R. Wilkie:—

Resolved, That this board desires to place on record its conviction that the largest possible freedom of commercial intercourse between our own country and the United States compatible with our relation to Great Britain is desirable.

That this board will gladly do everything in its power to bring about the consummation of such a result.

That in its estimation no treaty which ignored any of the interests of our country, or which gave undue prominence to any one to the neglect or to the injury of any other, is one that could be entertained.

That in our agricultural, our mineral, our manufacturing and our diversified mercantile interests, in our fisheries and forests, and other products, we possess in a rare and extraordinary degree all the elements which go to make a people great, prosperous and self-reliant.

That these are fitting inducements to any nation to render reciprocity with Canada a thing to be desired, and such as should secure for us a reciprocal treaty with the United States of the broadest and most generous character, which, while fully recognizing these conditions, would contain guarantees which would prove of mutual and abiding advantage to both nations; but this board cannot entertain any proposal which would place Great Britain at any disadvantage as compared with the United States, and which would tend in any measure, however small, to weaken the bonds which bind us to the Empire.

The discussion was participated in by quite a large number of gentlemen, and the question was presented in many of its aspects, although it may be remarked that none of the advocates of Commercial Union made any attempt to explain just how such a political condition would effect the laws and domestic economy of Canada. At a late hour the meeting adjourned for further discussion until Thursday night.

The Board met on Thursday night pursuant to adjournment, and arguments for and against Commercial Union were made, the chief debaters being Mr. H. W. Darling, Mr. David Blain, Mr. G. A. Chapman, Mr. Barlow Cumberland and others. When Mr. Macdonald's resolution was put to vote it was carried unanimously. Mr. Darling, Prof. Goldwin Smith, and all the lesser lights on that side voting for it.

Previous to the vote being taken, Mr. Goldwin Smith, in speaking to the motion, called attention to the fact that a distinct resolution condemning Commercial Union had not been considered. This challenge to the opponents of Commercial Union was taken up immediately after the passage of Mr. Macdonald's resolution, Mr. G. A. Chapman offering the following, which was seconded by Mr. John Hallam:—

"That this Board, whilst desirous of reciprocal relations in natural products with the United States, is opposed to Commercial Union with the United States, believing that it cannot be attained without giving up the preservation of our autonomy as a separate nationality on this continent."

On a demand for a vote on this resolution Mr. Darling and others pleaded for another adjournment and time for further discussion, which the meeting would not consider, and the resolution was carried by a large majority. This was the answer of the Toronto Board of Trade to Mr. Goldwin Smith's challenge for a decided and explicit declaration regarding Commercial Union.

As far as the Board of Trade as a body is concerned, this disturbing question is settled.

The Commercial Union fever seems to have reached and passed its climax in Toronto, and the public feeling being largely against the measure, it will cease to attract the attention heretofore bestowed upon it.

THE Japanese manufacture, out of paper, tapestry which looks so much like leather, that a Berlin merchant, who received a consignment recently, had to pay the leather dues on the material; he could not convince the officials that the article had never seen the tannets.

MR. H. J. HILL, manager and secretary, has sent us a copy of the prize list for the Dominion Exhibition which is to be held this year in this city in connection with the Toronto Industrial Exhibition, from September 5 to 17 next. Any desiring a copy of the catalogue can obtain it by sending a postal card to the secretary at Toronto.

THE Jewelry Security Alliance of Canada, is an organization composed of almost all the wholesale and many of the leading retail jewelry firms of Canada, its object being the capture and prosecution of such burglars as may make attempts upon the safes of any of its members. Mr. James Ryrie, of Messrs Ryrie Bros., Toronto, is the secretary and treasurer of the Alliance.

A PUBLIC meeting was held at Kingston, Ont., a few days ago at which resolutions were passed to the effect that the interests of Canadian inland marine requires that the construction of a dry dock at that place is an imperative necessity, and that the Government be asked to undertake its construction, and in doing so to utilize the labor of convicts imprisoned in the penitentiaries.

ONE result of the constant labor troubles in large cities is to drive manufacturing concerns to smaller towns. And in so far as labor troubles are a blessing, for changes of this class almost invariably benefit the manufacturer, the town to which he removes, and the workmen he gathers around him. The building up of small manufacturing centres is one of the most beneficial things which can be forced on the country—no matter how accomplished, if without bloodshed.—*Industrial Gazette*.

THE Kingston and Pembroke Iron Mining Company are now shipping about 1,000 tons of ore a week, and has just concluded a contract with the Joliet Steel Works for 10,000 tons of ore. The ore is magnetic, and assays from 50 to 60 per cent. of metallic iron. From contracts on hand and the general outlook, the company expect to mine and ship 100,000 tons the present season. It is stated that the company have no debts, and \$200,000 in its treasury. The stock has been listed on the New York Stock Exchange. Parties interested in the Kingston and Pembroke Railroad are also interested in this company.

BY the terms of the Convention of Nations for the protection of industrial property, recently ratified by the President, citizens of the United States have the privilege not hitherto enjoyed by them of obtaining valid patents in any of the countries which are members of the convention at any time within the period of seven months after the patent is obtained in America. Prior to this time a citizen of this country who desired to protect his interests in foreign countries was compelled to take out his patent before or on the day on which his patent was obtained in this country, otherwise he was at the mercy of any one who desired to make use of his invention abroad. The countries of the industrial union are Belgium, Brazil, France, Great Britain, Guatemala, Holland, Norway, Portugal, Salvador, San Domingo, Servia, Spain, Sweden, Switzerland, Tunis and the United States.—*American Artisan*

Manufacturing.

THE CANADIAN MANUFACTURER.

Send \$2 00 and receive it twice a month, postage paid, for one year.

The Hamilton Mica Roofing Company, of Hamilton, Ont., has been incorporated with a capital of \$20,000.

The Richmond Hill Manufacturing Company, of Richmond Hill, Ont., has been incorporated with a capital of \$3,000.

The Valiant Button Fly Company, of Toronto, Ont., have applied for incorporation with a capital stock of \$400,000. The company will manufacture a button fly and lace piece for boots and shoes.

MR. JOHN GIBSON, the foreman of Allan's foundry, at Newmarket, Ont., has invented and is manufacturing at the foundry a two-furrow plow that is meeting with great favor both from the trade and the farmers.

The shovel trade in Pittsburgh is as good as at any time in the history of the trade. One firm is shipping shovels to South America and all parts of Europe. Pittsburgh has almost succeeded in supplanting English shovels in Australia.

A COMPANY is being organized at St. Thomas, Ont., with \$100,000 capital, for the manufacture of whips. The construction of suitable buildings will be begun immediately. The works, when in full operation, will give employment to about 100 hands.

MR. HUDDLESTONE, of Portage la Prairie, Man., is building a plow factory in that place. He has secured the right of manufacturing the Huddlestone plow both in Canada and the United States, and is making arrangements to start up a foundry for their production.

A FORTUNE awaits the inventor of a successful perfect dash or buggy lamp, or a lamp to be attached to a horse's breast. One that will not go out when most needed, and with sufficiently strong reflector to light the road for some distance ahead of the horse. *Scientific American.*

ARRANGEMENTS have just been perfected by a Minneapolis company for the construction of a steel plant at that city. It will cost \$250,000, and will give employment to 500 men at the outset. The iron and steel industries are beginning to spread westward steadily. — *Marquette Mining Journal.*

The Toronto Portable Gas Company are putting on the market a new and inexpensive gas machine that is meeting with much favor. The gas is made from acid, water and iron. Several manufacturing and industrial establishments in the city are using this machine for illuminating purposes. Mr. J. B. Burns is the manager.

The Servis Railroad Tie-plate Company of Canada, at Moncton, N.B., are applying for incorporation, with \$100,000 capital, the object being to manufacture the Servis railroad tie-plate. Messrs. J. L. Harris and C. P. Harris, of Moncton, and Percy C. Woodworth, of Kentville, N.S., are largely interested in the enterprise.

All the machinery, belting, furnishing, etc., of Mr. John Weiler's new furniture factory at Victoria, B.C., were supplied throughout from the well known establishment of Messrs. Cowan & Co., of Galt, Ont. This latter concern are sending a great deal of machinery to the Pacific coast, where it is giving excellent satisfaction.

MESSRS. ROBE LEWIS & SON, Toronto, are calling attention to their stock of machinists' and engineers' supplies. They make special mention of hexagon nuts, tapped, Whitworth standard, Morse twist drills, Cushman and Wescott lathe chucks, tube expanders, Le Count's lathe dogs, caps and set screws, flat and round head machine screws, metallic patterns, bits and figures, etc.

A PATENT has been issued for an apparatus to run sewing machines. The inventors have succeeded in constructing an apparatus which, it is said, does away with the treadle. The motive power is ordinary clock springs, arranged so as to run the motor with any speed desired by simply bearing the foot on the rest. A few moments winding up suffices to store enough power in the motor to run a sewing machine all day.

The Ingersoll Door Guard Manufactory, Ingersoll, Ont., are manufacturing the American door guard, which commands itself on its merits to all housekeepers, particularly in warm weather when it is desired to have the doors ajar for purposes of ventilation. It is

cheap, durable, simple and strong, and can be applied to any door. It will be keenly appreciated by ladies left alone unprotected during the day or night.

We recently mentioned the fact that Messrs. Bertram & Sons, of Dundas, Ont., were building a very heavy automatic steam hammer for the Central Iron Works at Peterborough. The hammer has been finished and placed in position where intended, and a trial of it a few days ago proved entirely successful. The machine stands 13 feet high and weighs 20,000 pounds, and is said to be the first of the kind and the largest steam hammer ever built in Canada. Messrs. Bertram & Sons are very justly proud of this most excellent specimen of their handiwork.

The furniture factory of Mr. John Weiler, at Victoria, B.C., which has been under construction for some time, has been finished and put in operation. The building is large, and is fully equipped with modern machinery manufactured specially for Mr. Weiler, whose new departure is certain to result in increased business for his extensive establishment, which is one of the largest on the Pacific coast. It is his intention to manufacture furniture and furnishings for Victoria, Vancouver Island, the mainland and the North-West, which promises to be a very extensive market for Victoria's manufactures.

The master of the British mint, in his annual report just published, states that during the past year the colonial coinages were unprecedentedly numerous and the value was greater than in any previous year. The Canadian pieces coined were as follows:—Twenty-five cents, 585,807; ten cents, \$31,644; five cents, 1,713,392; one cent, 1,536,465; total, 4,667,308, of which 4,540,000, representing the value of £64,726.5d were forwarded to the Dominion. The medal department of the mint struck 5,650 medals to be awarded to the troops engaged in the suppression of the rebellion in the North-West.

A NEW kind of pressed brick, the materials of which are ashes and cinders, is being made at San Francisco. The product is a brick of unusual solidity, handsome in appearance, of a most durable character, and made entirely without burning or baking. All manner of experiments have been tried with the bricks, in the way of subjecting them alternately to intense cold and heat, but without any injurious effect. The best quality have even been boiled for hours, without cracking or showing any signs of dissolving. Ashes and cinders are to be found everywhere, so the manufacture of these bricks need not be confined to San Francisco.

ONE branch of the luxury paper industry, of Berlin, says *Kuhlow's German Trade Review*, is the manufacture of Christmas and New Year cards. Many thousands of Berlin people find constant employment in producing these cards, which are exported to the value of many million marks yearly. The export to England alone is estimated at 12-15 million mks. As regards the designs, these are as a rule adapted from the English; but British manufacturers generally acknowledge that with regard to the production of the articles Germany takes the lead. Berlin makers turn the cards out in far less time and sell them at cheaper prices; while for general elegance of appearance the articles are not to be excelled by those produced by any other country.

MESSRS. McDONALD, KEMP & CO., proprietors of the Dominion Tin and Stamping Works, Toronto, have recently added largely to their facilities for turning out goods, by the enlargement of their buildings and the placing of new machinery. They manufacture full lines of stamped tinware, pieced and japanned tinware, galvanized iron ware, stove boards, copper and brass ware, house furnishing goods, metallic stingles, etc. Their works, which are the oldest of the kind in Canada, occupy the entire square bounded by Gerrard, River and Bell streets and the river Don, and give employment to 300 hands. The firm have recently issued a new illustrated catalogue (heretofore noticed in these pages), which they will send to the trade on application.

A COMPANY is about to make the experiment in Birmingham, England, of transmitting power by compressed air over an area of about one square mile and a half, which will include about twenty-three miles of main pipes. This is the first time that an experiment of this kind has been tried in Britain. Power is distributed from a central station at Hull by the hydraulic system, but transmission by air has hitherto only been tried in small installation at mines, quarries, in sinking piers, as at the Forth Bridge, and in tunnel boring. In mines and tunnels it has very evident advantages, in that it keeps up a continual supply of fresh, cold air where ventilation is very much needed. The result of the present experiment will therefore be of the utmost scientific value to engineers, and will be watched with corresponding interest.

Textiles.

THE CANADIAN MANUFACTURER.

Send \$2.00 and receive it twice a month, postage paid, for one year.

THE Gibson Cotton Mills at Marysville, N. B., is being supplied with 200 additional looms for the manufacture of shirting.

A co-operative carpet manufacturing company started in Philadelphia a few months ago by dissatisfied workmen, has been sold out by the sheriff.

THE manufacture of rubber goods in the United States has come under one control with a capital of \$35,000,000. They have agreed to a combined resistance to the demands of organized labor.

MR. THOMAS C. KELLOGG, Skaneateles, N. Y., grower of and dealer in American teasels, has removed his New York city office to Nos. 100 and 102 Reade street. Mr Kellogg invites those interested to write to him for his Price List No. 71.

THE name of the Telfer & Harold Mfg. Co., Toronto, has been changed to the Telfer Manufacturing Company, the occasion of the change being the purchase by Mr Andrew Telfer of the interest of Mr. James Harold in the concern. The company manufacture hoop skirts, bustles, corsets, etc.

FIVE great branches of manufacturing employ together 85 per cent. of all the water power that is used. Flouring and grist mills use 38.4 per cent.; saw mills, 22.7 per cent.; cotton mills, 12.1 per cent.; paper mills, 7.2 per cent., and woolen mills, 4.4 per cent. The iron industry now uses scarcely any water power.

RECENTLY a Chemnitz, Germany, weaving loom manufacturing firm delivered its 30,000th loom. The progress made by this concern is focussed into the sentence that it took 20 years to sell off the first 10,000, and 10 years the second; while the batch of which the one just despatched made the total up to 30,000 has been sold within 5 years.

THE following mixture is given by a correspondent in *L'Industrie Textile* as suitable for water-proofing all kinds of woven fabrics. Linseed oil, 77.0; acetate of lead, 1.845; litharge, 10.0; amber earth, 0.4; vegetable wax, 1.3; soap powder, 1.2; manilla gum, 0.7; lamp-black, 4.0; essence of turpentine, 2.0; india-rubber varnish, 1.555; total, 100.

COTTON is not a fibre, but a plant hair. It holds to be spun into a thread because of peculiar twists in each hair, shown under the microscope, especially in polarized light. Linen thread may be spun, because the flax fibres have certain roughnesses on their surfaces, which enable them to cling together. Hence it is impossible to make as fine linen as cotton cloth, but it is much stronger.

AMERICAN inquisitiveness and ingenuity united have produced thread made from the blossom of the common milk weed, which has the consistency and tenacity of imported flax or linen thread, and is produced at a much less cost. The fibre is long, easily carded, and may be readily adapted to spinning upon an ordinary flax spinner. It has the smoothness and lustre of silk, rendering it valuable for sewing machine use.

AT the recent annual meeting of the Craven Cotton Company of Brantford, Ont., the half-yearly statement showed a gratifying balance to the credit of the company, which was ordered to be placed to the credit of the reserve account. The following gentlemen were elected directors for the ensuing year. I. Cockshutt, John Harris, Wm. Buck, Clayton Slater and H. B. Leeming. The selling agents of the company are Messrs. J. E. Lancaster & Co.

ONE of the most conspicuous evidences of the growth which is taking place in general trade throughout the United States is the expansion in cotton manufacturing. In 1885 the United States exported 174,536,582 yards of cotton cloth. Last year this was increased to 215,221,104 yards. The prospect is promising that the increase will continue in similar ratio this year. There is no reason why the United States should not lead the world in cotton manufacturing and exporting.

NOVA SCOTIA has commenced to compete actively for the trade of the North-West in the manufacture of binder twine. The Dartmouth Ropework Company, of Halifax, have placed their twine in competition for the trade of this country, and have taken active steps to ensure the extensive use of their product here during the present season. The manufacturers claim that their twine is superior to anything of the kind made, and this statement is borne out by the

experience of those who have used the article.—*Winnipeg Commercial.*

THE first cotton mill in the United States was built in 1791. The capital employed in 1816 was \$40,000,000, giving employment to 100,000 persons, and producing goods valued at \$24,000,000. The number of yards was 81,000,000, or an average of about 29 cents a yard. The spindles in Massachusetts in 1850 were 1,288,091, and in Rhode Island, 624,138. Now the number of the mills in the United States is 756. They require \$208,280,346 capital, employ 10,653,435 spindles and 225,769 mules. Altogether they employ 59,685 men, 15,107 boys, 84, 539 women and 13,213 girls, or a total of 172,544 persons.

A FORTUNE awaits the genius that can spin a cotton or a woolen cop on a bare spindle that will weave from the inside, that is, similar to what is used on a carpet loom and on the Lyall loom. He will earn a fortune. This has not been accomplished on fine yarn with a loom running at a high rate of speed. We believe a cop can be wound by hand that will weave in this way. It requires a rapid vibration while winding on to prevent the yarn from sloughing off in a tangled mass when weaving. With this fact before us it would seem that some genius ought to be able to produce the motions that will produce the cop wanted.—*Wade's Fibre and Fabric.*

ACCORDING to the views of the Chamber of Commerce at Plauen, the proposals of the 7th Commission of the Reichstag, on the question of child labor, will inflict so serious an injury on the principal branches of industrial commerce, in particular the tin-goods trade, the cigar, carded yarn, and wigogne spinning trades, but above all the machine embroidery trade, that the president of the Chamber has felt it his duty to lodge a protest with the Imperial Chancellor. In the course of one year 162 embroidery machines have been removed from Plauen, having ceased to be profitable, and have mostly been set up in small towns. This fact alone shows the bad condition of the industry in question.—*Kuhlon's German Trade Review.*

EXHAUST steam is of practically the same value as an equal quantity of direct steam of high pressure for heating in the winter season, for use in dye-houses, and with proper arrangements for many of the numberless dyeing operations carried on in textiles and other manufactories. For all these purposes the pipes must necessarily be somewhat larger than they need be where direct steam of high pressure is used. In many cases where failure has resulted from an attempt to use exhaust for the above purposes, the result has been due to the use of a too contracted system of piping, and in other cases to a wrongly designed system. Where a large establishment is heated by the exhaust, the system should be designed especially to promote a free circulation, otherwise dead failure is certain to result.

A UNITED STATES Consular report says that in the manufacture of cottons, the Germans are far behind the Americans in methods and machinery. One is surprised to find old machinery, rejected in America 20 years ago, used in Germany to-day; to see work done by hand slowly that machines in America do infinitely better, quicker and cheaper, to see girls doing work that men should do. In the largest concern in Baden he found in the picker room eight machines doing the same work that four do in the United States cotton mill, women doing the same work that men do. All the hands in the picker room were women, with the exception of one. In the carding room are old machines, old methods. In the spinning room were three, four and five girls doing what one little girl does in America; mule spinning room, a man 35 years, two young men, 18 and 20 years of age, doing what one young man 18 to 20 may be found doing in every cotton mill from Rhode Island to Georgia. In the spooling and wrapping rooms were old machines.

MR. ROBERT H. HUNT of San Francisco, California, has invented and put in successful operation a loom which he claims is to revolutionize present methods of weaving all kinds of fabrics. The essential principle of this loom is described as being that instead of running a shuttle, which carries inside of it the filling yarn, it runs a shuttle, or perhaps it may be more properly denominated a "thread carrier," which takes the filling yarn from an outside and endless supply of thread, and with this improvement, which is the key-note to the whole invention, a loom can run all day without stopping, provided that none of the filling or warp threads break, and as such breakages will be less frequent in this loom, than in those of the old style, one operator will be able, instead of running only one broad loom as at present, to run a number of looms, and certainly, not to make an overestimate, not less than four broad looms, making to the manufacturer a saving of three wages out of four. A point of great importance in this invention is that inasmuch as it consists merely of an attachment - which can be put on any style of loom now used - it is not necessary to discard any looms now in use.

Milling.

THE CANADIAN MANUFACTURER.

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THE Glenn ranch in Colusa county, Cal., comprises 52,000 acres, of which 23,000 are in grain this season. It is estimated that it will produce twenty-five bushels to the acre.

It is estimated that by the end of July France will have imported 40,000,000 bushels of wheat during this crop year. That is about the quantity estimated several weeks ago as likely to be wanted, inclusive of what had already been taken.

Of the 121,600,000 bushels of wheat imported into Great Britain last year, three-fifths or 72,000,000 bushels came from the United States, 20,000,000 bushels from India, 7,200,000 from Russia, an equal quantity from Austria and Germany together, 7,488,000 bushels from Canada, 2,144,000 bushels from Chili, and 2,960,000 bushels from all other countries.

THE London *Standard* comes out with an editorial denouncing the Chicago wheat corner, and predicting that the United States will soon be supplanted in the European grain market by India and Australia. This may occur, but it is safe to say that India and Australia will never gain supremacy over Chicago in that great institution—the wheat corner.—*Chicago News*.

MR. WM. H. BARNARD, of Galt, Ont., a young and enterprising miller, has invented and patented a "shake feed," which, it is claimed, largely increases the amount of flour produced. A mill in that town, which has ten double sets of rolls and four run of stones on which to grind middlings, having adopted this shake feed, has increased its output from 280 to 350 barrels per day, without any additional power.

Few English wheats flourish in Scotland. French wheat in the West Indies only produces barren spikes, and Indian wheat in England produces miserable heads. Black Sea wheat sown near Paris produces heavier grain than it does in Russia, but when resown near the Black Sea becomes once more as light as the parent. Red wheat is more hardy and prolific than white, but is of inferior quality and yields less flour. Long-strawed varieties suit best for wet seasons; short ones, dry seasons.

THE former chief grain inspector of Chicago has petitioned the Illinois Legislature to abrogate the charter of the Chicago Board of Trade. He claims that the board has not only violated its own laws, but the laws of the State as well, and insists that its acts have depreciated the value of farm products \$7,200,000,000 in twelve years, or an average of six hundred million dollars a year. He also asserts that its directors have violated different sections of the railroad and warehouse law. The petition has been favorably reported.

A B, RESIDING in Manchester, has two mills, one for the manufacture of flour, the other of cotton; the raw material for both is imported from America. When both are manufactured, A B discovers that his flour is undersold by America (since it is admitted free of duty), whilst his cotton manufacture, exported to America, is charged 25 to 30 per cent., *ad val.*, import duty. The consequence is that his flour mill is practically closed for home consumption, and his cotton mill for American consumption, notwithstanding that the raw material for both are imported from thence.—*London Corn Circular*.

A STEAM pump manufacturing concern in Ohio have experimented with and successfully demonstrated that crude petroleum is a better and cheaper fuel than coal for generating steam. The burners they use under their boilers are regulated automatically, and are patented by the company. With them forty-four gallons of oil perform the work of 1,500 pounds of coal, and save the expense of a fireman. Many people believe that heat can be produced from petroleum at prices that will compete with natural gas anywhere, and the concern alluded to are doing much to demonstrate the practicability of the new fuel.

A SHILLING tax on flour would not prevent a single barrel less being sent to British markets, and if this tax were levied, British millers would certainly not reap the benefit of it. So long as America, for sorely cripples the British miller. Another remedy for depression so flour; and it is the free importation of this commodity which so instance, has a surplus of something like six or seven million bushels of wheat to dispose of, our markets will be flooded with American

has been suggested in the shape of bounties for home grown wheat; but the payment of this bounty would fall upon the consumer, and thus add, indirectly, to the price of the quartern loaf.—*The Roller Miller, Broadheath, Eng.*

TO-DAY witnessed another step in the gigantic wheat deal which is being engineered by the Lord knows who. There is more wheat in the cars side-tracked at Chicago, or within a short distance of the city, than there is vacant room in the elevators to accommodate. The clique took all the wheat offered at the top price, and made prompt settlement. What the holdings of the clique now amount to can only be conjectured, but they must be prodigious. Each month requires a greater amount of money to handle their load, but the clique apparently is not in any need of money. The deal must now be carried into July, as there is no other way for the clique to get rid of their cash wheat. Every development shows that the present manipulation of the market is on a larger scale than was ever attempted before, and the utter secrecy with which everything has been carried out, concealing the names of the principals in the deal, has made this the most remarkable (and the most reprehensible) wheat corner on record. But it must end in time, and if the clique is overwhelmed with disaster, no one will shed a tear; certainly not the millers.—*American Miller, June 1.*

MR. F. C. PILLSBURY, of Messrs. C. A. Pillsbury & Co., millers, Minneapolis, Minn., has by actual experiment settled to the satisfaction of himself and those who tested the results, the much discussed question of the value of bran as a fattening medium. A short time ago he procured some "scrub" steers, as they are called, and stall-fed them on hay and bran alone. A few weeks after he had one of them butchered and distributed among his friends, who were connoisseurs of good beef. The result was most gratifying, the beef being pronounced finer and more tender than any which had been fattened on corn. Mr. Pillsbury has demonstrated that "one ton of bran is as valuable for fattening as one ton of corn meal." The experiment will be a matter of great interest to stock growers throughout the North-West.

ACCORDING to an interesting pamphlet entitled "Wheat," published by the Commercial Publishing Company of San Francisco, there are eight principal varieties of wheat raised in the Golden State. Although the white club wheat is the chief product, other Along the coast where the soil is subject to less drouth and the kinds are found to produce better results in different sections. climate is damp and foggy, the stronger amber wheats are generally raised, and recently Odessa wheat, imported from Russia in the belief that it would withstand damage from rust, while the interior of the State raises white wheat of fine color, with less gluten and more starch. Sonora or Chili wheat was the native wheat grown when the State belonged to Mexico, and is a hard, flinty wheat, grown on these soils, and matures early, being used for cracked wheat. Australian wheat is also raised in the valleys, while many new varieties are being experimented with, which were received from the Agricultural Department at Washington. The Chili is raised generally in the San Joaquin Valley; on the dry inland sections still another variety, and yet another in the valleys of the interior of the State, where club wheat is the chief product.

A SUBSCRIBER at Portland, Ore., writes to the *Lumber Trade Journal*, and wants to know "whether it is cheaper to run a saw mill by water or steam power." He further says: "I am about to engage in a large enterprise at a point in Washington Territory where there is abundant water power, but sometimes the river falls low, and is not available for a steady manufacturing business. Had I better rely upon steam power or water power? Which in the end is the cheapest?" In reply the editor says that the water equipment at Lowell, Mass., was for canals and dams \$100 and for wheels, etc., another \$100 per horse power. But this as a first experiment was more costly than a similar experiment need be. At Saco, Me., the expense incurred was \$165 per horse power; but at a later period, for turbines with high heads, the expense would be less. A construction and equipment, solidly carried out, with the latest improvement in wheels, would not cost over \$200 per horse power (probably less) under favorable circumstances. If we remember correctly, an estimate at Penobscot, Me., was for \$112.50 per horse power. If the construction be with wooden dams, and the equipment with lower grade wheels, then the cost would be less than \$50 per horse power; and although the construction would be less permanent than the more solid, it would outlast any steam apparatus. On the other hand, Fall River (Mass.) estimates of steam equipment, exclusive of foundations and engine houses, run from \$100 to \$115 per horse power. A Boston authority gives \$110 for nominal 300-horse power and upward, inclusive of foundations and masonry. Similarly a Portland (Me.) authority places it at \$100 per horse power for nominal 300-horse power.

Lumber.

THE CANADIAN MANUFACTURER.

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MR. ADAM of Gatineau Point, and formerly of Cookstown, who has got out a new patent for a saw to manufacture bevel-edged shingles, has completed the construction of a large factory at Gatineau Point. Instead of manufacturing shingles out of blocks, Mr. Adams has purchased some 900 logs seized by Father Paradis on the Gilmour limits some time ago. The new style of shingles is represented to be far ahead of the ordinary shingle, and Mr. Adams has made several large sales already.

APPLICATION has been made for the incorporation of The Canada Lumber Company with capital stock of \$500,000, with chief place of business to be at Ottawa. The purposes for which incorporation are sought are to acquire, hold, etc., timber and other lands, timber limits, to carry on the business of lumbering and manufacturing furniture, doors, and articles of which wood forms a component part; to operate grist and other mills and to deal in grain and breadstuffs generally; to hold and work mines and the works incident thereto, and to build wharfs, roads, tramways, etc., and to hold and use vessels for the transport of the articles dealt in. The business is to be carried on in Ontario and Quebec.

THE price of black birch of best quality has recently gone up to from \$7 to \$95 per 1,000. The extraordinary advance is due to the discovery that boards cut out of the first logs are susceptible of a very high polish, and can be used for almost any purpose hitherto exclusively reserved for mahogany, which is worth about \$250 a thousand. The advance has been expedited by the discovery that the best black walnut is giving out. Black walnut from Arkansas and the south is so porous that it is of very little use in furniture making. The best black birch is found almost exclusively on the barren copper and ore regions between Marquette and Ashland, where all other timber is stunted in growth and very poor. Here boards cut out of the butt quickly assumed a beautiful red tint on being exposed to the atmosphere, and can be polished up to a great degree of fineness.—*Scientific American*.

NOTWITHSTANDING the present export duty on logs entering the United States, it is computed that fully 75,000 standards will leave the Nipissing district this season to be manufactured across the border. Instead of the export decreasing under the lately imposed duty, a considerable increase is perceptible, which is being brought about principally by the depletion of the Michigan forests. The Peterborough Lumberman agrees with the many Canadian lumbermen who are advocating a further increase in the duty, in order to prevent our native woods being slaughtered for the benefit of foreign manufacturers. If Americans refuse to build mills in this country and employ Canadian labor, they should be made to pay handsomely for the privilege of manufacturing our logs on the other side. It is hoped that the Dominion Government will take further action in this matter before the close of the present session.

Now that the Parliament of Canada is sitting, we would again urge upon the Dominion authorities the propriety of making adequate provision for the enforcement of the export duty on saw logs, which was wisely augmented last session. Our friends in the United States are evidently preparing to supply their saw mills more largely with saw logs from the forests on the waters of Lakes Huron and Superior. If they meet with any success in their operations they are certain to increase them in the future. This we cannot prevent, but we may discourage it, in favor of our own lumbermen, and if they are to compete with us in our own forests they should at all events be made to contribute to our revenue. They should not be allowed to escape payment of the dues on any saw logs they may convey across the line and the necessary provision should be made to ensure this. Otherwise the Act will remain a dead letter and it might just as well not have been passed.—*Canada Lumberman*.

Low water in the streams has interfered materially with lumbering operations in some parts of the North-West. This is particularly true of Michigan. Throughout that State rafting is laborious, and in a good many cases has been suspended altogether. The *Northwestern Lumberman* estimates the quantity of stuff "hung up" in the Saginaw valley alone at 60,000,000 feet. In Minnesota the rivers are low, but operations are going on as usual. More trouble is experienced in Wisconsin than in Minnesota, but less than

in Michigan. Wild fires have destroyed a considerable amount of cut timber in some districts where accumulations near the forest railroad tracks have not yet been moved out to the mills. In Maine and New Brunswick, on the other hand, business has been checked by too much water. Floods in the St. John, Penobscot, and other rivers have done much damage. The supply of spruce in all markets is accordingly unusually short. The demand for all kinds of lumber in the principal markets is active and prices are strong. Throughout the west, including Chicago, the volume of business is above the average. At Buffalo and Tonawanda, the summer trade has assumed large proportions. It is noteworthy that some of the heavy lumbermen of Michigan are earnest advocates of reciprocity with Canada, believing that the present import duty on sawed stuff helps them less than the Canadian export duty of \$2 per 1,000 feet on pine logs hurts them.—*Bradstreets*.

CANADA, or rather Eastern Canada, has long been noted for its great forests, and for many years the exportation of lumber and timber has been one of the leading industries of the country. The two principal export markets were Great Britain and the United States. To the latter country a considerable quantity of logs have also been exported, but in order to cause the manufacture of these at home and have the export in lumber instead of logs—an export duty was placed upon the latter. Lumbermen now ask for an increase in these export duties, and this has led to the discussion of the advisability of placing an export duty upon lumber as well as logs. Notwithstanding the great natural resources of the country in forests, it is already contended that the available supply is not greater than will be required for the home demand in the not distant future. Some therefore argue that the policy of the Government should be to preserve these natural forests by placing an export duty upon lumber. The decline of the wooden ship-building industry in Great Britain caused a decrease in the exports of Canadian timber in that direction, but from the United States the demand for Canadian lumber is steadily increasing. The forests of that country are being annually depleted at a rapid rate, thus necessitating the securing of lumber supplies from more distant parts and rendering the exportation of lumber from this country a profitable industry. To those who have considered the forest resources of Canada as of vast extent, it will be news to learn that there is danger of the production not being more than equal to the home demand in a very few years, should exportation continue to increase. Such, however, is the opinion of some who have given attention to the matter. The advisability of placing an export duty upon lumber is therefore worthy of consideration.—*Winnipeg Commercial*.

THE attempt to float logs from Nova Scotia to New York, which so signally failed in the case of the famous "cigar" raft of Amherst, even before the structure had been launched, was considered a remarkable enterprise. That method of transporting raw forest product may yet become a success, though it is considered doubtful. The rafting of logs on the great lakes, though from the earlier periods of lumbering in Michigan practiced to some extent, has been a hazardous undertaking. Of late years raftmen have learned by experience, so that they are now able to guard against the danger of breaking up in turbulent seas, by the use of heavy boom sticks, etc., and losses from such cause are less frequent than formerly. A large amount of logs have, within the past two years, been floated from Lake Superior to Lake Huron and Saginaw river mills. Other large quantities have been floated to Alpena and Bay City from the Canadian shores of Georgian bay. But probably few Michigan, or even Canadian lumbermen are aware that an attempt was ever made to float a raft across the Atlantic ocean; yet such was the fact. In its issue of February 19, the *Timber Trades' Journal*, of London, England, contained a letter from a gentleman, who stated that a so-called raft of timber made a voyage from British North America to Great Britain about the year 1812. The structure was in the form of a ship, and was named the Baron of Renfrew, was jury rigged and crossed the ocean under sail. She contained 5,000 English loads of timber. Unfortunately, just as the voyage was being completed the raft was caught by a gale in the Irish channel, became unmanageable, and went ashore somewhere between Liverpool and Glasgow, and broke up. It is thought that the experiment has never been repeated. At the time, the timbermen of Great Britain were somewhat uneasy for fear that the attempt would be a success, which naturally would have had the effect to change the order of existing business, and reduce values and profits. Now the scheme of rafting pine from the Southern States to ports in Great Britain is being discussed. It is thought by some that the powerful steam tugs of later times should be sufficient to handle such a float as the Baron of Renfrew in a gale, and that thus the hazard that attended the voyage in that instance would not pertain to a similar experiment now. But the doubters as yet are in the vast majority.

Mining.

THE CANADIAN MANUFACTURER.

Send \$2.00 and receive it twice a month, postage paid, for one year.

THE day when cotton was king passed away with the war, and coal is king only in a limited way, as the advent of electricity and natural gas has proven. Iron is king, and its sway is now undisputed.—*Philadelphia Call*. We would like to know where the *Call* gets its electricity, and of what use iron would be without coal to produce heat.

AN Alaska paper, published at Sitka, states that eight bars of gold, said to be worth \$20,000 each, were shipped from the Paris mine, Douglas Island, by the last steamer. The editor says he saw the bars, any one of which was a good lift for an able-bodied man. The mine referred to is that operated by the Treadwell Brothers of St. Andrews, N.B.

THE first cargo of Canadian ore from the mines on the line of the Kingston and Pembroke Railroad arrived in Cleveland last week, but it is not expected that any great quantities will reach this port, as Canadian mine owners are unable to secure miners at the existing low rate of wages, and moreover the material will command better prices further east.—*Iron Trade Review of May 28th*.

THERE is great excitement in Mattawa over the alleged discovery of rich gold bearing quartz in the hills opposite Mattawa, close to the north shore of the Ottawa river. Prospectors are busy at work blasting rock, and the villagers are filled with the belief that they have struck it rich. Some of the rock already assayed shows an average of between \$30 and \$40 worth of gold to the ton.

LATEST news from Bear River, on the west coast of Vancouver Island, causes considerable excitement in mining circles. Over one hundred Chinese are taking out big pay at the creek and a number of whites have gone in for the purpose of thoroughly testing the district. It is reported that quartz has been struck, samples of which have assayed into thousands. The Canadian Pacific Navigation Co. advertise a steamer for the new strike.

It begins to look as if Canadian iron properties are to receive a benefit from the boom which is now raging in the iron regions of this country. A syndicate composed of Milwaukee and Chicago capitalists, of whom Hustis, Coughlan, and Ray are the representatives, recently purchased a tract of 200 acres of mineral land in the township of South Crosby, Leeds county, Ontario. They have been doing some prospecting and some samples of ore were received in Chicago this week, and the company at once received an order for 1,000 tons at \$6 per ton from a Chicago steel company.—*Milwaukee Miner and Manufacturer*.

It is only within a few years that the people of Colorado have appreciated their illimitable wealth outside their precious metals. Only a score of years ago, the important question was how the then coming Pacific Railway was to be supplied with coal. There was then no knowledge of a coal mine between the Eastern slopes of the spurs of the Rocky range and the waters of the Pacific; but now Colorado alone presents coal beds equal in quality and quantity to the coal beds of Pennsylvania, and the products of her fields exceed the products of the gold and silver mines. Last year there were 1,500,000 tons of coal shipped to market from Colorado and this year will doubtless show an increase.

ACCORDING to Russian "Technic" the administration of the Tambov-Saratov Railroad has made experiments as to the relative cost of wood, coal and Baku petroleum, with the following result: One cord of wood is equal in value to 3,420 English pounds avoirdupois (95 poods) of coal and 2,736 pounds (76 poods) of petroleum, while the cost of these quantities is \$15.73 (1 silver rouble=75 cents) for the wood, \$15.68 for the coal, and \$13.46 for the petroleum. Results still more favorable for petroleum have been made on the Orenburg, the Warsaw-Terespol, and on the Dunaburg Vitebsk Railroads. Besides these lines the Trans Caspian and other Russian railways use petroleum for fuel.

THE consumption of crude petroleum has made an astonishing increase at Los Angeles, Cal., within the year. Besides hundreds of families in that city who are now using oil as their only fuel, both for heating and cooking, the San Francisco *Call* gives a list of large establishments in which oil is used as sole fuel, and unnumbered smaller ones do the same. It says:—"E. M. Hamilton has been burning brick at his East Los Angeles brickyard for the last three years with oil exclusively and claims thereby to make bricks at \$1

per 1000' as against \$3 with wood as fuel. The hotel Arcadia at Santa Monica used about 100 barrels of petroleum per month for fuel. Petroleum is also now used as fuel at Pasadena, Monrovia, Santa Ana, Lamanda Park and several other towns in the county. The total consumption of petroleum for fuel in Los Angeles alone is, in round numbers, 100 barrels a day. By next winter it is expected to be double this amount."

It was about forty years ago that the large deposits of emery were found in Turkey, and since that time they have furnished to the world fully three-quarters of the entire demand. In the years 1865 and 1866 emery was discovered in the United States in the Adirondack mountains by Dr. Smith, and in fact, this substance has been found to a greater or less extent in all countries. The deposits are, as a rule, near the surface and only require unearthing. It is not mined, as is generally supposed. The method employed to prospect for emery is very simple. All that is required are a few steel rods and a sledge. The steels are driven into the ground, and on examination after pulling them up, the most inexperienced eye can detect the presence of emery by the deep scratches on the rods made by it. At the deposits, the crude material is only broken into pieces of 100 pounds or less, and large lumps are generally left alone, as drilling into them for a blast does not pay. The crude ore, if it may be so called, is brought to this country as ballast, and the freight accordingly does not amount to much. It is here worked up by stampers or crushers into many grades, from the coarsest to quite a fine powder.

MR. DUNSMUIR is one of the richest and most influential men on the Pacific coast. In financial circles and in Canadian politics he is a powerful factor. The story of his life reads like a romance. It is but a few years since he was poor and unknown. He was a poor miner on Vancouver Island near the present town of Nanaimo, and one day walking out in the rain and pondering on the means of getting a livelihood, his attention was attracted by the trunk of a fallen tree that had been thrown down in the storm. At a distance he thought he saw shale clinging to its roots. His quick eye discovered, since this was a coal region, that possibly it might be indicative of coal. He hurried to the spot, and true enough found the same shaly indications that covered the coal deposits in the old mine some distance away. He descended into the hole in the earth made by the dislodged tree, and digging a little soon found coal sure enough. He carefully covered up and concealed all the indications and went his way, saying nothing to any one. Then he raked up all his spare dollars and got together the last cent in various ways and bought the land. He struggled on alone, and finally secured the entire region around it. Then he was ready for business. He opened the Wellington mine, employed men, bought the old mine of that section and became the owner of the Wellington and South Wellington mines, which now produce the finest coal on the Pacific coast.

A NEW device for wedging coal has recently been adopted, the object of the contrivance being to provide a device for breaking down coal by which the use of powder and other dangerous explosives for this purpose is entirely done away with, and the air is not loaded with poisonous gases or the roof of the mine "shattered," which frequently causes serious and fatal accidents from falling "horseback." When the coal is "sheared" and "undercut," one man can, by the use of this device, bring down eight or ten tons of lump coal with one wedge; and by the use of three worked "abreast," a heading of twenty feet or more in width may be carried forward in like manner. It consists of a cylinder made up of sections, which are semi-cylindrical in cross section, and each section is formed with a tapering groove, which are so arranged and proportioned that when the sections are brought together, there will be formed a rectangular recess, within which there is fitted and arranged a wedge-shaped block. This wedge-shaped block is formed with a central threaded socket, in which there is fitted the threaded end of a shaft. In use the end of the cylinder is inserted within the hole drilled in the coal until the washer strikes against the face of the coal. Just beyond this washer there is arranged a collar, which is secured to the shaft by a set screw, and it will readily be understood that by turning the shaft the wedge will be drawn within the recess, and as it is so drawn in the sections the cylinder will be expanded and the coal will be broken down, it being understood that prior to the introduction of the cylinder the coal has been "undercut" and "sheared." The washer bearing against the face of the coal, and being in turn borne upon by the collar, prevents the shaft from being drawn inward when turned within the threaded socket of the wedge. By the use of this wedge, coal is brought down in large lumps, and there being very little "slack" or "waste," the value of the output is increased considerably. It is simple in construction, effective in operation, and can be produced at a very low cost.

Miscellaneous.

THE CANADIAN MANUFACTURER.

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THE actual tonnage of anthracite coal exported from the United States into Canada during the last fiscal year, according to the *Coal Trade Journal*, footed up 1,019,898 tons, of which Ontario took 686,785 tons and Quebec 274,232 tons. The exports of bituminous coal to Canada, during the same period amounted to 930,232 tons, of which all but 101,108 tons were to Ontario. There were also 10,416 tons of coke exported to Canada within the period mentioned, nearly all of which was to Ontario.

No doubt if Nova Scotia had a surplus of manufactured goods to dispose of, admission to foreign markets would be desirable. But while she does not manufacture enough to supply the home market, access to the markets of foreign countries would be of no possible advantage, while the free admission of manufactured goods would crush out her thriving infant manufacturing industries by subjecting them to competition with the firmly established industries of other countries. — *Kentville (N.S.) Chronicle*.

WHAT is said to be the largest artificial plantation of forest trees in North America is a railway tie nursery situated near Farlington, Kansas, and is owned by the Southern Pacific Railway Company. The different sections have been planted respectively two, four, and six years, one fourth being planted with the alnus, the rest with the catalpa, together with a few white ash. Those first planted are now about 25 feet in height, the last about 12, and some of the taller are seven inches through the stem. There are in all about 3,000,000 trees, in full vigor, on the plantation; all were planted four feet apart each way to shade the ground, though eight feet is the ultimate intention, this plan allowing three fourths of the trees to be cut out when they are fit for fence posts. When rather larger it is expected the trees will make excellent railway ties in great

numbers—that is, after a thinning out process there will be some 900,000 trees to come to maturity. The area of this vast railway tie nursery is to be still further increased.

THE damage caused in Michigan by the forest fires this spring is estimated at \$7,000,000, a large part of which is due to the destruction of the town of Lake Linden. This is a terrible loss to the State, but there is really no one to blame for it except the people of Michigan themselves. For years they have been cutting down their pine forests and leaving the ground strawed for miles with the boughs cut from the trunks. The result is that the Upper Peninsula is nothing more nor less than a huge brush-heap, dry as a tinder, and a source of awful danger to all new settlements. It will remain so, too, until the Legislature of Michigan can devise some remedy. The task is a difficult one, but many millions of dollars and hundreds of human lives are at stake.



TIMBER AND LAND SALE.

(CERTAIN lots and the timber thereon situate in the Townships of Allan, Assinick, Bidwell, Billings, Cameron, Campbell, Howland, Saegundah, Tchikummah and Mills on the Manitowlin Island, in the District of Algona, in the Province of Ontario, will be offered for Sale at Public Auction in Block of 200 acres, more or less, on the 1st day of September next, at 10 o'clock a.m., at the Indian Land Office in the Village of Manitowaning.

TERMS OF SALE.—Bonus for timber payable in cash, price of land payable in cash, a license fee also payable in cash, and dues to be paid according to Tariff upon the timber when cut.

The land on which the timber grows to be sold with the timber without conditions of settlement.

For full particulars please apply to James C. Phipps, Esq., Indian Supt. Manitowaning, or to the undersigned.

No other paper to insert this advertisement without authority through the Queen's Printer.

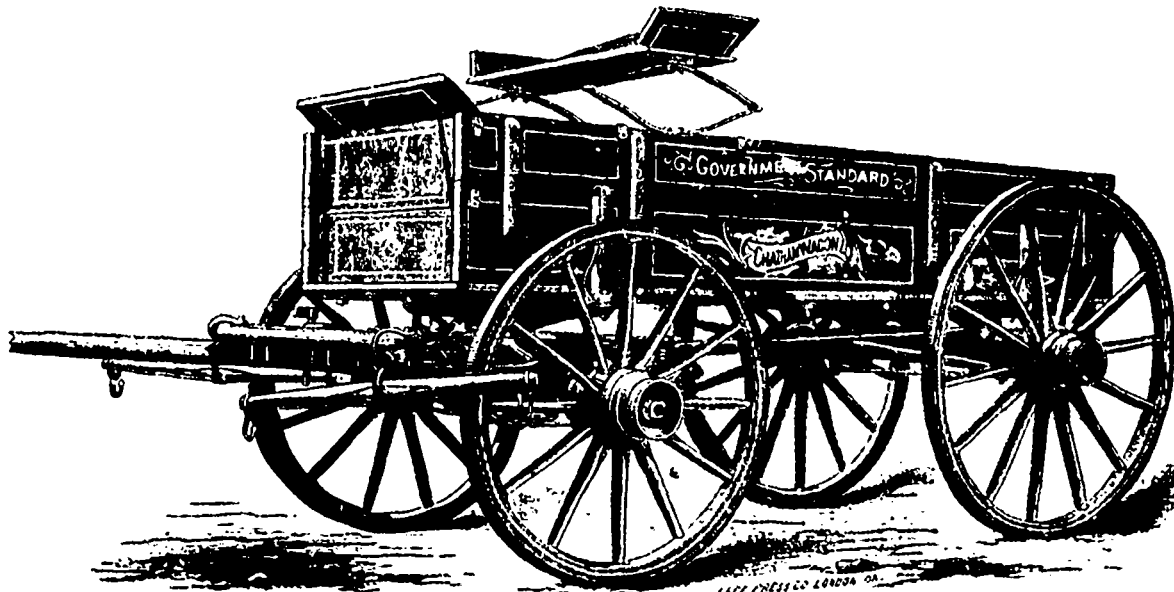
Department of Indian Affairs,
Ottawa, 2nd June, 1887.

L. VANKOUGHNET,
Deputy of the Supt. General of
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Gentlemen: You ask why we use the Dodge Patent Pulley. I answer because we consider them the cheapest, most convenient and satisfactory in all particulars.
Yours truly,
S. R. STINSON, General Manager.

OFFICE OF NEWTON WAGON CO., BATAVIA, ILL., Feb. 17, 1885.
C. L. RICE, AGENT, CHICAGO, ILL.
Dear Sir: Replying to your favor, will say that after using the Dodge Wood Split Pulley for a year or more we are satisfied they are a good thing, if not the best Pulley made, and shall use them hereafter in preference to any other we know of.
Yours truly,
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SHATTO & DENNIS, MINNEAPOLIS, MINN.

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION, NEW ORLEANS, March 10, 1885.
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Dear Sir: I have a number of your Patent Wood Split Pulleys in use here at the World's Fair and Cotton Centennial Exposition, driving Dynamos for Electric Lighting. They are doing heavy work, and are held upon the shaft by the compression of wood on iron. They hold firmly, and do not slip. I have watched with a great deal of interest the many Pulleys of your make running at this Exposition; and I think them the best Pulley I have ever seen. I believe them to possess the following points of merit over any other Pulley: All Pulleys being split or in halves; best belt surface; best shaft fastening; best method of utilizing Pulleys to shafts of different sizes; best balance; lightest on the shaft; strong, and I believe durable. I heartily recommend them.
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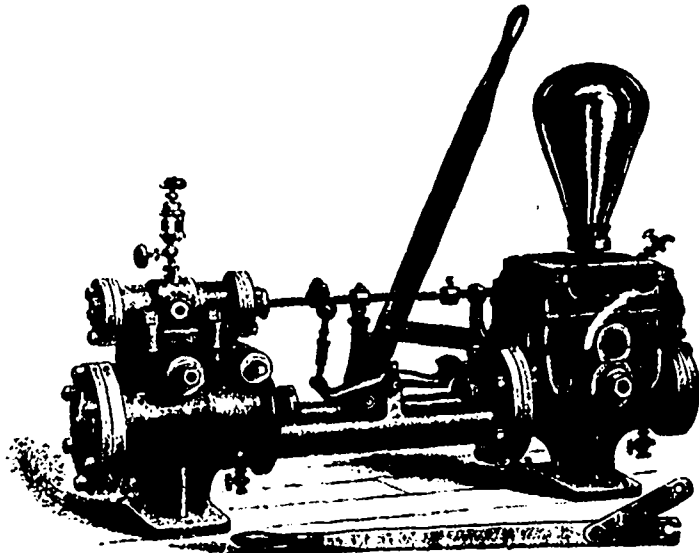
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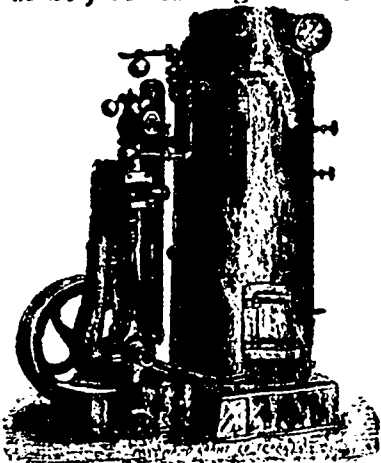
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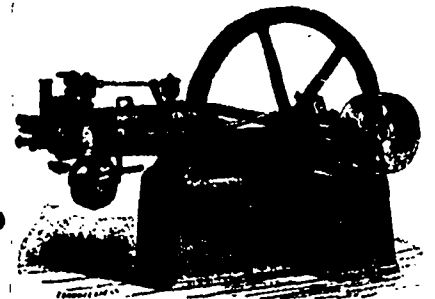
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Plans and profiles will be open for inspection at the Office of the Chief Engineer and General Manager of Government Railways at Ottawa, and also at the Office of the Cape Breton Railway, at Port Hawkesbury, C.B., on and after the 6th day of June, 1887, when the general specification and form of tender may be obtained upon application.

No tender will be entertained unless on one of the printed forms, and all the conditions are complied with.

Department of Railways and Canals,
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By order,
A. P. BRADLEY,
Secretary.

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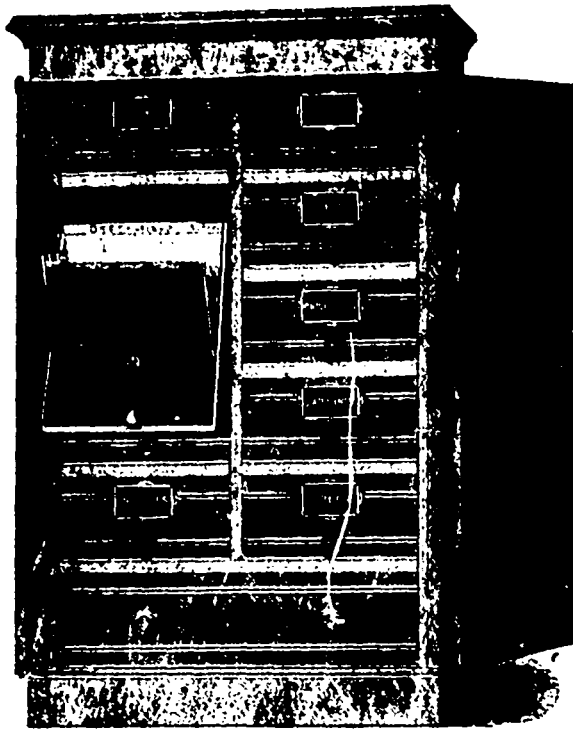
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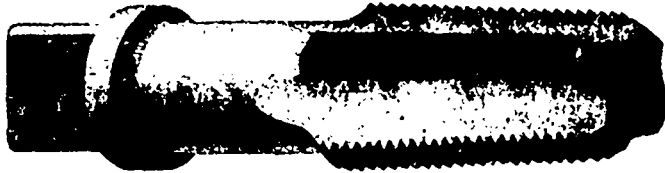
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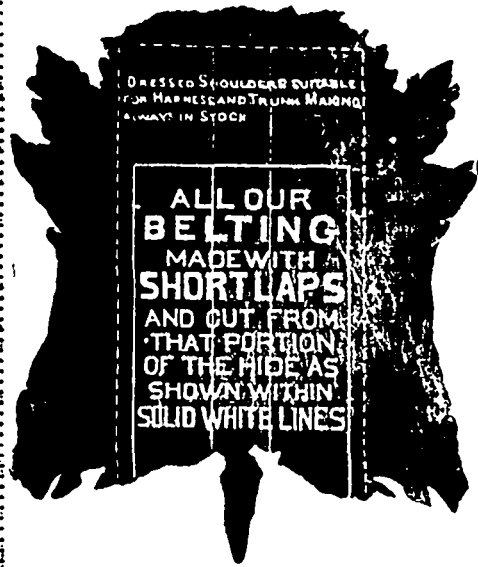
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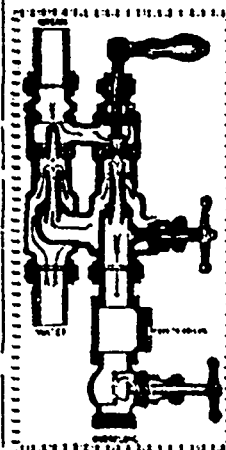
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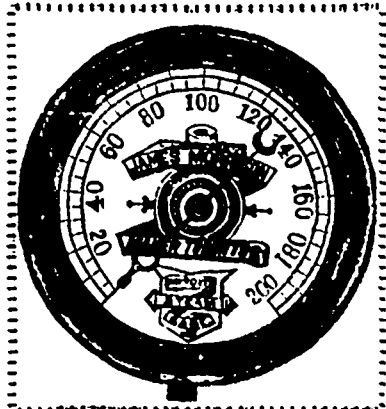
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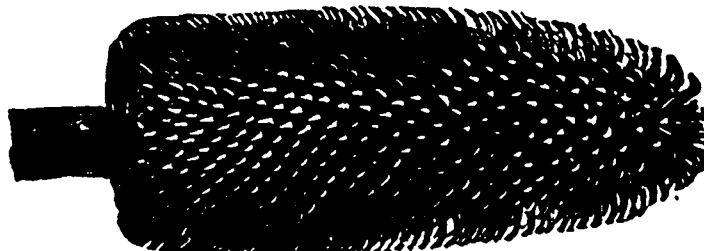
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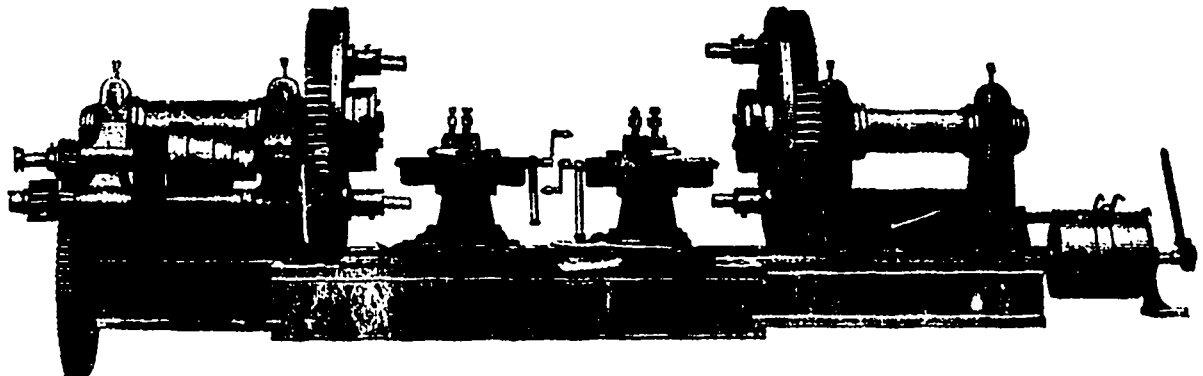
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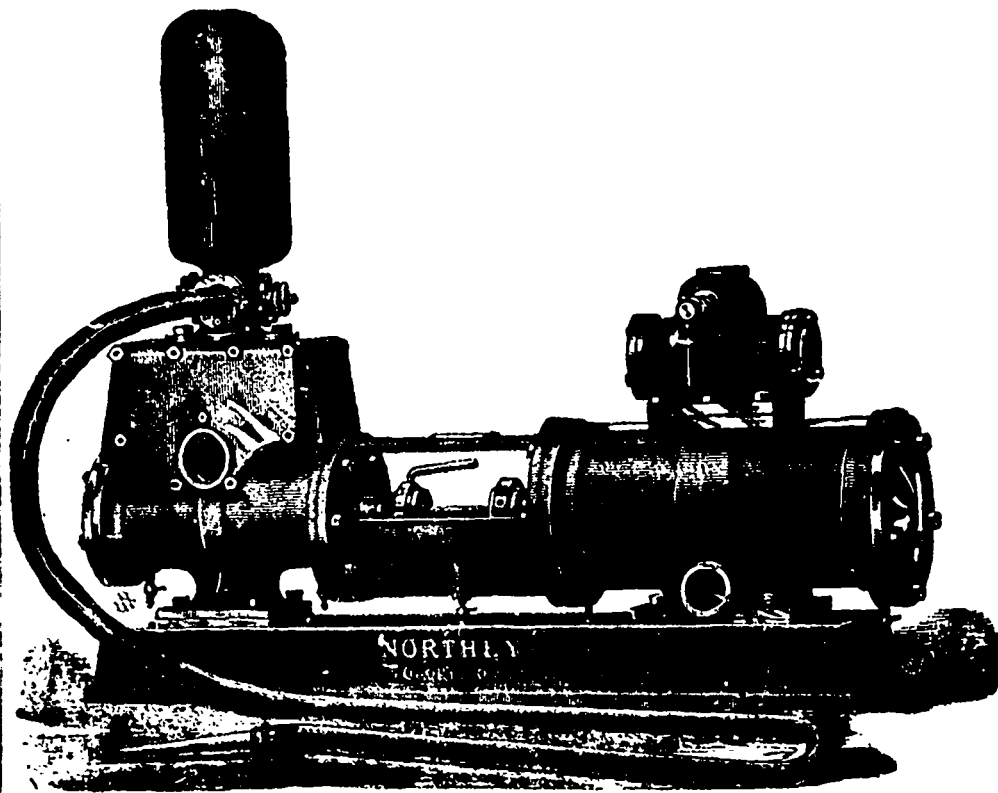
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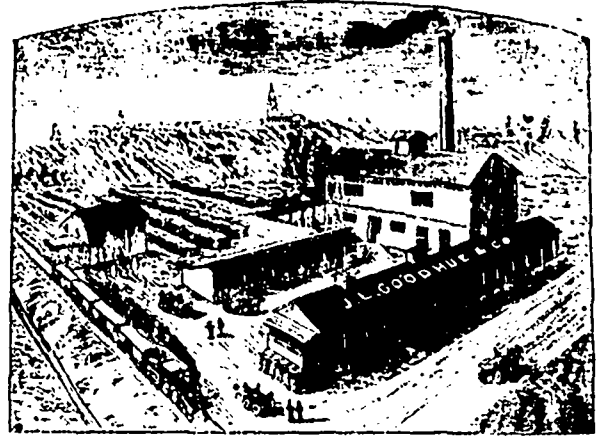
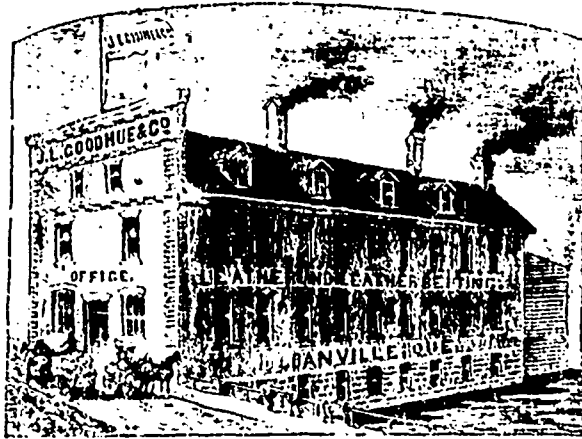
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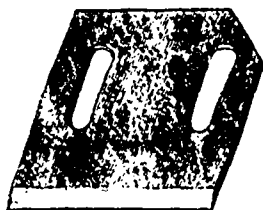
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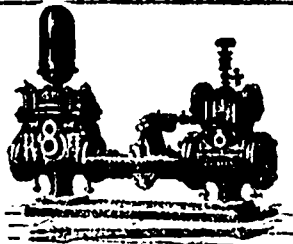
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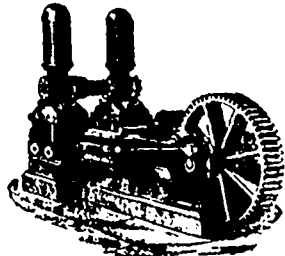
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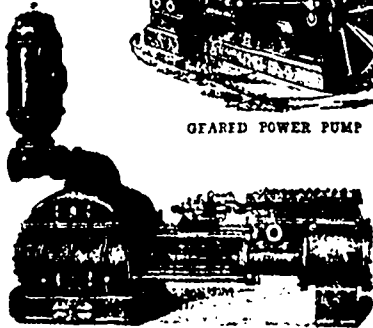
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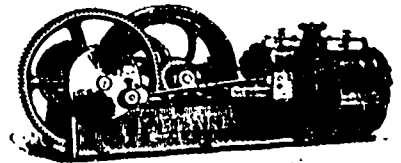
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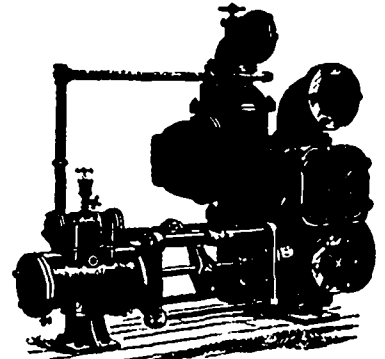
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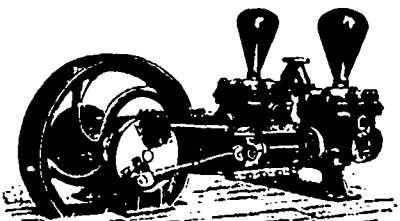
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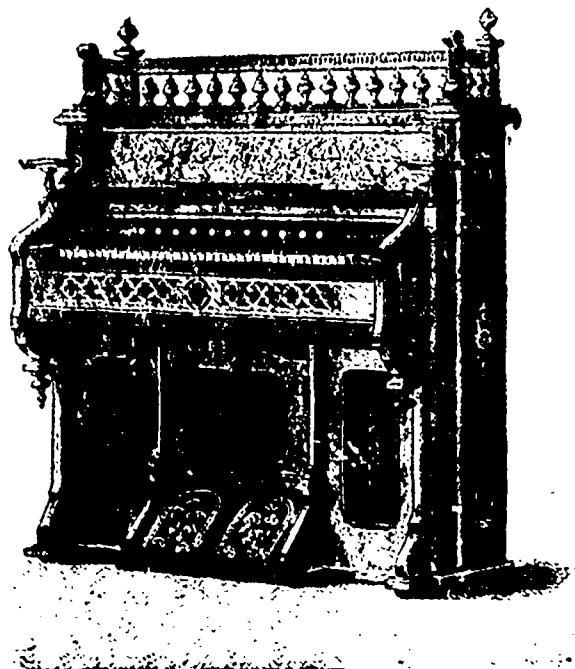
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S. LENNARD & SONS, Dundas.—Manufacturers of plain and fancy hosiery.

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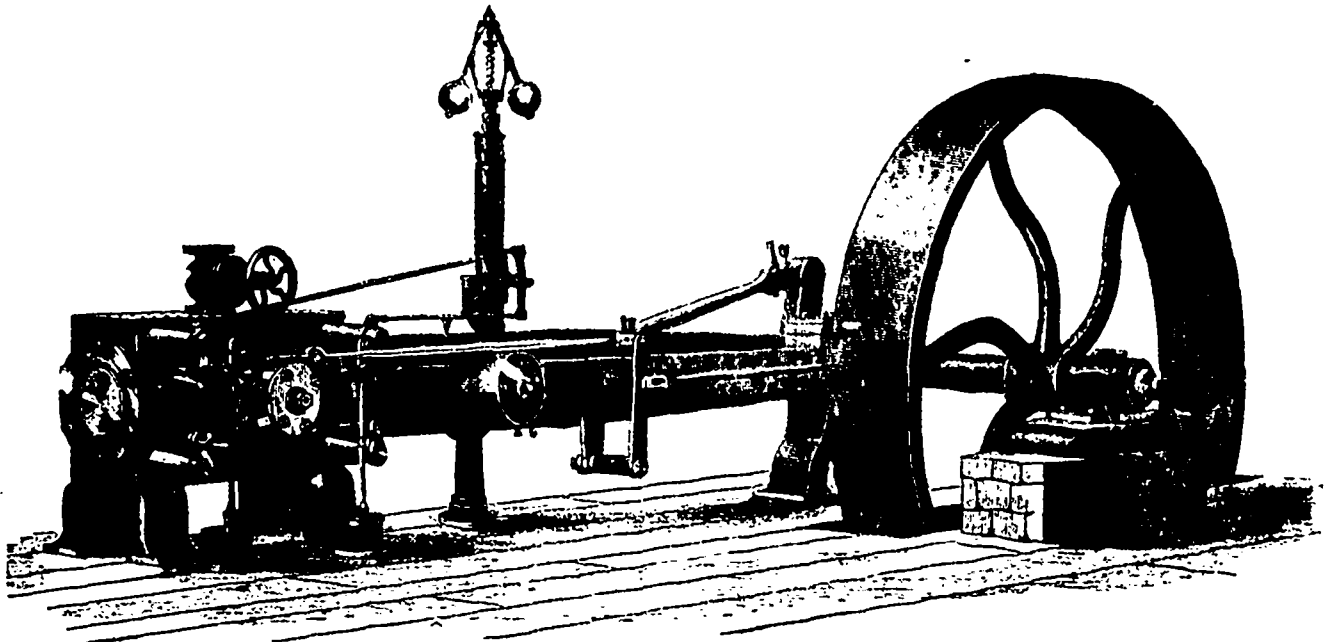
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FROM LIVERPOOL:

Lake Winnipeg	Wednesday, April 20
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Lake Nepegon	" " May 4
Thamesmore	" " 11
Lake Ontario (new)	" " 18

FROM MONTREAL:

Lake Winnipeg	Friday, May 6
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Lake Nepegon	" " 20
Thamesmore	" " 27
Lake Ontario (new)	" " June 3

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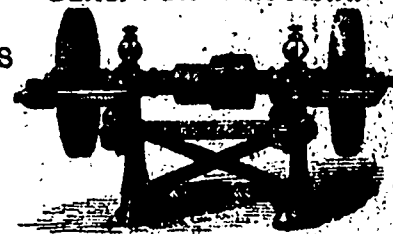


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